

## GEOBIM

DIGITAL BUILT DIGITAL CONSTRUCTION DIGITAL MAPPING

## ACCELERATING SPATIAL DIGITALIZATION WITH GEOSPATIAL & BIM SERVICES



WWW.CLOVETECH.COM



## SERVICES

DIGITAL BUILT **DIGITAL CONSTRUCTION** DIGITAL MAPPING ALL DESCRIPTION OF .... TRAILER AT A R A R A R DESESSION OF TRABLES. AND ADDRESS OF THE PARTY OF THE ATT DESCRIPTION OF LEBERS DE SECON

We have been assisting global partners in a vast array of disciplines within geospatial services, Geomatic services, Engineering services (AEC), and Technology services for over a decade. We provide a wide range of services linked to our core disciplines of geo BIM, product design, IOT, end-to-end application development across various domains.



## SERVICES / DIGITAL BUILT INCREASE PRODUCTIVITY AND PROFITABILITY BY USING BUILDING INFORMATION MODELING.

- SCAN TO BIM
- SCAN TO CAD
- ARCH ILLUSTRATION
- PAPER TO CAD



## Services / Digital Built

Clove Tech utilizes multiple non-contact laser scan equipment to capture the physical environment remotely. The data is fused systematically to create meaningful BIM laser scan models and objects, which can be used to analyze the existing structure, envision modifications, and enhance design options. The creation of accurate 3D virtual models of architectural, structural, and MEPF elements is particularly beneficial during renovations, refurbishments, and extension phases of existing constructions. Our team prepares RFIs for mismatches in scanned data in the point cloud, ensuring accurate, reliable, and consistent Scan to BIM outputs.

Throughout the point cloud to BIM transitions, we ensure the BIM model reaches the required LOD level and can be used as a near digital twin model for as-built documentation and COBie data for facility management and other requirements.

- Architectural
- Structural
- MEP
- 3D Topography
- Construction Validation
- Post strip Updates



### RELATED PROJECTS FOR SCAN TO BIM



#### HOTEL BUILDING

BIM model created from point cloud data for this multistorey seafront hotel building.



#### CULTURAL BUILDING

Accurate BIM model created from 3d laser scanned point cloud data for this concert hall.



#### **OFFICE BUILDING**

We did modelling of all services including the MEP services for this 7 floor o ice building.



#### SHOPPING BUILDING

we did modelling of all internal and external details including commercial and common space for this shopping centre



## Services / Digital Built

Pointcloud generated from 3D scans having physical objects or environments with a high level of detail and accuracy. High-precision 3D scan data create a detailed, accurate representation of the object or environment into 2D As-Built drawings that are editable and design ready. Our unique methodologies and techniques are cost-effective. They are a fusion of different technologies and applications that help our clients and us to produce a quality output with a quick turnaround time.

- Floor Plans
- Reflected Ceiling Plans
- Roof plan
- Elevations
- Sections / Sectional Elevations
- Rights of light
  - Footprints
  - Surrounding Elevations
- Roof plan
- 3D RoL Model (Rights of light)
- Planimetric Features Mapping

- Cross-sections & Profiles
- Area Referencing
  - Lease Plans
  - GEA/GIA/NIA
  - IPMS
- Rail Infrastructure
  - Rail Assets Rail Tracks
  - Heights and Stranger
- Heat Elevation Maps (Surface Flatness)
- Utility Mapping (Subsurface Mapping)



### RELATED PROJECTS FOR SCAN TO CAD



#### HERITAGE BULDING

We created a digital model of a multi-storey seafront hotel building, including all contextual elevations.



#### **RESIDENTIAL BUILDING**

This is a residential building having 3 storeys with area of 200 square meters



**RESIDENTIAL BUILDING** 

We did modelling of all services including the MEP services for this 7 floor office building.



#### COMMERCIAL BUILDING

This is a commercial space comprising of 14 floors with total area of 1,40,000 square meters



## Services / Digital Built

Any construction manual is incomplete without architectural plans and drawings. Accurate information regarding project appearance and design is reflected in the Architectural master plan utilized by the architects for various purposes like concept communication, marketing, and recording the details of finished construction.

