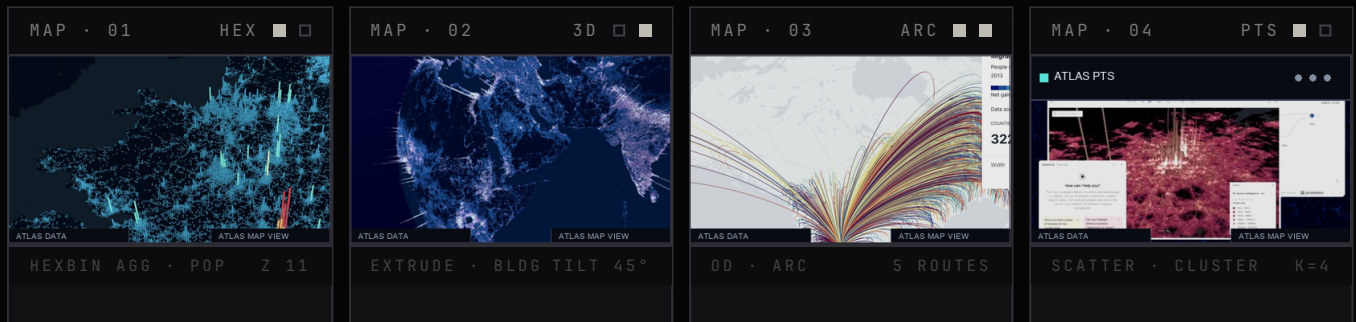


AI / ML / DL · GEOSPATIAL | SIMULATION & OPTIMIZATION | MAKE IN INDIA · OPEN SOURCE

ATLAS. A GEOSPATIAL INTELLIGENCE SUITE

A bundled AI software tool for geospatial training, analytics and simulation — built for survey, cartography, remote-sensing, and GIS curricula at national training institutes. ML and Deep Learning workflows on open-source foundations, one-year subscription, one-day faculty training, public-domain datasheet.

- INTERACTIVE MAP STUDIO
- RASTER & VECTOR ANALYTICS
- DEEP LEARNING TOOLKIT
- ROUTING & NETWORK OPTIMIZATION
- TERRAIN & WATERSHED SIMULATION
- CURRICULUM-READY



PRODUCT

Atlas — Geospatial Intelligence Suite

SUBSCRIPTION

12 Months Standard · Renewable

ORIGIN

Made in India · Open-Source Foundation

DEPLOYMENT

On-Premise · Per-Seat Subscription

TRAINING

One-Day Faculty & Student Training Included

DATASHEET

Public Domain · Catalogue-List ed

ONE WORKBENCH FOR GEOSPATIAL AI

Atlas is a bundled software tool for survey, cartography, remote-sensing and GIS programmes. It pairs an interactive geospatial workbench with native ML / Deep Learning notebooks and a simulation & optimization engine — so a single subscription covers everything from a cadet's first map to a researcher's prediction model.

7

CAPABILITY MODULES

60+

BUILT-IN WORKFLOWS

12^{MO}

SUBSCRIPTION STANDARD

100%

MAKE-IN-INDIA



SEVEN MODULES, ONE SUITE

Built on open-source geospatial foundations. Indigenous orchestration, training pipelines and curriculum overlays — Make-in-India.

M-01 INTERACTIVE MAP STUDIO

2D / 3D map workbench for vector and raster layers — pan, zoom, tilt, time-slider, hexbin and heatmap aggregations, choropleths, point clusters, arc and trip layers for OD flows, 3D building extrusion. Multi-CRS with on-the-fly reprojection and colour-blind-safe ramps.

2D · 3D · TIME

HEXBIN · HEAT · CHOROPLETH

ARC · TRIP · CLUSTER

MULTI-CRS

M-02 RASTER & IMAGERY ANALYTICS

Multi-band raster handling for satellite and aerial imagery: clip, mosaic, resample, reclassify, spectral indices (NDVI, NDWI, NDBI, EVI, SAVI, BSI), zonal statistics, change detection between epochs, contrast-stretch / pan-sharpen, raster calculator for custom band math.

SPECTRAL INDICES

ZONAL STATS

CHANGE DETECTION

BAND MATH

M-03 VECTOR & TOPOLOGY ANALYTICS

Buffer, intersect, union, dissolve, clip, spatial join, voronoi, convex / concave hull, isochrone bands, topology checks, geometry repair. Attribute joins and SQL queries on layer tables; cadastral-grade snapping tolerances for survey workflows.

