

TECHNOLOGY DEVELOPMENT PROGRAM SMART CITIES AND SOCIETIES



Road Infrastructure Monitoring System

A multi-sensor cloud integrated solution to automate survey, reporting, tender cost estimation for brown field and road repair contracts



Issue Being Addressed

- ▶ Road surface monitoring
- ▶ Road defect tracking

Key Feature of the Technology/Product /App Which is Being Developed

- ▶ AI driven road surface monitoring
- ▶ Comparison of before and after fixing roads
- ▶ Estimation of potholes, encroachment and other defects of roads for contract preparation

CPS Relevance

- ▶ The technology includes inspection, data collection, processing, with sensors and optimized communications and networking modules with 3D/LiDAR vision for distress detection and classification

Impact & Benefits

- ▶ Urbanization and demographic changes lead to increased infrastructure expenditure, with governments and local authorities focusing on road maintenance, expansion, and building
- ▶ Improved roads deliver essential services, increased accessibility, and support public transit. Investing in road infrastructure is crucial for community welfare and safety
- ▶ Good roads lead to better fuel efficiency of vehicles, thereby reducing pollution and replacement of tyres and vehicle maintenance

Team

- ▶ PI: Vimal Bhatia Professor, Dept. Of Electrical Engineering, IIT Indore

CHANAKYA Chair Professorship

Targeted Customers & End Users

- ▶ Road maintenance departments for various States and Central agencies
- ▶ Public Works Departments
- ▶ NHAI
- ▶ NBCC
- ▶ L&T, Godrej
- ▶ System Integrators like Accenture etc

Commercialization Status

- ▶ The prototype has been piloted for rural roads in Bihar
- ▶ The technology is designed for IIoT and smart cities aligned with current government policies emphasizing road and infrastructure maintenance