

GEOSPATIAL INTELLIGENCE • TIRUCHIRAPPALLI, INDIA

We map the future, for you to eXplore.

GIS mapping / Remote sensing / Drone survey / Geology

ARCGX TECHLABS
Geospatial Intelligence

COMPANY PROFILE
2026
Version 1.0 · October 2026

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Inside this profile

ArcGX TechLabs is a geospatial intelligence company from Tiruchirappalli. This profile explains what we do, how we work and what we have delivered.

HOW WE DELIVER

Self-performed
One accountable team from flight plan to final map.

Ground-truthed
Every output checked against the real world.

Delivered your way
CAD, GIS, BIM or a custom dashboard.

ARCGX TECHLABS
Geospatial Intelligence

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Geospatial intelligence, built in Tiruchirappalli

ArcGX TechLabs Private Limited is a **DPIIT-recognised deep-tech geospatial startup**, incorporated on 13 June 2025 and based in Tiruchirappalli, Tamil Nadu.

We deliver GIS mapping, satellite remote sensing, drone surveys and custom geospatial applications for government, research and enterprise clients in India and around the world.

Every service is self-performed end to end by ArcGX specialists, from flight planning to final delivery, with no subcontracted work. Results are ground-truthed for accuracy and delivered in the format your team already uses: CAD, GIS, BIM or a custom dashboard.

We also work closely with academia, including NIT Tiruchirappalli and Bharathidasan University, and share what we know through seminars and hands-on training.

HEADQUARTERS

Tiruchirappalli

Karumandapam, Tamil Nadu 620001

WE SERVE

Government, research and enterprise

In India and worldwide

CORE CAPABILITIES

- GIS mapping
- Remote sensing
- Drone surveys
- Geology
- Custom applications



Tiruchirappalli from the Rockfort, our home city.

AT A GLANCE

2025	8	10+	2	24 h
Incorporated 13 June 2025	Service domains	GIS and remote sensing tools	University partners	Response time

- DGCA-certified remote pilot
- DPIIT-recognised startup
- No subcontracted work

What ArcGX stands for

Our logo is a map in four strokes. Every part has a meaning, and together they say who we are: geospatial experts who point the way.



1 A for Arc

The Light Cyan tip and the ArcGX Cyan base together form the letter A of Arc.

2 North arrow

The same shape is a north arrow, the symbol on every map. The gap between the pieces is part of the logo.

3 G for Geospatial

The diagonal cut is a geological cross-section through the ground.

4 X for eXperts

The coral X stands for the people behind ArcGX: geospatial experts.

Arc + Geospatial + eXperts = ArcGX

We map the future, for you to eXplore.

ARCGX TECHLABS
Geospatial Intelligence

Why we exist

VISION

Accurate geospatial intelligence behind every decision about land, water and infrastructure in India.

MISSION

To map land and water from the ground and from space with care, turn data into clear answers and make geospatial technology precise, affordable and easy to use.

OUR VALUES

Accuracy first

Every dataset is checked against ground truth before it leaves our hands.

Own the work

Our specialists do every step themselves, from flight planning to the final map.

Clear delivery

Answers arrive in the formats people already use, ready to act on.

Partners in learning

We share what we know through seminars, training and academic partnerships.

Curious by nature

From paddy fields to the surface of Mars, we keep learning how the world works.

Our promise

Every enquiry gets a response within 24 hours.

Three reasons clients choose us



01 Ground-truthed accuracy

Field verification and validation are part of every project, with ground control where accuracy demands it, so the numbers hold up when decisions depend on them.

Field verification · Ground control points · Accuracy assessment

02 Self-performing, end to end

One accountable team plans, flies, processes and delivers. No subcontractors, no hand-offs and no gaps in responsibility.

Flight planning · Capture · Processing · Delivery

03 Delivered your way

Shapefile, GeoPackage, DWG, BIM-ready models, KML, web dashboards or printed atlases. You get results in the format your workflow already uses.

