

INFOSYS RAILWAY
ENGINEERING :

SMARTER,
SAFER RAILWAY
OPERATIONS

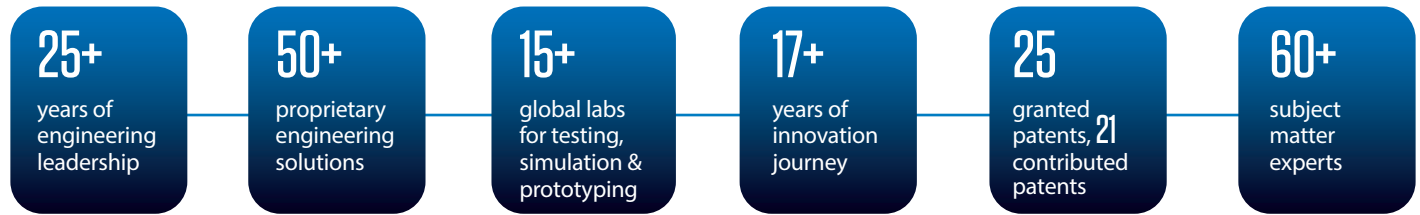


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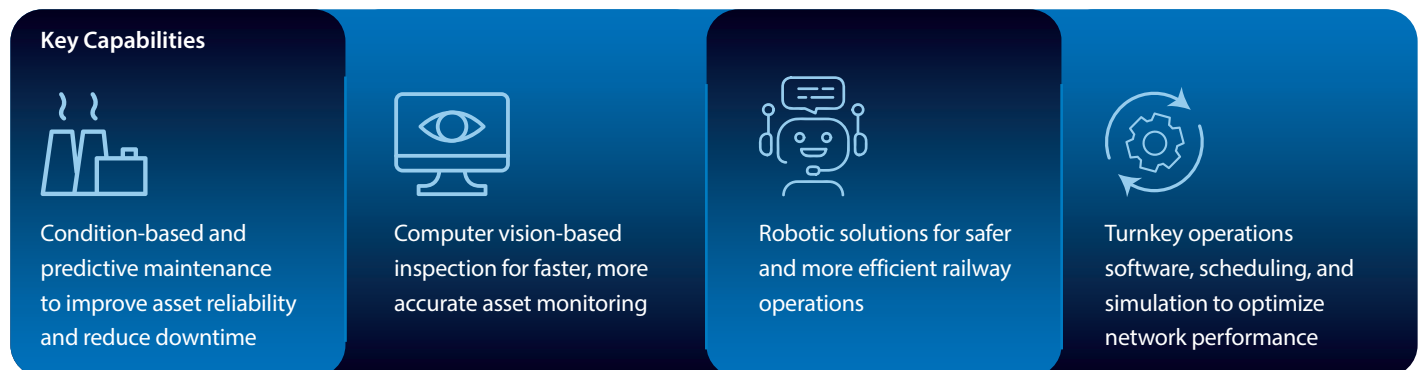
Infosys helps **railway operators, metro organizations, and OEMs** accelerate digital transformation across maintenance, inspection, and operations. By combining over **25 years** of engineering excellence with AI, computer vision, robotics, and intelligent software, we help organizations **improve safety, reliability, and operational efficiency** — and prepare for the future of mobility.

At a Glance



Value Proposition

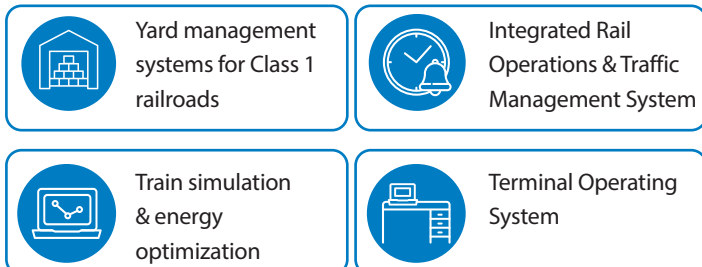
We combine mechanical engineering, digital engineering, and AI-led innovation to solve complex, real-world challenges for rail operators, OEMs, and transit organizations — delivering practical solutions that create measurable business value.



Infosys + in-tech: Strengthened Railway Expertise

Infosys' acquisition of in-tech in Germany deepens our capabilities in EN standards, rolling stock electronics, and mechatronics — adding specialized expertise that complements Infosys' broader railway engineering and digital transformation strengths.

