

 Directory

Track & Infrastructure

# LPS

LASER PRECISION SOLUTIONS

## LaserTrain Freight Model: Easy Setup, Reliable Performance

**D**esigned with the latest laser technology, the LaserTrain Freight Model offers rail networks a non-abrasive, precise cleaning solution to stay ahead of Autumn challenges.

Slippage on the line throws a wrench into railway operations, affecting train services, impacting safety and creating lofty maintenance bills. By effectively removing stubborn contaminants from the rail, LaserTrain improves braking and stopping distances, reducing the risk of accidents and delays, and shrinking wheel-related maintenance costs.

### A New Standard in Rail Maintenance

Since 2018, LaserTrain has been reshaping railway maintenance, starting with the MTA Long Island Rail Road and spreading to top operators across New York and Boston. Recent results like a 66% drop in slip events, 70% fewer delays and 62% wheel value saved in maintenance, it's helping to drive major improvements in rail safety and productivity.

### Unmatched Efficiency and Reliability

The Freight Model LaserTrain provides an impressive operational capacity. Designed to handle up to 200,000



kilometres per year, it can significantly reduce the frequency of maintenance interventions and ensure railheads remain clean and safe. LaserTrain's precise laser cleaning maintains optimal traction, minimises the risk of wheel flat spots and supports more reliable rail operations and lower maintenance costs.

## Plug and Play: Streamlined Integration

One of the standout features of the LaserTrain Freight Model is its plug-and-play design. Engineered to fit seamlessly with Y25 bogie or R141 trucks without requiring modifications, this model guarantees compatibility with UK, EU and US loading gauges.

This pre-set design slashes engineering, build and test time, ensuring regulatory compliance from the outset and allowing for rapid deployment. Streamlined integration translates to shorter lead times and higher uptimes, enabling rail operators to maximise their operational efficiency. Standardised spare parts management cuts the risk of long maintenance downtimes.

## Operational Flexibility

The Freight Model is pulled by locomotives and is capable of operating with or without a separate generator. Designed for optimal performance at various speeds up to 60mph, LaserTrain ensures that cleaning operations do not significantly disrupt regular train services. High-speed capabilities allow for railhead cleaning during normal operational hours, minimising the need for dedicated maintenance windows further enhancing the efficiency of rail operations.

## Enhanced Safety and Performance

By removing contaminants without damaging the rails, LaserTrain improves the coefficient of friction (COF) on the railheads. This enhancement in COF levels leads to better traction, which is crucial for effective acceleration and braking, thereby reducing the risks associated with slip-slide conditions.

In addition to improving safety, the enhanced traction provided by LaserTrain also contributes to better punctuality. Trains can maintain their schedules more reliably, reducing delays and cancellations, and improving overall passenger satisfaction.

## Cost-Effective Solution

LaserTrain's initial investment is offset by significantly lower running costs than traditional methods. With most costs fixed up front, the total cost per mile decreases as more miles are cleaned, maximising cost efficiency. Its comparable cleaning performance with far fewer units results in a substantial reduction in operating costs over time.

LPS offers a tiered system of service and support so rail networks can decide whether they need basic maintenance or a comprehensive support package.

### LaserTrain Key Features

- **Autonomous control system:** Automated controls ensure consistent cleaning without the need for trackside workers. Geographic Information System (GIS) data allows the system to avoid obstacles, while integrated laser shut-off prevents over-cleaning.
- **Precise cleaning:** One laser pass removes contaminants without causing surface damage and boosts coefficient of friction (COF) for 24 hours.
- **Remote monitoring:** Keep an eye on the LaserTrain during shifts and use the Customer Dashboard to access performance data such as the train's live position and miles cleaned.
- **Customisable cleaning speeds:** Choose from maximum cleaning speeds of 20mph, 40mph and 60mph.
- **Sustainable solution:** High-powered lasers deliver robust performance with low energy consumption. Laser cleaning generates minimal waste and does not involve any by-products, chemicals or abrasive materials making it an environmentally responsible option.

## Say Goodbye to Slip-Slide Conditions

The LaserTrain Freight Model sets a new standard in rail maintenance with its adaptable and efficient design. Offering reliable performance and flexible options, it's the perfect choice for rail networks looking to improve safety, increase efficiency and reduce costs.

### Get in touch!

Click [here](#) to contact LPS or email [info@lasertribology.com](mailto:info@lasertribology.com) to speak to one of the team.



LPS

BOOST RAIL  
ADHESION,

MITIGATE  
SLIPSLIDE.

Trust LaserTrain for safer, more efficient operations and keep performance, maintenance and safety on track.

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