SHP · GeoPackage · DWG · KML · BIM · Web

- **DGCA-certified drone pilot**
- **Centimetre-level accuracy**
- **Response within 24 hours**
- **No subcontracted work**

From the ground to orbit

We combine field surveys and drones with satellite data, so every project sees both the detail and the big picture.



On the ground

Drone photogrammetry for orthomosaics, elevation models and 3D point clouds, backed by field verification and ground control. Cadastral and FMB-based mapping for land records.

From orbit

Sentinel-1 radar for ground motion. Sentinel-2 and Landsat for land cover, crops, water and heat. High-resolution imagery where a project needs more detail.

From our base

Our office in Karumandapam, Tiruchirappalli, serves clients in India and worldwide. Field teams travel to site for surveys and monitoring, and satellite work has no borders.

REGISTERED OFFICE

Plot #1, New Alpha Nagar, Society Nagar Road, Karumandapam, Tiruchirappalli, Tamil Nadu 620001, India

TIRUCHIRAPPALLI

10.79° N · 78.70° E

Eight service domains, one accountable team

Each service is run end to end by our own specialists. Most projects combine several of them, from capture to analysis to a finished product.



01

GIS Mapping and Spatial Analysis

Base maps, thematic layers, site suitability studies and spatial models.

See page 07 →

02

Drone Surveying and LiDAR

UAV operations by a DGCA-certified remote pilot, producing orthomosaics, point clouds and DEM/DSM at centimetre-level accuracy.

See page 07 →

03

Satellite Remote Sensing

Multispectral analysis and classification, calibrated and validated against ground truth.

See page 08 →

04

Geological Services

Terrain stability assessment, mineral exploration support and resource mapping.

See page 08 →

05

Environmental Monitoring

Ecosystem health, deforestation and climate-change tracking across time.

See page 09 →

06

Urban Planning Support

Zoning, infrastructure and smart-city intelligence for growing municipalities.

See page 09 →

07

Agricultural Intelligence

Crop health, soil, yield and crop-area statistics with acreage estimation.

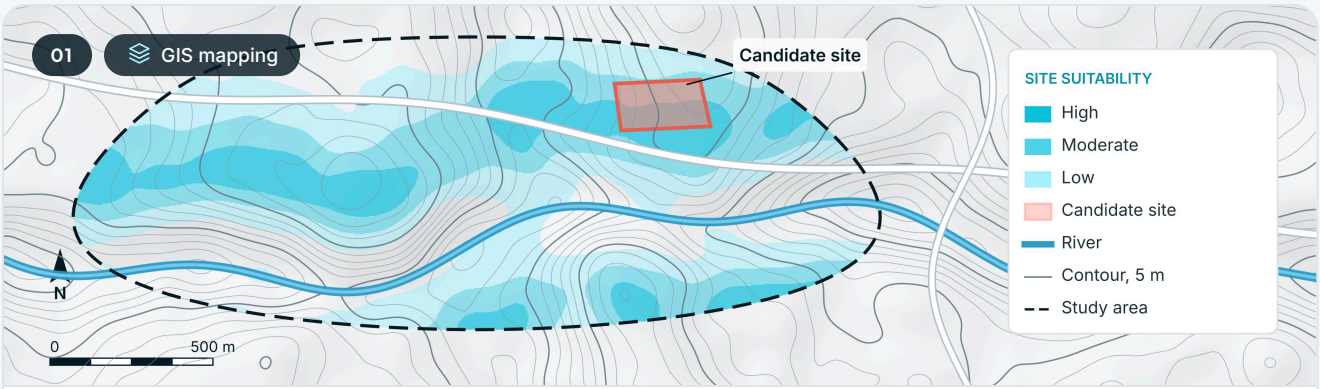
See page 10 →

08

Custom Geospatial Applications

Web, mobile and desktop mapping tools that integrate client data and analytics.

See page 10 →



GIS Mapping and Spatial Analysis

Base maps, thematic layers, site suitability studies and spatial models that turn scattered records into one clear picture of a place.

