THE DRONE DESTINATION

Role of Drones and Geo-Spatial Technologies in realising SDG 15

Geo Smart India 2023 | 18th Oct 2023

THE DRONE DESTINATION

SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

Sustainable Development Goal (SDG) 15: Life on Land

- Protecting, restoring and promoting the sustainable use of terrestrial ecosystems
- Sustainably manage forests
- Combat desertification
- Halt and reverse land degradation
- Halt biodiversity loss

THE DRONE DESTINATION

Drones for achieving SDGs: Bringing Scale, Speed and Safety in the global pursuit of sustainability

KEY GOI SCHEMES

Magnifying usage of Drones for Sustainability

1

SVAMITVA

Survey of Villages Abadi and Mapping with Improvised Technology in Village Areas

- Drones being used to **create land records**
- Survey extends to 650,000 villages
- Drone Data-sets aim to build cross-linkages between various Govt and Pvt. agencies for **sustainable land resource utilisation**

2

SMAM

Sub Mission on Agricultural Mechanization

- Promotion of drone usage to enable precision and digital agriculture practices
- 40% to 100% subsidy on purchase of Agriculture Spray Drones for various stakeholders
- Subsidies on Agri Drone Demonstrations
- Prevent over-utlisation of pesticides and urea

For achieving Sustainable Development Goals (SDGs), the role of rural India is paramount.

Drones for Land & Resource Management

Case Study: Svamitva Scheme

01 Large-Scale Mapping

Professional RTK/ PPK-enabled Drones used in survey activities to generate accurate maps (X,Y < 10 cm, Z< 20 cm) for the rural Abadi area to confer ownership property rights.

02 Use of CORS

To facilitate the geo-tagging of drone images and checking of the final data, GCPs are established either using CORS or using DGPS.

03 Feature Extraction

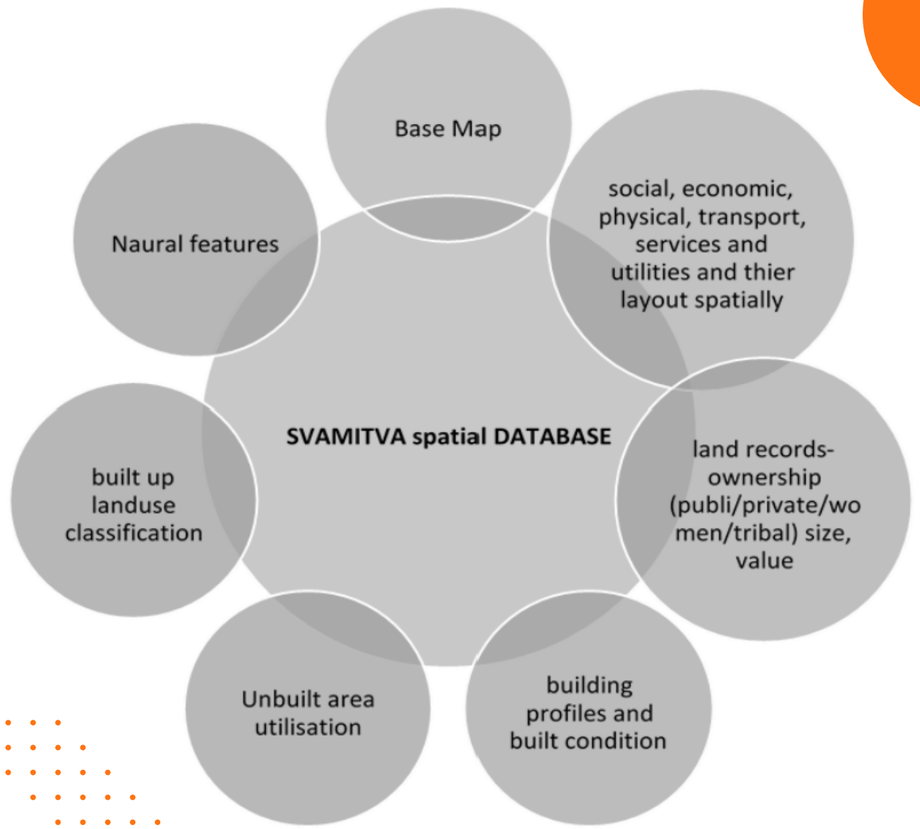
Drone images & hi-res maps can serve for feature extraction of visible features such as buildings, roads, land parcels, natural resources etc.

