Lattice IT

ABOUT US

Lattice is progressive consulting services and data provider company based in Vijayawada, India. The company is established in 2008 by a group of highly experienced professionals in delivering quality services domestic and internationally. Lattice specializes in Natural Resources Management and planning using Spatial Information Technologies and IT Enabled Services. Lattice offers its proficient services in the planning, definition, development and implementation phases.

Our in-depth technical knowledge coupled with Industry experience and the unique methodology enables us to successfully deliver value to our customers. We leverage the expertise and past experience in technology consulting, project management and business process management to design, develop and implement end-to-end technology solutions. Our commitment towards excellence and meritocracy reflects in the services we deliver.

Lattice serves wide range of clientele both in public and private sectors from different countries and has successfully implemented number of diversified and challenging projects. Strategic thinking, excellent team, personal attention, competitive prices, process driven approach, commitment, on time delivery, ensuring customer satisfaction are our key differentiators.

We are affiliated with a worldwide network of well-established industry professionals, enabling us to fulfil client requests for services outside of our traditional standard core competencies. We strive for technical excellence and aim to exceed client expectations on every engagement.

Lattice prides in their commitments for quality-of-service, on-schedule delivery and cost-effective solutions. Most importantly, 'Trust' is the core word of our company and it is always mutual with our clients.

Domain

Verticals & Domains

Lattice offers its expert solutions using GIS and allied technologies like Remote Sensing data processing, Conventional and GPS services for various segments. Lattice provides platform independent integrated GIS solutions with GIS offerings in database development, application development, system integration, high level analysis and consultancy services.

Natural Resource Management

Mines & Geology

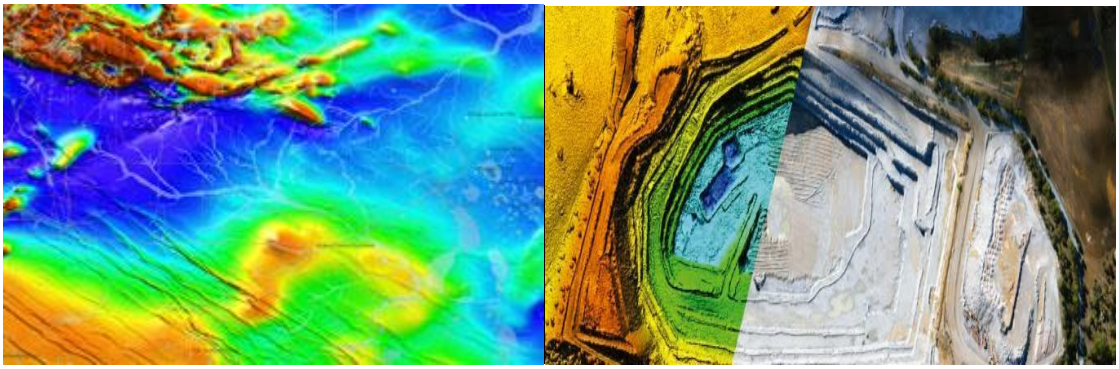
Mines & Geology

Larger concessions given for prospect mining in many countries particularly in African Continent are with undulated terrain and inaccessible conditions. These vast areas need lot of efforts, time and money for exploration. Hence, to optimize the exploration effort and reduce the turnaround time, Lattice offers its proficient services to identify the possible potential areas within the allotted concession for further exploration. Identification of possible potential zones categorized based on the mineral richness using geological studies through remote sensing and geospatial technologies will help the client to prioritize areas for further pre-exploration and exploration studies. Apart, Lattice has experience in providing Mining consultations throughout the prospecting, exploration and planning phase till mine opening.

