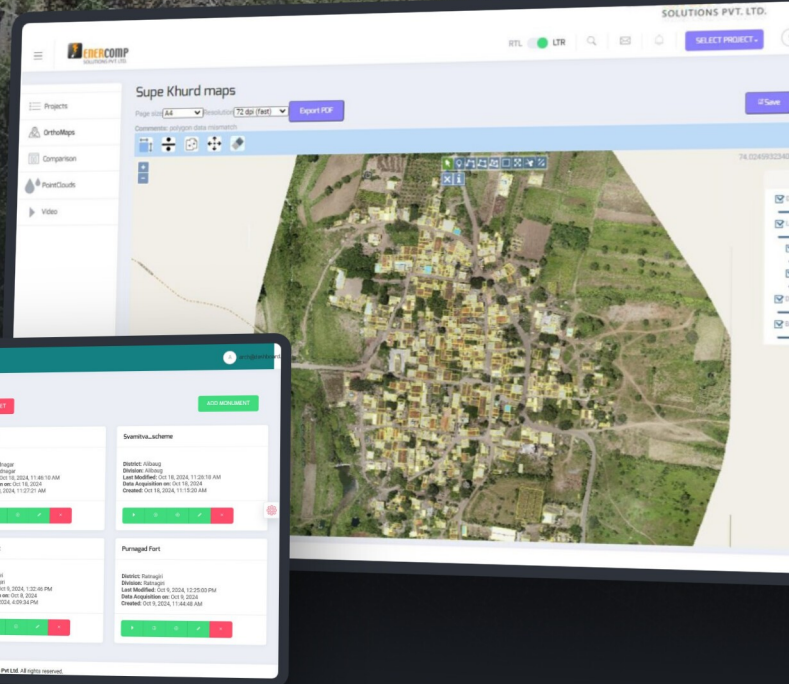




ENERCOMP
SOLUTIONS PVT. LTD.

PRODUCT BROCHURE



ENTERPRISE WEB GIS PLATFORM

Avlokan.

The enterprise **web GIS platform** that turns drone and satellite data into governed, decision-ready maps.

40 Lakh+

land measurements
handled on Enercomp-built
GIS for Maharashtra

160+

heritage monuments
digitally documented

100%

open-source stack — zero
recurring licence fees

**Online +
Offline**

field operations with maker-
checker workflows

WELCOME

Location intelligence for land, assets and cities

Avlokan is Enercomp's enterprise web GIS platform. It brings drone surveys, satellite imagery, cadastral maps, CAD drawings and field records into one secure, browser-based workspace where teams can view, measure, edit, approve and publish geospatial data, online or offline.

Avlokan started as a problem we lived with. As one of India's active drone survey companies, Enercomp produced huge volumes of orthomosaics, elevation models and point clouds for government departments, and found that most clients had no simple way to use them. Desktop GIS needed specialists and costly licences. Generic portals could not handle drone-scale rasters or the approval workflows that land and revenue departments depend on. So we built our own platform, and it now supports state-level land record operations in Maharashtra, heritage documentation, flood planning for a municipal corporation and port monitoring for a maritime board.

40 Lakh+

land measurements handled on Enercomp-built GIS for Maharashtra land records

20,000+

measurement requests processed every month

387+

villages mapped and digitised under SVAMITVA

160+

protected monuments documented in 3D across 15+ districts

Inside this brochure

01

About Enercomp

Who we are, what we build and who we work with.

02

Introducing Avlokan

The platform, the drone-to-decision pipeline and why teams choose it.

03

Architecture

An open-source, three-tier stack built on OGC standards.

04

Feature tour

Real screens from live deployments, module by module.

05

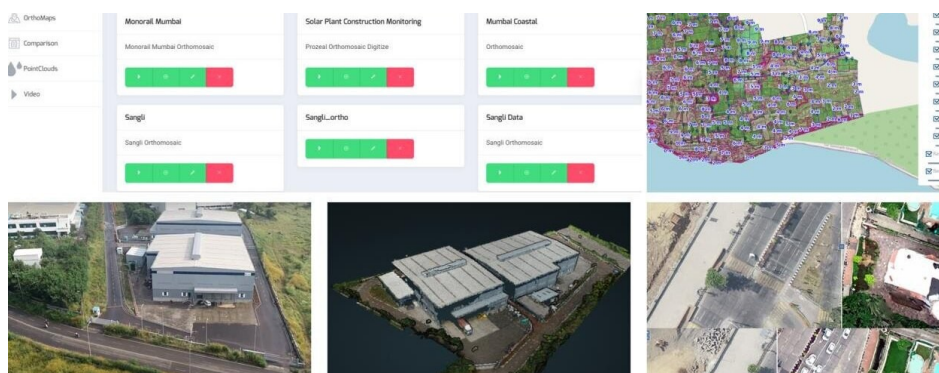
Data, security & AI

Supported data, role-based access and analytics.

06

Deployments & delivery

Where Avlokan runs today, our credentials and how we deliver.



Avlokan project workspace alongside the drone imagery it manages

01 — ABOUT ENERCOMP

Delivering precision. Enabling intelligence.

Enercomp Solutions Pvt. Ltd. is an ISO-certified, NASSCOM-incubated Indian technology company that designs and manufactures drones and turns aerial data into decision-ready GIS intelligence. We have served more than 100 customers, including large Indian corporates, state governments and defence organisations.

Our leadership brings together IIT-trained engineering, more than two decades of enterprise software experience, and hands-on survey operations in more than five Indian states. Because we build the drones, run the surveys and write the software ourselves, Avlokan is shaped by what actually happens in the field, from the flight plan to the final approved map.

