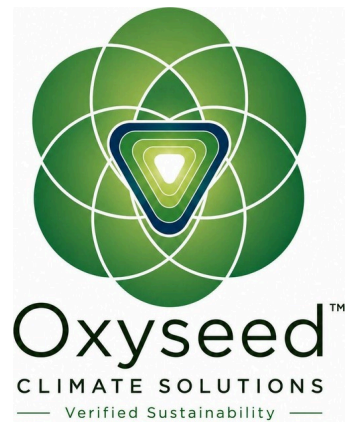
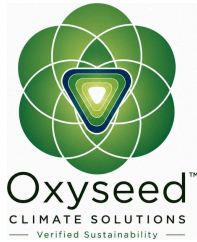






VERIFIED SUSTAINABILITY

An invitation to the Pro Ecology Era.

It is a pleasure to introduce Oxyseed Climate Solutions. The pages that follow set out what we have built this company to do, and why we believe there is something here worth exploring together.

Our purpose is to demonstrate a working model for green finance. Our team brings the field experience, the credentials and the conviction to help lead what we call the Pro Ecology Era: a period in which verified, ecology-positive action carries real economic value.

Two shifts make this possible. The first is measurement. Digital twin technology now allows physical and natural assets to be recorded as traceable, verifiable, tamper-evident data. The second is infrastructure. As Web3 systems mature into foundational record keeping for the real world, well-evidenced environmental outcomes become candidates for transparent and auditable forms of financing.

The World Economic Forum puts the opportunity in nature-positive business at USD 10.1 trillion by 2030. We supply the measured evidence that lets your organisation take part in it credibly, so the transition becomes something to build on rather than only something to manage.

Oxyseed was founded on a single principle, verified sustainability, and our methodology is anchored accordingly in science-based and authoritative frameworks.

PARIS AGREEMENT · ARTICLE 6

ISO 14064

GRI STANDARDS

CCTS · INDIAN CARBON MARKET

IPCC

We would welcome the opportunity to discuss where this meets your organisation's plans, and the whole team looks forward to the possibility of working alongside you.

With appreciation,

Team Oxyseed

Oxyseed Climate Solutions Private Limited



Restoration first. Evidence always.

Oxyseed began the way most good field companies do: a small team, a shared obsession with measurement, and a belief that ecological restoration deserves the same rigour engineering takes for granted.

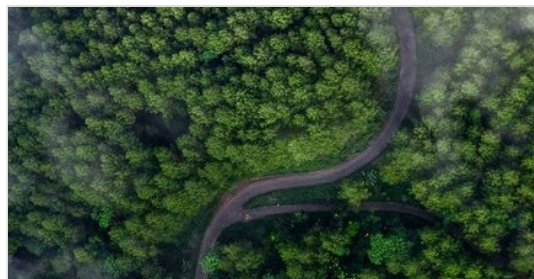
We are a young company headquartered in Coimbatore, with field units in Kodaikanal and Pondicherry, and we work where land, water, forests and infrastructure meet. Wherever the work takes us, the method stays the same. We capture reality in three dimensions, we convert it into data anyone can independently verify, and we put that data to work restoring, managing and accounting for the assets in front of us.

Let us also tell you what we are not. We are not a drone vendor, and we do not sell credits off a spreadsheet. Every number that leaves this company traces back to a georeferenced measurement taken on the ground, and that is precisely why forest departments, utilities and industry are willing to stand behind our reports in audits, clearance hearings and boardrooms alike.

Behind the young name sits an experienced crew. Our team brings more than ten years in the drone intelligence space, over seven years building GIS systems, and more than a decade in forestry and conservation, experience earned in the field, in every kind of weather.



PHOTOREAL SETTLEMENT CAPTURE, WESTERN GHATS TERRAIN



THE LANDSCAPES WE WORK IN, AND ANSWER TO

CREDENTIALS WE WORK UNDER

- ISO Certified Environmental Auditors and Verifiers
- GRI Certified Sustainability Professionals
- DGCA Licensed UAV Pilots
- Certified GIS and Climate Professionals

10+ years

DRONE INTELLIGENCE SPACE

7+ years

GIS SYSTEMS

10+ years

FORESTRY AND CONSERVATION



FIELD OPERATIONS. ENTERPRISE DRONE PLATFORM WITH RTK GROUND STATION, READY FOR A CAPTURE MISSION

Every physical asset becomes a digital asset.

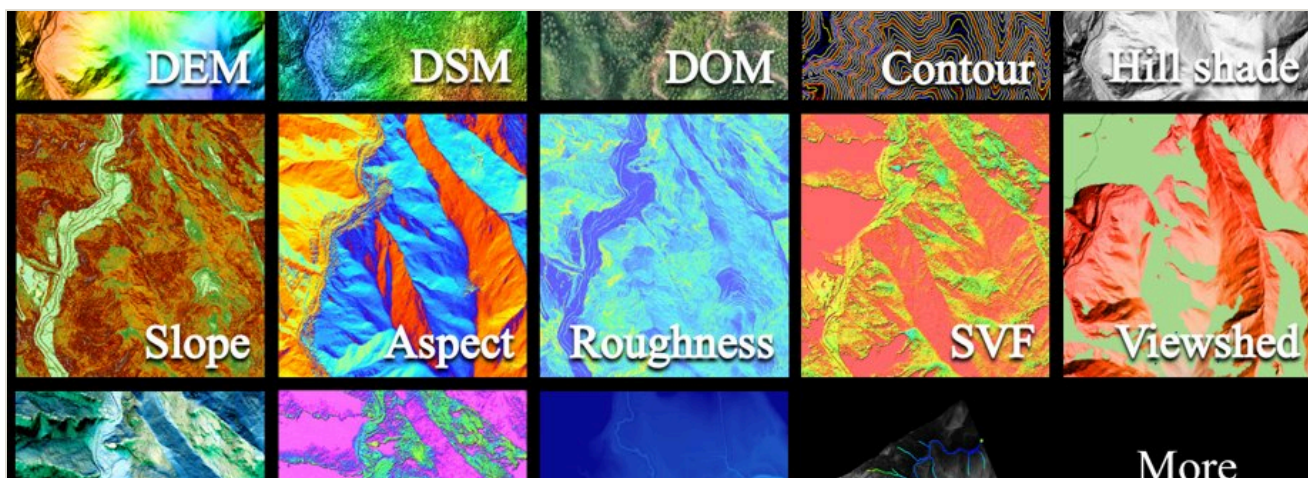
A mine bench, a transmission span, a solar array, a plantation block and a stream channel all have one thing in common. Each has a shape, and that shape holds the answers.

LiDAR captures that shape as millions of measured points per second. Our pipeline classifies those points, attaches attributes, and produces the models, inventories and reports through which an asset can be operated, audited, insured and financed.

Once digitalized, an asset stops being an estimate. Volumes reconcile. Clearances are provable. Growth is tracked season over season. Disputes end at the data.



BUILDING DIGITAL TWIN WITH HEIGHT AND ELEVATION ATTRIBUTES PER STRUCTURE



ONE FLIGHT, MANY PRODUCTS. DEM, DSM, ORTHOMOSAIC, CONTOURS, HILLSHADE, SLOPE, ASPECT, DRAINAGE AND MORE FROM A SINGLE CAPTURE

Terrain and surface models

DEM, DSM, contours and drainage networks in survey ready formats.