WHAT WE DELIVER

- ✓ Base maps and thematic layers
- ✓ Site suitability and multi-criteria (AHP) studies
- ✓ Proximity, network and catchment analysis
- ✓ Cadastral and asset mapping from FMB sketches
- ✓ Clean geodatabases with metadata

TYPICAL USES

- Project planning and approvals
- Land and asset inventories
- Watershed and groundwater studies
- Atlases and reports



Drone Surveying and LiDAR

UAV operations by a DGCA-certified remote pilot, producing orthomosaics, point clouds and DEM/DSM at centimetre-level accuracy.

WHAT WE DELIVER

- ✓ Orthomosaics
- ✓ DSM, DTM and contours
- ✓ 3D point clouds and mesh models
- ✓ Stockpile and cut-and-fill volumes
- ✓ Periodic progress monitoring

TYPICAL USES

- Highway and metro construction
- Mining and quarry volumes
- Urban and village mapping
- Canal and river corridors



Satellite Remote Sensing

Multispectral and radar analysis across seasons and years, calibrated and validated against ground truth.

WHAT WE DELIVER

- Land use and land cover classification
- Change detection across years
- Spectral indices: NDVI, NDWI and LST
- SAR and InSAR processing (Sentinel-1)
- Accuracy assessment against ground truth

TYPICAL USES

- Regional planning
- Crop and water monitoring
- Urban heat and growth
- Ground-motion screening



Geological Services

Terrain stability assessment, mineral exploration support and resource mapping, from field observation to finished map.

WHAT WE DELIVER

- Geological and geomorphological maps
- Lineament and structural analysis
- Terrain stability and landslide zonation
- Groundwater potential zones
- Mineral exploration support

TYPICAL USES

- Mining and quarry planning
- Infrastructure siting
- Water resource studies
- Academic research



Environmental Monitoring

Ecosystem health, deforestation and climate-change tracking across time, with maps that stand up in assessments and reports.

WHAT WE DELIVER

- Forest and mangrove cover change
- Wetland and water body monitoring
- Urban heat island mapping
- Shoreline change and coastal risk
- Maps for environmental assessments

TYPICAL USES

- Conservation planning
- Coastal management
- Climate resilience studies
- Compliance reporting



Urban Planning Support

Zoning, infrastructure and smart-city intelligence for growing municipalities, from ward-level indices to 3D city models.

WHAT WE DELIVER

- Land use and zoning maps
- Ward-level livability and resilience indices
- Utility and asset inventories
- 2D and 3D city base maps
- StoryMaps and dashboards

TYPICAL USES

- Master plans
- Smart-city programmes
- Infrastructure prioritisation
- Public engagement



Agricultural Intelligence

Crop health, soil, yield and crop-area statistics with acreage estimation, for departments, insurers and farmer groups.

WHAT WE DELIVER

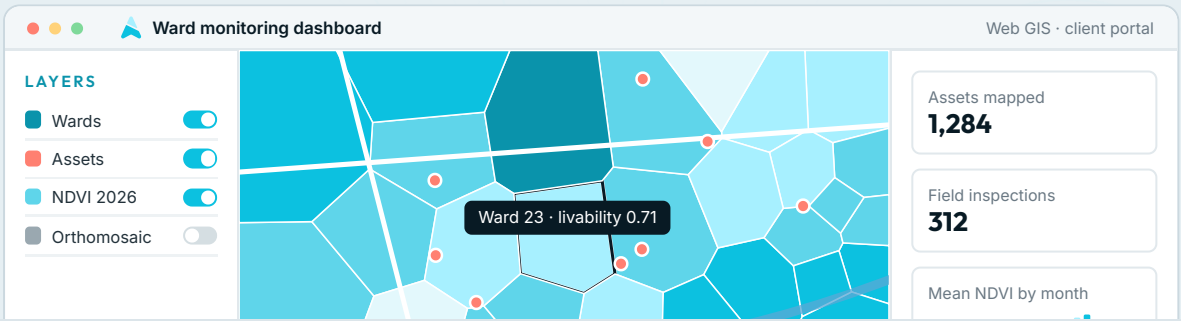
- Crop health monitoring (NDVI)
- Crop type and acreage estimation
- Irrigation and canal mapping
- Soil and land capability maps
- Crop-area statistics

TYPICAL USES

- Agriculture departments
- Irrigation planning
- Crop insurance assessments
- Farmer producer organisations

08 Applications

Illustrative interface



Custom Geospatial Applications

Web, mobile and desktop mapping tools that integrate your data and analytics, built to fit the way your team already works.

