



ALL INDIA RAIL SAFETY COUNCIL (AIRSC)

Committed to Safer Railways, Stronger Nation



RAIL SAFETY RESEARCH & DEVELOPMENT FORUM (RSRDF)

RESEARCH INNOVATION EXCELLENCE

Building Future-Ready Rail Safety Systems
for an Atmanirbhar Bharat and Viksit Bharat 2047



Dr. R. Padmanabhan

Chairman

All India Rail Safety Council (AIRSC)



SAFETY
Our Core
Commitment



INNOVATION
Driving
Future Solutions



RESEARCH
Advancing
Knowledge



COLLABORATION
Strengthening
Partnerships



SUSTAINABILITY
Building a
Resilient Future

NATIONAL VISION ALIGNMENT

Viksit Bharat Railways 2047 –
A Developed India Vision



AIRSC aligns its long-term strategy with the national mission of Viksit Bharat 2047, supporting the transformation of Indian Railways into a world-class, safe, smart, and resilient transportation system.

Key Focus Areas

- Zero-Accident Railway Vision for a safer India
- World-class safety standards and global best practices
- Advanced digital, intelligent & predictive safety systems
- Disaster resilience and emergency preparedness
- Enhanced passenger safety and public confidence
- Skilled & future-ready railway safety workforce
- Smart, data-driven & technology-enabled ecosystem

MAKE IN INDIA – SELF-RELIANT RAILWAY SAFETY SYSTEMS



AIRSC supports the Make in India initiative by encouraging indigenous development and deployment of railway safety technologies.

Key Focus Areas

- Promotion of indigenous railway safety technologies
- Support for domestic manufacturing of safety systems
- Encouragement to Indian research, startups & innovators
- Localization of modern safety tools & diagnostics
- Capacity building for Indian safety professionals
- Strengthening India's global leadership in railway safety

NET ZERO 2070 – SUSTAINABLE & GREEN RAILWAY SAFETY



AIRSC integrates environmental sustainability into its safety framework, aligning with India's Net Zero Carbon Emission 2070 commitment.

Key Focus Areas

- Environmentally responsible railway safety practices
- Energy-efficient & sustainable safety infrastructure
- Climate-resilient safety & disaster management
- Reduction of environmental & operational risks
- Eco-friendly materials & green safety technologies
- Integration of safety, sustainability & resilience

MAJOR AIRSC PROJECTS & INITIATIVES

1 NATIONAL RAIL SAFETY RESEARCH & DEVELOPMENT PROGRAMME



- Accident analysis & risk mapping
- Track, signaling & rolling stock safety
- Human factors & safety behaviour
- Safety performance benchmarking
- Data-driven prevention models

2 RAILWAY DISASTER MANAGEMENT & EMERGENCY PREPAREDNESS PROGRAMME



- Disaster response planning
- Simulation & ICS training
- Multi-agency coordination
- Emergency response strategies
- Evacuation & rescue procedures

3 NATIONAL RAILWAY SAFETY TRAINING & CAPACITY BUILDING MISSION



- Safety management systems (SMS)
- Workplace & hazard safety
- Electrical, mechanical & track safety
- Safety leadership & culture
- Health, well-being & competency

4 RAIL SAFETY AWARENESS & PUBLIC SAFETY CAMPAIGNS



- Level crossing safety
- Anti-trespassing awareness
- Passenger safety & preparedness
- Fire safety & onboard safety
- Safety behaviour & responsibility

5 TECHNOLOGY PROMOTION & SAFETY INNOVATION INITIATIVE



- Automatic Train Protection (ATP)
- Signaling & collision prevention
- Safety monitoring & analytics
- AI-based surveillance systems
- Smart inspection & diagnostics

6 RAIL SAFETY AUDIT, RISK ASSESSMENT & CONSULTANCY SERVICES



- Comprehensive safety audits
- Risk identification & mitigation
- Safety compliance evaluation
- Accident investigation & RCA
- Safety improvement roadmaps

7 NATIONAL RAIL SAFETY CONFERENCE & KNOWLEDGE FORUM



- Best practices & innovations
- Research & safety case studies
- Policy dialogue & discussions
- Networking among professionals
- Knowledge sharing platforms

8 SAFETY STANDARDS, POLICY ADVOCACY & STRATEGIC ADVISORY



- Safety standards & guidelines
- Safety culture & leadership
- Strategic safety planning
- Advisory to institutions & bodies
- Alignment with global best practices