Architectural Illustrations cover all the aspects of an architectural master plan, like brochures, floorplans, elevation renderings, layout plans, and site plans.

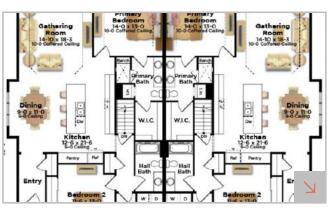
- Floor Plans
- Elevation Renderings
- Key Plans
- Layout Plans
- Site Plans
- POI and Address Updating



### RELATED PROJECTS FOR ARCH ILLUSTRATION



BROCHURES FOR HOME BUILDERS Brochure design is the most important for construction floor plan presentation.



#### COMMUNITY DEVELOPMENT PLANS

Community-based development planning values the empowerment of people by utilizing their resources.



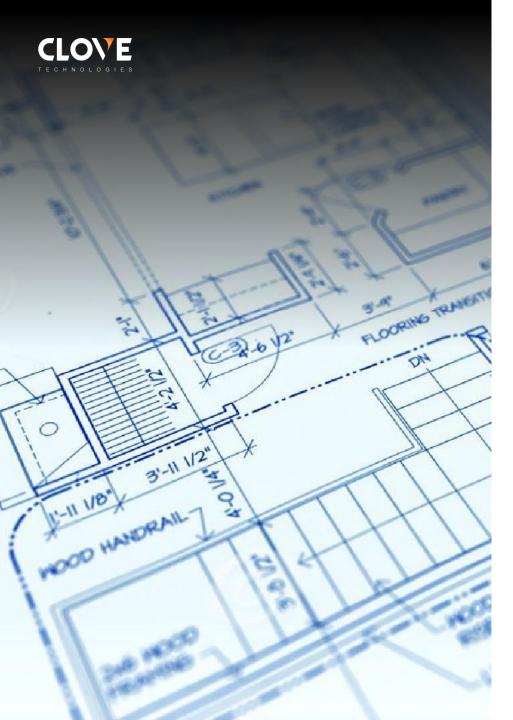
#### **GOOGLE MAP UPDATIONS**

Google Maps offers not only directions; but also a wealth of information on local points of interest such as restaurant descriptions and more.



#### MAPPING API SOLUTIONS

A sitemap is a blueprint of a website that helps search engines find, crawl, and index all of your website's content



## Services / Digital Built

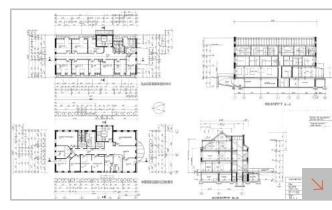
CAD drawings are digital formats of scanned images. These images are paper drawings scanned to create highprecision technical documentation and drawings, such as construction plans and engineering diagrams. Decades of expertise with unique automation techniques developed by our team to reduce conversion time and costs and improve the drawings' quality.

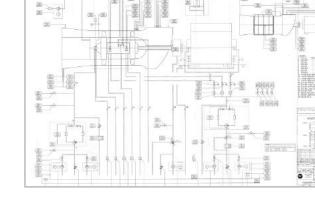
- Building Drawings
- Civil Drawings
- GIS Drawings
- Engineering Drawings
- Hand Sketches Drawings
- Plant Designs
- Electrical Drawings
- Mechanical Drawings
- MI & AI Vectorisation
- Patent Drawings





### RELATED PROJECTS FOR PAPER TO CAD



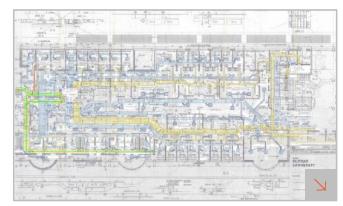


#### **RESIDENTIAL PLAN**

This is a Residential plan converted into cad from scan

#### SCHEMATIC PLAN

This is a Schematic plan converted into cad from scan





This is a Ducting plan converted into cad from scan



#### ESCAPE AND RESCUE PLAN

This is an Escape and rescue plan converted into cad from scan



SERVICES / **DIGITAL CONSTRUCTION** ACCURATE BIM MODELS TO HELP ARCHITECTS, CONTRACTORS, AND DESIGN CONSULTANTS.