What we do

Drone manufacturing

In-house design, composite fabrication, assembly and testing of multirotor, VTOL and heavy-lift UAVs and survey boats.

GIS & survey solutions

Photogrammetry, LiDAR, DGPS/RTK and bathymetric surveys, delivered through the Avlokan web platform.

Drone as a Service

End-to-end survey, inspection and monitoring programmes for government and industry.

AI, analytics & autonomy

Computer vision for object detection, change detection and automated feature extraction.

Surveillance systems

Persistent aerial monitoring solutions for security and critical infrastructure.

Defence systems

Mission-ready UAV platforms for reconnaissance, training and tactical roles.

100+

customers across government, defence and industry

5+

Indian states with delivered projects

ISO

certified quality management

Made in India

drones, software and support



Enercomp's in-house drone fleet captures the data that Avlokan manages

LEADERSHIP

The team behind Avlokan



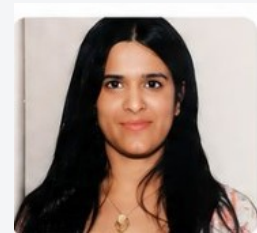
Suresh Shahdadpuri
MANAGING DIRECTOR

B.Tech, IIT Kharagpur · 40+ years.
Leads operations, hardware engineering and strategic growth.



Jatin Patel
DIRECTOR

MCA · 20+ years. Leads sales, software research and product strategy.



Anu Shahdadpuri
DIRECTOR

MSc IT · 20+ years. Leads software engineering and technology innovation.

They are supported by a delivery team of solution architects, senior Java and Angular developers, GIS consultants with master's degrees in geoinformatics, AI engineers from IIT, database and network engineers, QA specialists and a dedicated support desk.

TRUSTED BY

Corporate, government and defence clients

CORPORATE CLIENTS



GOVERNMENT AND DEFENSE CLIENTS



A selection of organisations Enercomp has worked with for drone, survey and GIS programmes.

1,600+ ha

flood-prone area analysed for disaster planning

700+ km

road and metro corridors surveyed

5,000+ km

transmission lines inspected

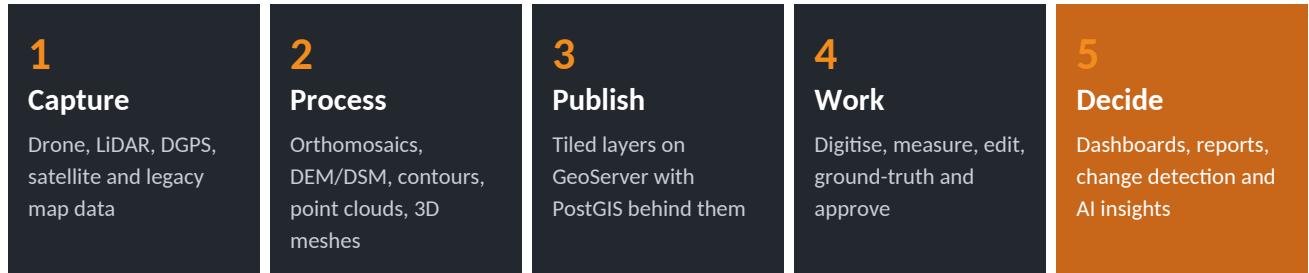
38

dams surveyed with our own survey boat

02 — INTRODUCING AVLOKAN

One platform from drone flight to final decision

Avlokan is a browser-based GIS for organisations that manage land, infrastructure and territory. It works with the imagery and elevation data that drones and satellites produce, and puts it in the hands of everyone who needs it: field surveyors, GIS analysts, approving officers, senior management and, where appropriate, citizens.



Built for

- **Land records & revenue:** e-measurement, parcel digitisation, survey approvals and citizen portals
- **Urban local bodies:** property mapping, flood planning, encroachment and change monitoring
- **Archaeology & heritage:** 3D documentation, protected and regulated zones, drawings archive
- **Ports, industry & infrastructure:** asset digitisation, construction progress and compliance
- **Water, forest & agriculture:** reservoir capacity, resource mapping and crop assessment



Product demo: youtu.be/XQ3Lb474IOY

Watch the product demo: <https://youtu.be/XQ3Lb474IOY>

"GIS platform built by Enercomp is being used at scale by the Government of Maharashtra." Avlokan is not a prototype. It is software that state departments rely on every day.

For field teams

Download work areas, edit on site online or offline, and submit for approval.

For officers & analysts

Review, approve, measure, compare dates and publish authoritative layers.

For leaders & citizens

Dashboards for management; public portals for transparent citizen services.

02 — WHY AVLOKAN

Eight reasons teams choose Avlokan

Most GIS platforms were designed for desktop analysts. Avlokan was designed for organisations where many people, from the field to the head office, need to work on the same map under clear rules.

01

Drone-native

Handles GeoTIFF orthomosaics, DEMs, DSMs, contours and point clouds from any drone or sensor, at survey resolution.

02

Proven at state scale

Built on the same foundation as systems handling lakhs of land measurements for Maharashtra's land records department.

03

No licence lock-in

A fully open-source stack (Angular, Java, PostgreSQL/PostGIS, GeoServer, Ubuntu). No recurring per-user or per-server licence fees.

04

Online and offline

Surveyors keep working without connectivity. Edits are cached on the device and synchronised for approval when they are back online.

05

Workflow built in

Maker-checker approval, audit trails and publish controls turn map edits into accountable government processes.

06

Speaks your language

Local-language forms and labels, including Marathi, alongside English. Other languages can be configured.