04 Digital Elevation Model (DEM)

DEM (<20 cm vertical accuracy) generated using drone data is used to determine terrain attributes such as elevation at any point, slope, and aspect.

Drones for Land & Resource Management

Working towards SDG 15



SVAMITVA database can provide valuable spatial information to assist with *conservation efforts of Village Natural Resources like land, water bodies, and forest areas.*

01 Hazard Mapping

02 Spatial Mapping of vulnerabilities

03 Emergency Response Resource Mapping

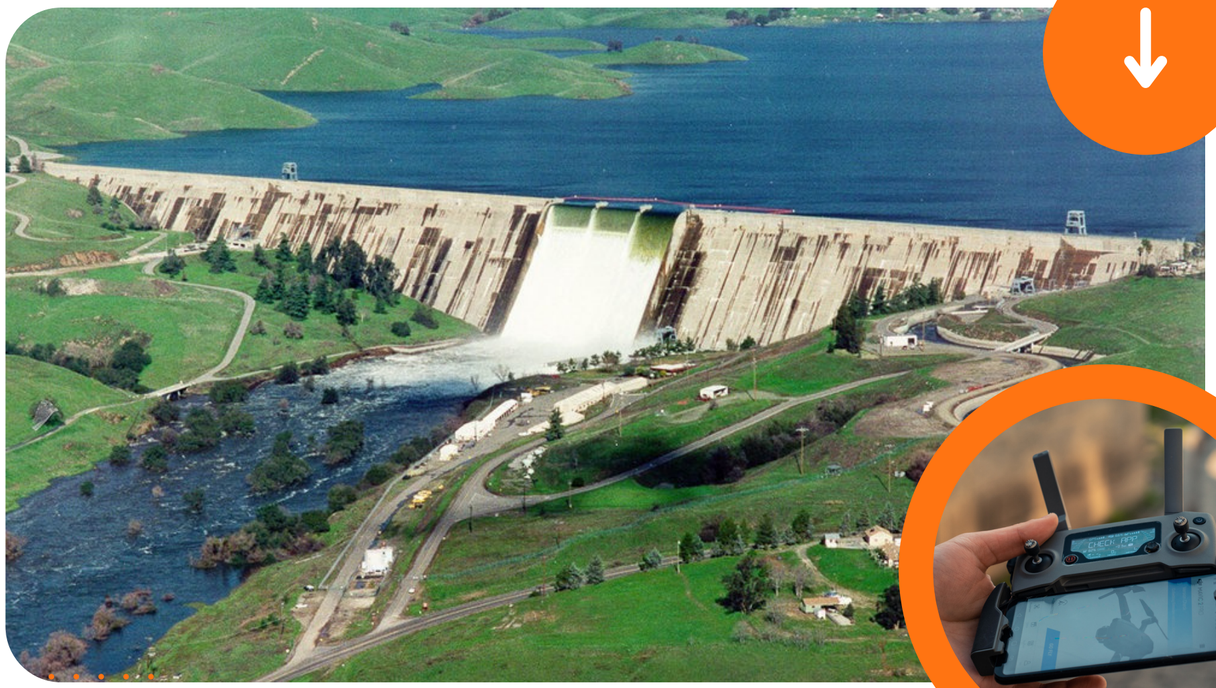
04 Change Detection

05 Use of spatial layer with census data

Drones for Watershed Management

Countering Top-Soil Erosion

Lack of topsoil means that forests and arable lands will not be able to retain water, which further leads to flash floods, unpredictable droughts, and several other problems.