Classified point clouds

Ground, vegetation, buildings, conductors and structures separated and labelled.

Digital twins

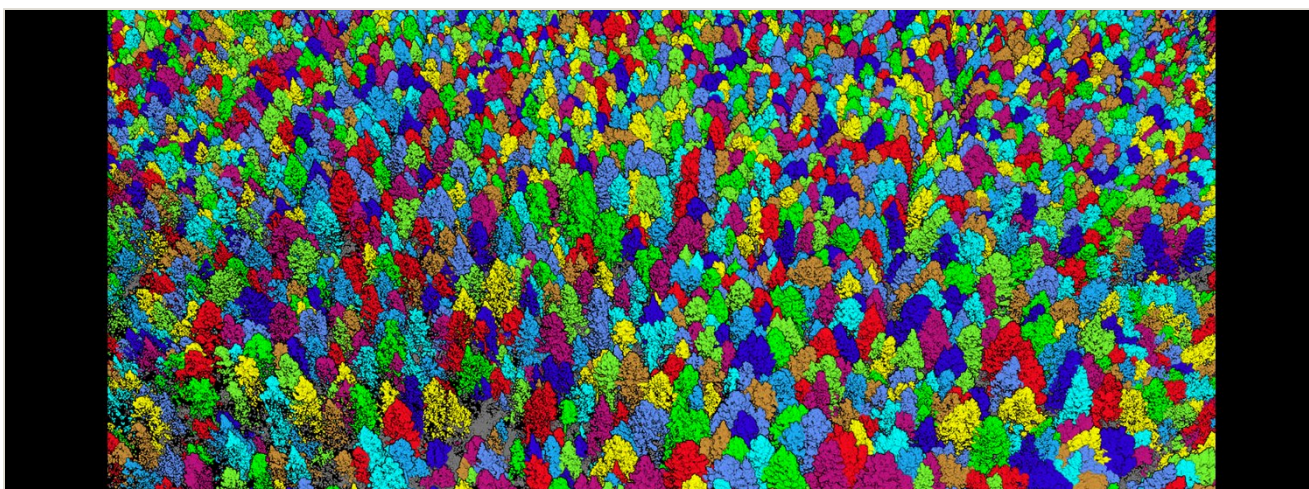
Photoreal 3D models with per asset attributes for planning and management.

Volumetrics and inspection

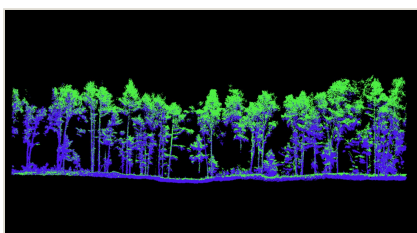
Cut and fill, stockpiles, deviation analysis and AI assisted defect reports.

Count every tree. Prove every tonne.

Multi return aerial LiDAR reads through canopy to the forest floor. Every stem receives an identity: location, height, diameter, crown area and volume. What used to take a season of plot sampling becomes a complete census.



INDIVIDUAL TREE SEGMENTATION. EACH COLOUR IS ONE CROWN, EACH CROWN ONE RECORD IN THE INVENTORY



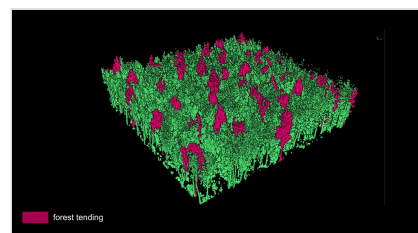
CANOPY AND UNDERSTOREY
STRUCTURE

Individual Tree Report

File Name		Project Location	
Generated Time		Generated in 2024/08/23 17:02:00	
Plot Name		ID	
Total Area		0.044301085	
Tree ID	Location	Height	DBH (cm)
1	-107.656, -6.088, 4.885	1	7
Crown Diameter		Crown Diameter (m)	
4.7		1.4	
Crown Area		Crown Volume	
84		2.092	

Front View

PER TREE REPORT WITH DBH AND
CROWN METRICS



STAND LEVEL TENDING AND
THINNING PLANS

Tree enumeration for clearance

Complete, defensible tree counts and girth records for forest clearance and compensatory afforestation cases.

Carbon stock and MRV

Biomass baselines and monitoring aligned with recognised carbon standards, verified by ISO 14064 qualified staff.

EUDR compliance mapping

Plot geolocation and deforestation free evidence packages for coffee, rubber, timber and spice exporters.

Habitat and restoration analytics

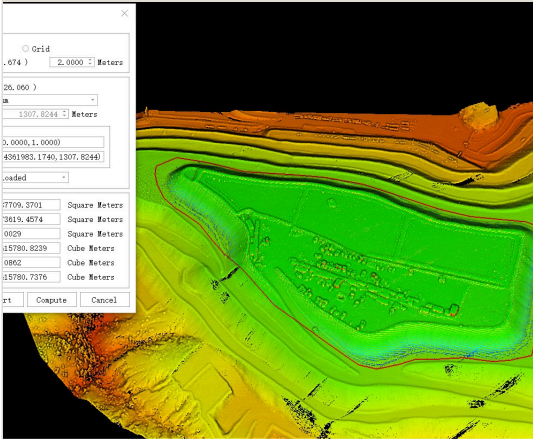
Canopy density, species structure and degradation mapping to target restoration where it matters.

Volumes you can defend in an audit.

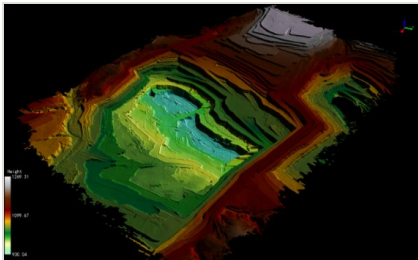
Monthly reconciliation, royalty assessment and contractor billing all rest on one question: how much material moved. We answer it with surveyed certainty.

Drone LiDAR captures the full pit, dumps and stockpiles in a single session without stopping production. TIN based computation delivers cut, fill and stockpile volumes with a complete audit trail from raw points to final figure.

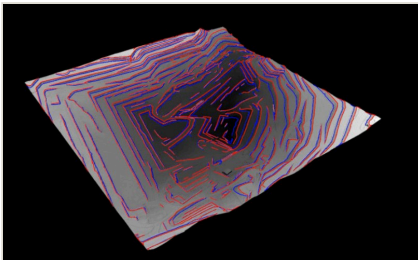
- Stockpile and excavation volumetrics with period on period change
- Bench geometry, slope and haul road grade compliance
- Lease boundary and buffer verification
- Cut and fill planning for infrastructure earthworks