07

Secure by design

Role-based access down to layer and tool level, SSO, MFA, encrypted transport and full activity logs.

08

Configured, not rebuilt

Layers, roles, forms, dashboards and print layouts are configured for each client on a proven core.

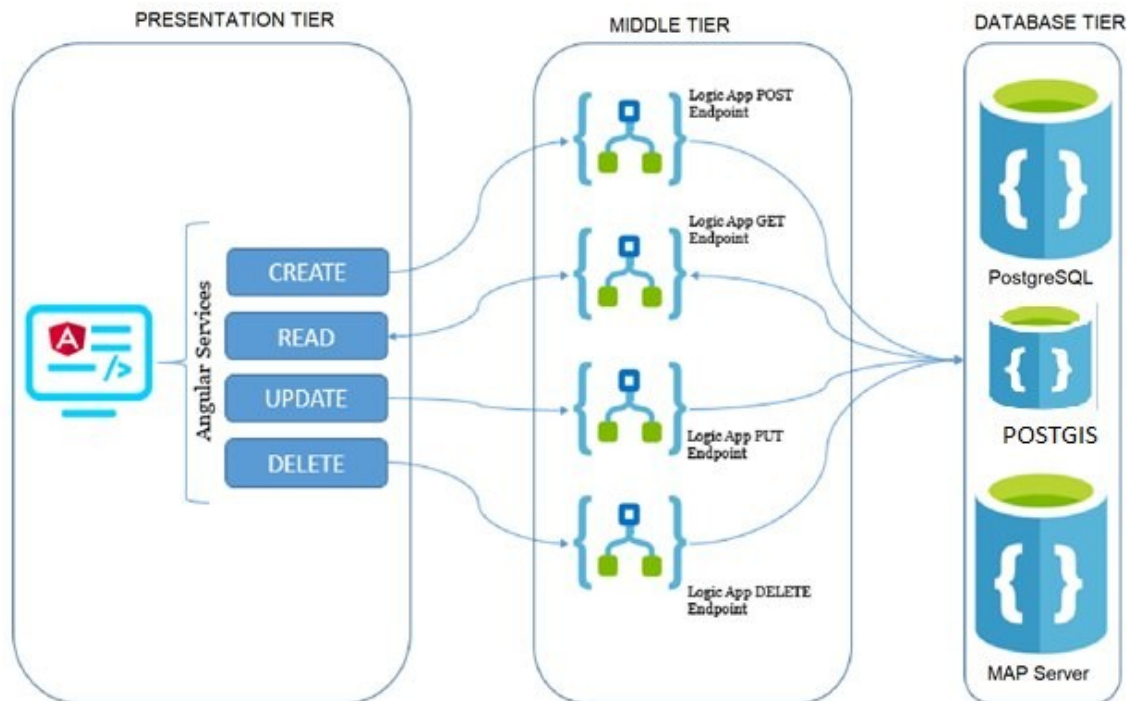


Drone orthomosaic of a heritage site, ready to publish as a Avlokan layer

03 — PLATFORM ARCHITECTURE

Open, scalable and standards-based

Avlokan uses a classic three-tier architecture that government IT teams know how to host, audit and scale. Map and database servers can be clustered as data volumes and concurrent users grow.



Avlokan service architecture: Angular front end, Java service endpoints, PostgreSQL/PostGIS and GeoServer.

Layer	Technology	What it gives you
Presentation tier	Angular, Nebular, HTML5, OpenLayers	Fast, responsive map interface that works across browsers, tablets and mobile screens
Application tier	Java, Spring, Hibernate; REST & SOAP APIs	Enterprise-grade business logic, workflows and secure integration endpoints
Data tier	PostgreSQL + PostGIS; GeoServer map server	Central geodatabase for spatial and non-spatial data; high-performance tiled map services
AI / ML	TensorFlow, scikit-learn, OpenCV	Object detection, classification and change analysis on imagery
Deployment	Linux (Ubuntu) on-premise, government cloud or hybrid	Low cost, hardened servers; clustering of map and DB servers when needed

OGC interoperability

Publishes and consumes WMS, WFS and WMTS services, so data flows to and from ArcGIS, QGIS and other systems.

Open integration

REST APIs connect Avlokan to e-governance portals, payment gateways, single sign-on and departmental applications.

Bulk migration

Bulk upload and ETL pipelines bring legacy shapefiles, CAD drawings and scanned maps into the geodatabase.

04 — FEATURE TOUR

Secure access and a map that does the work

Every user signs in to a workspace shaped by their role. From there, the map viewer brings raster and vector layers together with the tools to explore, query and compare them. The screens in this section come from live Avlokan deployments.

Login
Hello! Log in with your email.

Email address:
arch@dashboard.com

Password:

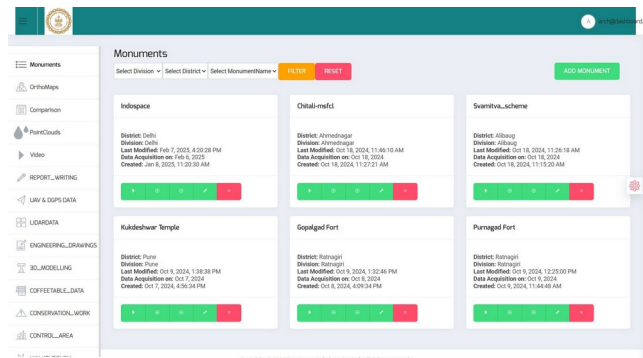
☐ Remember me

[Forgot Password?](#)