The services offered:

- Pre-feasibility & Reconnaissance and Preliminary Surveys
- Identification of Possible Mineral Potential zones for Prospecting
- Survey & Surface mapping (Geology and Topography)
- Spectral and Hyper-spectral analysis for Geological & Structural map updation
- Integrating of Geology, Geochemical and Geophysical data
- Geological Exploration/ Drilling including Logging & Sampling
- Reserve estimation as per UN guidelines
- Techno-economic analysis
- Mine Plan preparation up to crusher plant design
- Environmental Studies
- Reclamation Analysis
- Core Zone Land Use Plan, Area analysis and temporal change detection using Remote Sensing & survey Techniques
- Buffer Zone Land use analysis and Temporal Change Detection using Remote Sensing

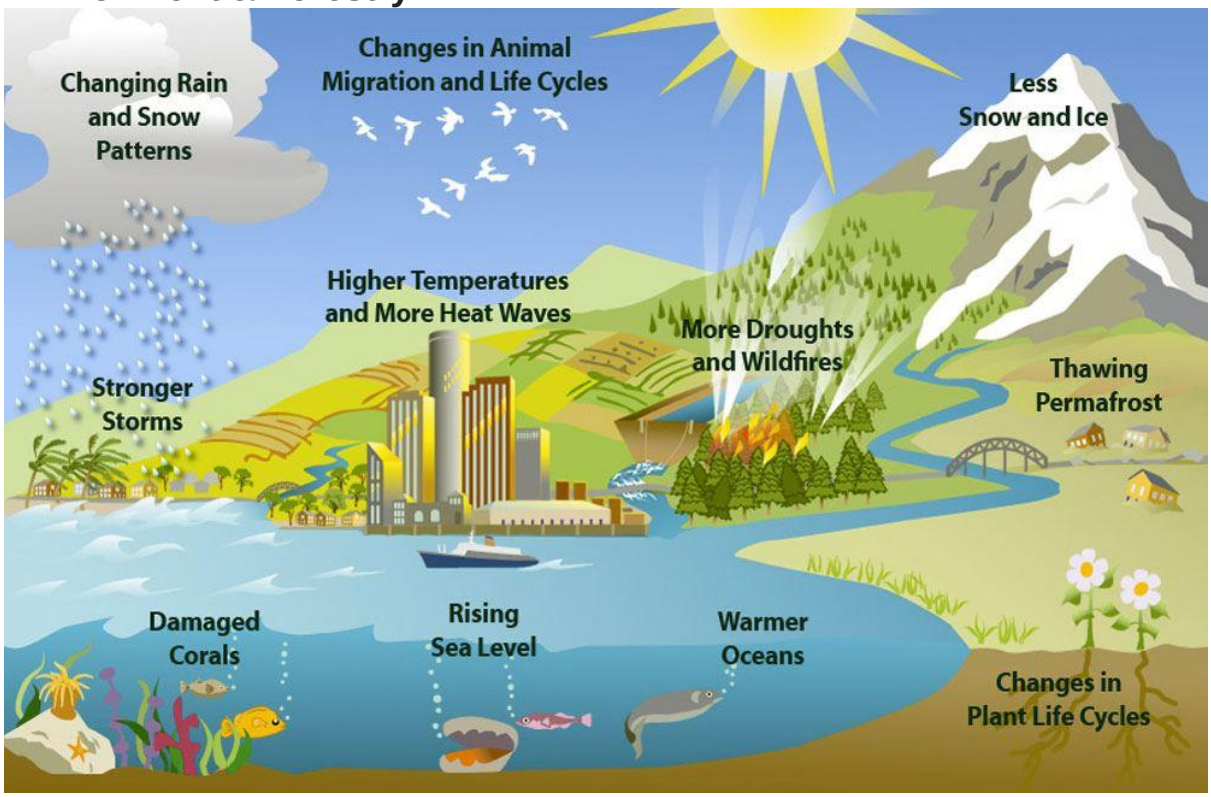
LIDAR



Mineral extraction operations involve unique logistical challenges. Lattice provides our clients with geospatial services throughout the life cycle of a mine—during exploration and feasibility studies, ore extraction, mine closure and landscape restoration.

The deliverables we provide include digital elevation models, plan metric and topographic maps, orthophotography, Enterprise GIS, and remote sensing. Our variety of services and deliverables provides each client with the assurance that when a particular environmental, operational or regulatory need arises, we can produce the right solution to solve that need.

Environment & Forestry



Lattice has good working experience in Environmental, Forestry, Ecology and Biodiversity and Wildlife Management studies. Mr. Uday Mahesh, MD is a MoEF, GoI recognized QCI NABET accredited Functional Area Expert in Land Use for Environmental Impact Assessment studies.