- BIM MODELLING
- BIM WORKING DRAWINGS
- BIM CONSULTANCY
- BIM DESIGN



## Services / Digital Construction

Clove Tech, we specialize in utilizing Building Information Modeling (BIM) to create accurate digital representations of physical spaces. Our team of skilled modellers, engineers, and designers have extensive experience providing tailored design solutions for clients across various industries. We incorporate the use of Digital Twin technology, an intelligent 3D model that provides an intuitive way to access digital building documentation.

Our visual construction process begins with modelling schematic structures to detect and eliminate system conflicts before installation. We simulate the project and add time as the fourth component to define the phasing. Using coordinated 3D models, we check for possible intrusions between the building's physical systems. Our technology-driven digital twin models can perform all necessary functions to create an intelligent virtual replica platform during the construction and operation and maintenance phase.

Our integrated approach allows us to resolve clashes by rerouting utilities, changing elevations, and resizing elements. We utilize multi-disciplinary platforms with interoperability to provide construction document coordination between design and project teams before procurement and construction. From planning and communication to quality and productivity, our VDC services take the use of technology to a new level, benefiting builders, realtors, and architects alike.

- Building Drawings
- Civil Drawings
- GIS Drawings
- Engineering Drawings
- Hand Sketches Drawings
- Plant Designs

- Electrical Drawings
- Mechanical Drawings
- MI & AI Vectorisation
- Patent Drawings



### RELATED PROJECTS FOR BIM MODELLING



MERIDIAN METRO HOSPITAL, LONDON We have done 2 floors of modelling, coordination and Shop drawings of MEP Services.



AL-SAHEL RESORT, BEHRAIN We did the MEPF Services modelling, Coordination and Shop drawings.



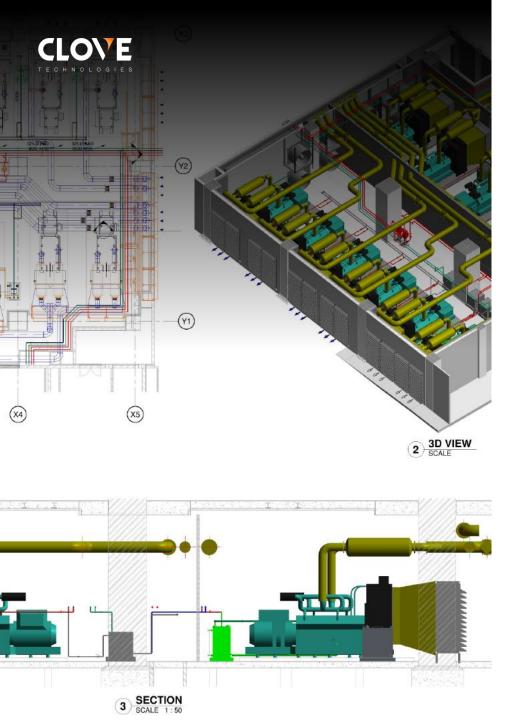
#### NAGPUR METRO RAIL CORPORATION PVT. LTD

We did 20 kms of Viaduct, 2 depots,10 kms of OHE traction 16 stations of modelling, coordination, Shop drawings and added Asset data of all ASMEPF Services.



#### DUBAI MALL FASHION AVENUE EXTENSION

We have done 2 floors of modelling, coordination and Shop drawings of MEP services by using Fabrication CADmep.