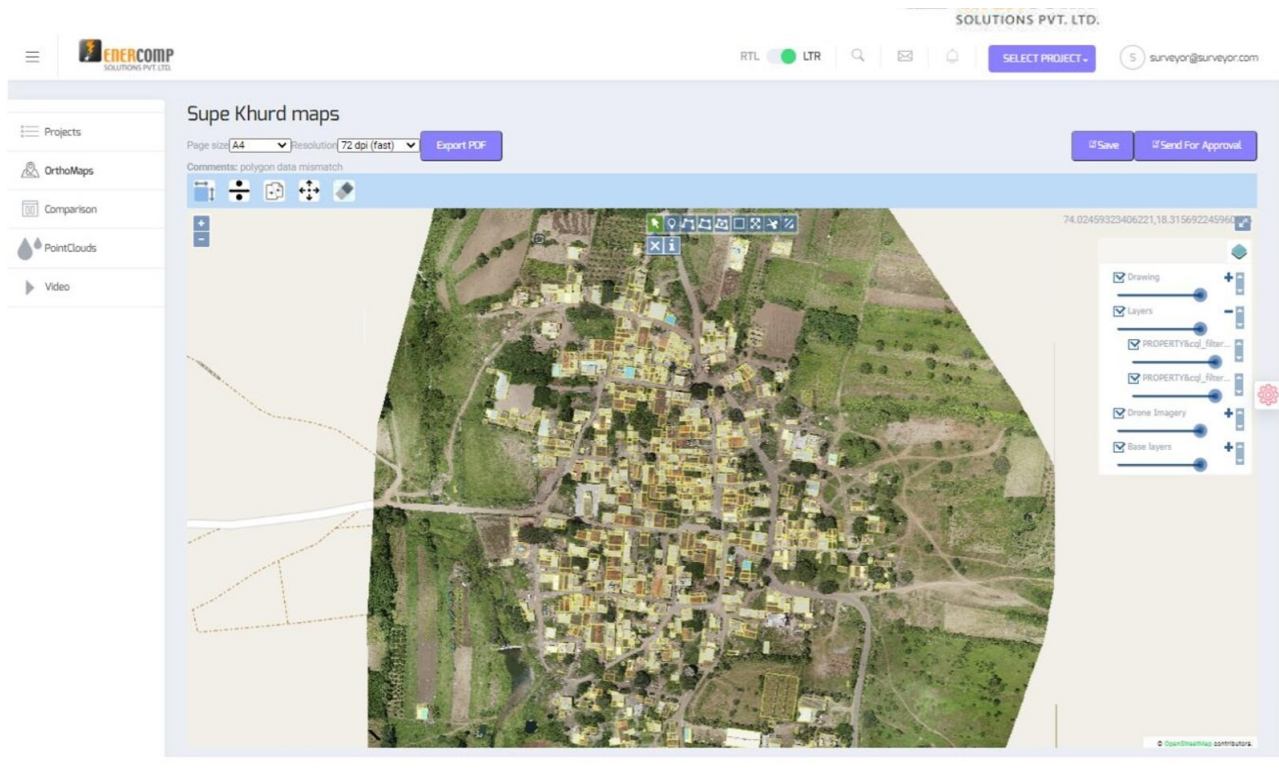
[LOG IN](#)

Don't have an account? [Register](#)

Role-based sign-in with password recovery and registration



Personalised project workspace (heritage deployment)



Map viewer: drone orthomosaic with vector overlays, layer panel and export controls

Explore

Zoom, pan, identify and query features; search by address, coordinates, place names or attributes.

Layer control

Switch raster and vector layers on or off, set transparency and toggle base maps (OpenStreetMap, satellite, custom).

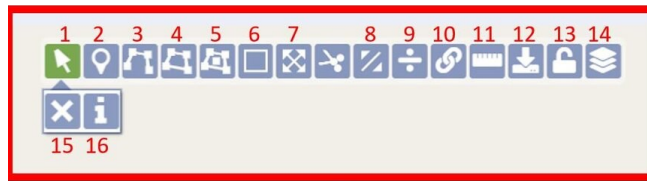
Overlay & annotate

Add markers, annotations and shareable bookmarks; overlay data from the geodatabase or external services.

04 — FEATURE TOUR

Drawing, editing and digitisation

A complete editing toolkit sits on top of the map, so surveyors and analysts can digitise parcels, buildings and assets straight from drone imagery at survey-grade resolution.



1. Select – Select polygon, Edit polygon
2. Point – Placing points on the map
3. Line – Draw Line
4. Polygon – Draw Polygon
5. Hole – Draw hole in polygon
6. Rectangle – Draw Square shape
7. Transform – Resize shape of Polygon
8. Offset – Offset Polygon
9. Split – Split Polygon
10. Merge – Merge Polygon
11. Measurement – Distance Measurement Tool
12. Download – Download Output in pdf format
13. Zoom Lock – Scale Zoom lock
14. Layers – Selection Draft Map Layers
15. Delete – Delete Selected Polygon
16. Show information – Display Information Selected Polygon

The Avlokan drawing and action toolbar

Tool group	Capabilities
Create	Point, line, polygon, rectangle and hole-in-polygon drawing; snapping to existing features
Modify	Select and edit vertices, transform, resize, offset, split and merge polygons
Measure	Distance and area measurement in the units your department uses (m ² , hectare, acre and more)
Attribute	Attach parcel ID, property number, name, remarks and custom fields to each geometry
Output	Zoom lock, layer switching, download as PDF and export to standard GIS formats

Survey Map Operation – Add / Edit Polygon

How to add new polygon in a particular layer?