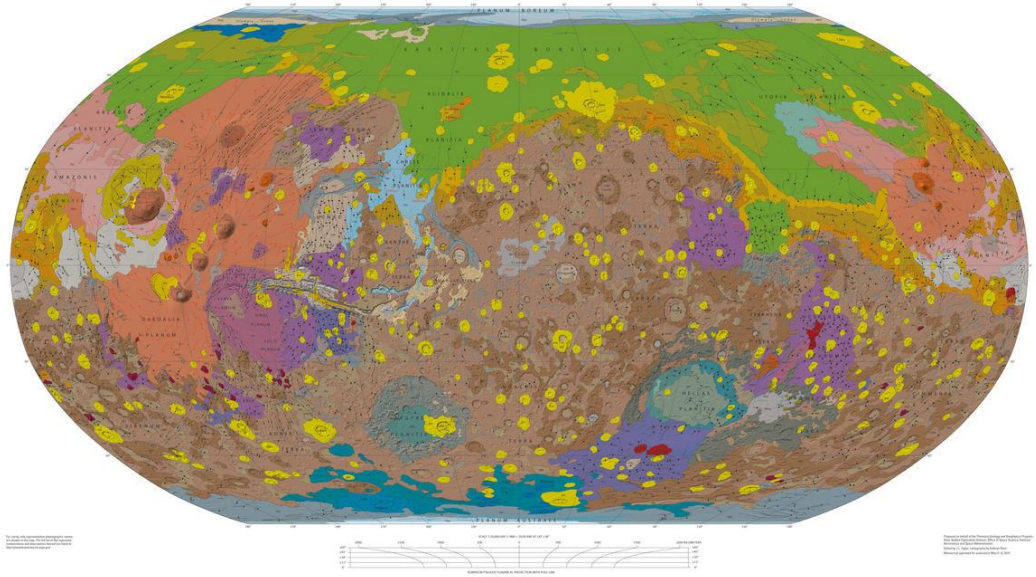
Our Services are:

- Environmental Management Plans and Environmental Impact Assessment Studies
- Environmental Feasibility studies for proposed projects and mines
- Enviro-legal Consultancies
- Coastal Regulatory Zone studies
- Land Use Land Cover Analysis
- Landscape Analysis
- Forest Density and Forest Type Classification
- Temporal Change Detection Analysis
- Forest fire zonation
- Boundary Analysis
- Socio-economic studies
- Biological Studies- Flora & Fauna Studies
- Hydrology and ground water studies
- Source Monitoring Services
- Base map & master plan preparation for Zoological Parks / Wildlife Sanctuaries
- Biodiversity Management Information Systems
- Soil Moisture Conservation planning in Forests and mining area
- Environmental and Conceptual plan preparation for Mining
- Coastal Regulatory Zone
- Horticulture and Agriculture
- Water Resource Management

Natural Resource Management

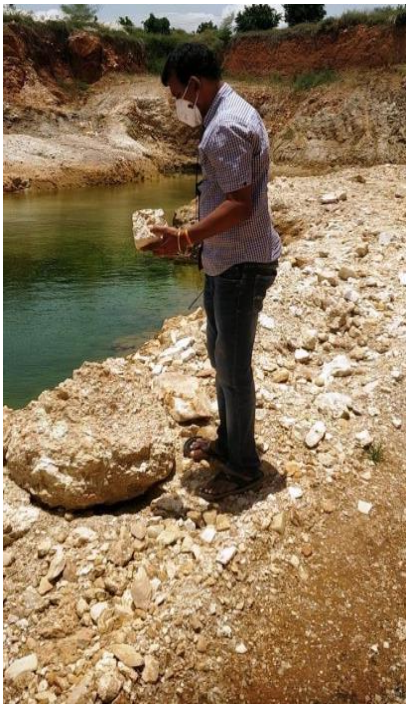
- Emergency Response Services
- E-Governance
- Healthcare
- Political & regional Analysis
- Leisure & Tourism
- Urban Planning
- Rural Development

GEOLOGY & MINING



- Feasible studies and Prospecting Mapping using satellite data for various minerals like Gold, Copper, Silver, Tin, Diamonds, Precious Stones, Iron, Manganese, Coal, Beach Placers etc.
- Geological, Geophysical & Geochemical data integration and interpretation.
- Surface Geological & Structural mapping, Detailed Geological Mapping, Drilling plans, drilling and Reserve Estimations.
- Mine Plan, Mine Closure plan and Environmental management plan preparations.
- Mining consultations throughout the exploration phase till mine opening.
- Development of Geo-referenced maps and satellite data along with DGPS survey as per IBM circular.
- Land use analysis for Core and Buffer zones.