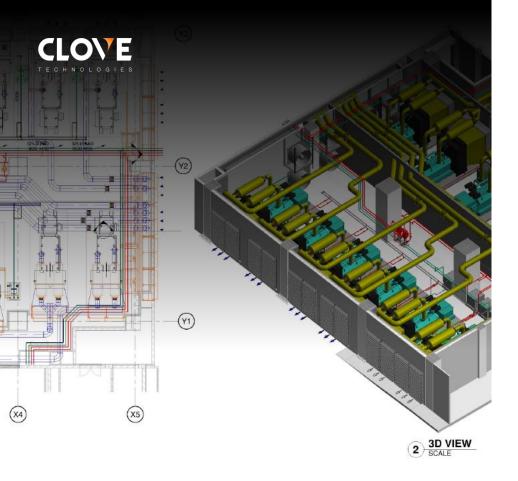
### Services / Digital Construction BIM WORKING DRAWINGS

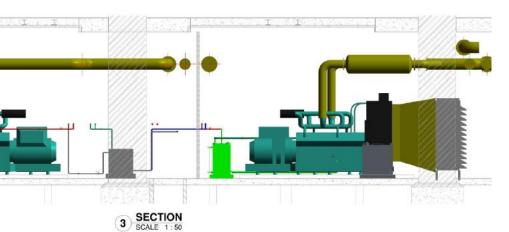
Delivering a full spectrum of sustainable AEC solutions with international building standards. Equipped with the latest and licensed architectural software, Clove Tech provides digital twin and digital construction monitoring services on various platforms to ensure the right communication of design intent and specifications.

At Clove Tech, we pay keen attention to the intricate details of the structure, material and other factors. The digitally built models we create can be used for coordination with architects and MEP engineers. These BIM models can also be used to integrate with analysis, design and data to track material quantities to explore design alternatives in case of a clash. Working with conventional building drafts furnished with fabrications increases the accuracy in execution and enables control over cost estimates and budget controls. Clove Tech has a team of fine modellers who can tailor-make various solutions for residential, commercial, industrial and multi-purpose constructions.

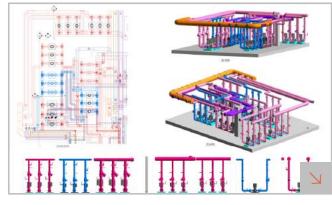
After the construction phase, Clovetech offers a variety of Intelligent Virtual Twin solutions in the operations phases of the building that caters to the owners to run smooth and efficient management of the infrastructure that truly defines what a virtual replica like a digital twin can become in the future.

- Architectural
- Structural
- MEP
- Shop Drawing
- Fabrications Drawings
- Module Drawings
- Asset Data / Cobie



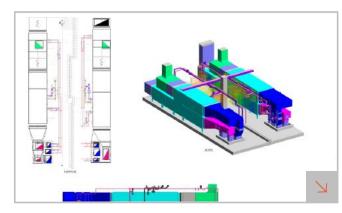


### RELATED PROJECTS FOR BIM WORKING DRAWINGS



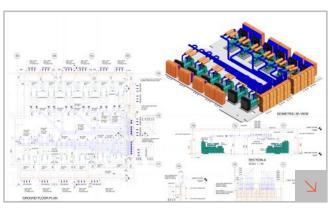
#### PUMP ROOM

It's a chilled water pump room with Primary & Secondary chilled water piping system includes two sets of pumps. We created Shop drawings.



#### **AIR HANDLING UNITS**

We have done the modelling, Coordination and Shop drawings for installation with clearance zones



#### DC SET GENERATOR ROOM

Diesel generator sets are often used to provide backup power in case of power outage. We have done the modelling, coordination & Shop drawings.



#### ELECTRICAL SERVICES

It's a typical suit room of one of our hotel projects. We have done this project up to the As-built stage.