GEOPROCESSING

SPATIAL SQL

TOPOLOGY REPAIR

CADASTRAL SNAP

M-04 TERRAIN, HYDROLOGY & LIDAR

DEM analysis — hillshade, slope, aspect, curvature, contour extraction, viewshed, line-of-sight, watershed delineation, flow accumulation, stream order, cut/fill volumetrics. LiDAR / point-cloud ingestion (LAS / LAZ) with ground classification, DSM / DTM and canopy height models.

DEM · HILLSHADE · SLOPE

WATERSHED · FLOW

VIEWSHED · LOS

LIDAR / LAS

M-05 MACHINE LEARNING & DEEP LEARNING TOOLKIT

Notebook-driven ML / DL with pre-built workflows: LULC classification (U-Net, DeepLabV3+), object detection (buildings, vehicles, road damage), super-resolution, spatial regression (geographically-weighted), and clustering (DBSCAN, K-means, HDBSCAN). CPU or GPU; models versioned and exportable as ONNX / GeoTIFF inference packs.

LULC · SEGMENTATION

OBJECT DETECTION

SUPER-RESOLUTION

SPATIAL CLUSTERING

GPU OPTIONAL

M-06 SIMULATION & OPTIMIZATION

Built-in solvers for routing & logistics (TSP / VRP with time windows), facility-location and coverage optimisation, network routing on road / pipe / cable graphs (shortest-path, k-best, isochrones), flood-extent simulation from DEM and rainfall, Monte-Carlo uncertainty propagation for survey error budgets.

ROUTING · VRP · TSP

FACILITY LOCATION

FLOOD SIMULATION

MONTE-CARLO

M-07 CARTOGRAPHIC OUTPUT & ATLAS BUILDER

Print-composer with legends, scale bars, north arrows, inset maps, graticules, automatic labels with conflict resolution, and Atlas-mode for batch series (one sheet per district, tile or feature). Export to PDF / SVG / GeoTIFF / vector tiles.

MAP LAYOUTS

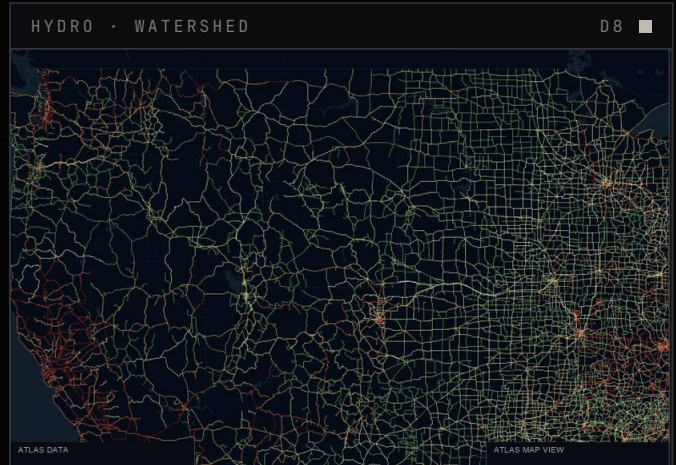
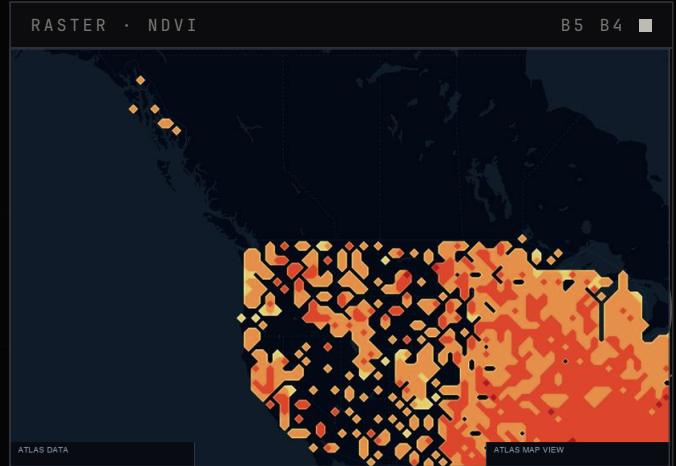
ATLAS SERIES