RESOURCE ESTIMATION



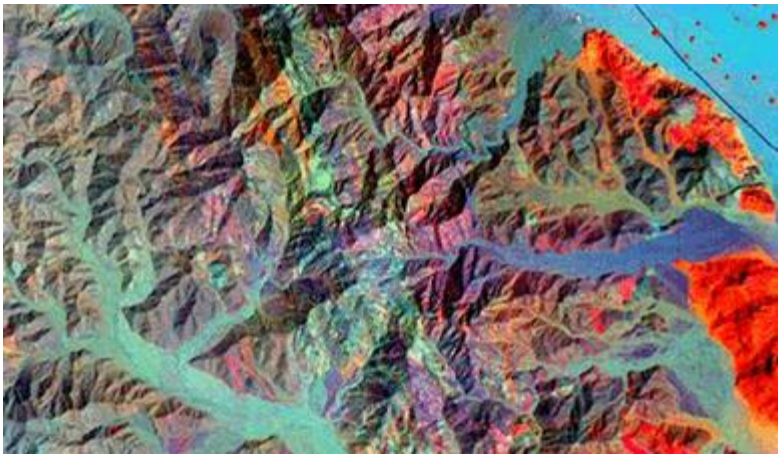
- **Lattice** is experienced in estimating Mineral Resources & Reserves through Geological Resource Modelling based on exploratory data for efficient Mine Engineering and economic viability in any Mining Project undertaken.

Mine Planning

- Our highly experienced team of specialists expertise in creating an effective and workable Mining Operation to conduct Mine Planning, Mine Equipment Planning and Mineral Process Engineering /Ore Beneficiation Planning effortlessly. We are also equipped in conducting Environmental Assessment, Topography, Hydrology, Landscape Analysis, Rehabilitation & Resettlement, Water Harvesting, Stream Diversions etc.

Project Managers	Mine Geologists	Field Technicians
Geologists who specialise in project management and coordinating teams to ensure the job gets done and done right	Geologists who specialise in pit and underground mapping, sampling, production scheduling and data handling	Junior geologists, or trained Field technicians, who assist with geo-technical logging, field preparations and sampling

Environmental Impact Assessment



- Environmental Impact Assessment for proposed Beach Resorts reference to Coastal Regulatory Zone Act.
- Environmental Impact Assessment for proposed construction projects.
- Environmental Impact Assessment for Mines.
- Forest Density temporal change detection of Mine sites.
- Land Use Land Cover studies for Core and Buffer Zones of Mines and Industries (More than 300) as per MoEF guidelines.
- Ecology (Flora & Fauna) studies for Buffer Zones.
- Socio-economic Studies.
- Source Monitoring Studies

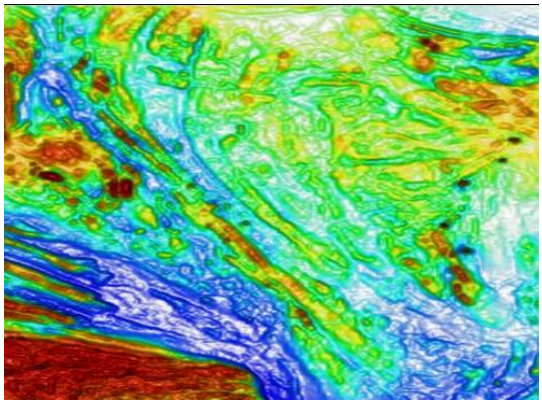
Geophysical Consulting:

Geophysical surveys are an extremely helpful tool for identifying areas of high exploration potential so that work programmes can be prioritised. Lattice geophysical experts can interpret regional geophysical and satellite data and provide a report on targets, intrusion detections, structural interpretations and alteration maps.

Starting with Survey Design, our team of geophysicists can help determine the best methodology for your given area based on physical rock property analysis and other known information. We can help guide an RFP document and recommend survey parameters for the contract between your company and a geophysical contractor.