- Click on **Polygon** button from tool bar, Pick the right layer and click on "Select"
- This will enable you on map with one "blue" dot, click where you want to begin creating polygon (i.e first vertices)
- After you reach to original point, it will automatically try to close polygon, you just need to click there.
- At last click on **Pointer** to finish polygon, and click Save or Cache Button for save

How to modify existing polygon?

- Select polygon by clicking on it
- You will see blue dot wherever you are moving your mouse on polygon lines as shown above
- You can drag using this blue dot and modify polygon
- Once you modify, you should click on **Pointer** from the toolbar

Add or edit a polygon in survey operation mode

GIS Tool

Survey Map Operation – Split / Merge Polygon

How to split existing polygon?

- Select **Split Polygon** icon (i.e single click on polygon)
- After that select polygon. i.e Single click on polygon
- Then click on one side of polygon and drag it to another side
- Then double click to finalize split
- Then click on **Pointer** to terminate current action
- Then click on "Save" button (If you are in offline then click on "Cache")

How to merge 2 adjacent polygons?

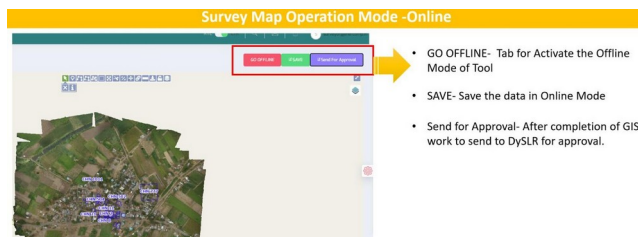
- Click On **Merge Polygon** button from the tool bar
- Select one by one both polygons which are adjacent to each
- After that click outside of those polygons
- Click on **Pointer** to terminate operation
- Click on "Save" button after that.

Split a parcel or merge adjacent parcels

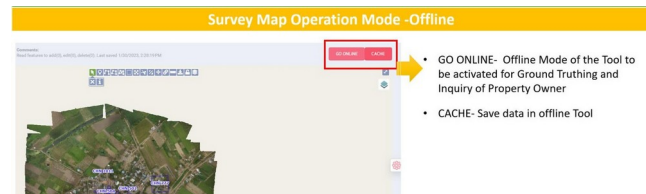
04 — FEATURE TOUR

Field operations, ground truthing and approvals

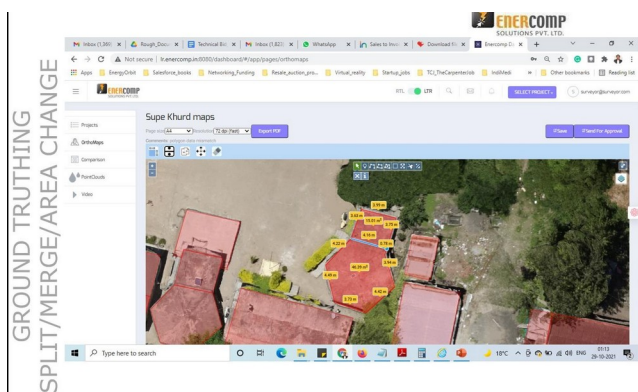
Avlokan connects the field to the office. Surveyors capture and correct data on site, even without a network, and every change moves through a controlled maker-checker workflow before it is published.



Online mode: save edits and send them for approval



Offline mode: cache edits on the device for later sync



Ground truthing: split, merge and area-change on site



Maker-checker workflow: surveyor to approver

Offline first

Go offline in areas with no connectivity; cached work is saved and synced automatically when you reconnect.

Maker-checker

Surveyor submissions go to an approver window. Nothing is published without sign-off, and every step is logged.

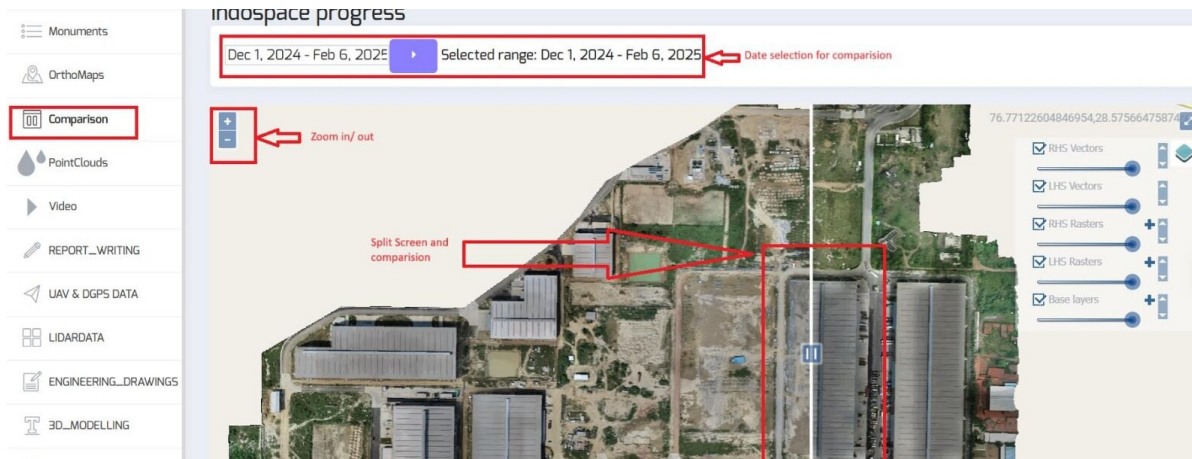
Local language

Forms, field names and outputs in the local language (for example, Marathi) for field staff and citizens.