PDF · SVG · GEOTIFF

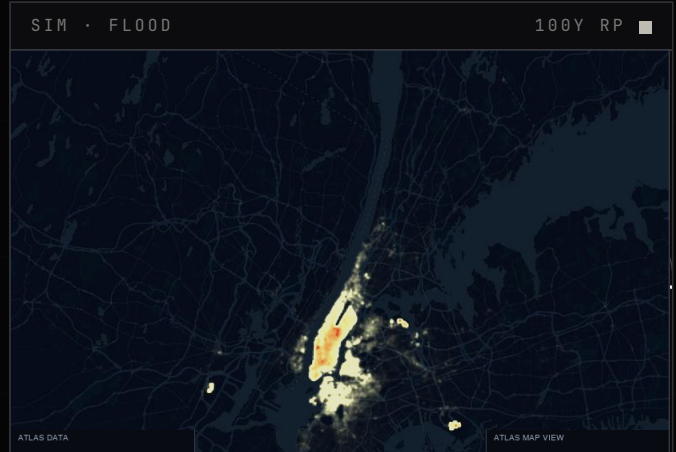
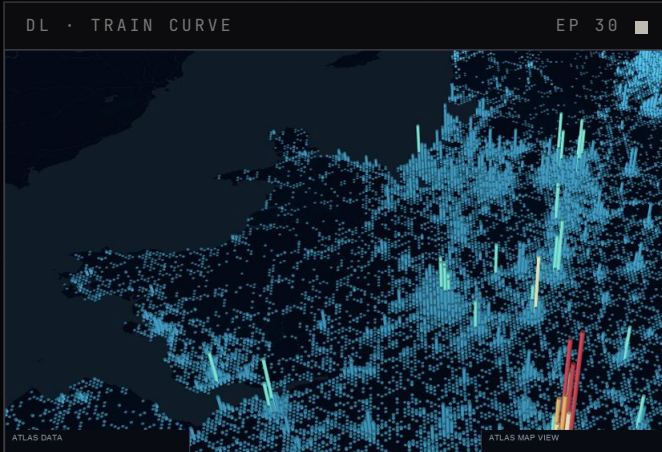
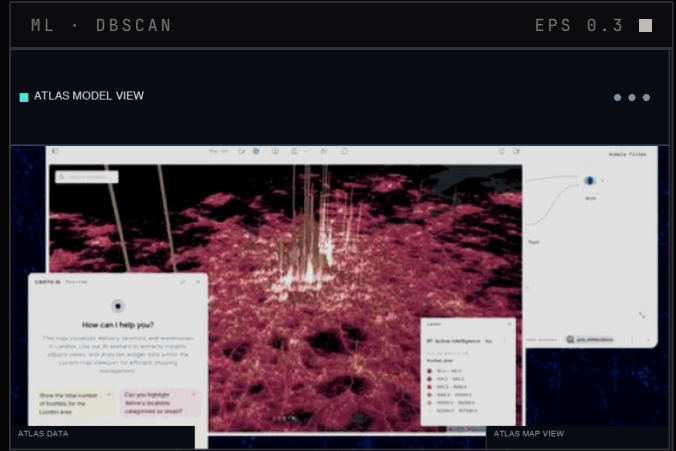
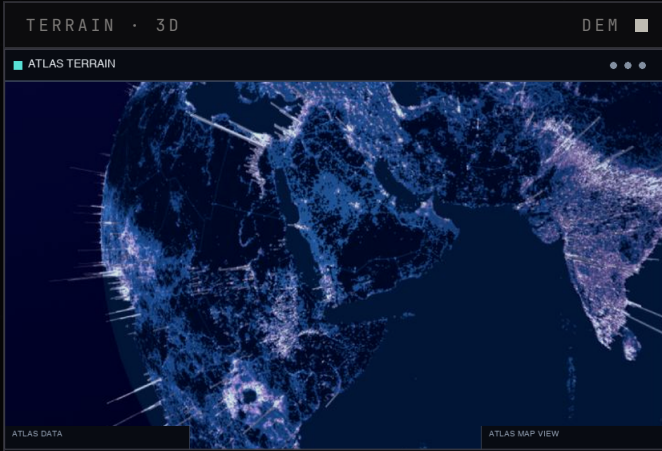
VECTOR TILES

VISUALIZATIONS THAT READ

Every visualization below is rendered live inside the workbench from layer data — interactive in the application, exported flat for reports and curricula.



