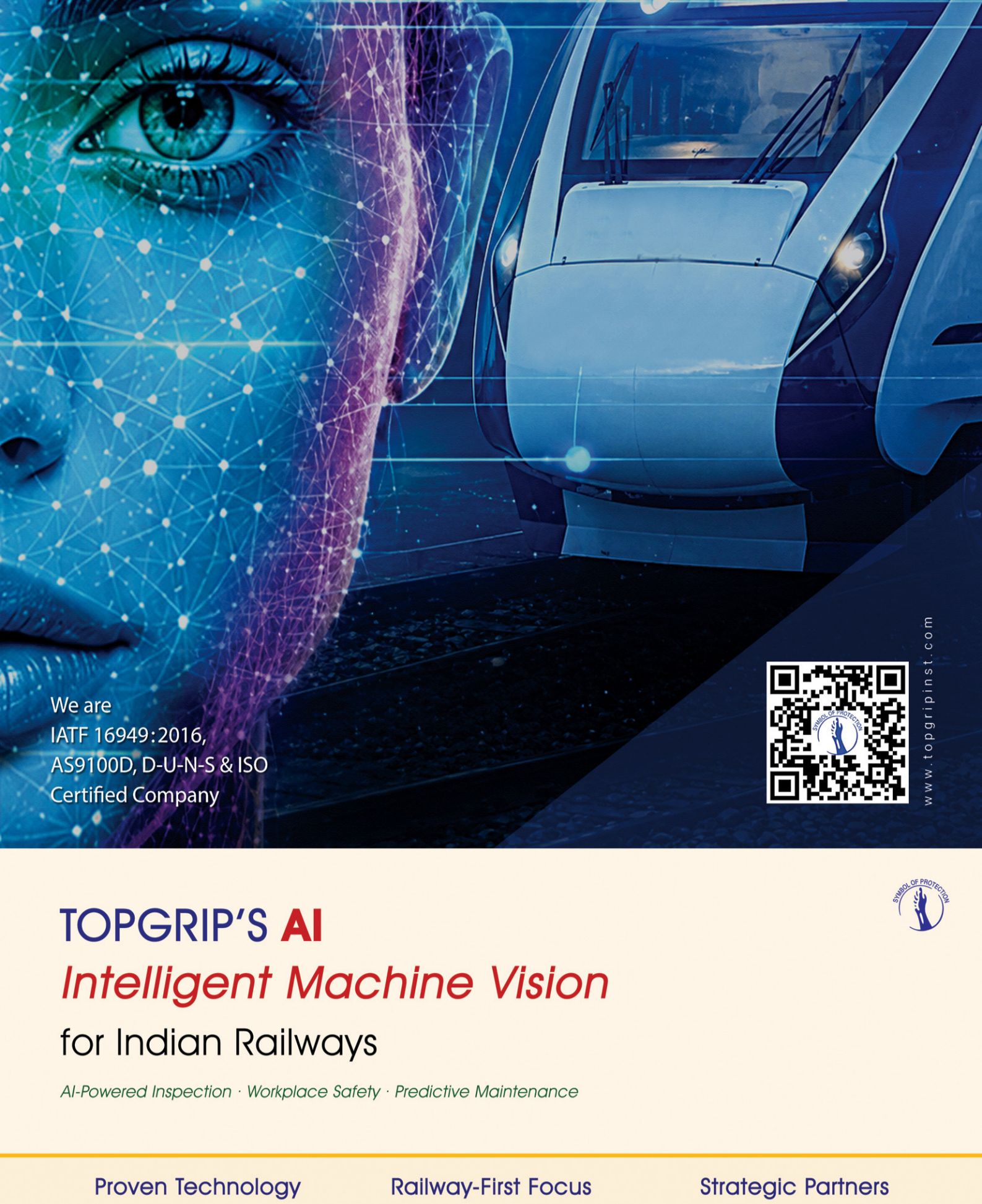




Topgrip Instruments Company

AI based Rolling Stock Examination System



TOPGRIP'S AI Intelligent Machine Vision for Indian Railways

AI-Powered Inspection · Workplace Safety · Predictive Maintenance

Proven Technology Our AI and sensor systems have been operating in critical environments including the Department of Atomic Energy, India — under direct PMO oversight.