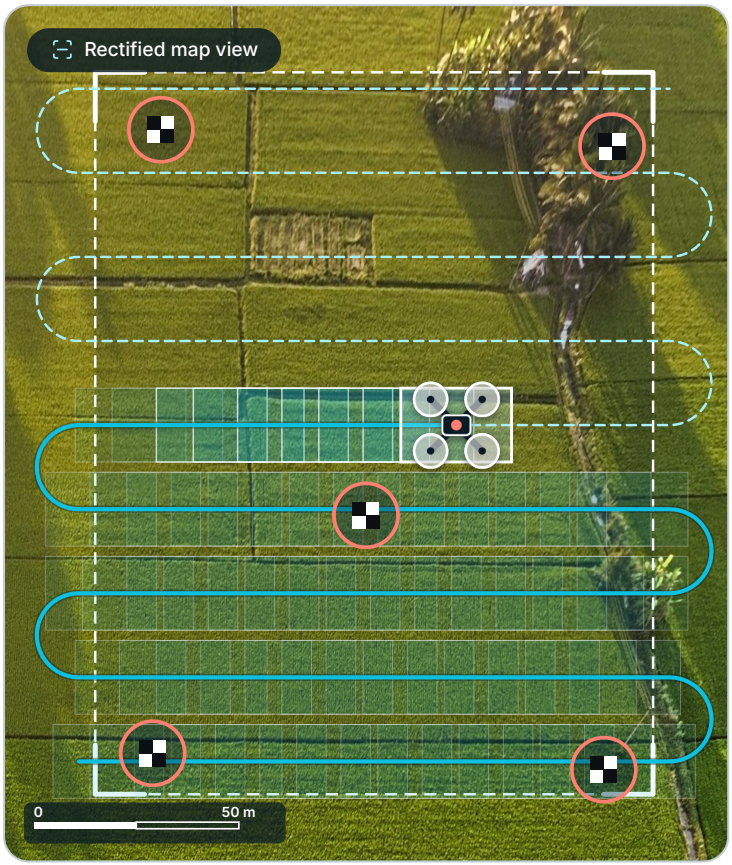
WHAT WE DELIVER

- Web GIS dashboards
- Mobile field data collection apps
- Spatial databases (PostGIS)
- Python automation and plugins
- Integration with client systems

TYPICAL USES

- Monitoring dashboards
- Asset management
- Field inspections
- Internal GIS portals

From raw capture to ready-to-use data



Illustrative plan on the cover scene, rectified from an oblique drone frame to a true map view.

SURVEY PLANNING

Flight lines, image overlap and ground control are set before the first take-off.

Flight lines

Parallel lanes with planned side overlap, flown at a constant height so every image has the same ground resolution.

Planned lanes

The rest of the plan, checked for airspace, obstacles and battery limits before take-off.

Image footprints

Each frame overlaps the last, so every point on the ground is seen from several angles.

Ground control points

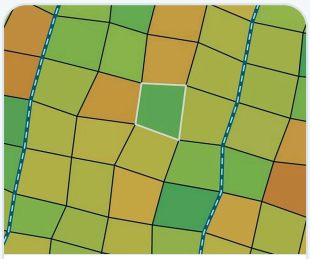
Surveyed targets tie the model to real coordinates and prove its accuracy.

