



SAFE RAILWAYS
STRONGER INDIA
BRIGHTER TOMORROW

PEOPLE
TECHNOLOGY
SAFETY
A STRONGER
TOMORROW

INDIAN RAILWAYS
CONNECTING A
BETTER TOMORROW

CLEANER
GREENER
SAFER
SMARTER

TECHNOLOGY
FOR SAFER
JOURNEYS

PEOPLE
AWARENESS
PREVENTION
PROGRESS

SAFER
PEOPLE
STRONGER
INDIA

A SAFER
GREENER
BRIGHTER INDIA

TECHNOLOGY MOVES INDIA FORWARD

SMART RAIL SAFETY TECHNOLOGY DEMONSTRATION PROJECT

Demonstrating Innovation • Understanding Technology • Strengthening Prevention • Protecting Every Life

SEE TECHNOLOGY • UNDERSTAND SAFETY • PREVENT RISK



**TRAIN
PROTECTION**

Intelligent systems
for safer trains



**SMART
SIGNALLING**

Smarter signals
for smoother journeys



**TRACK
MONITORING**

Real-time insight
for stronger tracks



**FIRE
DETECTION**

Early alerts
for safer travel



**PASSENGER
SAFETY**

Informed passengers
make safer journeys



**EMERGENCY
RESPONSE**

Faster response
for greater safety

*Innovation Becomes Protection
When People Understand It*

VIKSI BHARAT
2047

MAKE IN INDIA

NET ZERO
2070

DIGITAL INDIA

VISION ZERO

Safe People
Strong Railways
Prosperous India

ALL INDIA RAIL SAFETY COUNCIL
www.railsafety.co.in

Surakshit Yatra
Samridh Bharat



सुरक्षित रेल समृद्ध भारत

SAFER RAILWAYS
BRIGHTER TOMORROW

SAFE
PEOPLE
STRONGER
INDIA

TECHNOLOGY
PEOPLE
A SAFER TOMORROW

INDIGENOUS TRAIN PROTECTION • SAFETY IN ACTION

Speed Supervision • Signal Protection • Automatic Braking • Safer Operations

KAVACH

ATMANIRBHAR - A SAFER TOMORROW

INDIAN TECHNOLOGY
INDIAN RAILWAYS
A SAFER INDIA

KAVACH

INDIGENOUS TRAIN PROTECTION SYSTEM

INDIAN INNOVATION
FOR A SAFER TOMORROW

SPEED WITHIN LIMIT
SAFE TO PROCEED

75
km/h

SPEED LIMIT
80 km/h

- SIGNAL RECEIVED ✓
- SPEED MONITORED ✓
- BRAKE SUPPORT ✓
- ROUTE SECURED ✓

DRIVER TRAINING SIMULATOR
SKILLED PEOPLE SAFER OPERATIONS

SKILL
TECHNOLOGY
SAFETY
STRONGER INDIA

SMART SYSTEMS SUPPORT ALERT AND DISCIPLINED OPERATIONS

CAB DISPLAY



Real-time guidance
for a safer journey

SIGNAL INPUT



Continuous signal
information to the train

SPEED CHECK



Monitors speed
and enforces limits

BRAKE SUPPORT



Automatic intervention
when required

ROUTE SAFETY



Checks route and
movement authority

TRAINING



Building skilled people
for safer operations

Understand the System • Respect the Signal • Support Safe Railways



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2047



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2070



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VISION ZERO

CLEANER RAILWAYS
GREENER INDIA
BRIGHTER TOMORROW

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Safe Railways
Stronger India



**Safe Rails
Stronger India**

TECHNOLOGY TODAY
SAFER TOMORROW
FOR A VIKSIT BHARAT



PEOPLE
RAILS
PROGRESS



SMART SIGNALLING • CONNECTED CONTROL • SAFER MOVEMENT

Accurate Information • Protected Routes • Coordinated Decisions • Reliable Journeys