9 OCCUPATIONAL SAFETY, HEALTH & INDUSTRIAL RISK REDUCTION PROGRAMME



- Workplace hazard management
- Industrial accident prevention
- PPE & safe work procedures
- Health, fatigue & performance
- Safety behaviour & leadership

10 VISION ZERO – NATIONAL RAILWAY ACCIDENT PREVENTION MISSION



- Prevention through technology
- Competency through training
- Awareness through education
- Resilience through preparedness
- Leadership through safety culture

FUTURE STRATEGIC DIRECTIONS



Smart & Digital
Railway Safety
Systems



AI-Based
Predictive Risk
Management



Advanced Disaster
Simulation & Response
Systems



National Safety
Competency
Certification



International
Collaboration &
Knowledge Exchange



Sustainable &
Climate-Resilient
Railway Safety



OUR MISSION

To create a world-class platform for research, innovation, education, collaboration, and policy leadership to build a safer, smarter, more sustainable and future-ready railway ecosystem.

OUR COMMITMENT

The All India Rail Safety Council remains committed to building a Safer, Smarter, and More Resilient Railway System for India.



SAFETY FIRST
Every Life Matters



INTEGRITY
We Do What's Right



EXCELLENCE
We Strive for the Best



COLLABORATION
We Achieve Together



INNOVATION
We Create the Future

**"Vision Zero – Towards
Accident-Free Railways"**

Aligned with Viksit Bharat 2047,
Make in India & Net Zero 2070

National Vision Alignment

Viksit Bharat Railways 2047 – A Developed India Vision

The All India Rail Safety Council aligns its long-term strategy with the national mission of Viksit Bharat 2047, supporting the transformation of Indian Railways into a world-class, safe, smart, and resilient transportation system. AIRSC envisions a future where railway safety is technology-driven, globally benchmarked, and centered on human life and national progress.

Key Focus Areas

Advancing the Zero-Accident Railway Vision for a safer India

Adoption of world-class railway safety standards and global best practices

Integration of advanced digital, intelligent, and predictive safety systems

Strengthening disaster resilience and emergency preparedness across the network

Enhancing passenger safety, reliability, and public confidence

Building a future-ready, highly skilled railway safety workforce

Developing a smart, data-driven, and technology-enabled railway safety ecosystem

Make in India – Self-Reliant Railway Safety Systems

AIRSC actively supports the national Make in India initiative by encouraging indigenous development, innovation, and deployment of railway safety technologies. The Council promotes self-reliance and strengthens India's capability to design, manufacture, and implement advanced safety solutions.

Key Focus Areas

Promotion of indigenous railway safety technologies and innovation

Support for domestic manufacturing of safety equipment and protection systems

Encouragement to Indian research institutions, startups, and safety innovators

Localization of modern safety tools, monitoring systems, and diagnostics

Capacity building and skill development for Indian safety professionals and engineers

Strengthening India's global leadership in railway safety and safety engineering

Net Zero 2070 – Sustainable & Green Railway Safety

AIRSC integrates environmental sustainability into its safety framework, aligning with India's Net Zero Carbon Emission 2070 commitment. The Council promotes safe, sustainable, and climate-resilient railway operations to protect both people and the environment.

Key Focus Areas

Promotion of environmentally responsible railway safety practices

Energy-efficient and sustainable safety infrastructure development

Climate-resilient railway safety and disaster management systems

Reduction of environmental and operational risks

Adoption of eco-friendly materials and green safety technologies

Integration of safety, sustainability, and long-term resilience planning

Introduction

The All India Rail Safety Council (AIRSC) is a premier national forum dedicated to strengthening railway safety, risk reduction, accident prevention, and disaster resilience across the Indian railway ecosystem. Through research, training, technology promotion, and stakeholder collaboration,

AIRSC plays a pivotal role in advancing a Zero-Accident Vision for India's rail transport system.

AIRSC works closely with railway professionals, safety regulators, academic institutions, industry experts, and disaster management authorities to develop practical, technology-driven, and human-centric safety solutions.

Major AIRSC Projects & Initiatives

1. National Rail Safety Research & Development Programme

AIRSC promotes scientific and evidence-based approaches to railway safety through dedicated research initiatives.

