



JAYAWANT SHIKSHAN PRASARAK MANDAL'S
RAJARSHI SHAHU COLLEGE OF ENGINEERING
Tathawade, Pune-411033



An Autonomous Institute, Affiliated to Savitribai Phule Pune University,
Approved by AICTE, UG Programs Accredited by NBA, 'A' Grade Accreditation by NAAC



Organize

INSTITUTION INNOVATION COUNCIL (IIC)

IC201912619

**National Highways Authority
of India (NHAI)**

**INNOVATION HACKATHON
2026**



Prize Money – 3.5 Lakhs

Website: [<http://nhai.org/>] [<https://hackathon.nhai.org/Hackathon/>]

For any inquiry please contact:
Dr. P. M. Ghate - 9890720393

Website: www.jspmrscoe.edu.in

» (6th NHAI Innovation Hackathon 2026)

The National Highways Authority of India (NHAI) has been conducting an open-to public event – the 6th NHAI Innovation Hackathon. This Hackathon aims to invite innovative, technology-driven solutions to real-life challenges faced by NHAI.

Various departments and technical wings of NHAI have submitted practical problem statements that require out-of-the-box thinking, efficient tech tools, and scalable ideas from the public – including students, startups, professionals, and developers.

» Objective

Retroreflectivity describes the ability of a surface to return light to its source. Retroreflectivity is a technology used to enhance the readability and perception of information displayed in low-light and night-time conditions. Retro-reflectivity ensures that road signs and pavement markings are visible at night and under low-light conditions, significantly improving road safety. NHAI is looking for high-quality retro-reflectivity measurement solutions for road markings and sign boards.

» Eligibility

Open to all – Students, Startups, Innovators, Tech Enthusiasts, existing equipment manufacturers.

» Details of Problem Statement

NHAI recognizes that legible traffic signs and quality pavement markings are important for highway safety, especially in low-light conditions and at night.

The retroreflectivity of traffic signs, pavement markings and reflective pavement markings (RPMs) / road studs provides positive visual guidance to assist driver's awareness of lanes and road edges. They provide critical warning, timely location and other information to drivers. The retroreflectivity of signs and road markings is critical to a safer road environment.

NHAI mandates in its contracts for providing safety items having high quality reflective sheeting on Traffic Signs, Road Studs, Delineators, etc. and high quality pavement markings on highways. The retro reflectiveness measurement of these safety products are required to be measured on installation. Further, the effectiveness of retroreflective materials tends to deteriorate over time, regular maintenance is important. Signs and road markings lose their colour, legibility, and retroreflectivity as a result of corrosion caused by exhaust fumes and industrial pollution, erosion caused by vehicle tyres, sun exposure, dirt, ice and wind. Regular inspection and measurement during O & M stage ensures that minimum acceptable retro reflectivity standards are maintained.

NHAI highway road network spreads across country. The highways are 8 lane high speed expressways, 6 lane, 4 lane and 2 lane highways. These highways have been provided with gantry signs, shoulder mounted signs and pavement markings. Currently, the reflectivity measurements of safety products are measured by hand held devices confirming to IRC 67 and IRC 35. The measurement by hand held devices is very time consuming and unsafe as high speed traffic is also plying on the highway/expressway.

Accordingly, NHAI invites Technology Driven Innovative solutions for reflectivity measurement of signs, pavement markings road studs, delineators, etc. during Day/Night, Dry/Wet, With/without Street light, Foggy weather conditions etc. from all concerned on ideas for enhancement of safety on National Highways in India as follows:

- i. Retro reflectivity measurement by equipment's mounted on Vehicle/Drone to take measurement speedily.
- ii. Retro reflectivity determination by AI & ML techniques of data collected by Vehicle Mounted/Drone Camera.
- iii. Combination of above two i.e. i. & ii



▶ Deliverables of the Hackathon

The participant may submit a system overview, concept note/ Mobile Application /Prototype etc

▶ Important dates

- Registration Opens: [08.04.2026 at 05:00 PM]
- Final Submission Date: [23.04.2026 at 05:00 PM]
- Evaluation: [To be Notified]
- Presentations: [To be Notified]
- Result Declaration: [To be Notified]

▶ Prizes

1st Prize – ₹2,00,000

2nd Prize – ₹1,00,000

3rd Prize – ₹50,000

Evaluation Criteria All submitted solutions will be evaluated by a panel of experts based on the following parameters • **Innovation level – 30 marks** • **Feasibility – 30 marks** • **Scalability & Sustainability – 20 marks**