Railway-First Focus We are dedicated exclusively to accelerating AI adoption in Indian Railways — from inspection to safety to operations.

Strategic Partners Partnering with UCT Pvt. Ltd. to bring world-class computer vision and sensor fusion to the Indian rail ecosystem.

13,000+ Wagons inspected manually every single day

72% Defects missed due to human fatigue & lighting

₹ 4,200Cr Annual losses from unscheduled maintenance

3 Number of angles that need not to be missed



100% Automated

24/7 Operation

<2m Per Wagon

Train & Wagon Inspection Report

Note : Editable field in Remarks, Highlighted row is selected

Inspection Report of Train No.: 1704251134

Thu Apr 24 2025 04:20:35

Show 15 entries

Date Time	Direction	Door Missing	Door Open	Panel Missing	Bogie Defect	Panel/Door Patching	Remarks	Detail View
								Select

Wagons Inspection Report

Note : Editable fields are Wagon Number, Actual Defect Type and Remarks

Export to PDF Check Videos

Show 15 entries

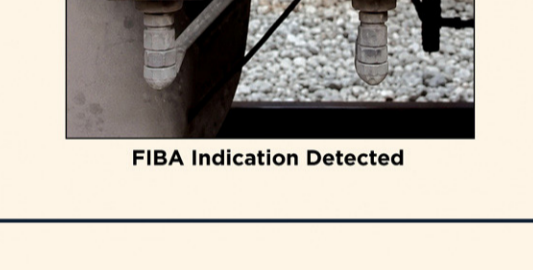
Wagon Position	Wagon Number	Photo	Wagon Number	Detected Defect Photo	Camera Position	Detected Defect	Actual Defect	Remarks
12					Right	Panel Door Patching		
30					Left	Panel Door Patching		



Open Door Detected



Missing Door Detected



Material Leftover Detected



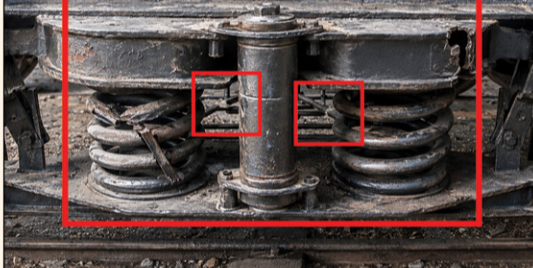
Wagon Door open Detected



FIBA Indication Detected



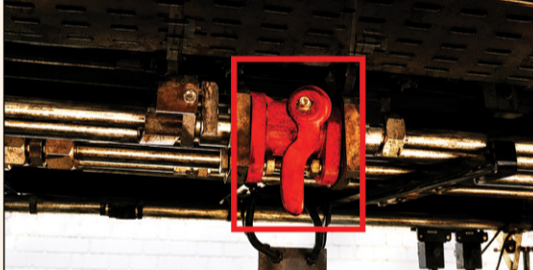
Jam Wheel Detected



Axel Cap Missing & Bogie Frame Crack Detected



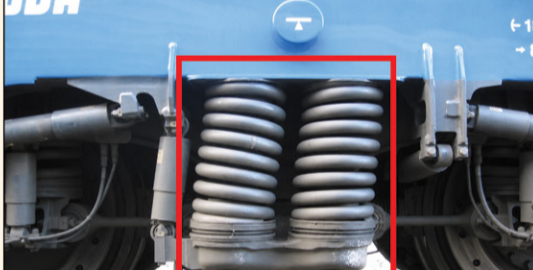
Debris Retaining on Wagon Floor Detected