We can then provide QA/QC measures throughout the duration of your survey, for airborne and ground methods. Our experience spans magnetics, gravity, EM (time- and frequency-domain), IP/Resistivity, CSAMT, GPR and borehole methods.

We make sense of your geophysical data by interpreting it from a geological perspective. We can bring this in 3D, conduct inversion modelling where necessary, and perform a structural lineament analysis.



ANALYSIS & CONSLUTANCIES

- Mine pre-feasibility and feasibility analysis using latest technologies.
- Geological, Geophysical & geochemical data integration, interpretation and consultancies.
- Mining consultations throughout the exploration phase till mine opening.
- Drill hole plans, Geology Mapping and Geological Resource & Mineral Reserve Estimations.
- Environmental Impact Assessment Studies/ Environmental Management Plans and enviro-legal consultancies.
- Environmental Site suitability Analysis for projects including Thermal Power Stations & Industries.
- Election campaign analysis.
- Analysis for identification of small and potential villages in Andhra Pradesh using social, economic and demographic conditions.
- Mapping and Analysis of Industrial Estates in Andhra Pradesh.

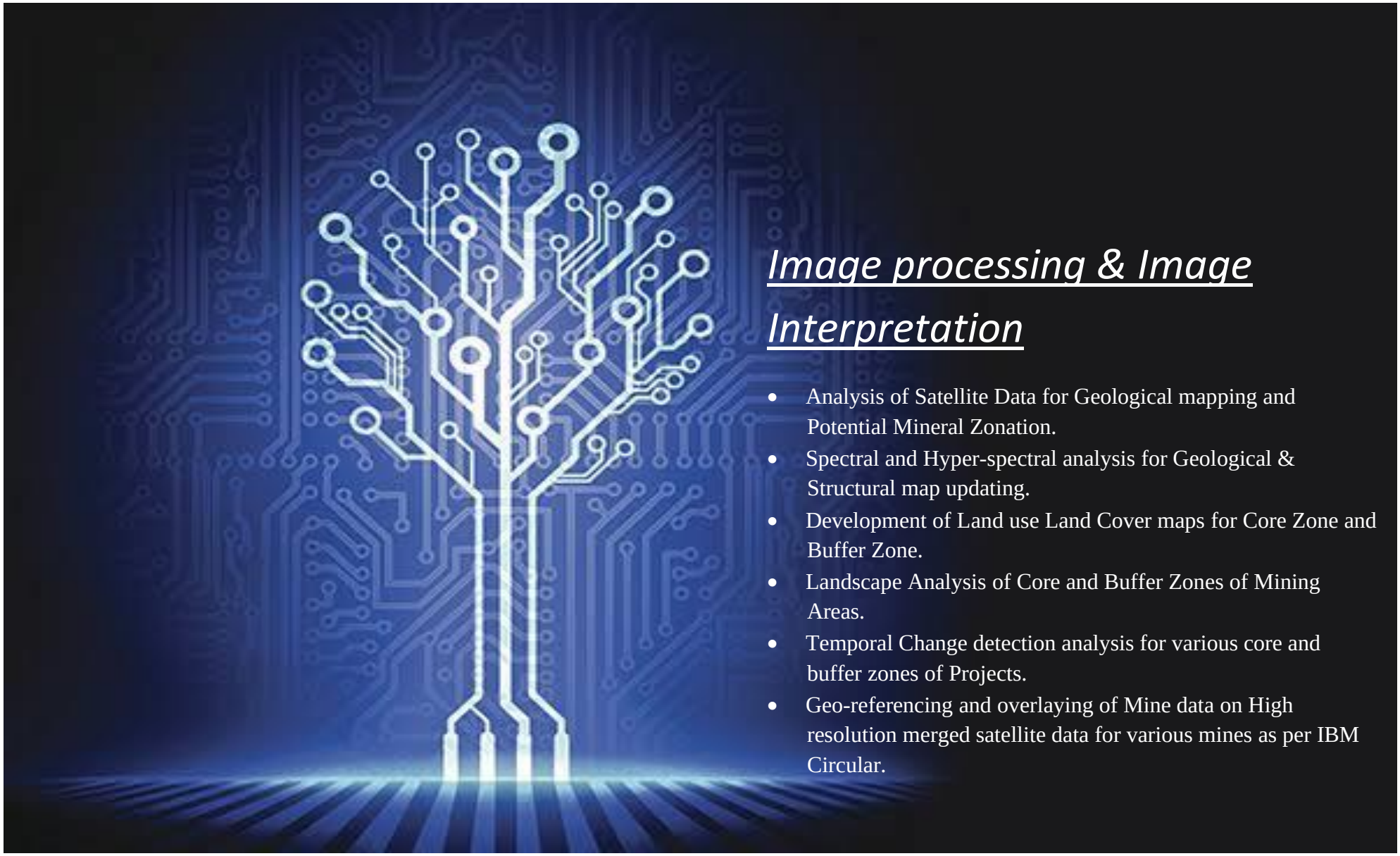


Image processing & Image Interpretation

- Analysis of Satellite Data for Geological mapping and Potential Mineral Zonation.
- Spectral and Hyper-spectral analysis for Geological & Structural map updating.
- Development of Land use Land Cover maps for Core Zone and Buffer Zone.
- Landscape Analysis of Core and Buffer Zones of Mining Areas.
- Temporal Change detection analysis for various core and buffer zones of Projects.
- Geo-referencing and overlaying of Mine data on High resolution merged satellite data for various mines as per IBM Circular.

GIS DATA BASE CREATION

- Topographical Maps of Tanzania, Ghana and Dubai Municipality.