FROM IMAGERY TO INSIGHT



[WHAT THE ML / DL TOOLKIT SHIPS WITH]

VISION

U-Net, DeepLabV3+, Mask-RCNN, YOLO-tile, ResNet / EfficientNet backbones for imagery tasks.

GEOSPATIAL ML

Random forest, XGBoost, GeoWeighted regression, DBSCAN / HDBSCAN, K-means on coordinates.

TIME & SERIES

ARIMA, Prophet, LSTM for rainfall, traffic, hydrograph and demand forecasting.

OPTIMIZATION

CP-SAT, MILP, network simplex, evolutionary solvers for routing & facility-siting.

BUILT FOR TRAINING, READY DAY ONE

Atlas ships with a tested curriculum overlay — lab sheets, sample datasets, evaluation rubrics — so a national training institute can run the first batch on the same day the suite is installed. Faculty get one full day of structured training, plus an ongoing query window over the subscription term.

#	COURSE TRACK	TOPICS & LABS	HOURS
01	Foundations of GIS	Coordinate systems, projections, datums; vector & raster basics; map composition	12 h
02	Cartography & Map Production	Symbology, classification, labelling, Atlas-mode batch series, print layout	10 h
03	Remote Sensing	Bands & sensors, atmospheric basics, NDVI / NDWI / NDBI, change detection	14 h
04	Spatial Analysis	Geoprocessing, overlay, network analysis, spatial statistics, hotspot detection	14 h
05	Terrain & Hydrology	DEM derivatives, watershed, viewshed, LiDAR ground classification, DTM / DSM	12 h
06	Geospatial Machine Learning	Feature engineering, classification, regression, spatial CV, model evaluation	16 h
07	Deep Learning for Imagery	LULC segmentation, object detection, super-resolution; training, transfer, deployment	18 h
08	Simulation & Optimization	Routing & VRP, facility-location, flood simulation, Monte-Carlo error analysis	12 h
09	Capstone Projects	End-to-end student project from problem framing to map output and report	20 h

WHAT FACULTY GET

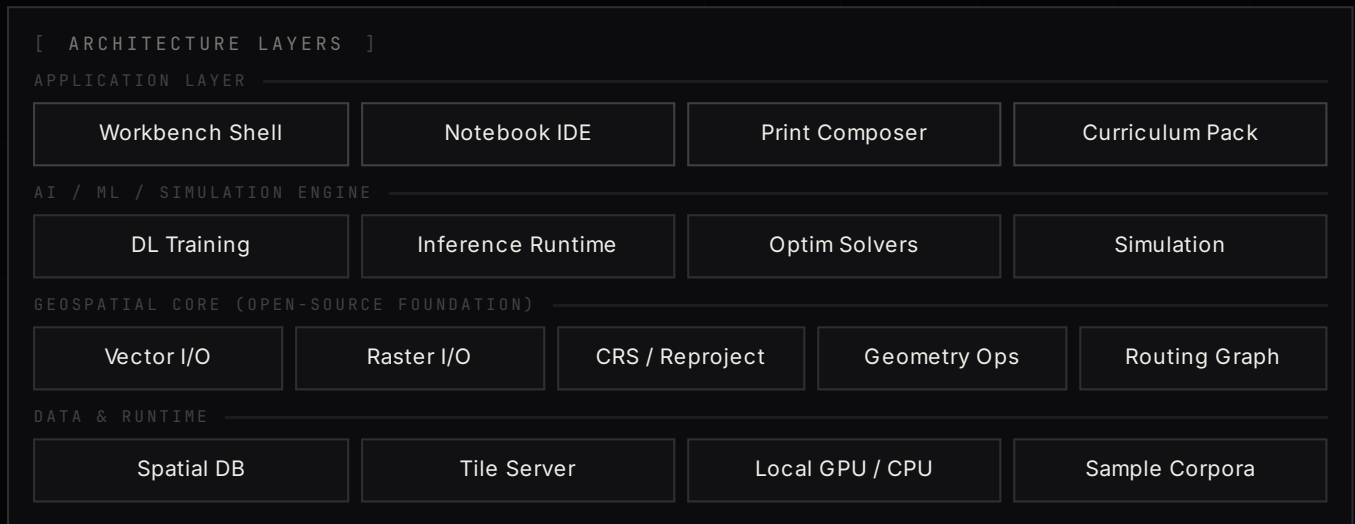
- One-day structured training (on-site or virtual) included with subscription.
- Lab sheets and assignment templates for every track above.
- Sample datasets covering Indian terrain, urban, agriculture, hydrology, coastal.
- Rubric-based evaluation packs and answer keys for graded labs.
- Dedicated query channel and quarterly faculty office hours.

