Product Development -
LANDMASTER AI NATIVE

Technology Stack & Cost Overview

To build a scalable, AI-native land intelligence engine, LANDMASTER requires a full-stack technology platform that can acquire, process, model, and visualise land data at national scale. Below is a structured tech and cost roadmap.

1. Data Acquisition Technologies

- High-res Scanners + Geo-referencing (QGIS/ERDAS): ₹20–30 lakh/district
- Drone Mapping: Rs 8,000–15,000/sq. km (Rs –1.5 crore per 1,000 sq. km)
- Satellite APIs (Sentinel, Landsat): Free / Subscription
- Government API Integrations (circle rates, sale deeds): ₹20–50 lakh setup

2. Geospatial Processing & Cloud Infrastructure

- PostGIS, GeoServer, GDAL, raster-vector automation: ₹50 lakh setup
- Cloud (AWS/GCP) for storage & compute: Rs 20–50 lakh/year
- Map data management: 50TB+ capacity required

3. AI/ML & Automation Stack

- Computer Vision Models (encroachment, boundaries): Rs 1–2 crore development
- LLM/NLP models for deed extraction, mutation logs: Rs 30–50 lakh
- GPU compute (Nvidia A100): Rs 30–60 lakh/year for training & inference

4. Dashboards & User Interfaces

- WebGIS: Mapbox, Leaflet, Deck.gl
- Dashboard Dev (React + Node/Django): Rs 50 lakh–₹1 crore
- Mobile Field App (Patwaris, citizens): Rs 15–25 lakh

5. Security & Access Control

- Role-based access, encryption (TLS), audit logging: Rs 20–30 lakh setup + Rs 10 lakh/year

Cost Summary by Scale

- Pilot (1 District): Rs 1.5–2.5 crore
- Small State (10 districts): Rs 15–25 crore
- National (full India): Rs 200–400 crore

LANDMASTER's tech stack is modular, scalable, and built to transform raw land data into actionable intelligence — supporting governance, finance, climate and infrastructure with real-time land analytics.