



Theme of Hackathon

**Innovation in Construction
Safety in India**

Supported by



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Manthan
Ideas and implementation through
Science, Technology, and Innovation

Initiative partners



NIUA
National Institute of Urban Affairs



Background

India's construction industry is one of the largest employers in the country, contributing significantly to GDP and infrastructure growth. Yet, it also remains one of the **most hazardous sectors**, accounting for a major share of workplace accidents and fatalities.

Unsafe working conditions, inadequate supervision, lack of protective equipment, limited awareness, and informal work practices lead to preventable injuries and loss of life. The problem is amplified by the fragmented nature of construction sites — ranging from large infrastructure projects to small-scale urban developments — where safety compliance and monitoring often take a back seat to time and cost pressures.

With India moving towards Viksit Bharat 2047, it is imperative to **innovate safety practices, technologies, and mindsets** to protect the workforce that builds our nation.

The Challenge

Develop an **innovative, practical, and scalable solution** that enhances **construction safety management and monitoring** in India. The goal is to create systems, devices, or platforms that can **predict, prevent, and respond** to safety risks in real time — especially in resource-constrained site environments.

Problem Areas to Explore

Participants may choose any of the following focus areas or propose their own creative ideas aligned with construction safety:

Predictive Safety Analytics:

- AI models to forecast safety incidents using data from equipment, environment, or worker behaviour.
- Integration of weather, site layout, and material handling data to predict risk zones.

Expected Outcomes

Participants should demonstrate:

- ◆ **Proof-of-concept** (Digital) that addresses a specific safety challenge.
- ◆ A **deployment strategy** for adoption in diverse Indian construction environments – from metro projects to rural worksites.
- ◆ **Impact potential** in terms of accident reduction, worker wellbeing, and industry adaptability.

Evaluation Criteria

Innovation & Creativity

Feasibility & Technical Soundness

Impact Potential

Scalability & Sustainability

Implementation (Roadmap)

Presentation & Clarity

Vision

To build a safer, smarter, and more humane construction ecosystem for *Viksit Bharat 2047* – where every worker's safety is ensured through the power of innovation and technology.