#### Services / Digital Construction BIM CONSULTANCY

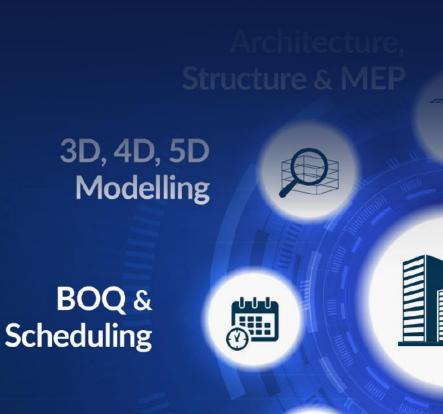
While BIM adoption is progressing globally, our expert BIM consultants develop suitable BIM guidance modules for constructions that can seamlessly integrate into architectural coursework. The training starts with whole content creation, such as essential 3D digital built Model formation and template making and goes until 4D Simulation. Also, a blend of technology and BIM domains allows us to serve you Digital Construction Monitoring services where we create a digital twin replica of the building for site activity analytics and monitoring. Clove Tech is ready to share decades of collective experience with the expert team for you to find the proper steps for BIM strategy implementation.

Not just transforming the current business data into new-age software applications, Clove Tech would provide indepth training to your teams and result in faster drafting skills, enhanced quality and higher productivity. With our knowledge-sharing sessions, one shall quickly identify the bottlenecks in the organization and find the best practices followed in the industry to resolve them.

Building Information Modeling is introduced, tried, tested and proven to provide unparalleled opportunities for improvements in productivity and cost-savings through all phases of the AEC industry. Adopting this procedure would streamline the entire process.

- Strategy Formulation
- BIM Execution Plan
- Asset Strategy
- Software / Hardware Workflow
- Template & Content Creation
- Resources Hiring & Training





### Energy & Cost Optimization



## Clash Detection & Resolution

### RELATED PROJECTS FOR BIM CONSULTANCY



#### **COMMERICAL BULDING**

A multi-storeyed and multi towered commercial building. We have done 3D Model validation, 4 D simulation, 5D bill of quantities and 7D facility management.



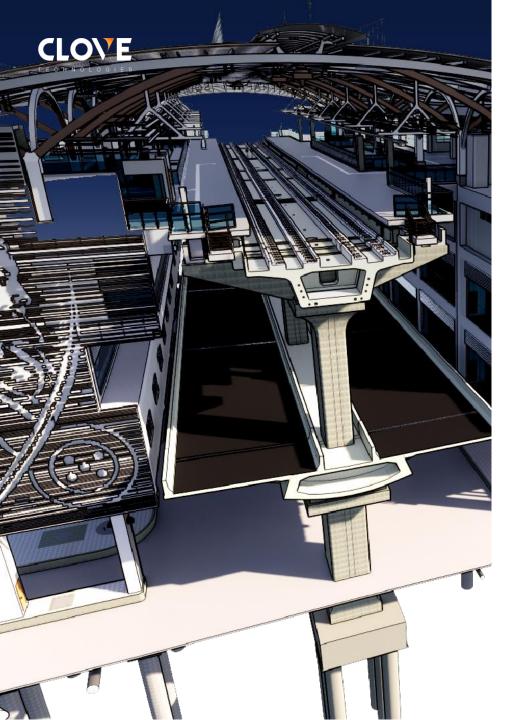
#### OFFICE BULDING

We have done the modelling, Coordination and Shop drawings for installation with clearance zones



#### AMUSEMENT PARK

This project involves BIM consultancy which includes BIM Execution Plan, BIM Implementation & BIM Content creation by developing the models up to hand over stage.