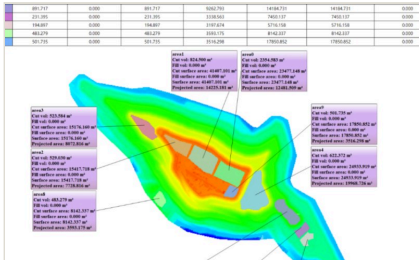
PIT VOLUME COMPUTATION, 2.41 MILLION CUBIC METRES WITH CUT AND FILL BREAKDOWN



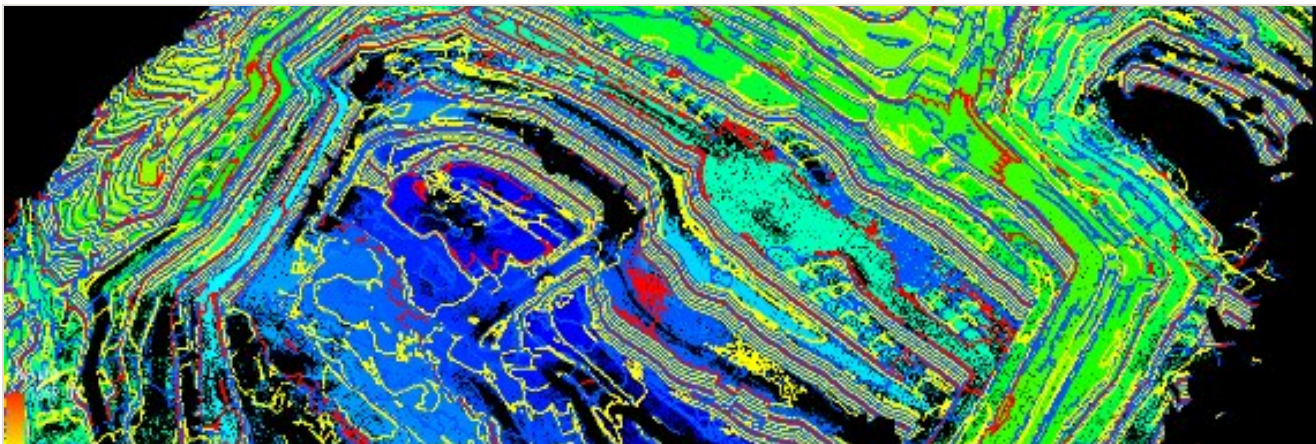
OPEN PIT ELEVATION MODEL



AUTOMATED BENCH CONTOUR EXTRACTION



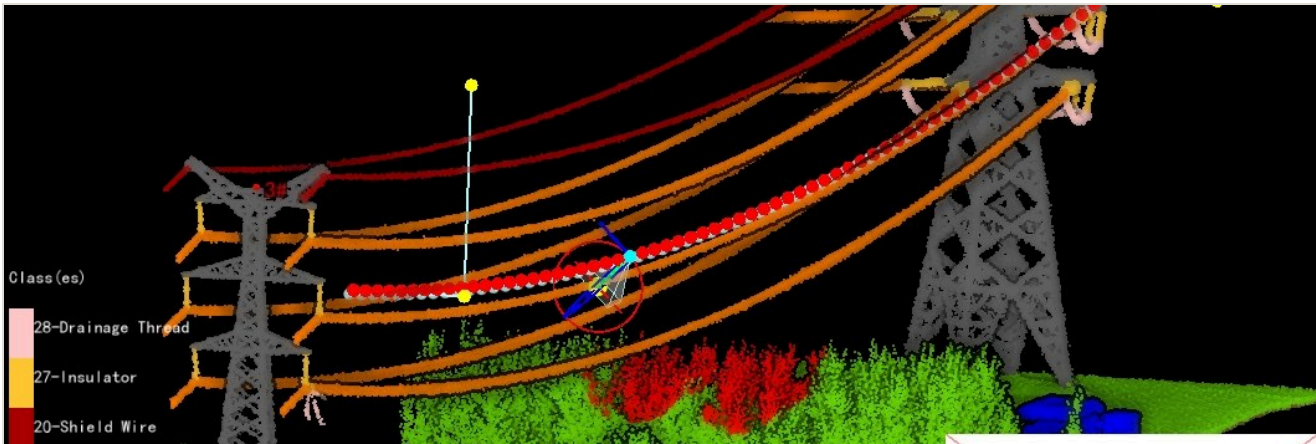
ZONE WISE STOCKPILE VOLUME REPORT



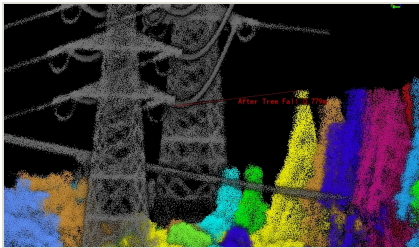
WORKING BENCHES OF AN OPEN CAST MINE RENDERED BY ELEVATION. EVERY TERRACE, RAMP AND FACE IN ONE CONTINUOUS SURFACE

See the fault before the outage.

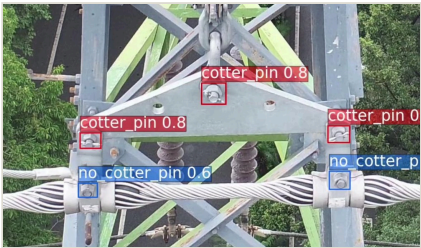
Corridor LiDAR separates conductor, shield wire, structure and vegetation into distinct classes, then measures the distances between them. The result is a line you can inspect on a screen, span by span, with every risk ranked.



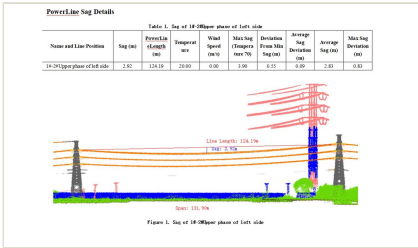
CLASSIFIED SPAN WITH MEASURED GROUND CLEARANCE. CONDUCTOR SAG MAPPED AGAINST VEGETATION BELOW



TREE FALL SIMULATION TO CONDUCTOR



AI DETECTION OF MISSING COTTER PINS



SAG ANALYSIS BY TEMPERATURE AND SPAN

Clearance and encroachment audits

Vegetation, building and crossing clearances measured against code, with ranked danger point registers.

Predictive vegetation management

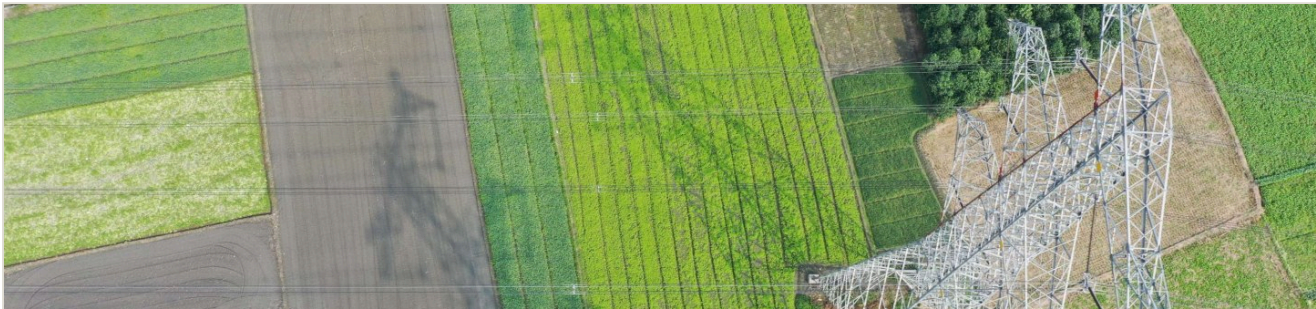
Growth and tree fall simulation to schedule trimming before violations occur, not after.