Key Focus Areas

Accident causation analysis and risk mapping

Track, signaling, and rolling stock safety studies

Human factors and safety behaviour research

Safety performance benchmarking

Data-driven accident prevention models

Impact

Supports policy makers and railway administrators

Improves predictive safety planning

Strengthens evidence-based decision making

2. Railway Disaster Management & Emergency Preparedness Programme

This flagship initiative enhances preparedness and response capability for railway emergencies and disasters.

Core Components

Disaster response planning and simulation exercises

Incident Command System (ICS) training

Multi-agency coordination frameworks

Fire, derailment, collision, and natural disaster response strategies

Emergency evacuation and rescue procedures

Outcome

Improved response time and coordination

Enhanced resilience of railway systems

Reduced loss of life and property

3. National Railway Safety Training & Capacity Building Mission

AIRSC conducts specialized safety education and professional training for railway personnel, contractors, and safety practitioners.

Training Domains

Railway safety management systems (SMS)

Workplace safety and hazard control

Track and infrastructure safety

Electrical and mechanical safety

Safety leadership and safety culture

Occupational health & industrial safety

Key Achievements

Thousands of safety professionals trained

Promotion of safety-first work culture

Standardized safety competency frameworks

4. Rail Safety Awareness & Public Safety Campaigns

AIRSC runs nationwide campaigns to improve safety awareness among railway staff, passengers, and the general public.

Major Campaign Themes

Level crossing safety

Anti-trespassing awareness

Passenger safety and emergency preparedness

Fire safety and onboard safety awareness

Safety behaviour and responsibility

Social Impact

Reduction in preventable incidents

Improved public cooperation in safety matters

Strengthened community safety engagement

5. Technology Promotion & Safety Innovation Initiative

AIRSC actively supports adoption of modern safety technologies in railway operations.

Focus Areas

Automatic Train Protection (ATP) systems

Collision prevention and signaling modernization

Safety monitoring and predictive analytics

AI-based safety surveillance systems

Smart inspection and safety diagnostics

Objective

Encourage modernization and digital safety transformation

Promote innovation-driven accident prevention

6. Rail Safety Audit, Risk Assessment & Consultancy Services

AIRSC provides expert advisory and safety audit services for railway organizations and infrastructure projects.

Services Include

Comprehensive safety audits

Risk identification and mitigation planning

Safety compliance evaluation

Accident investigation and root cause analysis

Safety improvement roadmaps

Value

Strengthens organizational safety governance

Helps achieve regulatory and operational safety excellence

7. National Rail Safety Conference & Knowledge Forum

AIRSC organizes annual conferences, seminars, and knowledge-sharing platforms bringing together leading safety experts and institutions.

Objectives

Exchange of best practices and innovations

Presentation of research and safety case studies

Policy dialogue and strategic discussions

Networking among safety professionals

Contribution

Builds a national safety knowledge ecosystem

Encourages continuous learning and collaboration

8. Safety Standards, Policy Advocacy & Strategic Advisory

AIRSC contributes to development of safety frameworks, guidelines, and policy recommendations.

Areas of Work

Safety standards and procedural guidelines

Safety culture and leadership development

Strategic safety planning

Advisory to institutions and safety bodies

Outcome

Strengthened national safety framework

Alignment with global best practices

9. Occupational Safety, Health & Industrial Risk Reduction Programme

AIRSC promotes safe working environments for railway employees and contractors.

Focus

Workplace hazard management

Industrial accident prevention

PPE and safe work procedures

Health, fatigue, and human performance

Safety behaviour and leadership

Result

Safer workforce and improved operational reliability

10. Vision Zero – National Railway Accident Prevention Mission

AIRSC's long-term strategic initiative aimed at achieving Zero Fatalities and Zero Major Accidents in railway operations.

Strategic Pillars

Prevention through technology

Competency through training

Awareness through education

Resilience through preparedness

Leadership through safety culture

Future Strategic Directions

AIRSC continues to expand its role in:

Smart and Digital Railway Safety Systems

AI-based Predictive Risk Management

Advanced Disaster Simulation & Response Systems

National Safety Competency Certification

International Collaboration & Knowledge Exchange

Sustainable and Climate-Resilient Railway Safety

The All India Rail Safety Council remains committed to building a Safer, Smarter, and More Resilient Railway System for India. Through its integrated approach combining research, training, technology, policy support, and public awareness, AIRSC continues to contribute significantly toward national railway safety excellence and the realization of Vision Zero – Towards Accident-Free Railways, while aligning with the national aspirations of Viksit Bharat 2047, Make in India, and Net Zero 2070.