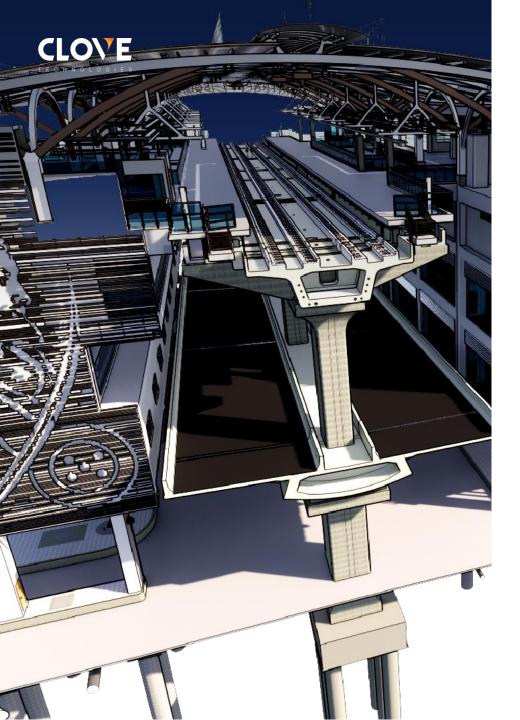
Services / Digital Construction

Building Information Modeling (BIM) is a collaborative approach to building design and construction that involves creating and managing digital representations of a building's physical and functional characteristics. BIM models are intelligent and contain data on the building's geometry, materials, and components, as well as information on the building's performance, operation, and maintenance.

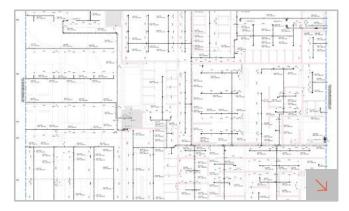
BIM is used by architects, structural engineers, MEP engineers, contractors, and owners to design, construct, and operate buildings more efficiently and effectively. By creating a digital model of the building, stakeholders can identify and address potential issues early in the design process, reducing errors and rework during construction. The BIM model also helps to streamline communication and collaboration between stakeholders, leading to more coordinated and integrated project delivery.

BIM can be used in various industries and building types, from healthcare institutions and commercial o ices to educational institutes and industrial sites. The technology has been widely adopted in the construction industry in recent years and is expected to continue to grow in popularity as more stakeholders recognize its benefits.

- Architectural
- Structural
- HVAC Design
- Plumbing Design
- Fire fighting Design
- Schematics
- Electrical Design

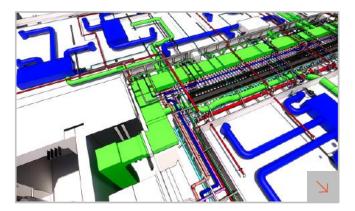


### RELATED PROJECTS FOR BIM DESIGN



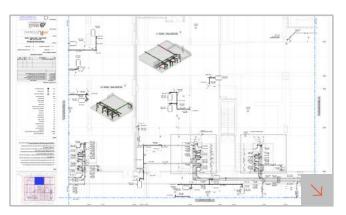
#### FIRE FIGHTING DESIGN

Our design includes Fire detection and alarm systems, Fire suppression systems, Fire access routes and Emergency response plans.



#### HVAC DESIGN

Our design includes Load calculations, Equipment selection, Air distribution system design, Control systems, Ventilation design, Energy efficiency and compliance with codes and regulations.



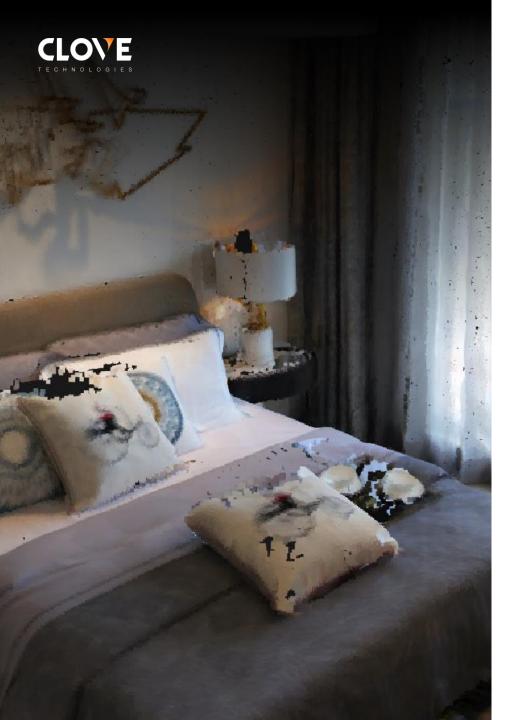
#### PLUMBING DESIGN

Plumbing design involves developing plans and strategies for the distribution of water, as well as the collection and disposal of wastewater, in buildings and structures. Our design includes Water supply system, Drainage and waste disposal system, Ventilation system, Fixture and equipment selection, Backflow prevention, Complaint with codes and regulations and sustainability.