Structural health

Tower tilt, sag, wind response simulation and hardware defect detection from drone imagery.

Design and uprating support

Accurate as existing corridor models for reconductoring, uprating and new line design.



A TRANSMISSION CORRIDOR AND THE WORKING LANDSCAPE BENEATH IT, CAPTURED IN A SINGLE PASS

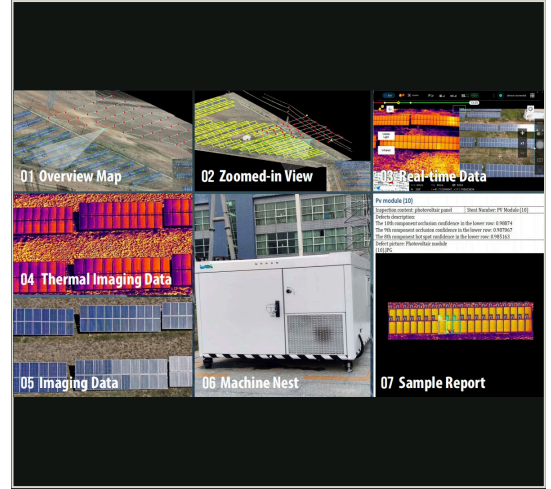
Gigawatts, inspected panel by panel.

A utility scale plant has too many modules for a walkdown and too much revenue at stake for guesswork. Aerial thermal inspection finds the underperformers in hours.

Thermal and visual payloads sweep the array, and analytics flag hotspots, string outages, shading and soiling with module level defect confidence. Reports map each fault to its exact table and position for the maintenance crew.

For substations, photoreal digital twins support clearance checks, bay expansion planning and safe work briefing without repeated site exposure.

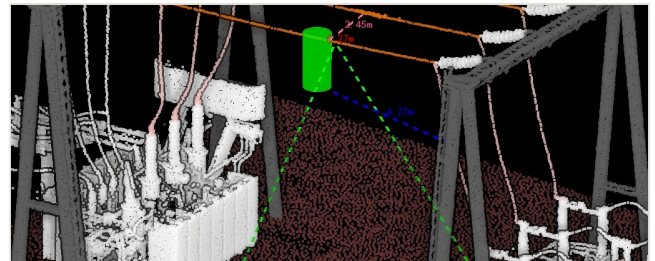
- Thermal hotspot and string fault detection with defect reports
- As built verification against layout drawings
- Substation twins with measurable electrical clearances
- Terrain and shading analysis for new plant siting



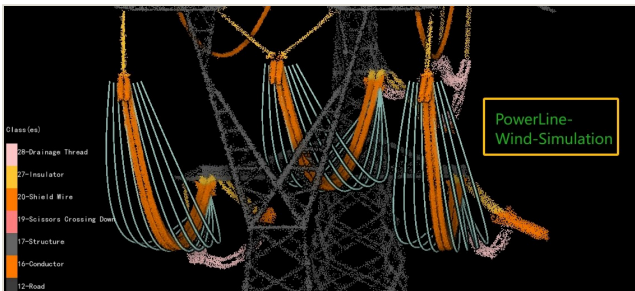
PV INSPECTION WORKFLOW, FROM OVERVIEW MAP TO THERMAL CAPTURE TO MODULE LEVEL DEFECT REPORT



SUBSTATION DIGITAL TWIN, PHOTOREAL POINT CLOUD



LIVE CLEARANCE MEASUREMENT INSIDE AN ENERGISED YARD



CONDUCTOR SWING SIMULATED UNDER WIND LOAD



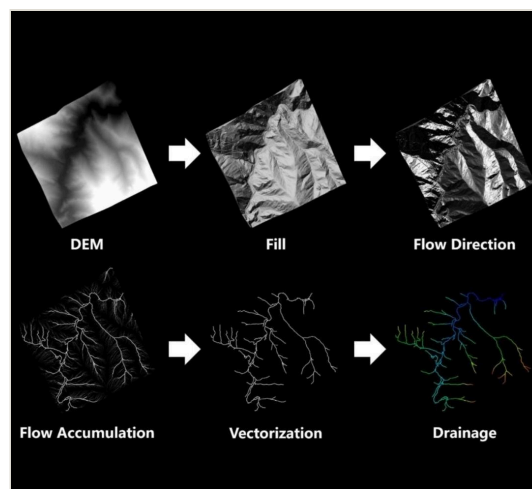
SUBSTATION ORTHOPHOTO WITH INSPECTION WAYPOINTS

Watersheds, read from the terrain.

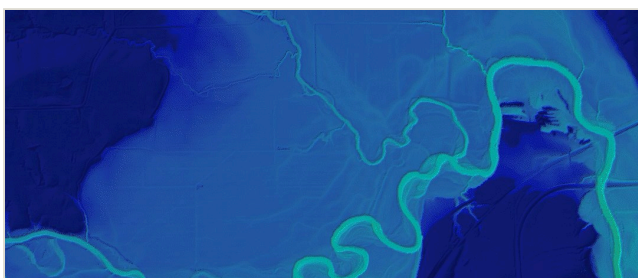
Water follows elevation. Capture the terrain precisely and the entire hydrology of a catchment becomes visible: every channel, every accumulation zone, every place a check dam will actually hold.

From LiDAR elevation models we derive flow direction, flow accumulation and vectorised drainage networks, then layer slope, aspect and vegetation condition to plan catchment treatment scientifically.

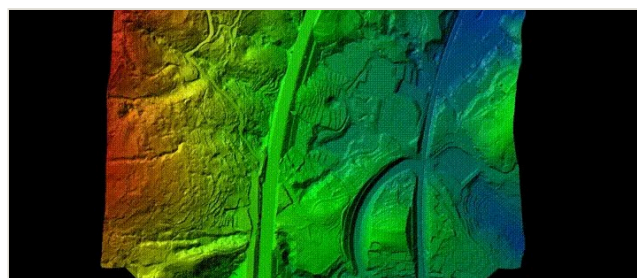
- Watershed and springshed delineation for restoration DPRs
- Check dam, percolation pond and bund siting
- Relative elevation models for floodplain and riparian mapping
- Erosion risk and treatment prioritisation



FROM DEM TO DRAINAGE. FILL, FLOW DIRECTION, ACCUMULATION AND VECTORISED STREAM NETWORK



RELATIVE ELEVATION MODEL REVEALING HISTORIC RIVER CHANNELS



HIGH RESOLUTION HILLSHADE FOR CATCHMENT PLANNING



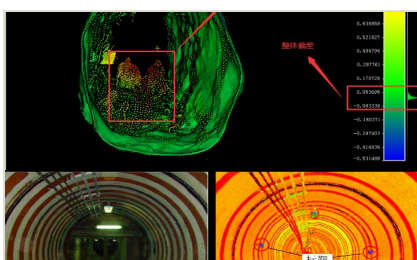
A RIVER DELTA IN FALSE COLOUR. VEGETATION, SEDIMENT AND OPEN WATER SEPARATED BY THEIR SPECTRAL SIGNATURES

Cities and corridors as living models.