WHAT STUDENTS GET

- A single workbench from first map to capstone project.
- Notebook environment with pre-installed geospatial ML stack.
- Progressively unlocked lab tracks; reproducible from day one.
- Export-ready cartographic output for portfolios and dissertations.
- Open-format outputs (GeoTIFF, GeoPackage, GeoJSON, vector tiles).

OPEN FOUNDATION, INDIAN BUILD

Atlas is engineered on a stack of mature, permissively-licensed open-source geospatial libraries. The orchestration layer, curriculum overlays, AI pipelines, and the workbench shell are originally developed in India — putting the suite firmly inside Class-I local-content under the DPIIT Public-Procurement (Preference to Make-in-India) Order.



[OPEN FORMATS – IN & OUT]

DOMAIN	READ	WRITE
Vector	Shapefile · GeoJSON · GeoPackage · KML · GML · GPX · TopoJSON · FlatGeobuf	GeoPackage · GeoJSON · Shapefile · Vector Tiles · FlatGeobuf
Raster	GeoTIFF · COG · JPEG2000 · NetCDF · HDF5 · GRIB · ERDAS Imagine · ASCII Grid	GeoTIFF · COG · PNG · NetCDF · ASCII Grid
Point Cloud	LAS · LAZ · COPC · PLY · XYZ	LAS · LAZ · GeoTIFF (rasterised)
ML Models	PyTorch · ONNX · TensorFlow SavedModel	ONNX · TorchScript · GeoTIFF inference packs
Tabular	CSV · Parquet · Excel · GeoParquet	CSV · Parquet · GeoParquet

Make-in-India alignment. The application shell, AI pipelines, optimization wrappers, simulation engines, curriculum, and packaging are originally developed in India and qualify the bundled product as Class-I local supplier under the DPIIT order. Local-content declaration and OEM authorisation letters are issued with every bid response. Datasheet is public-domain and catalogue-listed.

SUBSCRIBE, INSTALL, TRAIN, RUN

WHAT'S IN THE BOX

- Atlas Workbench & Notebook environment — installer + offline activation.
- All seven capability modules enabled — no per-feature gating.
- Curriculum overlay: lab sheets, datasets, rubrics, answer keys.
- One-day training for faculty and students (on-site or virtual).
- 12-month support window with ticketed escalation matrix.

DEPLOYMENT

- On-premise per-seat install on workstations or lab.
- Windows 11 Professional · CPU-only or with discrete GPU.
- Air-gapped operation supported — no outbound calls required.
- Centralised license server option for lab-wide management.
- Update channel for the subscription term.

[STANDARD COMPLIANCE PACK (ISSUED WITH EVERY BID)]

DOCUMENT	COVERAGE
OEM Authorisation Letter (MAF)	Bid-specific, in name of the buyer / partner
Make-in-India Local-Content Declaration	Class-I local supplier, with location of value-addition
Onsite Warranty / Support Confirmation	12-month coverage with escalation matrix
Service Escalation Matrix	L1 / L2 / L3 contacts, response & resolution targets
Malicious Code Certificate	Software free of embedded malicious code
Non-Blacklisting & Financial-Status	Not blacklisted; not under liquidation / receivership
Datasheet (Public Domain)	Catalogue-listed datasheet with offered configuration
One-Day Training Confirmation	Faculty / student training included in subscription

[BUNDLED WITH COMPUTING HARDWARE]

Atlas is supplied as a bundled software tool with All-in-One PC and workstation procurements at national training institutes, fulfilling the AI / ML / DL software-tool requirement now standard in GeM All-in-One PC categories. The suite is independent of the hardware OEM and works with any recent Intel Core or Core Ultra workstation running Windows 11 Pro.

[CONTACT]

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[REFERENCES]

PRODUCT · ATLAS · GIS INTELLIGENCE SUITE
 EDITION · 2026 · REV. 03
 DATASHEET · PUBLIC-DOMAIN CATALOGUE · MADE IN INDIA



KAIRO AI

APPLIED INTELLIGENCE · GEOSPATIAL SYSTEMS

ATLAS — GEOSPATIAL INTELLIGENCE SUITE
 BROCHURE · 2026 EDITION