- DATA ACQUISITION
- DATA PROCESSING
- **APPLICATION DEVELOPMENT**



## Services / Digital Mapping

Helping companies to acquire geo referenced spatial data to make urban development intelligent and economical

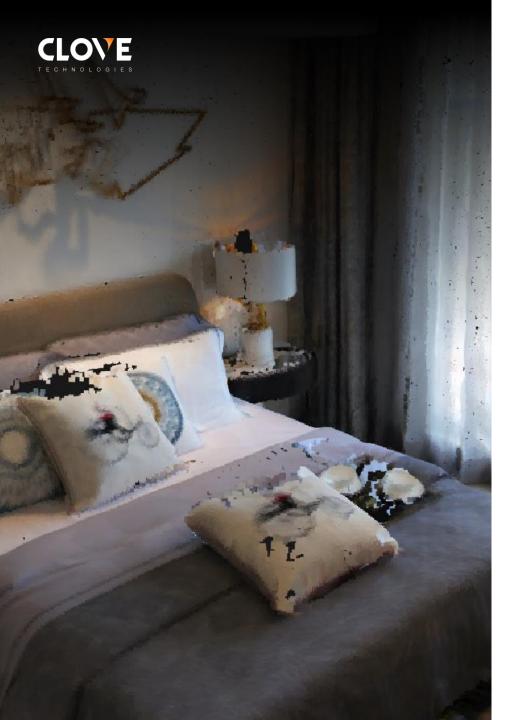
#### OVERVIEW

Since the Idealistic Generation is moving towards potentially developed and self-sustaining urban neighborhoods, it is easier to renovate large areas with statistical analysis and detailed modeling. Clove Technologies offers City Modeling services that significantly improve urban retrofitting, architecture, and design insights. We create digital models of urban areas by incorporating spatial and geo-referenced data collected through multiple methods.

The datasets can be collected via various systems, from a affordable approaches such as Aerial Photography to high-precision Lidar Data and high-resolution Satellite Images, depending on the client's budget and requirements. After collecting and processing the datasets, the information will be merged into a shared design to make geospatial analysis and utilization more effortless. We develop custom workflows to improve simulation, data management, and process automation. Our knowledge of spatial intelligence not only creates realistic 3D content but also promotes faster construction of flexible infrastructure scenarios before procurement and construction. From planning and communication to quality and productivity, we take the use of VDC to a new level for the benefit of builders, realtors, and architects.

- Indoor Walk through Mapping
- Indoor Laser Scanning
- Post Strip Scanning
- Outdoor Laser Scanning

- Unmanned Aerial Services
- Point Cloud Registration
- Reality Capture



### RELATED PROJECTS FOR DATA ACQUISITION



#### NAVVIS INDOOR LASER SCANNER

Scanner can produce Point cloud, Pano Images and customizable web publisher. Point cloud is used as source in producing As-Built 2D drawings and 3D Models.



#### **SLUM DEVELOPMENT**

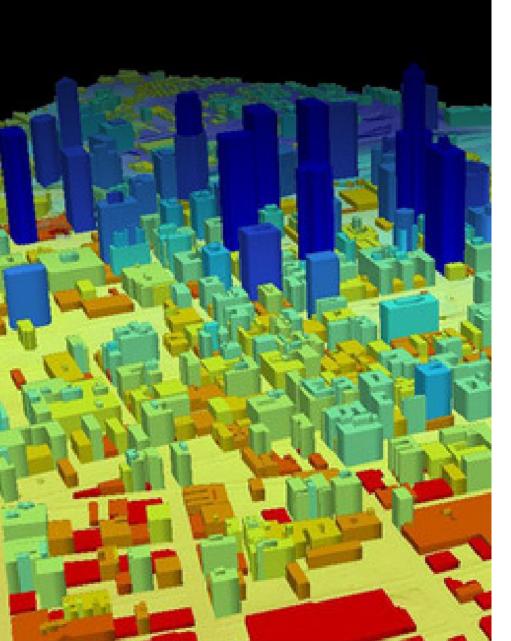
To improve the environmental living of the slum dwellers Housing & Area Development Authorities works towards providing basic civic & social amenities to the slum. Fixed wing drone are used to capture High-resolution images and produce 3D model and other planimetric features.