- Development of Village level Administrative Boundaries along with the Transportation Network for major Parts of India.
- Development of Cadastral level maps for Jaggaiahpeta ,Krishna District, Andhra Pradesh , India
- Digital topographical and Administrative vector database development for Andhra Pradesh State.
- Digitization of Mine plans & geology plans
- Development of village maps in digital format of Andhra Pradesh State.
- Digital Municipal Base-map and Master plan preparation.
- Urban Base map preparation
- River Sand Topographic survey of Krishna ,Chittoor and Nellore Districts Mining plans, and estimation of reserves and environmental clearance
- Mining quantity estimations of coastal districts of Andhra Pradesh

SURVEY PROJECTS

- DGPS survey of Boundary Pillars of Mines.
- Survey and Development of Base map with topographic information at 0.5m contour and boundary demarcation for various forest blocks, wildlife sanctuaries and Zoo parks.
- Development of Base map of market yards with in Hyderabad City.
- Topographical Survey and Surface plan preparation for various mines.
- Topographical survey of proposed thermal power projects and industrial sites with 0.5m contour interval

DRONE SURVEY

https://www.dronebase.com/industries

https://www.skylarkdrones.com/about

DRONE SOLUTIONS THAT MATTER

Elevating intelligence of the enterprise

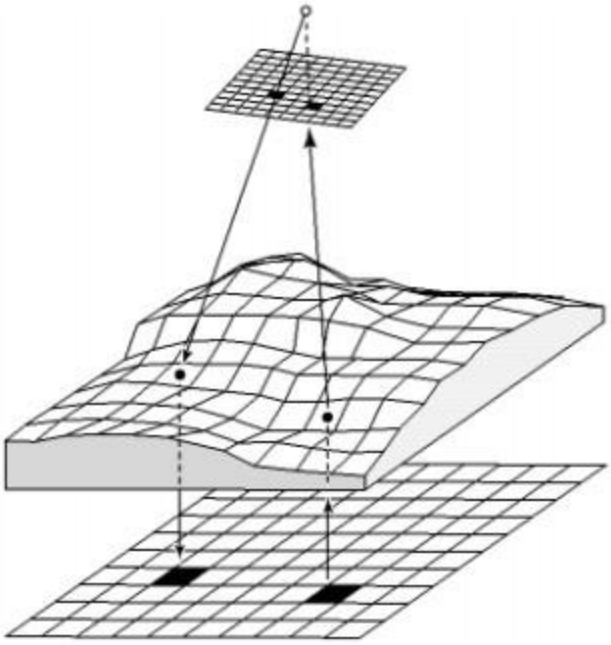
Lattice is the world leader in visual data management, using drones and software to digitise clients' assets and help them make informed decisions.

With a mature cloud-based software platform and unrivalled operational drone experience, we help you visualise and manage your asset throughout its lifecycle from construction, to ongoing integrity monitoring, to decommissioning, and delve into the detailed visual insights required to make decisions based on evidence.