01

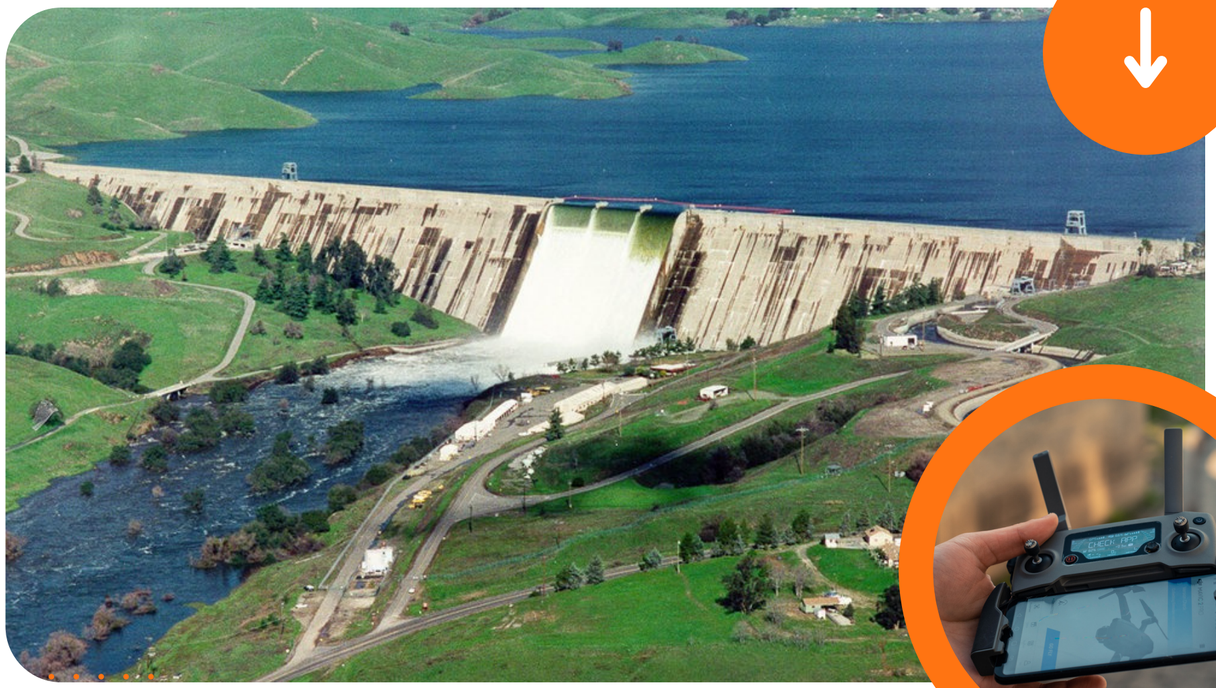
Use of Drone Survey Data

- Using **ultra-high resolution aerial images & LIDAR data** with billions of data points, drone survey can help develop **simulations** for **hydrological processes** in a given region.

- If we need to construct dams or bunds, dig irrigation channels and trenches, or do floodplain zoning, this **drone data is critical.**

Drones for Watershed Management

Countering Top-Soil Erosion



02

Use of Simulations

- Hydrological processes such as **groundwater recharge, surface runoff, and stream routing** can all be simulated on a computer model very efficiently.

- Such simulations give us insights to **perform watershed modelling, conduct runoff estimations, as well as critical water resources planning.**

Watershed development ensures that forests continue absorbing and routing rainwater in the best possible manner.

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Drones in Forestry

Halting bio-diversity loss

01 Managing Forest Fires

Drones with IR sensors can identify blazing hotspots, monitor fire propagation, assess damage, and help control fire outbreaks.

02 Wildlife Monitoring

Drones allow researchers to gather data on animal behavior, monitor species populations, and identify patterns of movement.

03 Surveillance

Drones with EO & IR sensors can assist in monitoring encroachment of poachers, as well as search and rescue operations for humans and animals in distressed situations

Drones in Forestry

Combatting Desertification

04

Tree Disease Detection

LiDAR/ Multispectral sensors in drones help accumulate and process data attributed to the wellbeing of trees, vegetation, and bushlands.