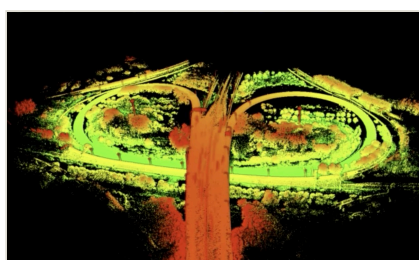
Settlements, campuses, roads and tunnels captured as measurable 3D models. Planners get true building heights and footprints, engineers get deviation against design, and administrators get an inventory of what actually exists on the ground.



SETTLEMENT DIGITAL TWIN. MODELLED STRUCTURES FUSED WITH TERRAIN POINT CLOUD



TUNNEL DEFORMATION AGAINST DESIGN PROFILE



INTERCHANGE AND CORRIDOR SURVEY



ESTATE SCALE PROPERTY MAPPING

Campus and property twins

Building footprints, heights and land features for planning, taxation and estate management.

Tunnel and structure monitoring

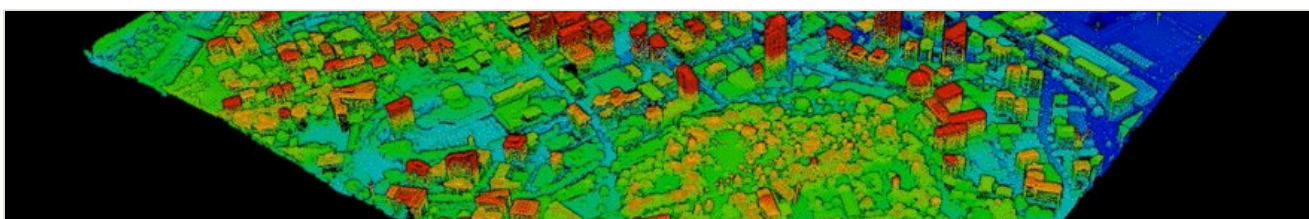
Overbreak, underbreak and convergence measured section by section against design.

Road asset extraction

Carriageway, signage, poles, trees and utilities vectorised for asset registers.

Heritage documentation

Millimetre faithful records of heritage structures for conservation and restoration.



A CITY READ BY HEIGHT. BUILDING ELEVATIONS EXTRACTED ACROSS AN ENTIRE DISTRICT

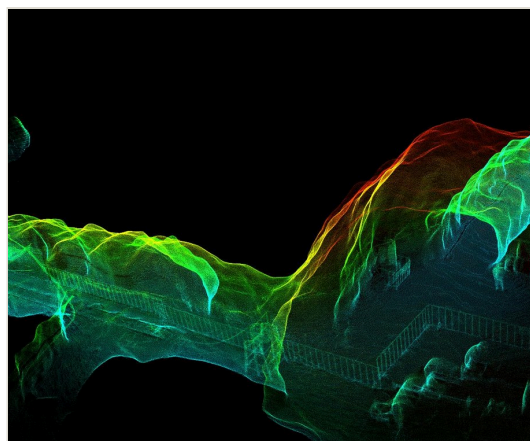
Mapping where no satellite has ever seen.

Caves, rock shelters and underground streams thread through the Western Ghats. They shelter bat colonies, feed springs, hold heritage, and draw pilgrims and trekkers. No drone or satellite can map them, because GNSS dies at the entrance.

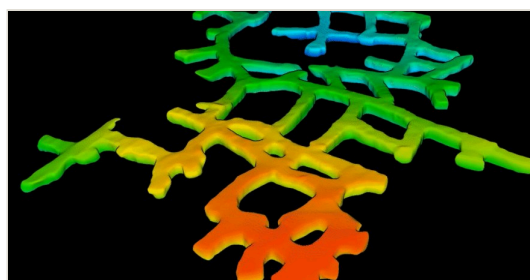
So we walk in with a handheld SLAM scanner that builds its own map as it moves, stitching hundreds of thousands of measurements per second into a complete model of the passage, in full darkness, with no signal at all.

The result is geometry nobody has ever held before: passage widths and heights, chamber volumes, connecting galleries, and entrance coordinates that tie the underground model to the surface survey, so a single dataset describes a landscape above and below ground.

- Roost chamber mapping for bat and cave fauna conservation
- Spring source and karst hydrology for watershed programs
- Route geometry and safety assessment before opening caves to visitors
- Documentation of temple caves, rock shelters and old mining adits inside forest land



A CAVE SYSTEM BY ELEVATION. ENTRANCES, GALLERIES AND CONNECTING PASSAGES MEASURED END TO END



AN UNDERGROUND NETWORK REDUCED TO CLEAN, MEASURABLE GEOMETRY

THE SKY IS OPTIONAL

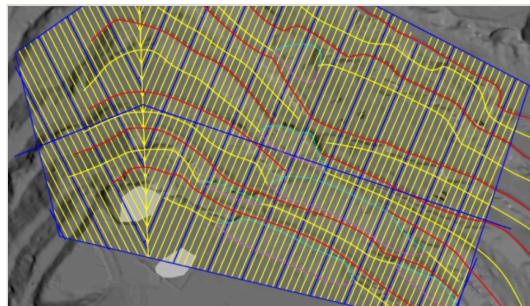
The same self locating method maps tunnels, basements, dense plantations and any space satellites cannot reach. If a person can walk it, climb it or crawl it, we can measure it.

One pipeline from rotor to report.

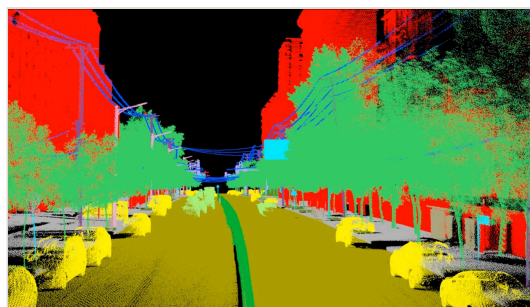
Capture, georeference, classify, analyse, deliver. The same disciplined pipeline runs under every sector we serve, so quality does not depend on the project.

How a project runs

- Mission planning and DGCA compliant flight operations with permissions handled end to end
- Multi sensor capture combining LiDAR, RGB, multispectral and thermal payloads as the task demands
- RTK and PPK georeferencing with ground control for survey grade positioning
- Classification, feature extraction and analytics tuned to the asset class
- Delivery as maps, twins, registers and reports in open formats your teams already use



TERRAIN AWARE MISSION PLANNING WITH CROSS STRIPS FOR ACCURACY CONTROL



AUTOMATED SCENE CLASSIFICATION, VEGETATION, WIRES, VEHICLES, ROAD AND BUILDINGS

Aerial LiDAR

Long range multi return scanning that reads through dense canopy at survey accuracy.

Handheld SLAM scanning

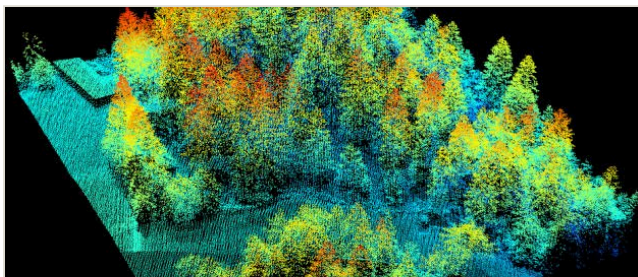
Under canopy, indoor and underground capture where satellites cannot reach.