One of the most important parameters of survey is the spatial resolution, which in photogrammetric terms is described as GSD (Ground Sampling Distance). In literature, it is defined as the distance between two consecutive pixel centres measured on the ground. In practice, it is simply the size of the pixel in the field.

The degree to which the absolute accuracy approaches the relative accuracy is determined by the overall quality of the photogrammetric process and the accuracy of the Ground Control Points.

The absolute accuracy of survey cannot be higher than the GCPs' accuracy. Therefore, it is important to make sure the points are measured with an accuracy higher than the pixel size.



The absolute accuracy will also significantly depend on the relative accuracy of your model. When you stitch together hundreds or thousands of images taken with a small (and most often non-metric) drone camera, it is almost impossible to have each pixel on the map located exactly where it should be.

Additionally, there are a lot of factors that will influence the overall quality and accuracy of your survey. We will soon publish a dedicated post about these factors, but they include parameters like the terrain profile, drone hardware choice, image overlap, weather conditions, stability and GPS conditions, among other things.

Companies are turning to drones for a number of reasons, such as improved safety, increased efficiency and cost savings. This has become particularly attractive in recent years, as depressed commodity prices have forced companies to search for ways to increase productivity this was the main reason we provide drone survey.

GENERAL INQUIRIES

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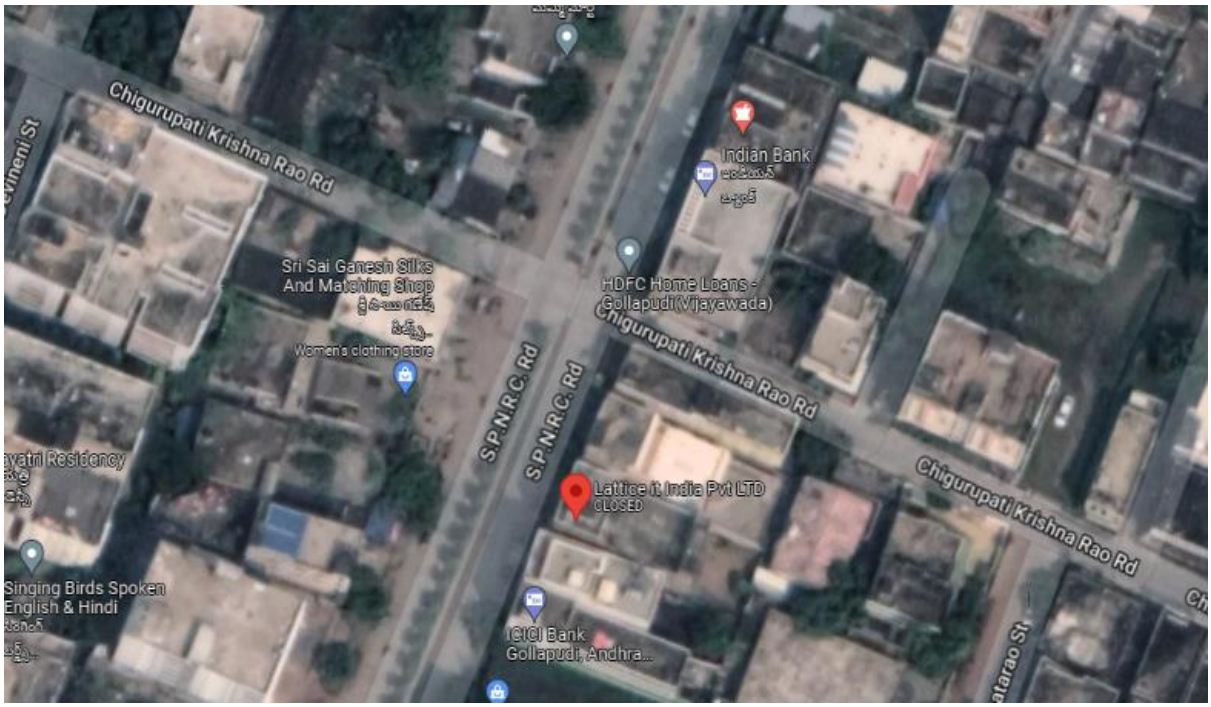

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