05

Tree Count (Census)

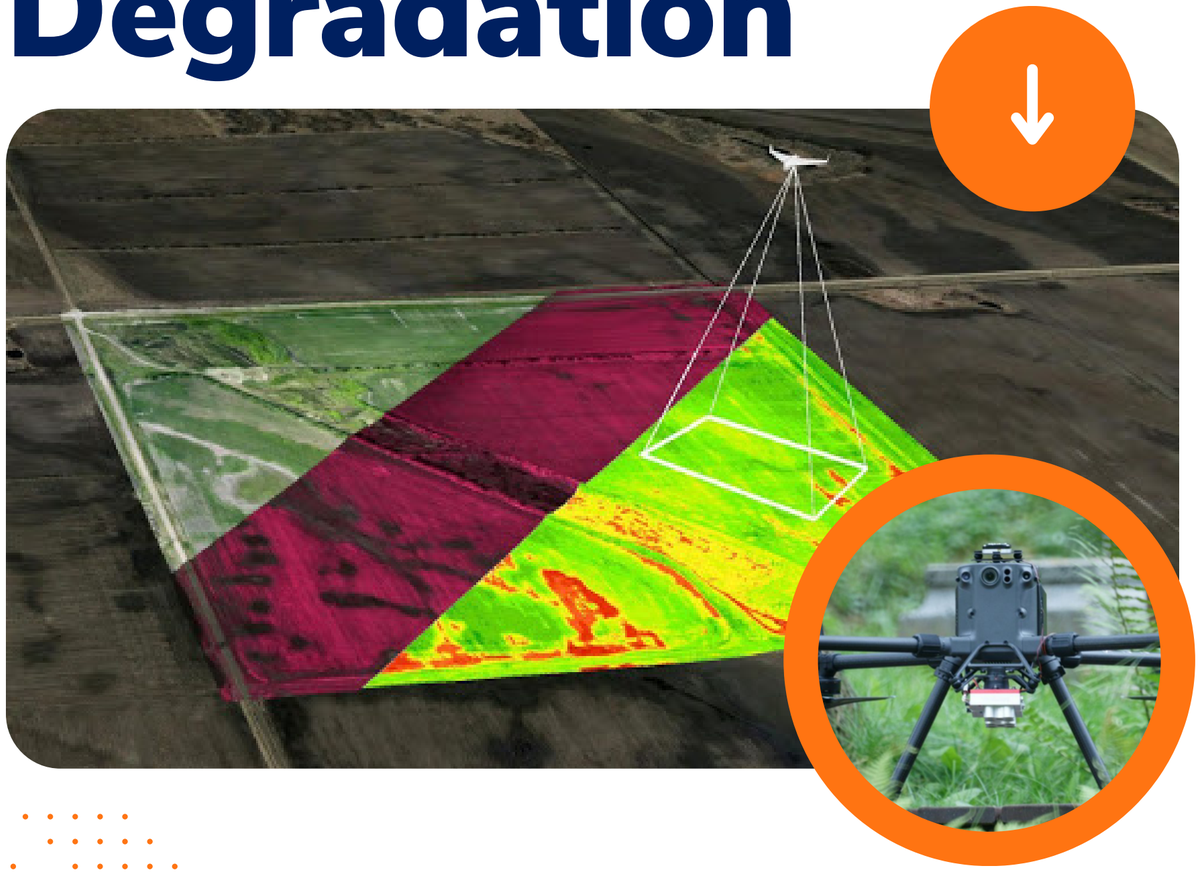
Drones are capable of providing detailed information about each individual tree, including species, height, diameter, trunk volume, curvature, and terrain type.

06

Afforestation

Drones can be used for broadcasting seeds for plantation and afforestation purposes, even in hard to reach areas.

Drones to halt and reverse Land Degradation



01 Soil Health Monitoring

Drones with multispectral & thermal sensors help monitor soil health, assess moisture content and analyze methane emission levels

02 Agri Drone Spray

Precision agri spray using drones save > 80% water table, operational time & labour, and is safer for crops, labour and environment

03 Mitigating Crop Loss

Drones assist with early detection of crop diseases, and provides means to monitor, measure and mitigate the over-use of pesticides, thus preserving bio-diversity of farms at scale.

THE DRONE DESTINATION

Company Overview

About Us

Drone Destination is a leading Drone-as-a-Service (DAAS) company and India's first DGCA-authorized Drone Training Organisation under Drone Rules 2021, that has trained the highest number of DGCA-certified Drone Pilots in India along with our partners IGRUA, largest FTO of India under Ministry of Civil Aviation.