04 — FEATURE TOUR

See what changed, and when

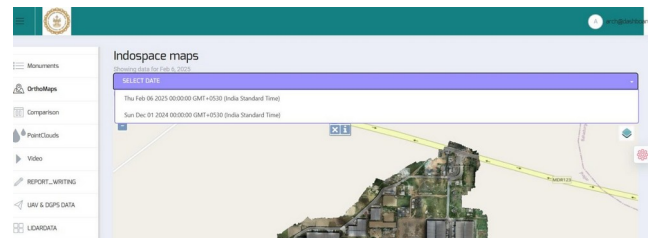
Repeat drone surveys are most valuable when you can compare them. Avlokan organises every dataset on a timeline, so users can see progress, spot unauthorised changes and prove what was on the ground on a given date.



Time-series comparison of raster and vector data for a selected date range



Progressive survey: before and after comparison



Time-series catalogue of survey datasets

Swipe & compare

Put two layers or two dates side by side and swipe between them.

Historical tracking

Track development over a chosen timeframe using drone, aerial and satellite imagery.

Progress evidence

Date-stamped maps for construction, encroachment and compliance reviews.

04 — FEATURE TOUR

3D, measurement, documents and print

Avlokan goes beyond flat maps. Users can inspect terrain and structures in 3D, take measurements, open supporting documents next to the map and print maps in the formats their department requires.

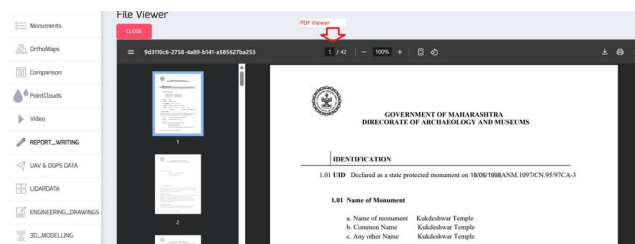


3D visualisation and measurement with clip tools

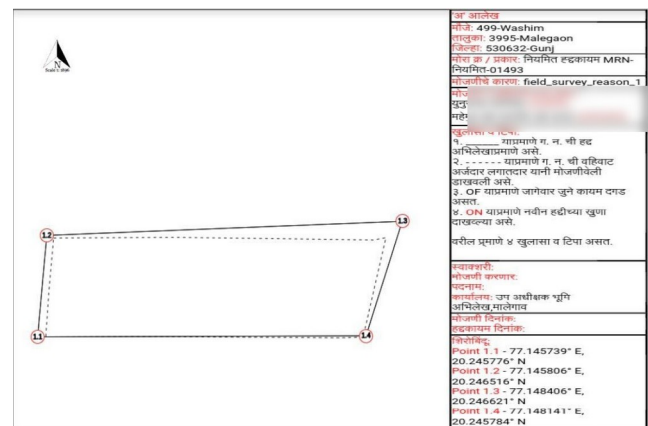
MEASUREMENTS & PLANNING



2D measurement for planning on a drone orthomosaic



Built-in PDF viewer for notices and records



Map print with coordinates, attributes and remarks

3D & volumes

3D views of point clouds and meshes with height, area and volume measurement. 2D footprints can be exported to GLTF, OBJ, COLLADA and BIM formats.

Documents on the map

Attach deeds, notices, photos and drawings to features and open them in the built-in viewer.

Print & export

Templated map prints in your department's format; data extracts in PDF, CSV, Excel, Shapefile, GeoJSON and KML.

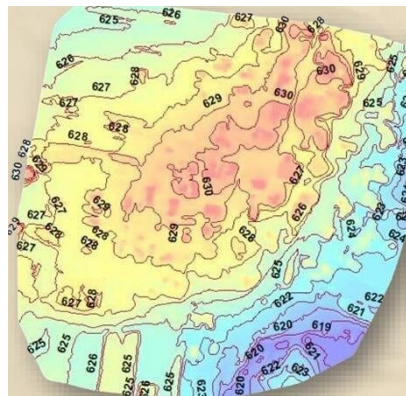
Built for drone data, and every other kind

Avlokan is built for the data that modern surveys produce. Enercomp's survey teams generate these datasets every day, so the platform is tuned for their size, accuracy and formats.

Data family	Supported inputs	Typical outputs in Avlokan
Drone photogrammetry	GeoTIFF orthomosaics, DEM, DSM, DTM	Base layers at centimetre-level GSD, contours, cut-fill and volume
LiDAR & 3D	Point clouds, 3D meshes, textured models	3D viewer, sections, heights, architectural drawings
Hydrographic	Single/multi-beam echo sounder with RTK GNSS	Bathymetric surfaces, reservoir capacity, sedimentation
Thermal & inspection	Radiometric thermal and zoom imagery	Hotspot layers for transmission lines and solar assets
Vector & CAD	Shapefile, GeoJSON, KML, DXF/CAD, CSV, BIM	Editable feature layers with attributes
Services & legacy	WMS, WFS, WMTS, GeorSS, scanned maps	Live overlays; digitised legacy maps



Village orthomosaic (SVAMITVA)



Elevation contours from drone DEM



LiDAR point cloud of a heritage structure

Governed access and intelligent analytics

Role-based access control

Administrators define who can see, edit, download or publish each layer and tool. Hierarchies follow your organisation: head-office administrators create regional administrators, who then manage users in their own area.

Role (example)	Typical permissions
Management	Full access to all tools, data, dashboards and administration
Regional administrator	Creates users, dashboards and permissions within an assigned region
Professional / publisher	Advanced tools, all datasets, collaborative workspaces and content publishing
Surveyor / viewer	Assigned datasets, field editing or view-only tools
Public / stakeholder	View-only public layers; time-bound access for external stakeholders

Identity

Strong password policies, multi-factor authentication, PKI-based single sign-on.