Multispectral and thermal

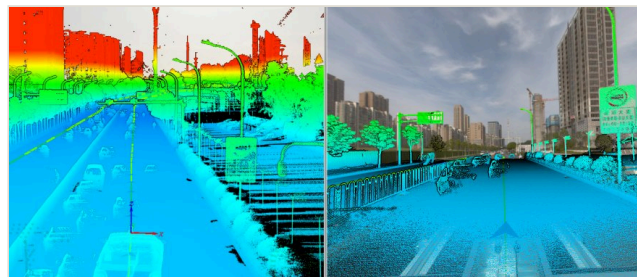
Vegetation health, moisture stress and thermal anomaly mapping on the same missions.

Open deliverables

LAS, GeoTIFF, DWG, shapefile and web viewers. Your data remains yours, in formats that last.



FOREST STAND IN TRUE COLOUR POINT CLOUD



CORRIDOR BY ELEVATION AND IN TRUE COLOUR

From photon to landscape.

Light leaving a surface carries two kinds of truth: where that surface is, and what it is made of. Our methodology captures both, then binds them into one verifiable dataset.

01

Ground truth

Permanent control points, GNSS base stations and total station traverses anchor every dataset to national survey datums before a single flight.

02

Active ranging

Time stamped LiDAR pulses measure geometry at centimetre precision, through canopy, across pits and along corridors.

03

Spectral capture

Hyperspectral and multispectral sensors read reflected light in bands a few nanometres wide, separating species, stress, moisture and soil condition invisible to the eye.

04

Fusion and classification

Geometry and spectra are fused, then classified by trained models into the features each sector needs.

05

Independent verification

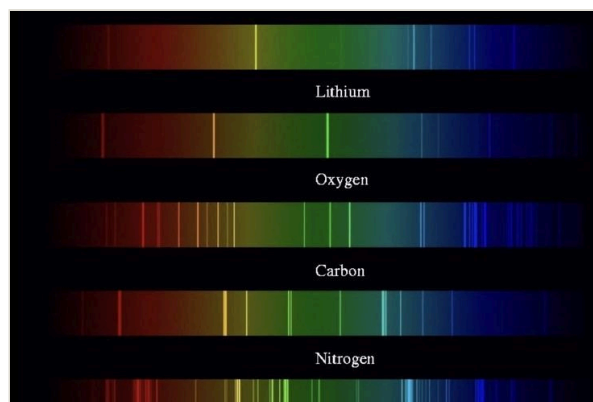
Held out checkpoints validate every product. An accuracy report ships with each delivery.



TOTAL STATION
VERIFICATION IN THE
FIELD



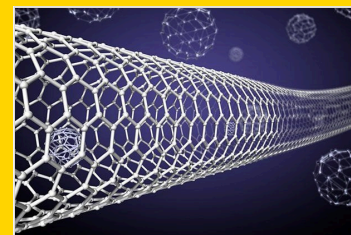
GNSS BASE STATION
OVER A CONTROL POINT



ELEMENT EMISSION SPECTRA. MATERIALS IDENTIFIED
BY NANOMETRE SCALE WAVELENGTH SIGNATURES

NANOTECHNOLOGY POWERED

Nanoscale science runs through our work. Our sensors resolve the world by wavelength, distinguishing materials through spectral signatures measured in nanometres, and our restoration research applies engineered carbon structures from biochar science to rebuild soil and water systems from the molecule up.



ENGINEERED CARBON
STRUCTURES

Where to start with us.

EUDR export compliance

Plot geolocation, deforestation free evidence and monitoring packages for agri and forest commodity exporters facing EU market rules.

CCTS GHG accounting

Measurement backed greenhouse gas accounting and verification support for obligated entities under the Indian carbon market.

Tree enumeration for clearance

Complete LiDAR based enumeration and reporting for forest clearance, diversion and compensatory afforestation proposals.

Carbon project development

Feasibility, baseline, MRV design and verifier ready documentation for forestry and biochar carbon projects.

Government DPRs and planning

Detailed project reports for watershed, wildlife, urban and infrastructure programs built on primary spatial data.

Capacity building

Structured training for forest departments and enterprises in drone operations, LiDAR analytics and climate reporting.

Engagement formats

Project survey

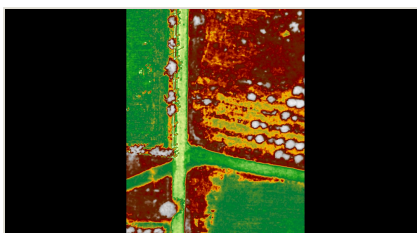
Defined scope, fixed deliverables, one capture cycle. The fastest way to see the value.

Monitoring contract

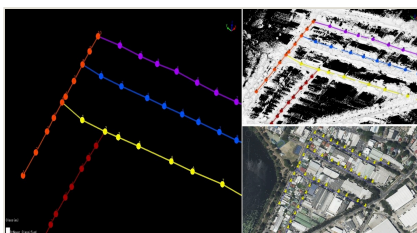
Scheduled recapture with change detection, trend reports and a maintained asset register.

Data partnership

Embedded spatial intelligence for organisations managing large or dispersed asset bases.



CROP AND VEGETATION HEALTH



CORRIDOR ROUTE INTELLIGENCE



URBAN ENVIRONMENT MODELLING

The living landscape, on the record.

Ecology becomes decision grade the moment it is counted, located and dated.

One capture season yields the carbon baseline, the habitat map and the weed atlas together.

Each product carries its own accuracy statement, ready for a regulator or a registry.

Carbon baseline

Above ground biomass measured stem by stem and converted to tonnes CO₂e under ISO 14064 and registry methodologies, with stratified soil carbon sampling.

Environmental impact assessment

Pre project terrain, drainage, canopy and settlement baselines for EIA, environmental clearance and forest diversion files, captured before ground is broken.

Ecology mapping

Habitat classes, canopy structure, forest edge and corridor geometry mapped across whole landscapes, with change tracked season over season.

Biodiversity net survey

Species composition, structural diversity and habitat quality scored at baseline, then remeasured to evidence net gain for TNFD and lender reporting.

Watershed management

Springshed delineation, flow accumulation and erosion risk from LiDAR elevation, siting check dams and percolation ponds where the terrain will hold them.