Drone Destination became the first drone company to list on NSE (National Stock Exchange) Emerge platform, with the highest oversubscribed IPO of 2023.

Headquartered at New Delhi and backed by a well-experienced team of Aviation & Technology Experts with a total experience of over 350 years, the Company is present at 10 locations across India.

THE DRONE DESTINATION

Fly The Future

Drone Destination
Business Verticals

THE DRONE DESTINATION
Integrated Drone Ecosystem

Current Verticals

Drone as a Service (DaaS)

Current Projects:
- Svamitva & LSM Survey in Gujarat and Karnataka
- Drone Surveillance for Govt Excise Department

Key Target Industries:
- Survey & Mapping
- Asset Inspection (Power Grid/Solar/Wind Turbine)
- Surveillance (Excise/Forest)
- Mining

Training & Education

Training:
- **Largest Training Network:** Present at 10 Locations already (50+ bases over next 3 years)
- DGCA Certified Training courses
- Application Based Trainings already started. (Survey/Agriculture/ Asset Inspection etc.)

Education:
- Build your Own Drone
- Drone Data Processing & Analytics

New Verticals

Rent a Drone

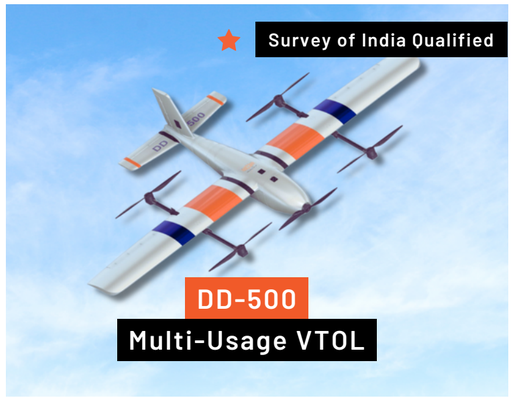
Agriculture Services

Drone Sports

OUR 07 ACRE, INTEGRATED DRONE FACILITY IN DELHI, NCR

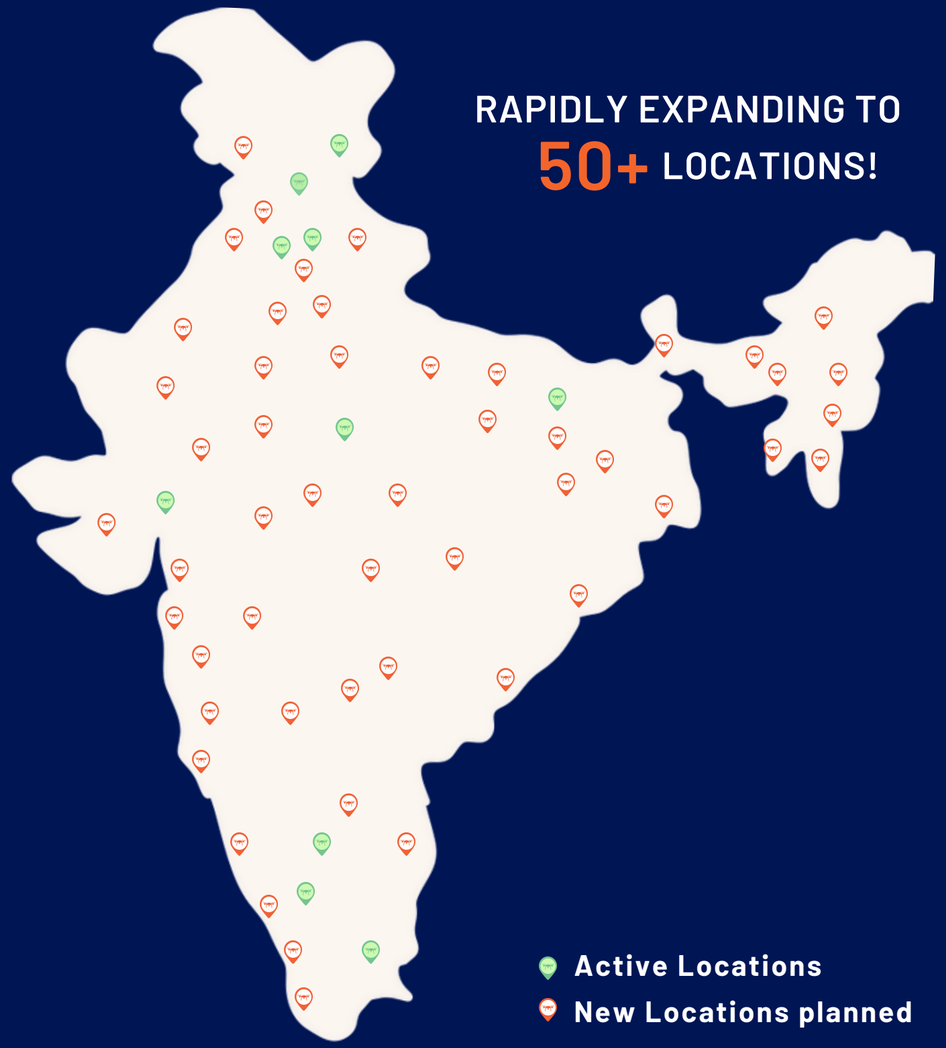
Drones in our Fleet

DRONE	PURPOSE	PAYLOAD	ENDURANCE	RANGE/ COVERAGE	CATEGORY/ CLASS
STAR GURU	Training	None	50 min	2 km	Small, Multirotor
STAR EDGE	Survey & Mapping	24 MP RGB Camera	35 - 40 min	0.8 - 1 sqkm/ flight	Small, Multirotor
DD-500	Survey & Mapping	24 MP RGB Camera	75 min	5 sqkm/ flight	Small, Hybrid VTOL