Data control

Download and export restrictions by role; layer-level edit rights.

Traceability

Application and database logs show who accessed, changed or downloaded what, and when.

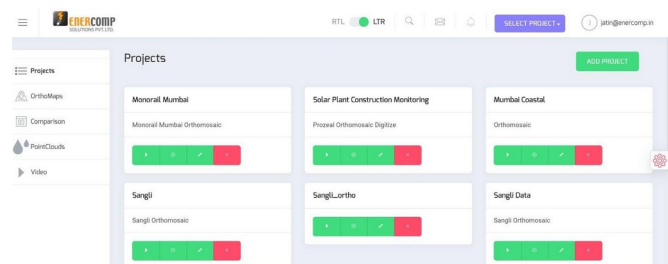
Hardened hosting

HTTPS by default, Linux servers, deployable inside your own data centre.

Dashboards, reports and AI

- **Role-based dashboards** for projects, progress and data quality
- **Scheduled reports** exported as PDF, Excel, CSV or GIS formats
- **Computer vision** to detect buildings, roads and assets in imagery
- **Change & anomaly detection** for encroachment and unauthorised construction
- **Coordinate & attribute recognition** to digitise scanned maps and deeds

Advanced AI features such as smart search and an assistant chatbot are available as configurable modules.



Project dashboard with survey status by site

06 — DEPLOYMENTS

Maharashtra Land Records: GIS at state scale

The Settlement Commissioner and Director of Land Records, Government of Maharashtra, relies on Enercomp-built GIS for some of India's largest land-measurement operations. Three separate work orders cover measurement, SVAMITVA mapping and citizen services.

Engagement	Scope	Status
E-Mojani Ver 2.0 system	Design, development, implementation and maintenance of the measurement application with a GIS interface: Mojani process module, map creation, digitisation, uploading and publishing on the GIS platform	Work order Dec 2021; completion certificate Feb 2023
GIS tool for SVAMITVA	Online and offline GIS tool to download draft maps, edit maps, capture enquiry data, link records and upload corrected maps to the GIS portal	Work order Sep 2021; completion certificate Feb 2023
Citizen GIS portal	Development of a citizen GIS portal integrated with existing land-management applications, plus enhancement, support and maintenance	Work order May 2023

40 Lakh+

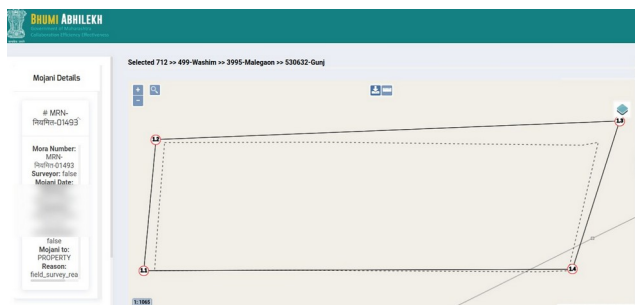
measurements completed on the platform

20,000+

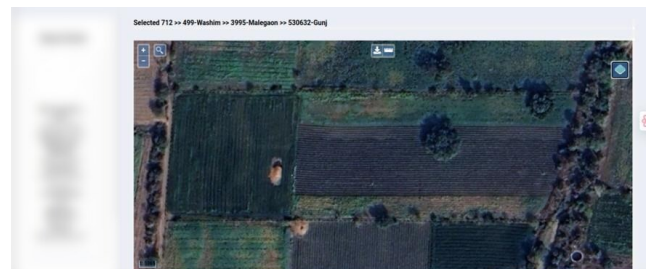
measurement requests processed monthly

387+

villages surveyed and digitised



Parcel view in the Bhumi Abhilekh GIS with corner coordinates



The same parcel on satellite imagery (personal details blurred)

What Avlokan delivers here: GNSS/DGPS-based parcel coordinates, overlap prevention and mismatch alerts, digital measurement maps with real coordinates, old-map comparison layers, and a controlled publish workflow from surveyor to approving officer.

06 — DEPLOYMENTS

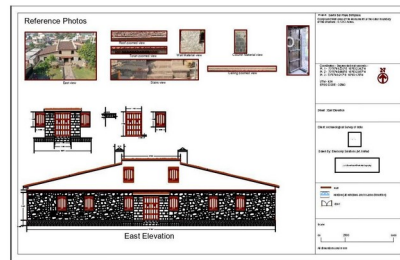
Heritage documentation and flood planning

Directorate of Archaeology & Museums, Maharashtra

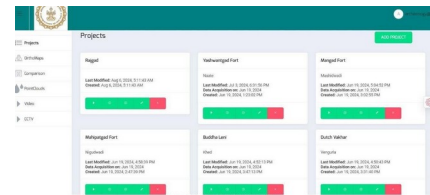
Photogrammetric and LiDAR survey plans for state-protected monuments and sites, covering protected and controlled areas, with architectural drawings, for the **Pune** and **Ratnagiri** divisions. All outputs, including orthomosaics, DSMs, 3D models, point clouds and drawings, are managed in a dedicated Avlokan workspace for each monument.