FORMATS WE DELIVER

Imagery	Orthomosaics and satellite scenes	GeoTIFF · COG
Elevation	DSM, DTM and contours	GeoTIFF · DXF · SHP
3D	Point clouds and meshes	LAS · LAZ · OBJ
Vector	Features with attributes	SHP · GeoPackage · GeoJSON · KML
CAD and BIM	Engineering drawings	DWG · DXF · BIM-ready exports
Web	Dashboards and map services	WMS · WFS · StoryMaps
Reports	Map atlases and analysis	PDF reports

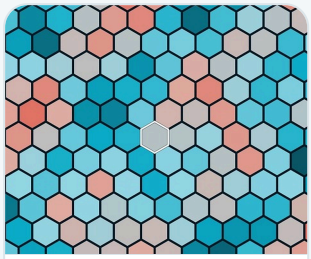
Eight sectors, one team

The same ground-truthed workflow serves very different questions. These are the sectors we serve.



Agriculture and Water

- Crop health and acreage
- Irrigation and canal mapping
- Groundwater potential zones



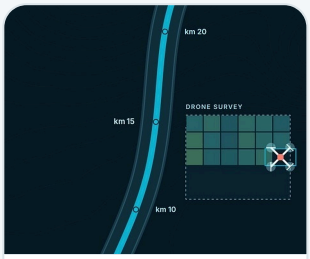
Urban Planning

- Land use and zoning
- Ward-level indices
- Utility and asset inventories



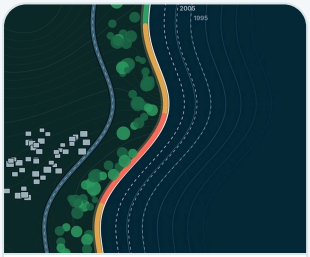
Land Records

- FMB and cadastral mapping
- Asset layouts on survey numbers
- Village and parcel maps



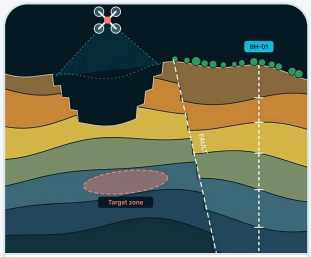
Infrastructure

- Highway and metro monitoring
- Progress and volume surveys
- Corridor mapping



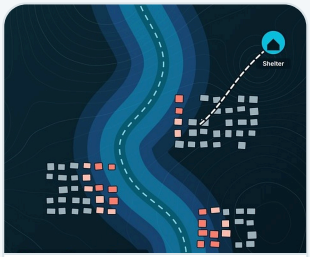
Environment and Coasts

- Shoreline change
- Mangrove and forest cover
- Coastal vulnerability



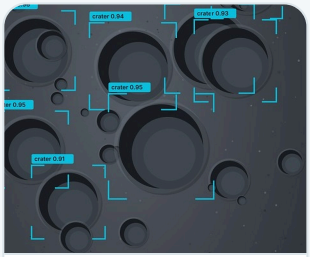
Mining and Geology

- Stockpile and pit volumes
- Terrain stability
- Exploration support



Disaster Resilience

- Flood extent and exposure
- Evacuation and shelter planning
- Damage and recovery maps



Research and Space

- Planetary surface mapping
- InSAR ground motion
- University collaborations

Government

Departments, local bodies and public tenders that need reliable maps and records.

Research

Universities, institutes and research teams working with spatial data.

Enterprise

Construction, mining, real estate and agribusiness teams.

Map tiles are illustrative visuals rendered by ArcGX.

A clear path from question to answer

STEP 01

Discover

We start with your question, the area of interest, accuracy needs, formats and deadline, then agree a scope and plan.

OUTPUT
Scope and plan

STEP 02

Acquire

We fly drones, verify on the ground and source satellite or open data. Ground control is planned before capture.

OUTPUT
Imagery and field data

STEP 03

Analyse

Our team processes, classifies and models the data, and checks every output against ground truth.

OUTPUT
Validated layers

STEP 04

Deliver

You receive maps, data, dashboards and reports in your formats, ready for your team to use.