AGRISTAR	Agri Spray	10 Litre Spray Tank	15 - 20 min	1 acre/ flight	Small, Mulitirotor
AGRI MAPPER	Precision Agriculture	Multispectral Camera	45 min	0.8 - 1 sqkm/ flight	Small, Multirotor
STAR EYE	Surveillance & Monitoring	10x Zoom 3-axis Gimbal	50 min	5 km	Small, Multirotor
STAREX	Multi Application	LIDAR + RGB	50 min	3 km	Small, Multirotor



We are proud to present the Largest Government approved Drone Training Network

THE DRONE DESTINATION



RAPIDLY EXPANDING TO
50+ LOCATIONS!

Active Locations
New Locations planned

Our Current Training Partners

- IGRUA
- SANSKARDHAM DRONE ACADEMY
- CHANDIGARH UNIVERSITY — Discover. Learn. Empower.
- Hindusthan College of Engineering and Technology
- IFFCO — पूर्णतः सहकारी स्वामित्व — Wholly owned by Cooperatives

GURUGRAM

BANGALORE

COIMBATORE

CHANDIGARH

AHMEDABAD

PHULPUR

DHARAMSHALA

GWALIOR

MADURAI

LEAD PLAYER IN DRONE SURVEY & MAPPING OF 6,50,000+ VILLAGES IN INDIA

THE DRONE DESTINATION

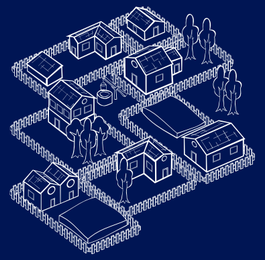
Government of India has launched a landmark "Svamitva Project Scheme," to issue Digital Property Cards to landowners with assistance of drone-powered surveys.

We offer turnkey Drone-powered GIS Enterprise Solutions

- Data Acquisition
- 2-D/ 3-D Surveys
- Large Scale Mapping
- GCP Installation
- Photogrammetry
- Base-line Processing
- ORIs/ DEMs/ Contours
- Feature Extraction
- Volumetric Estimation

#SwamitvaDiaries

Drone Destination along with its GIS Partners, is playing a lead role in digitizing land records for over 6,50,000 villages under the Swamitva Scheme