LiDAR point cloud of a monument



Architectural elevation drawings



Monument workspace in Avlokan

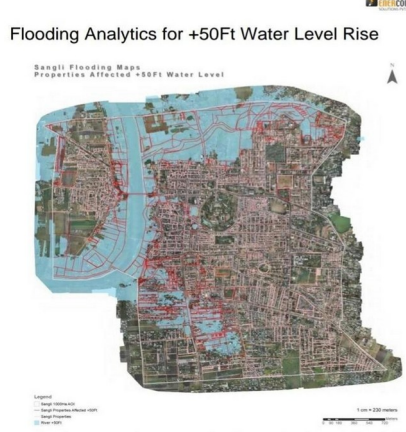
Impact: 160+ monuments documented across 15+ districts with high-precision 3D models for preservation and planning.

Sangli Miraj Kupwad City Municipal Corporation

Drone data capture and processing for **flood analysis and disaster management** in Sangli (2020) and Miraj (2021), about 830 hectares each. The platform delivered orthomosaics, DSMs and DTMs, flood simulations for water levels rising from the riverbed to +60 ft, and the properties affected at each level, so officials could plan evacuation and relief before the water arrived.



Area of interest for flood simulation



Flooding analytics at +50 ft water level



Affected properties by water level

Impact: 1,600+ hectares of flood-prone area analysed to strengthen disaster preparedness and response planning.

06 — DEPLOYMENTS

Ports, industry and infrastructure

Gujarat Maritime Board: Alang Ship Recycling Yard

A drone-and-dashboard monitoring system for docking ships along about 10 km of the Alang–Sosiya coast (around 600 ha). Repeat aerial surveys were georeferenced and published in the Avlokan dashboard, giving the Board:

- Proposed vs actual docking lanes to flag violations
- Docking-slot occupancy by company and ship
- Digitised assets and visual oil-leak checks
- Distance tools, dated progressive maps, PDF reports



Drone view of ships docked at Alang



Georeferenced drone orthomosaic of the ship recycling yard

More domains where Avlokan is in use

Water resources

38 dams surveyed for the Gujarat Water Resources Division with Enercomp's in-house survey boat: bathymetry, capacity and sedimentation.

Roads, rail & metro

700+ km of road and metro corridors: corridor mapping, profiles, 3D models and construction-progress monitoring.

Energy & power

5,000+ km of transmission lines inspected with thermal and RGB drones for asset mapping and predictive maintenance.

Industrial development

High-precision surveys and digital asset mapping that speed up land acquisition and industrial planning.

Forest & agriculture

Change detection, resource mapping, and crop-damage assessment for faster compensation.

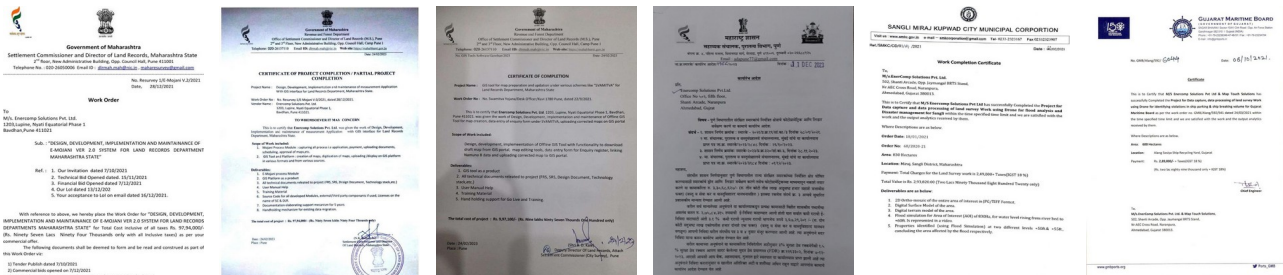
Construction & mining

Progress monitoring for private developers; stockpile volumes and terrain change for mines and quarries.

06 — CREDENTIALS & DELIVERY

Backed by work orders and completion certificates

Client	Engagement	Document
Settlement Commissioner & Director of Land Records, Maharashtra	E-Mojani Ver 2.0 system for the Land Records Department	Work order 28-12-2021; completion certificate 24-02-2023
Settlement Commissioner & Director of Land Records, Maharashtra	GIS tool for SVAMITVA	Work order 22-09-2021; completion certificate 24-02-2023
Settlement Commissioner & Director of Land Records, Maharashtra	Citizen GIS portal and integration with land-management applications	Work order May 2023
Directorate of Archaeology & Museums, Maharashtra	Photogrammetric & LiDAR survey plans with GIS: Pune and Ratnagiri divisions	Work order 11-12-2023 (Pune)
Sangli Miraj Kupwad City Municipal Corporation	Drone data capture and processing for flood analysis: Sangli and Miraj	Completion certificates (2020, 2021)
Gujarat Maritime Board	Monitoring system for docking ships using drones, Alang Port	Work order 24-03-2021; completion certificate 08-10-2021



Copies of work orders and completion certificates are available on request.

How we deliver

01 Discover Workshops, use cases, BRD/SRS, layer and role design	02 Configure Agile 4-week sprints: 3 weeks build, 1 week test and UAT	03 Validate Functional, performance and security testing; UAT sign-off	04 Deploy & train On-premise, cloud or hybrid go-live; role-based training	05 Support AMC, updates, AI model retraining and helpdesk
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Every engagement includes: SRS and design documentation, API documentation, role-based user manuals and training videos, security and OGC compliance reports, hand-holding through go-live, and an annual maintenance and support plan.

SEE IT IN ACTION

Let's map your next **decision** together.

Watch the Avlokan product walkthrough, then ask us for a live demonstration configured with your own layers, workflows and user roles.



PRODUCT DEMO VIDEO

Scan to watch Avlokan

youtu.be/XQ3Lb474IOY

Map viewer, drawing and editing tools, offline field mode, time-series comparison, 3D views and dashboards.

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