

ElectronVibe Case Study Series

SATELLITE MONITORING OF GRID ASSETS

WITH AUMSAT AND A TELANGANA UTILITY



ABOUT AUMSAT

Aumsat provides AI-enabled Satellite-Based precision-driven energy analytics for monitoring vegetation intrusion, soil erosion, fire hazards, and illegal encroachment around power transmission lines.

SERVICES

- Comprehensive services encompassing monitoring of damaged and degraded insulators in substations, detection of clearance issues, and assessment of clearance for jumper wires.
- Specialized inspection capabilities include identification of punctured insulators, evaluation of rusted connectors, and adjustment of stray wires due to leaning poles, ensuring optimal functionality and safety.
- Advanced structural analysis of towers combined with thorough inspection of leaned poles, offering a holistic approach to maintenance and ensuring reliable performance of the power infrastructure.

VALUE PROPOSITION

- Aumsat introduces an impactful shift by cutting logistical and economic expenses by 75%, offering a nuanced solution for discoms. This innovative platform excels in delivering energy intelligence with remarkable efficiency, outperforming conventional methods in a significant manner.



Founded in 2019
Founder: Riddhish Soni



Domain:
Asset Mapping and
Monitoring



Runner up:
ElectronVibe 2021



Headquarters in
Mumbai, Maharashtra



Website:
<https://www.aumsat.com>

THE PILOT

ESTIMATED IMPACT

Rs 2.14 Lakh / Km / Year

Cost to the utility for manual inspection



*These inspections have to be carried out every month by the utility

Rs 2.03 Lakh / Km / Year

Savings after implementing Aumsat's solution



*These inspections have to be carried out twice every year by the startup

Rs 1 CR

Savings after implementing Aumsat's solution for the pilot scope of 50 kms



GREATER IMPACT

for Telangana Utility

1800 KM

Total power line length






Approx.

37 CR

Potential savings per year in inspection costs after implementing Aumsat's solution.



*All Savings above are calculated as cost of manual surveys - drone costs

-  16 Districts (66.6 sq. km)
-  6.4 million consumers
-  Peak Demand: 5738 MW (2022)

CHALLENGES

- Essential need for accurate and reliable energy intelligence to ensure public safety, prosperity, and environmental sustainability.
- Significant challenges in monitoring unauthorized constructions, vegetation growth, and infrastructure changes within and beyond the Right of Way (RoW), as well as detecting various issues such as flashover, damage to conductors, and hardware deterioration.
- High costs and risks associated with inadequate energy management, including the potential for blackouts, incorrect assumptions about power quality and quantity, emphasizing the critical importance of addressing these challenges effectively.

SOLUTIONS

- Aumsat's offers a comprehensive dashboard that facilitates detailed asset and vegetation monitoring for the utility. This tool not only enhances energy and power use efficiency but also significantly cuts down on the economic losses associated with power distribution, achieving cost reductions of up to 80%.
- Aumsat's extensive satellite and drone inspection to address critical issues such as vegetation intrusion, enhanced monitoring solutions to effectively address these challenges and ensure the reliability of power distribution networks.

OUTCOMES

The thorough inspections identified 120 instances of vegetation intrusion and 29 cases of Asset Inspection Abnormalities, emphasizing the critical need for improved monitoring systems to effectively address these issues.

Intended Benefits (For user)

Users benefit from enhanced visibility and control over their assets, leading to improved decision-making, minimized downtime, and ultimately, greater cost savings. Additionally, the streamlined monitoring process allows for quicker identification and resolution of issues, ensuring a more reliable and resilient power distribution system.

Intended Benefits (Financial)

The innovation will significantly cut down on the economic losses associated with power distribution, achieving cost reductions of up to 80%.



Efficient Energy Intelligence



Logistical and economic cost Saving



Quick Deployment