Invasive species detection

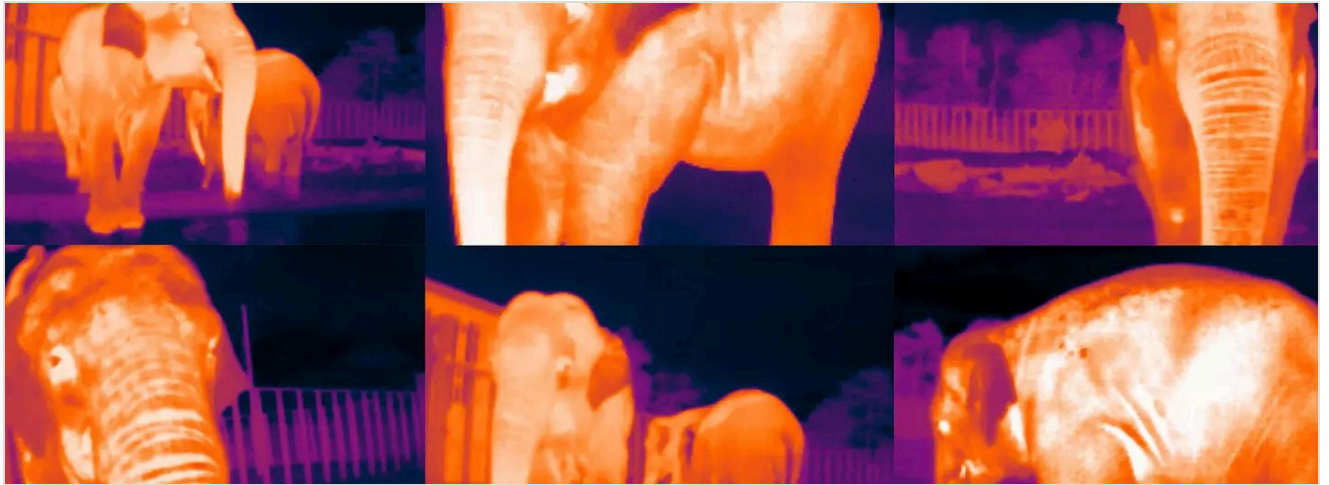
Lantana, Prosopis, Senna and wattle separated by spectral signature and mapped stand by stand, giving removal crews a priority list and an area figure.



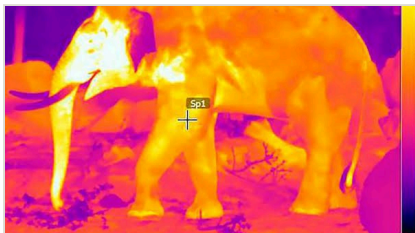
Tell us the boundary and the question. We will tell you what one season of capture can answer.

Find the animal. Map the corridor.

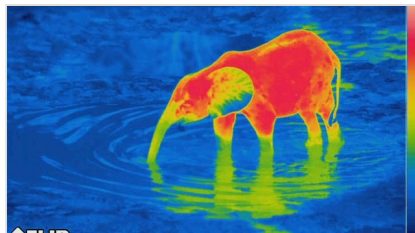
Wildlife moves at night, under cover, and across boundaries drawn by people. Thermal sensing finds animals in darkness, LiDAR describes the structure they depend on, and the two together turn a corridor from a line drawn on a map into a measured piece of ground.



THERMAL SURVEY OF AN ELEPHANT HERD. BODY HEAT SEPARATES EVERY ANIMAL FROM ITS BACKGROUND IN COMPLETE DARKNESS



GEOREFERENCED DETECTION WITH SURFACE TEMPERATURE READING



AN ANIMAL AT A WATER SOURCE, READ AGAINST COOL WATER



CANOPY AND UNDERSTOREY STRUCTURE FROM LIDAR

Night census and detection

Thermal aerial survey counts animals through darkness and light cover, each detection carrying a coordinate and a time.

Corridor delineation

Least cost movement paths modelled on terrain, canopy and land use, then checked against observed animal presence.

Conflict early warning

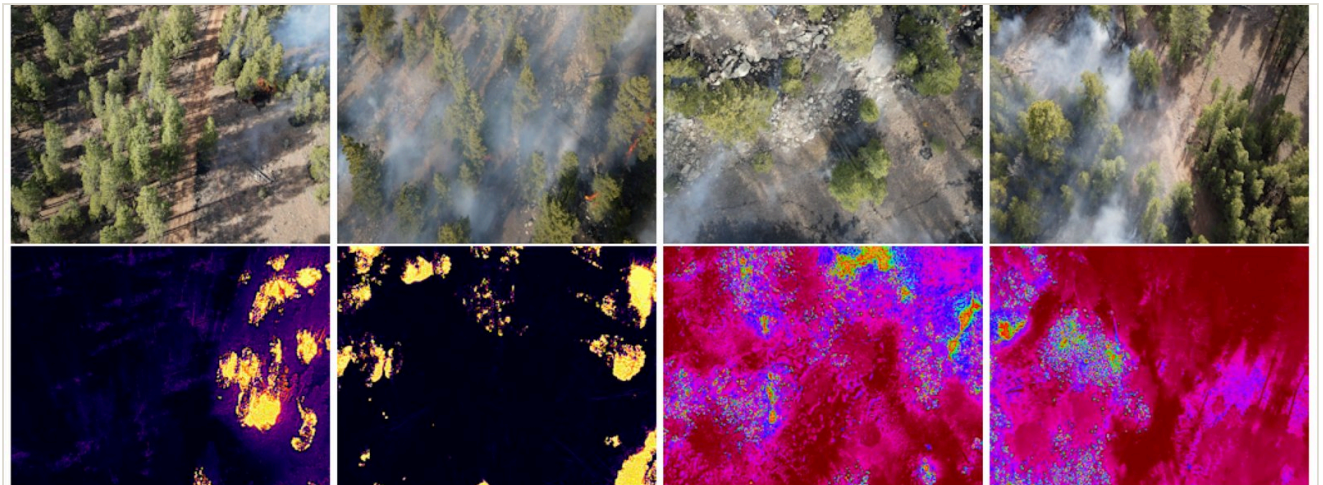
Herd position relative to settlement, cropland and highway, mapped for forest departments and response teams.

Habitat structure scoring

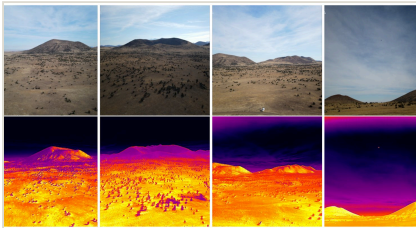
Canopy density, understorey cover and fragmentation measured stand by stand to score corridor viability.

See the fire early. Know what will burn.

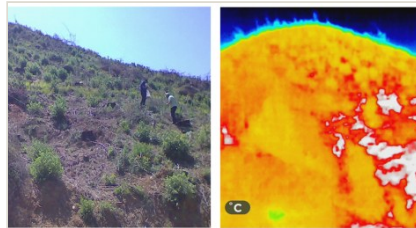
A fire is a heat signature long before it is a column of smoke. The same aircraft that finds the ignition also measures the fuel that will carry it: surface litter, ladder fuels and canopy, quantified before the season begins rather than counted after it ends.



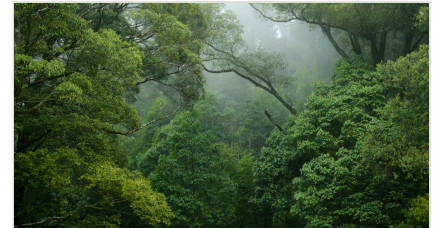
PAIRED VISUAL AND THERMAL CAPTURE OVER AN ACTIVE BURN. HOTSPOTS RESOLVED THROUGH SMOKE THAT DEFEATS THE VISIBLE CAMERA



TERRAIN THERMAL PROFILE ACROSS A FIRE LANDSCAPE



POST FIRE GROUND TRUTH AGAINST THE THERMAL RECORD



WESTERN GHATS CANOPY, THE FUEL A MODEL MUST ACCOUNT FOR

Early detection and alerting

Scheduled thermal sweeps over high risk compartments, with hotspot coordinates issued to the nearest beat before spread.