OUTPUT
Ready-to-use results

QUALITY AT EVERY STEP

Accuracy targets

Agreed with you at the start, so everyone knows what good looks like.

Ground truth

Field checks, with control points where survey-grade accuracy is needed.

Review before delivery

Every deliverable is reviewed against the scope before it is released.

Clear documentation

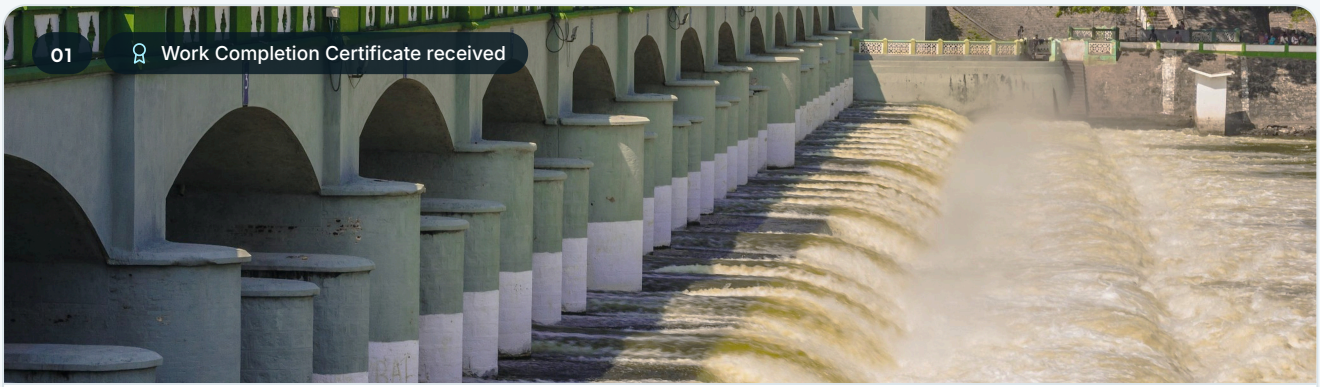
Metadata, methods and coordinate systems documented with each dataset.

We respond within 24 hours

Tell us about your site, your question and your deadline.

support@arcgx.in
+91 95006 41247

Projects and milestones

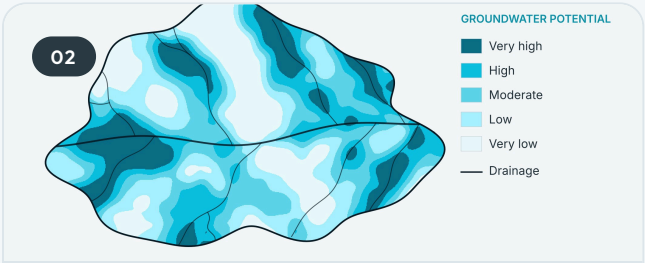


River Atlas, Cauvery basin

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

Grand Anicut (Kallanai) on the Cauvery, near Tiruchirappalli.

ArcGX completed the River Atlas project covering part of the Cauvery River Basin for the National Institute of Technology, Tiruchirappalli. The team focused on high-precision validation of the riverscape mapping data, and NIT Tiruchirappalli issued a Work Completion Certificate for the engagement.



Groundwater potential zones, Irur watershed

VEE TRUST

Our founders' first completed project, delivered under the AstroCarto banner before incorporation. GIS and the Analytic Hierarchy Process delineated groundwater recharge potential across the watershed.



Drone monitoring for infrastructure

METRO AND HIGHWAY WORKS

Drone monitoring for the L&T Metroline, and for highway works executed by M/s. Oriental Structural Engineers Pvt Ltd, M/s. S.P.K and Co. and M/s. R R Infraa Construction.

BEFORE INCORPORATION

Irur watershed study under the AstroCarto banner

13 JUNE 2025

ArcGX TechLabs Private Limited incorporated

SINCE INCORPORATION

River Atlas for NIT Tiruchirappalli. Drone monitoring for metro and highway works

2026

Expanding services and research

Trusted by builders, researchers and institutions

Organisations and projects we have delivered for and work with.

