



Drone Services For PWD Department By

LEDO INDIA BUSINESS SOLUTIONS LLP



About Ledo India Business Solutions



Ledo India is a leading provider of cutting-edge drone services, revolutionizing the way surveys, inspections, and monitoring are conducted. We specialize in leveraging advanced UAV (Unmanned Aerial Vehicle) technology to provide fast, accurate, and cost-effective solutions for various sectors, including government infrastructure projects, construction, and environmental monitoring.

Our Mission:

At Ledo India we are committed to transforming traditional workflows with innovative drone technology, enabling better decision-making and sustainable development. Our mission is to deliver reliable, scalable, and comprehensive drone services that meet the highest industry standards.

Drone Services for PWD

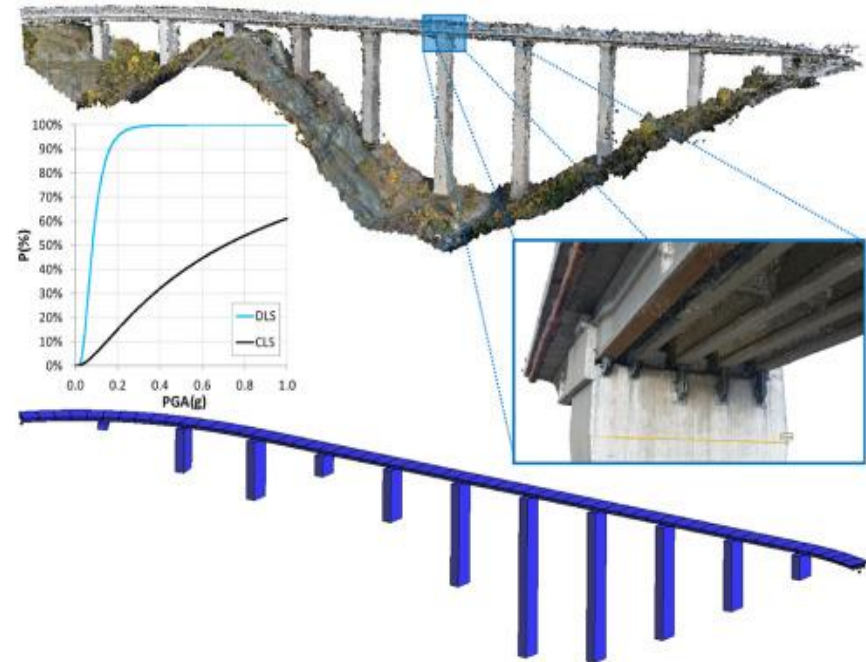


1. Infrastructure Inspection

Drones provide a cost-effective and safer way to inspect infrastructure such as bridges, roads, and buildings. They can easily reach difficult areas like under bridges or tall buildings, capturing high-resolution images and videos to assess wear and tear, corrosion, cracks, or other damage.

Example:

- Inspecting bridge joints for cracks in hilly areas where physical access is challenging.
- Regular monitoring of highway flyovers to prevent sudden structural collapses

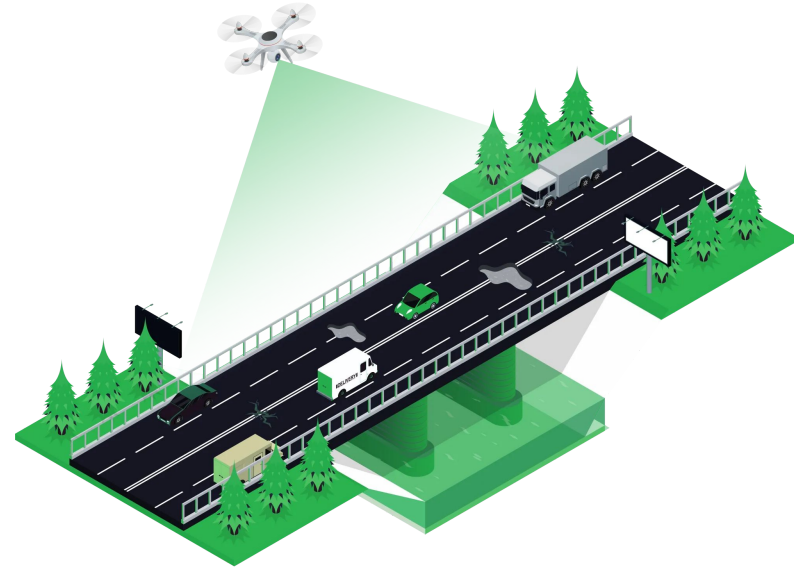


2. Surveying and Mapping

Drones equipped with LiDAR or high-resolution cameras generate accurate 3D maps, topographic surveys, and orthophotos. These surveys are faster, more precise, and significantly cheaper compared to traditional methods.

Example:

- Surveying land for constructing a new bypass road to divert traffic.
- Mapping flood-prone areas to plan drainage systems.