AIRSC

RAIL SAFETY NEWS

A UNIT OF ALL INDIA RAIL SAFETY COUNCIL



Volume : 04

Indian Railways – Today's Important Updates

Date : 09 July 2026

TODAY'S TOP UPDATES

**Hydrogen Train Development**
Indian Railways advances trials for hydrogen-powered trains

**Green Mobility Mission**
Strengthening clean energy and sustainable rail transport

**Kavach Expansion**
Enhanced safety with wider deployment across zones

**Passenger Convenience**
Digital upgrades for booking, information & station services

**Infrastructure Boost**
New lines, doubling & modernisation projects progress nationwide

INDIAN RAILWAYS TOWARDS A HYDROGEN FUTURE

India Accelerates Green Mobility
with Hydrogen Rail Innovation



Dr. R. Padmanabhan
Chairman
All India Rail Safety Council



**TOWARDS
NET ZERO
2070**

SAFETY FIRST • SAFETY ALWAYS
SAFE TRACKS • STRONG NATION • UNITED INDIA

www.railsafety.co.in



AIRSC

ACADEMY OF SAFETY & DISASTER MANAGEMENT

National Centre for Railway Safety Excellence

The AIRSC Academy of Safety and Disaster Management, a premier unit of the All India Rail Safety Council (AIRSC), is a nationally recognized centre of excellence dedicated to advancing professional capability, technical expertise, and leadership in railway safety and disaster management.

Established with a forward-looking vision, the Academy serves as a strategic platform that integrates knowledge, technology, and practical expertise to build a highly competent and future-ready railway safety workforce.

It plays a vital role in supporting India's national priorities, including Viksit Bharat 2047, Atmanirbhar Bharat, and Net Zero 2070, by ensuring that safety remains the foundation of railway modernization and sustainable development.

- Our Institutional Philosophy -

"We Are Creating Professionals, Not Just Students."

www.airsc.in



ALL INDIA RAIL SAFETY COUNCIL (AIRSC)

SAFE RAILWAYS • STRONG NATION • SECURE FUTURE

OUR VISION: ZERO ACCIDENTS – SAFER INDIA

NATIONAL VISION ALIGNMENT VIKSIT BHARAT RAILWAYS 2047 – A DEVELOPED INDIA VISION

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KEY FOCUS AREAS

-  Advancing the Zero-Accident Railway Vision for a safer India
-  Adoption of world-class railway safety standards and global best practices
-  Integration of advanced digital, intelligent, and predictive safety systems
-  Strengthening disaster resilience and emergency preparedness across the network
-  Enhancing passenger safety, reliability, and public confidence
-  Building a future-ready, highly skilled railway safety workforce
-  Developing a smart, data-driven, and technology-enabled railway safety ecosystem



OUR MISSION
Research. Train.
Innovate. Collaborate.
**Building a Safer and
Stronger Railway
Ecosystem for
India and the
World.**

MAKE IN INDIA – SELF-RELIANT RAILWAY SAFETY SYSTEMS

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-  Encouragement to Indian research institutions, startups, and safety innovators
-  Localization of modern safety tools, monitoring systems, and diagnostics
-  Capacity building and skill development for Indian safety professionals and engineers
-  Strengthening India's global leadership in railway safety and safety engineering

NET ZERO 2070 – SUSTAINABLE & GREEN RAILWAY SAFETY

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-  Promotion of environmentally responsible railway safety practices
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-  Climate-resilient railway safety and disaster management systems
-  Reduction of environmental and operational risks
-  Adoption of eco-friendly materials and green safety technologies
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AIRSC works closely with railway professionals, safety regulators, academic institutions, industry experts, and disaster management authorities to develop practical, technology-driven, and human-centric safety solutions.

-  **RESEARCH & INNOVATION**
Evidence-based solutions for safer railways
-  **TRAINING & CAPACITY BUILDING**
Empowering professionals for a safety-first culture
-  **TECHNOLOGY & DIGITALIZATION**
Smart systems for real-time monitoring and prediction
-  **COLLABORATION & STAKEHOLDERS**
Uniting experts for a safer and resilient railway network