National Institute of Technology, Tiruchirappalli

ACADEMIC PARTNER AND CLIENT

River Atlas, Cauvery basin

Bharathidasan University

ACADEMIC PARTNER

Research collaboration

L&T Metroline

METRO RAIL

Drone monitoring

Oriental Structural Engineers Pvt Ltd

HIGHWAY WORKS

Drone monitoring

S.P.K and Co.

HIGHWAY WORKS

Drone monitoring

R R Infraa Construction

HIGHWAY WORKS

Drone monitoring

VEE Trust

WATER RESOURCES

Groundwater potential zones, delivered as AstroCarto before incorporation

Kongunadu College of Engineering and Technology

ACADEMIC

GIS seminar

ACADEMIC AND INSTITUTIONAL ENGAGEMENT

We engage with students and faculty across partner institutions, sharing how GIS and geospatial technology are transforming agriculture, cities and infrastructure, and the career paths open in the field.

Partnerships

Active academic partnerships with NIT Tiruchirappalli and Bharathidasan University.

Seminars and workshops

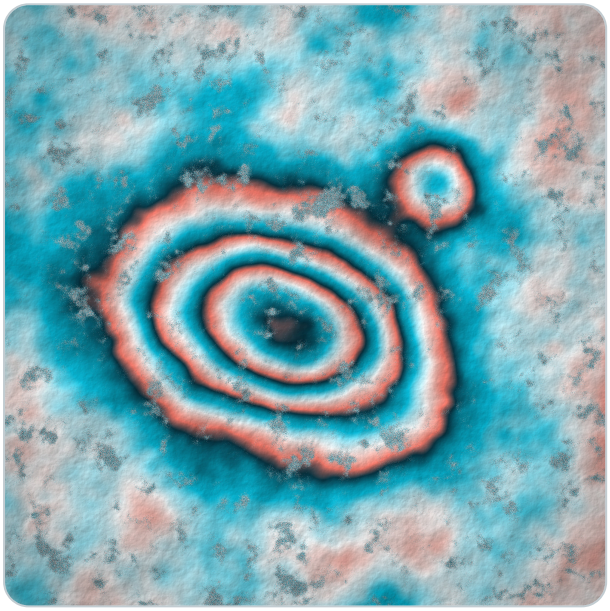
Regular talks and webinars on GIS, remote sensing and geospatial careers.

Training

Hands-on GIS sessions for students, faculty and working professionals.

Ideas that sharpen our work

Research keeps our methods current and our results sharp. These are the questions we are working on.



0 2.8 cm

Illustrative interferogram: each colour cycle is about 2.8 cm of ground motion along the Sentinel-1 radar line of sight.

RESEARCH NICHE

The intersection of GIS and planetary science

Our founding research focus.

Ground motion from space

InSAR time series from Sentinel-1 to detect subsidence and uplift.

Urban Climate Resilience Index, Tiruchirappalli

Combines heat stress from Landsat land surface temperature, flood vulnerability from elevation and drainage, and green cover deficit from Sentinel-2 NDVI in a weighted overlay, with a StoryMap output.

Ward-level Urban Livability Index

A PCA-based socio-economic and livability index for smart-city planning in Tiruchirappalli.

Planetary geoscience

Where GIS meets planetary science: AI crater segmentation and surface mapping of the Moon and Mars.

Coastal reflectometry

Exploring reflected S-band signals from India's NavIC satellites as a new way to watch the coast.

Open to research collaboration

Universities and institutes can partner with us on data, methods and field validation.

support@arcgx.in

Tools, data and standards

We work fluently across open-source and commercial GIS, and choose the right tool for each job, from field capture to final delivery.

GIS and remote sensing

Analysis, classification and cartography.

QGIS · ArcGIS Pro · GRASS GIS · Global Mapper · Google Earth Pro

Data and servers

Spatial databases, map services and format conversion.