5000 +

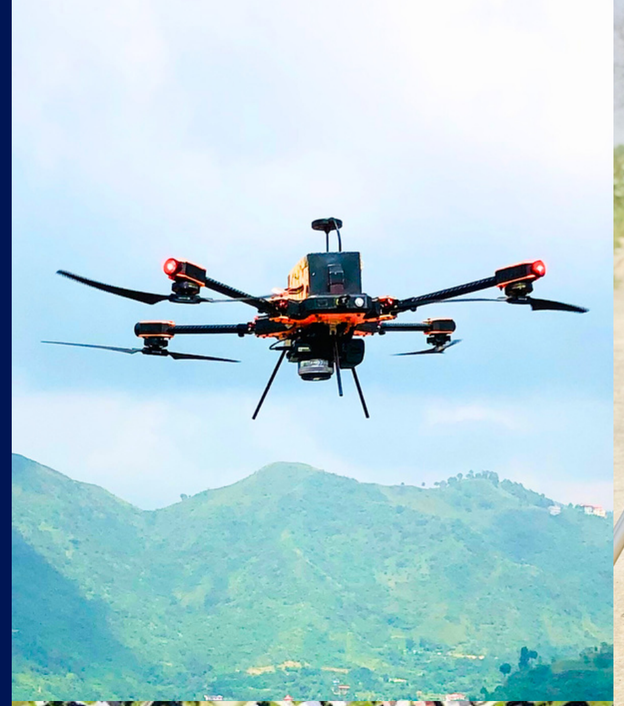
Villages Mapped in Abadi Areas

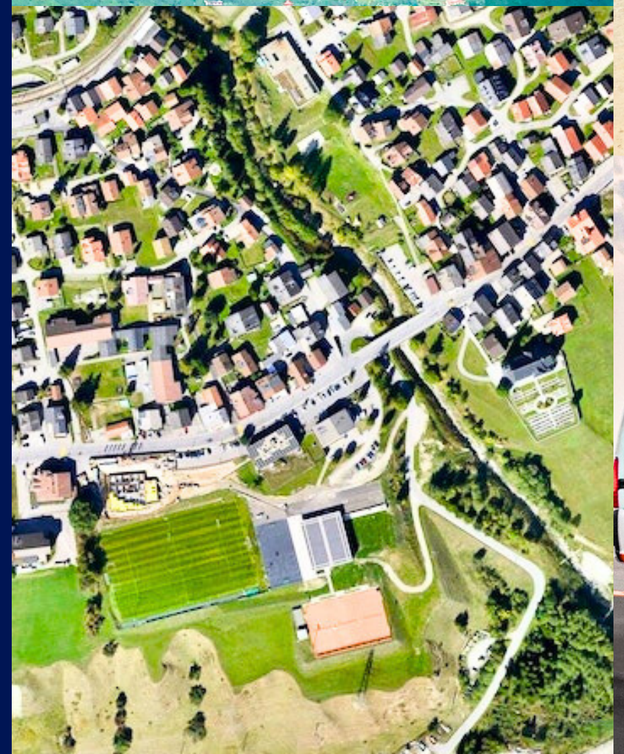
8,00,000 +

hectares area mapped till date

40+

Drone Pilots & Co-Pilots deployed on-field





THE DRONE DESTINATION

RENT A DRONE,
BECOME A DRONAPRENEUR

Choose from a wide variety of drones

Get a DGCA-Certified, Specialised Drone Pilot

Rent our Drone & Pilot for a single day to 12 months

Our Key Patrons and Clients

THE DRONE DESTINATION

Reliance Industries Limited

AIRBUS

BAYER

IFFCO
पूर्णतः सहकारी स्वामित्व
Wholly owned by Cooperatives

TATA

ADITYA BIRLA GROUP

ITC Limited

syngenta

dhanuka

MapmyIndia

aero dyne

asteria aerospace

AUS

ideaForge™
Create. Inspire

IoTechWorld Avigation Pvt Ltd

SKYE AIR

indrones
DRONES AT WORK

DELHIVERY

RAXA
(A GAR Group Company)

RattanIndia
ENTERPRISES

SenseHawk

GarudaUAV

QUIDICH

Matrixgeo
A Geospatial Consultancy & Service Company

Sterlite Power

Our Key Patrons and Clients

Thank you!

Visit Us at

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