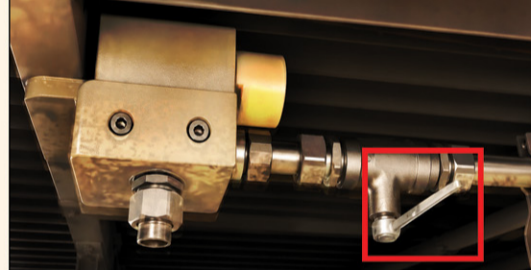
Stay Rod Broken Detected



Missing Bolt/Axel Box Detected



FIBA Isolating Cock Position Detected



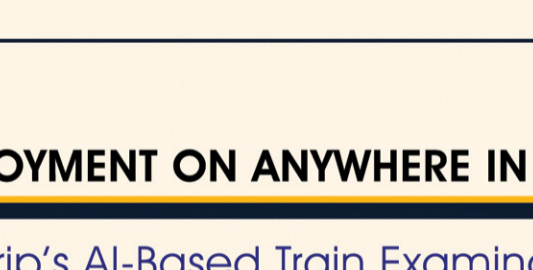
Flat Wheel Detected



Coiled Spring Cracked/Broken/Sifted Detected



FSDS Isolating Clock Position Detected



Air Spring Dome Cracked Detected

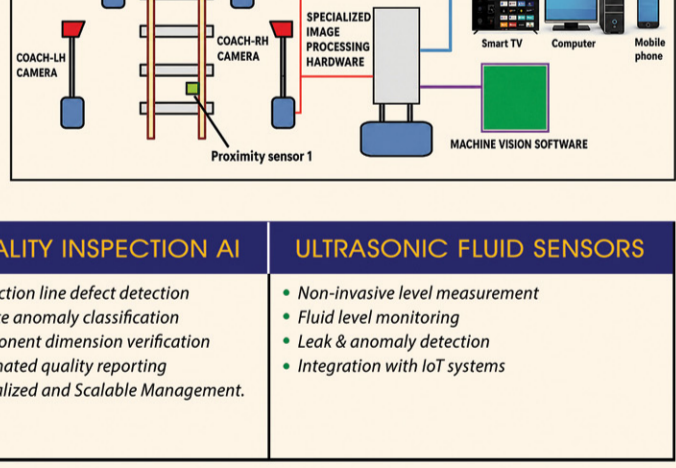


Unauthorised Movement Detected

DEPLOYMENT ON ANYWHERE IN RAILWAYS PREMISES

Topgrip's AI-Based Train Examination System

- Real-time detection of open doors missing doors, non standard doors and floor on the train.
- Automatic flagging of missing parts and structural anomalies as required.
- Operates 24/7 without fatigue - cameras installed at wash station entry/exit.
- Results logged with timestamp, wagon ID, and defect classification.
- Zero human intervention required for detection phase.



WAGON INSPECTION AI	WORKPLACE SAFETY AI	QUALITY INSPECTION AI	ULTRASONIC FLUID SENSORS
<ul style="list-style-type: none"> Wall defect detection (dents, damage) Door inspection (alignment, damage, seals) Floor condition analysis (corrosion, holes) 	<ul style="list-style-type: none"> PPE compliance monitoring Restricted zone intrusion alerts Worker behavior & fatigue analysis Real-time safety dashboards Real-time threat detection. Automated Safety & Compliance Monitoring. 	<ul style="list-style-type: none"> Production line defect detection Surface anomaly classification Component dimension verification Automated quality reporting Centralized and Scalable Management. 	<ul style="list-style-type: none"> Non-invasive level measurement Fluid level monitoring Leak & anomaly detection Integration with IoT systems

WHEELS	WALLS	DOORS	FLOORS
<ul style="list-style-type: none"> Crack detection Spalling & flats Missing bolts/nuts Bearing condition which is visible 	<ul style="list-style-type: none"> Dent & damage mapping Corrosion patches Paint code verification Structural deformation 	<ul style="list-style-type: none"> Door seal integrity Hinge alignment Lock mechanism check Gap measurement 	<ul style="list-style-type: none"> Corrosion mapping Hole detection Debris presence Structural Integrity

Why this matters for Indian Railways:

<p>Mission-Critical Grade</p> <p>If our systems meet atomic energy safety standards, they are also ready for railway environments.</p>	<p>No Beta Technology</p> <p>Every sensor, model, and integration we deploy has been battle-tested in high-stakes scenarios.</p>
<p>Government Compliant</p> <p>Our systems follow documentation, audit, and compliance requirements familiar to Indian government bodies.</p>	<p>Rapid Deployment</p> <p>Our team has delivered live systems under strict deadlines in regulated environments.</p>



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