PostGIS · GeoServer · GDAL/OGR

Web mapping

Interactive maps and dashboards in the browser.

MapLibre GL · Leaflet · OpenStreetMap

Programming and AI

Automation, plugins and AI-assisted feature extraction.

Python · C++ · SAM2 · YOLOv8

CAD

Engineering-ready drawings for design teams.

ZWCAD · DWG and DXF workflows

Data we work with

Open satellite archives, our own drone capture and land records.

Sentinel-1 SAR · Sentinel-2 · Landsat · Drone imagery · Open elevation models · FMB sketches

STANDARDS AND PRACTICE

Coordinate systems

WGS 84 and UTM, with Indian projections on request.

Open standards

OGC web services (WMS, WFS) and open formats such as GeoPackage, GeoJSON and Cloud Optimized GeoTIFF.

Drone operations

DGCA-certified remote pilot. Flights are planned in line with India's Drone Rules, 2021.

Quality, compliance and company details

QUALITY AND DATA

Self-performed

No subcontracted work. One accountable team from start to finish.

Accuracy

Ground truth, control points and checks before delivery.

Drone safety

DGCA-certified pilot and pre-flight airspace checks.

Data security

Client data is handled by our own team and shared only as agreed.

Documentation

Metadata, methods and coordinate details with every dataset.

CORPORATE INFORMATION

Legal name	**ArcGX TechLabs Private Limited**
CIN	**U63111TN2025PTC181394**
Incorporated	**13 June 2025**
Registrar	**RoC Chennai**
Category	**Company limited by shares, non-government company**
Class	**Private**
PAN	**ABDCA1139K**
TAN	**CHEA41223A**
Recognition	**DPIIT-recognised startup**
Status	**Active**
Registered office	**Plot #1, New Alpha Nagar, Society Nagar Road, Karumandapam, Tiruchirappalli, Tamil Nadu 620001**
Directors	**Irfan Basha, DIN 11152318 Suneel Bose K, DIN 11152319**
Incorporation filing	**SPICe+ SRN AB4145603**

DPIIT-recognised startup

Registered with RoC Chennai

DGCA-certified remote pilot

India's Drone Rules, 2021

ARCGX TECHLABS

Geospatial Intelligence

15 • CONTACT

Let's map what matters.

Tell us about your site, your question and your deadline. We respond within 24 hours.

OFFICE

Plot #1, New Alpha Nagar, Society Nagar Road,
Karumandapam, Tiruchirappalli, Tamil Nadu 620001

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EMAIL

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WEBSITE

www.arcgx.in

SOCIAL

linkedin.com/company/arcgx
Instagram @arcgx.in · YouTube @ArcGX-TechLabs

Our website
www.arcgx.in

Our film
Every problem on Earth has an address

Our reel
From a city street to orbit

Photos: cover and p. 11, cymatics.in (p. 11 rectified from the cover photo); p. 1, "City View from Rock fort temple" by Raj (CC BY 2.0, creativecommons.org/licenses/by/2.0, via Wikimedia Commons, cropped); p. 4, Nazmul ahsan Meraz; p. 6, Ian Usher; p. 7, Miguel Ángel Hernández; p. 8, NASA and Alexander Gluschenko; p. 9, Collins Lesulie and Drone Master; p. 10, Sujit Bangarshettar; p. 14, "Grand Anaicut" by Thangaraj Kumaravel (CC BY 2.0, creativecommons.org/licenses/by/2.0, via Wikimedia Commons, cropped). Unsplash photos are used under the Unsplash License. Maps, visuals, illustrations and the cover overlay are by ArcGX.

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ARCGX TECHLABS

Geospatial Intelligence

We map the future, for you to eXplore.

Ground-truthed geospatial intelligence from Tiruchirappalli, delivered in the formats your team already uses.

- GIS mapping
- Remote sensing
- Drone survey
- Geology

SCAN TO VISIT

www.arcgx.in

support@arcgx.in · +91 95006 41247

ARCGX TECHLABS PRIVATE LIMITED
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