IIT Tirupati Navavishkār I-Hub Foundation | TIRUPATI | DEPARTMENT OF SCIENCE & TECHNOLOGY | AWaDH IIT Ropar - TIF | HELIOT.AI Smart Farming Solutions

*Powered By*
**GEO-INTEL LAB**

# HELIOT ENVIROSE NSE – "ONE VILLAGE, ONE WEATHER STATION" *POWERED BY* HELIOT.AI INTEGRATED AIOT + GIS PLATFORM

**Agriculture**

## Pilot District
Sonipat, Haryana

## Geospatial Innovation Accelerator
AWaDH, IIT Ropar

## Technology Summary

HELIOT ENVIROSENSE is a solar-powered AIoT-based Automatic Weather Station delivering real-time, hyperlocal weather intelligence integrated with GIS analytics.

**It provides:**
- **Localized 8-day forecasts**
- **HyperLocal Weather Information**
- **Smart irrigation & fertilizer scheduling**
- **Pest/disease alerts & early warnings**
- Village-level decision dashboards

The HELIOT.AI platform fuses AIoT + GIS + Data Analytics, enabling precision agriculture, resource optimization, and climate risk management.

## Technology Readiness Level: 4

### Value Proposition:
- Hyperlocal Climate Intelligence – Real-time village-level weather data and forecasts
- AI-driven Advisory – Automated irrigation and fertilizer optimization
- GIS-Integrated Mapping – Visual risk and resource insights for every village
- Community Empowerment – Local youth trained in deployment and O&M
- Scalable Framework – "One Village – One Weather Station" model for India

### Market Potential / Deployment Plan
Target Stakeholders: FPOs, NGOs, State Agriculture Departments, KVKs, Agri Universities, CSR programs

**Deployment Roadmap:**
- Phase 1 (2025–26): 100+ stations across 3 states
- Phase 2 (2026–28): Scale-up through partnerships under National Mission for Precision Agriculture, Rural Climate Action & National Innovations in Climate Resilient Agriculture' (NICRA)

**Market Size:** 5.5 lakh villages  scalable national model for rural climate intelligence

### Applications:
- Precision & Climate-Resilient Farming
- Smart Irrigation Management
- Soil Health Monitoring & Mapping
- Flood & Drought Early Warning
- Panchayat & District-Level Decision Support
- Integration with Digital Governance Platforms

### Environmental / Social Impact:

| Parameter | Focus |
|---|---|
| Farmers Empowered | 4,500+ smallholders across 5 pilot districts |
| Jobs Created | 10+ rural youth trained and employed |
| Water Savings | 20–40% reduction in irrigation water usage |
| Yield Increase | 10–20% productivity improvement |
| Community Resilience | Enhanced preparedness for climate risks |

### Contribution to Sustainable Development Goals (SDGs)

**SDG 2, 6 & 13**


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