**EVERY CLEAR SIGNAL DEPENDS ON TECHNOLOGY,
MAINTENANCE AND DISCIPLINE**



**ELECTRONIC
INTERLOCKING**

INTELLIGENT ROUTES
GREATER SAFETY



**CONTROL
CENTRE**

REAL-TIME SUPERVISION
WIDER NETWORK



**REAL-TIME
DATA**

INFORMED DECISIONS
FASTER RESPONSE



**ROUTE
SETTING**

RIGHT ROUTE
RIGHT TRAIN
RIGHT TIME



**FAULT
ALERTS**

EARLY DETECTION
QUICK ACTION
HIGHER RELIABILITY



**SKILLED
PERSONNEL**

TRAINED MINDS
RELIABLE OPERATIONS
SAFER INDIA

**MODERN RAILWAYS
SAFER COMMUNITIES
BRIGHTER FUTURES**



*On Track
for a Safer
Tomorrow*

VIKSIT BHARAT 2047 • MAKE IN INDIA • NET ZERO 2070 • DIGITAL INDIA • VISION ZERO

SAFE PEOPLE
STRONGER RAILWAYS
VIKSIT BHARAT

ALL INDIA RAIL SAFETY COUNCIL
www.railsafety.co.in

RAIL SAFETY
BUILDS A BRIGHTER INDIA



INTELLIGENT TRACK MONITORING • EARLY WARNING • PREVENTIVE ACTION

TECHNOLOGY
FOR A
SAFER, GREENER
TOMORROW

Sensors • Inspection • Predictive Maintenance • Climate Resilience

DETECT EARLY • REPORT ACCURATELY • MAINTAIN PREVENTIVELY

SAFER RAILWAYS
STRONGER INDIA
BRIGHTER TOMORROW



ULTRASONIC TESTING



Finds hidden
defects in rails

WAYSIDE SENSORS



Real-time health
monitoring

AI ANALYTICS



Turns data into
early warnings

DRONE SURVEY



Aerial inspection
of tracks, bridges
and slopes

WEATHER ALERTS



Forecasts extreme
weather risks

PREDICTIVE MAINTENANCE



Plans maintenance
before problems
occur

*Better Information Today •
Safer Journeys Tomorrow*

PEOPLE
TECHNOLOGY
A SAFER INDIA



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MAKE IN INDIA



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DIGITAL INDIA



VISION ZERO

SAFE PEOPLE
SAFE RAILWAYS
PROSPEROUS INDIA

ALL INDIA RAIL SAFETY COUNCIL

www.railsafety.co.in

RAIL SAFETY
FOR GENERATIONS



SAFER
PEOPLE
STRONGER
RAILWAYS
BRIGHTER
INDIA

सुरक्षित रेल
समृद्ध भारत

भारतीय रेल
आपकी सुरक्षित यात्रा
हमारी प्राथमिकता
SAFE JOURNEYS
STRONGER TOMORROW



PEOPLE
TECHNOLOGY
SAFETY
A BRIGHTER
TOMORROW



DIGITAL STATIONS • INFORMED PASSENGERS • SAFER JOURNEYS

Smart Guidance • Crowd Awareness • Accessible Travel • Emergency Readiness

TECHNOLOGY GUIDES—RESPONSIBLE PASSENGERS COMPLETE THE SAFETY PARTNERSHIP



CROWD MONITORING

AI-enabled analytics for better crowd flow and safer stations.



DIGITAL SIGNAGE

Real-time information helps you make safe and informed choices.



ACCESSIBILITY

Barrier-free stations for everyone, everywhere.



FIRE ALERTS

Advanced detection systems for early alerts and faster response.



HELP POINTS

Need help? Trained staff and emergency help points are always here.



PLATFORM DISCIPLINE

Wait behind the yellow line. A safe you keeps journeys on track.



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NET ZERO 2070



DIGITAL INDIA



VISION ZERO

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Safe Today
Stronger Tomorrow

PEOPLE | TECHNOLOGY | RESPONSIBILITY | A SAFER TOMORROW



FUTURE-READY RAILWAYS

INNOVATION WITH RESPONSIBILITY

Research • Skills • Sustainability • Public Awareness • Vision Zero

CLEANER
GREENER
SAFER
SMARTER
A STRONGER
INDIA

Safe Railways
Stronger India

RAIL INNOVATION
& SAFETY TECHNOLOGY CENTRE
IDEAS TODAY SAFER TOMORROW

INDIAN RAILWAYS
FOR A BRIGHTER TOMORROW

PEOPLE
PLANET
PROGRESS
PROSPERITY

Sustainable Railways
for a Viksit Bharat

SAFER TECHNOLOGY • SKILLED PEOPLE • RESPONSIBLE CITIZENS • STRONGER INDIA



RESEARCH

Innovating for a Safer, Smarter Tomorrow



From ideas to impact —
Advancing safety, efficiency and passenger comfort.



CAPACITY BUILDING

Skilled People. Stronger Railways.



Building future-ready talent for a resilient
and safer railway ecosystem.



MAKE IN INDIA

Atmanirbhar Rail Technology



Indigenous innovation. Global standards.
A self-reliant and safer tomorrow.



DIGITAL SAFETY

Smarter Systems. Safer Journeys.



Leveraging technology for
proactive safety and seamless operations.



GREEN MOBILITY

Cleaner Today. Greener Tomorrow.



Sustainable railways for a healthier planet
and brighter generations.



VISION ZERO

Zero Accidents. Infinite Possibilities.



Together towards zero accidents
and zero preventable harm.

Technology • Knowledge • Discipline • Preparedness • Partnership • Protection



VIKSIT BHARAT 2047



MAKE IN INDIA



NET ZERO 2070



DIGITAL INDIA



VISION ZERO

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Safe People
Strong India