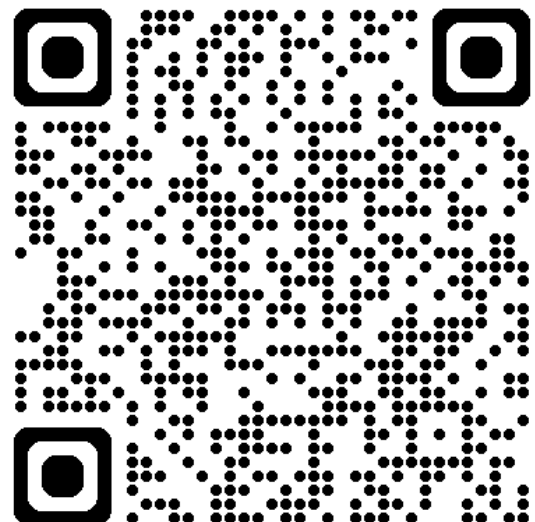
Rail Operations & Control Systems



Digital & Embedded Rail Technologies



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Product Development for Tier 1 OEMs in Railway

MULTIMODAL TERMINAL OPERATING SYSTEM



Highly scalable, multi-tenant, metadata-driven enterprise product with 40K+ customers



Addresses scalability, performance, and hierarchical security



CI/CD with distributed global agile teams across 4 locations



INFOSYS ROLE:
Software Development & Software Testing

OPERATIONS & TRAFFIC MANAGEMENT SYSTEM



Built for Class 1 railroads in collaboration with a railway OEM



Covers train graph, signal display, train ordering, caution orders, alerts, and control room management



Integrates with PTC and Back Office Train Control System



INFOSYS ROLE:
Product Development & Testing with multi-vendor teams

YARD PLANNER



Used by class 1 railroads for hump and flat yards



Manages incoming trains, shunting planning and execution



Reduces dwell time and optimizes train lengths for fewer directions



INFOSYS ROLE:
Product Development and Testing

TRAIN SIMULATOR



Converted legacy desktop tools (VB, Excel, Fortran) into an integrated web-based simulator



New solver designed and implemented in Matlab



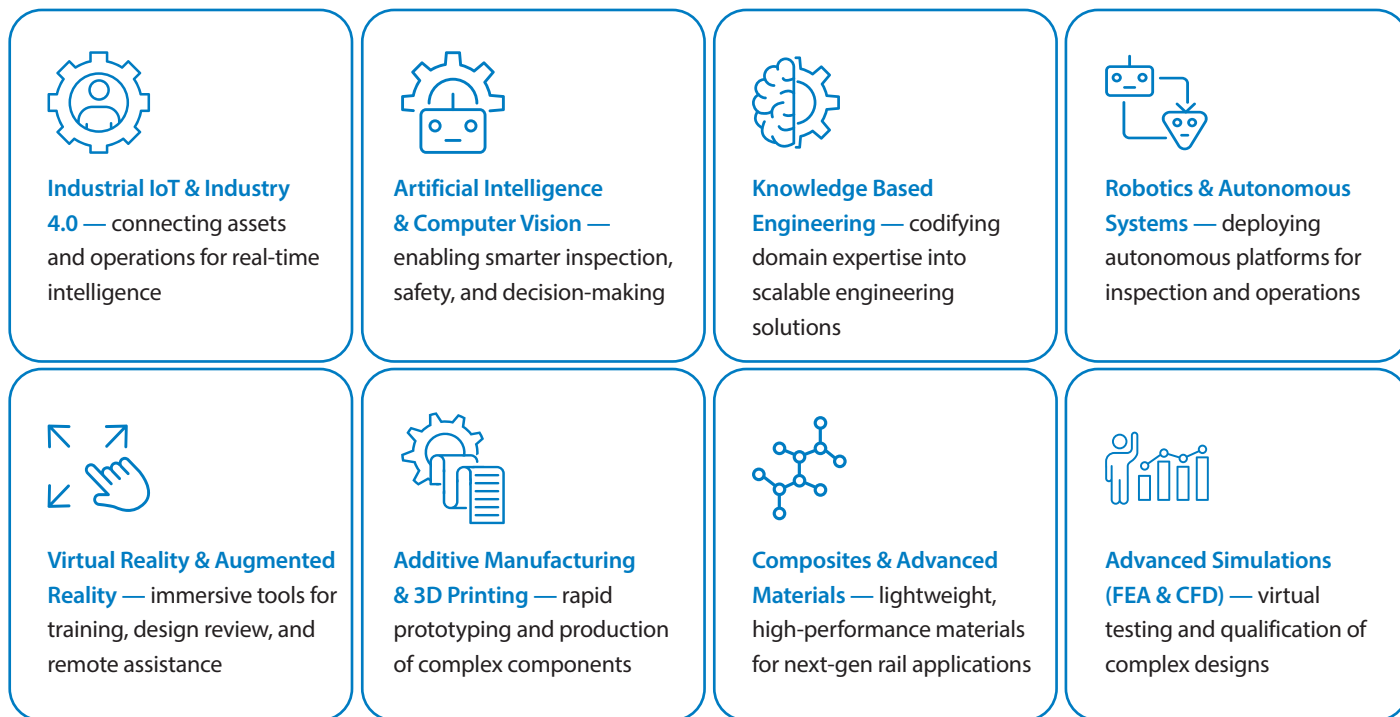
Used for train powering decisions, coasting, energy efficiency, and scheduling