3. Project Monitoring

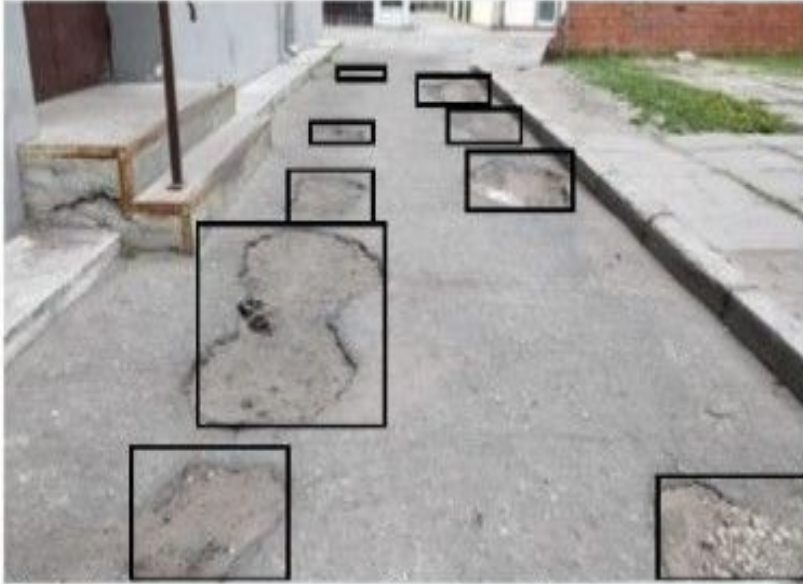
Drones allow real-time monitoring of construction projects. Progress can be documented through aerial footage and compared with project timelines, ensuring timely completion and accountability.

Example:

- Monitoring the progress of a multi-lane expressway construction project.
- Verifying contractor work on public buildings in rural areas.



Monitoring the progress of construction project



Potholes Detection and
Volume Calculation

4. Road Maintenance and Repairs

Drones help identify potholes, cracks, and damaged road sections. Thermal imaging can also detect underlying structural issues invisible to the naked eye.

Example:

- Mapping potholes in urban areas post-monsoon to prioritize repair.
- Identifying road washouts after landslides in hilly regions.

5. Disaster Management and Damage Assessment

Post-disaster, drones are deployed to assess damage to infrastructure like roads, bridges, and drainage systems. This data helps in planning restoration and allocating resources effectively.

Example:

- Assessing bridge damage after floods in Kerala.
- Monitoring landslide-prone roads in Uttarakhand to guide evacuation and repair efforts.





Landslide Investigation & Monitoring

6. Environmental Monitoring

Drones monitor environmental factors such as illegal construction, deforestation, and pollution near public infrastructure. This ensures compliance with regulations.

Example:

- Identifying illegal dumping near highways.
- Monitoring tree cover alongside newly built roads.





Illegal waste
Dumps to
Beneficial
Resources
Using Drone
Technology

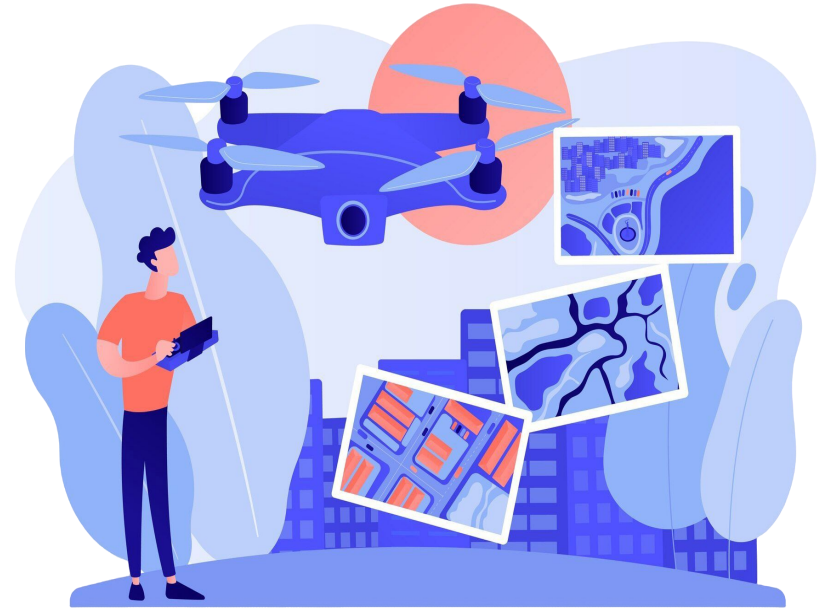


7. Urban Planning

Aerial data from drones assists in planning public infrastructure like roads, flyovers, and drainage systems. They also provide insights into traffic patterns and encroachments.

Example:

- Planning smart city initiatives by mapping areas for new flyovers.
- Designing better drainage systems in flood-prone cities like Mumbai.



Real-World Examples of Drone Use in PWD



1. Bridge Inspections in the USA:
The Minnesota Department of Transportation uses drones to inspect bridges, reducing inspection costs by 40%.
2. Road Condition Surveys in India:
PWD in Maharashtra uses drones to assess the condition of rural roads under the PMGSY scheme.
3. Disaster Response in Uttarakhand:
Drones were deployed after flash floods to assess damage to roads and bridges for planning repairs.
4. Expressway Monitoring in Delhi:
Drones were used to monitor the construction of the Delhi-Mumbai Expressway, ensuring project milestones were met.



Advantages of Drone Usage in PWD

- **Cost-Efficiency:** Reduces labor and time costs for surveying and inspections.
- **Safety:** Minimizes risks for workers in hazardous areas.
- **Precision:** Delivers high-quality data for accurate planning and decision-making.
- **Time-Saving:** Accelerates surveys, inspections, and monitoring tasks.



Let's Build the Future Together

We would love the opportunity to collaborate with PWD and bring the power of drones to your next infrastructure project.

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Thank You