



**EMPOWERING INDIA's GROWTH  
WITH DRONE INTELLIGENCE**

# FROM TOWER INSPECTION TO CORRIDOR MAPPING – SMARTER GRID MANAGEMENT

## About Us

Vaaruu Robotics delivers cutting-edge drone solutions to optimize efficiency, reduce downtime, and enhance safety in power transmission networks. Our certified pilots and AI-powered analytics transform aerial inspections into actionable insights—faster and safer than manual methods.

## Our Achievements

**50,000+**  
transmission lines  
inspected

**8,000+**  
Flying Hours

**300+**  
Projects Completed

## Why Us ?

- ✓ **Industry-Leading Expertise:** Trusted by power utilities and grid operators.
- ✓ **Regulatory Compliance:** Certified pilots and insured operations.
- ✓ **AI-Driven Insights:** Predictive analytics for proactive maintenance.



# Key Services

## 1. Transmission Line Inspection

- **Fault Detection:** Identify broken conductors, damaged insulators, and corrosion using HD/thermal imaging.
- **Vegetation Encroachment:** Map tree intrusions in right-of-way (ROW) corridors to prevent outages.

## How Drones help

- **Thermal Imaging:** Detect hotspots in conductors and joints.
- **LiDAR Scanning:** Model ROW corridors for vegetation management.
- **AI-Powered Analytics:** Prioritize repairs based on risk severity.



## 2. Tower Structural Health Monitoring

- **Corrosion & Crack Detection:** High-resolution imaging to assess tower integrity.
- **Foundation Inspection:** Monitor erosion or displacement in hard-to-reach areas.

## How Drones help

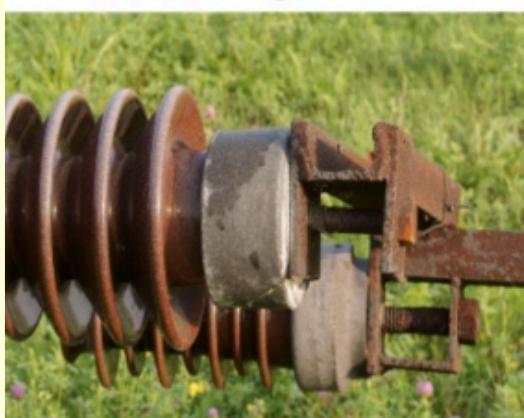
- **3D Modeling:** Reconstruct towers for detailed defect analysis.
- **Automated Reports:** Generate compliance documentation.
- **Safety:** Eliminate risky climbs with aerial inspections.



(a) Damaged



(b) Dirty



(c) Ageing



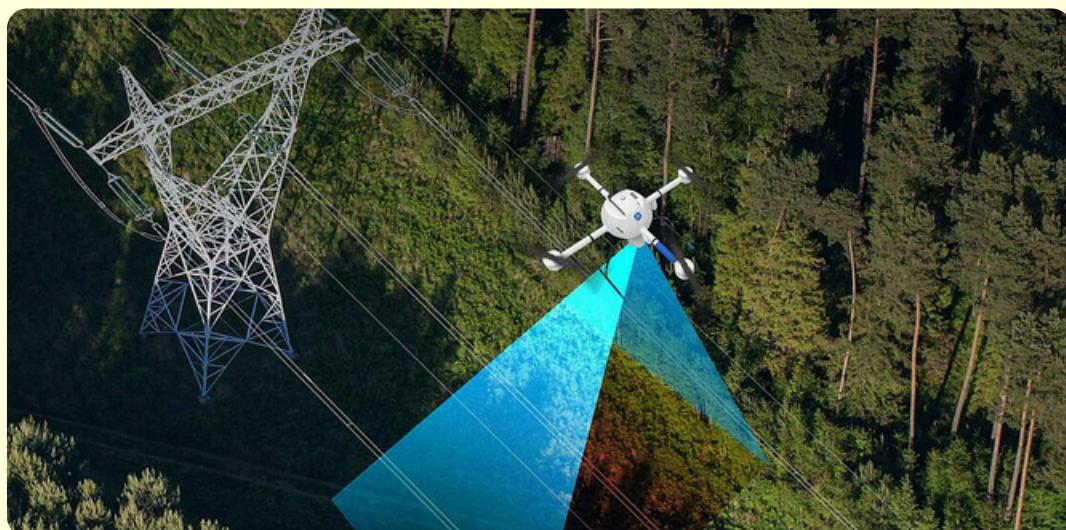
(d) Flashover

### 3. Corridor Mapping & Surveying

- **ROW Compliance:** Map transmission corridors to ensure regulatory clearance.
- **Terrain Analysis:** Assess landslide risks or erosion near towers.

## How Drones help

- **Orthomosaic Maps:** High-res 2D maps for corridor planning.
- **DTM/DSM:** Calculate terrain slopes and clearances.
- **AI Alerts:** Flag encroachments or illegal constructions.



## 4. Emergency Response & Disaster Recovery

- **Storm Damage Assessment:** Rapid post-disaster inspections to prioritize repairs.
- **Fault Localization:** Pinpoint faults after grid failures.

## How Drones help

- **Real-Time HD Streaming:** Live feed for crisis management.
- **GIS Integration:** Overlay damage data on grid maps.



## 5. Predictive Maintenance & Reporting

- **Trend Analysis:** Track wear-and-tear over time.
- **Custom Dashboards:** Visualize inspection data for asset managers.

## What we deliver

- **Automated Defect Logs:** AI-generated repair recommendations.
- **Regulatory Reports:** Ready-to-submit compliance files.



**ONE PARTNER FOR BOTH YOUR  
GRID SAFETY & LINE  
VISIBILITY**

**THANK**  
*Be the part of our family*  
**YOU**

**Power-Sector Ready:** Trusted by grid operators & utility engineers.

**Real-Time Advantage:** From tower scans to risk flags within hours.

**Budget-Efficient:** Replace manual climbs with smart drone reports.



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