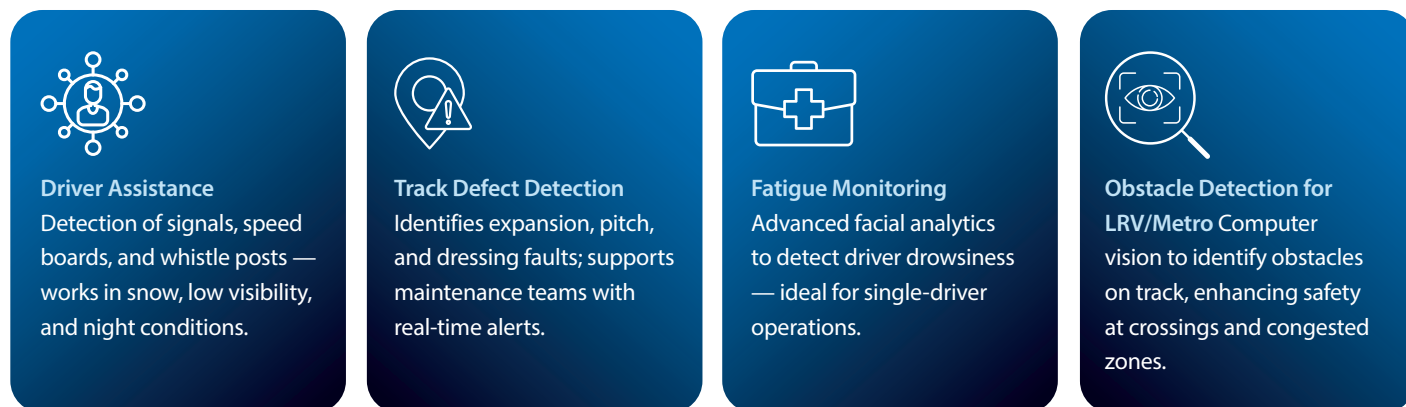
INFOSYS ROLE:
End-to-end ownership from science to implementation



Our Differentiators



AI & Computer Vision for Railway Safety



Knowledge Management & Capability Building



Select Project Highlights

1. Robodog —

Brief of the item:

A quadruped robotic inspection system developed in collaboration with a metro train operator to perform autonomous inspection of trains from inside, outside, and undergear using computer vision and AI.

Problem Statement:

Train inspection is manual, time-consuming, inconsistent, and dependent on human effort, leading to safety risks, operational inefficiencies, and delayed inspections.

Infosys Solution:

Infosys enhanced the POC into an integrated inspection solution by adding fleet management, sensor integration, health monitoring, and maintenance system integration. The robot autonomously detects defects such as broken components, lighting issues, and cleanliness problems using AI-based visual inspection.

It will allow technicians to focus on rectifying defects leading to better quality of service.



2. Computer Vision in Railways —

Brief of the item:

An AI-powered system that identifies rolling stock defects using computer vision, capable of detecting more than 60 types of wagon defects.

Problem Statement:

Traditional manual inspection has limitation in identifying multiple defect types efficiently and accurately across large volumes of rolling stock.

Infosys Solution:

Infosys uses advanced computer vision algorithms to automatically detect and classify defects in real time, improving inspection accuracy, speed, and scalability.





For more information, contact askus@infosys.com



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