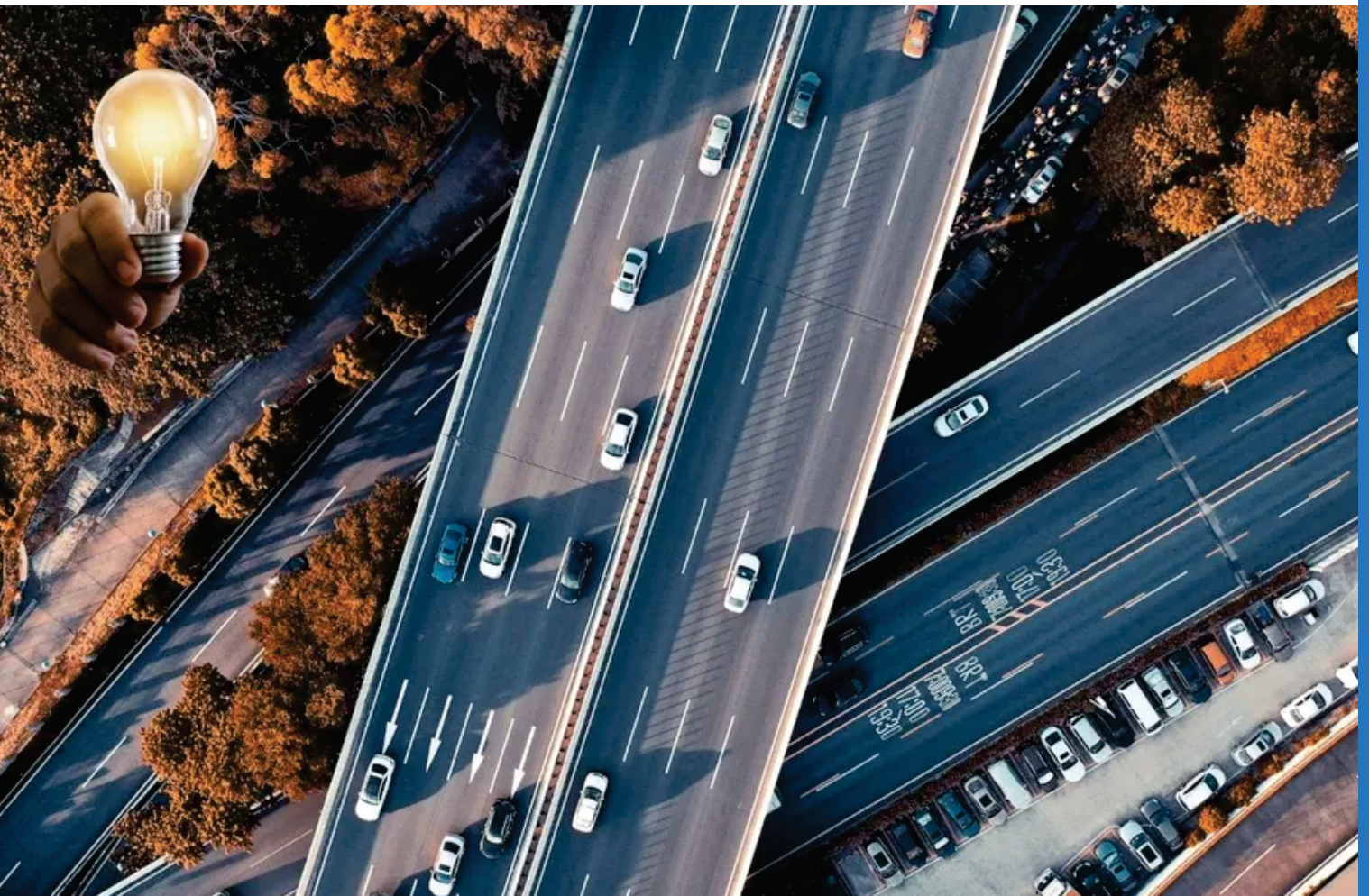
• **Presentation & Documentation – 20 marks**

▶ Terms & Notes:

- Teams must bear all expenses related to developing their solution or PoC.
- NHAI reserves the right to cancel the Hackathon event at any stage without assigning any reason.
- NHAI reserves the right to disqualify any team at any stage.

▶ Contact & Registration:

- **Website:** [<http://nhai.org/>] [<https://hackathon.nhai.org/Hackathon/>]
- **Email:** [amitmunjhal@nhai.org], [arkale@nhai.org], [sahilbansal.nhai@gmail.com]



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