Fuel load modelling

Surface, ladder and canopy fuels quantified from LiDAR structure and spectral condition, reported by compartment.

Fire behaviour and risk terrain

Slope, aspect, wind exposure and fuel continuity combined into a ranked risk surface for pre season planning.

Burn severity and recovery

Post fire severity mapped stand by stand, then remeasured to evidence regeneration or the need to intervene.

Model the hazard. Measure the damage.

When a slope fails or a river leaves its channel, the questions are always the same: how much moved, what was lost, and where it will happen next. Pre event terrain answers the last one. Post event capture answers the other two in days rather than months.



POST LANDSLIDE ASSESSMENT, WESTERN GHATS. DEBRIS EXTENT AND STRUCTURAL LOSS RECORDED FOR RELIEF AND FOR THE RECORD



RAPID DEPLOYMENT OVER A FLOODED SETTLEMENT



INUNDATION EXTENT MAPPED BUILDING BY BUILDING



FALSE COLOUR SEPARATING WATER, SEDIMENT AND VEGETATION

Hazard and inundation modelling

Flood extent, depth and drainage behaviour simulated on LiDAR terrain, so exposure is known before the event.

Landslide and slope stability

Slope, curvature, drainage and cut geometry assessed to rank failure prone reaches along roads and settlements.

Rapid damage assessment

Debris volumes, damaged structures and blocked routes quantified from a single post event flight, with an audit trail.

Reconstruction and record

Baseline and post event surfaces held together as evidence for compensation, insurance and rebuilding decisions.

Every number answers to a rulebook.

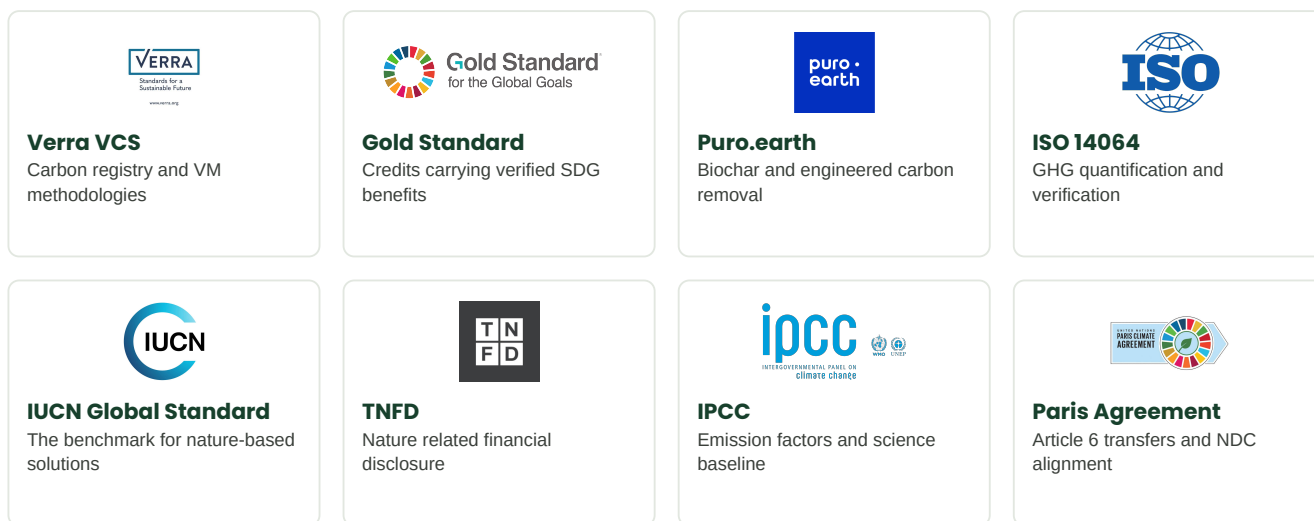
Our clients answer to auditors, registries, lenders and regulators.

We choose the governing standard at scoping, before a single flight is planned.

That choice shapes the field protocol, the accuracy budget and the final report.

Work built this way clears review on the first submission.

The frameworks we build to



The quality bar on every project

- Outcomes are additional, durable and free of double counting
- Uncertainty is reported and accounting stays conservative
- Every tonne is expressed in CO₂e against IPCC emission factors
- Biodiversity, food, fibre and adaptation are sustained alongside carbon
- Human rights and Indigenous leadership are respected in the field

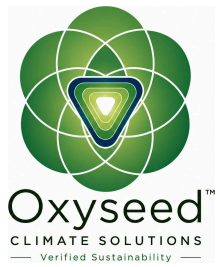


THE NATURAL CLIMATE SOLUTIONS CRITERIA
WE DESIGN AND VERIFY PROJECTS AGAINST

COMPLIANCE READY BY DESIGN

CCTS accounting for obligated entities, EUDR geolocation evidence for exporters, and DGCA compliant flight operations.

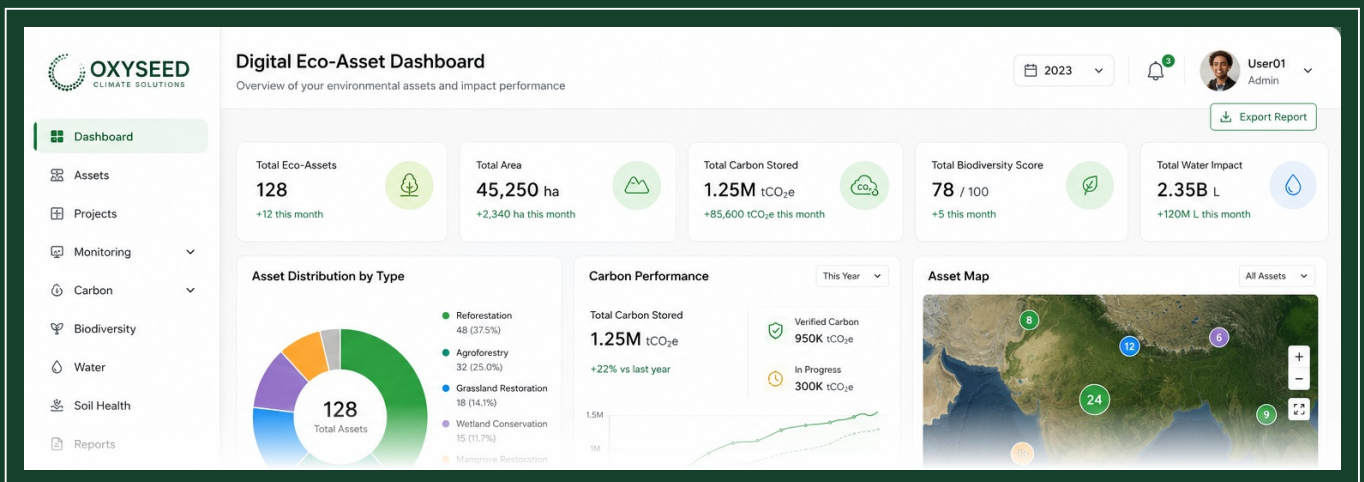
Survey products are tied to national datums, so state departments accept our reports into the record as they stand.



TALK TO US

Bring us an asset. We will bring back the truth about it.

A single pilot survey is usually enough to show what digitalization changes for your operation. Tell us what you manage, forest, pit, corridor, plant or catchment, and we will scope the first capture.



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