#### **GOOGLE STREET VIEW**

Matterport Digital Twin Technology for Building Surveying, Remote Inspections, and Effective Collaboration for Construction and Facility Projects. Walk throughs are published directly to Google street view.





## Services / Digital Mapping DATA PROCESSING

Acquiring advanced earth surface information data using Advanced sensors onboard airborne or spaceborne platforms.

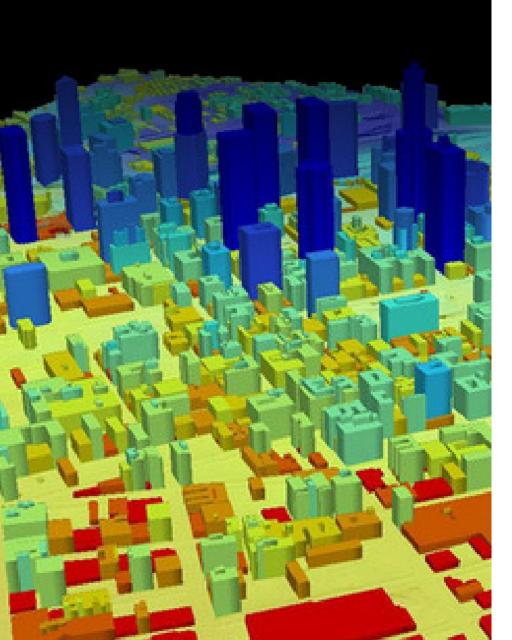
#### OVERVIEW

Our team of GIS professionals is highly skilled in utilizing a variety of satellite data products and processing platforms, enabling us to provide unmatched accuracy and turnaround time for image classification, interpretation, scene analysis, and reporting services. We are dedicated to capturing and updating necessary topographic, hydrological, and man-made infrastructure datasets, utilizing top-of-the-line satellite data processing software to prepare detailed GIS base maps with comprehensive features.

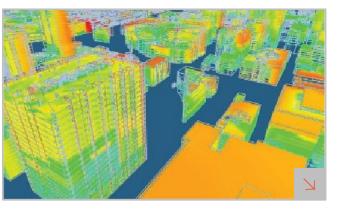
By acquiring Stereoscopic, Aerial, and Hyperspectral satellite imagery, we are able to perform radiometric, atmospheric, and topographic corrections to achieve the desired level of accuracy. Our remote sensing procedures yield valuable data and insights that can support various applications, including Archaeological Research, Military Surveillance, and city and telecom planning requirements.

- Utility Mapping
- Parcel Mapping
- Clutter Mapping
- Building Footprints
- Lidar Mapping
- Photogrammetry





### RELATED PROJECTS FOR DATA PROCESSING



#### **3D BUILDINGS**

Multi sources of images are used to produce building heights like Mono Image, Stereo image, Multi view image, Aerial images, LiDAR data.



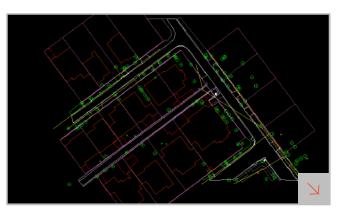
#### **3D CITY MODELLING**

More than 400 Sq Km of the area is captured using "Quantum systems Trinity F90+ Oblique D2M Camera" flown at 200 m altitude. Data acquisition was completed in 7 days, entire project was finished in 17 days.



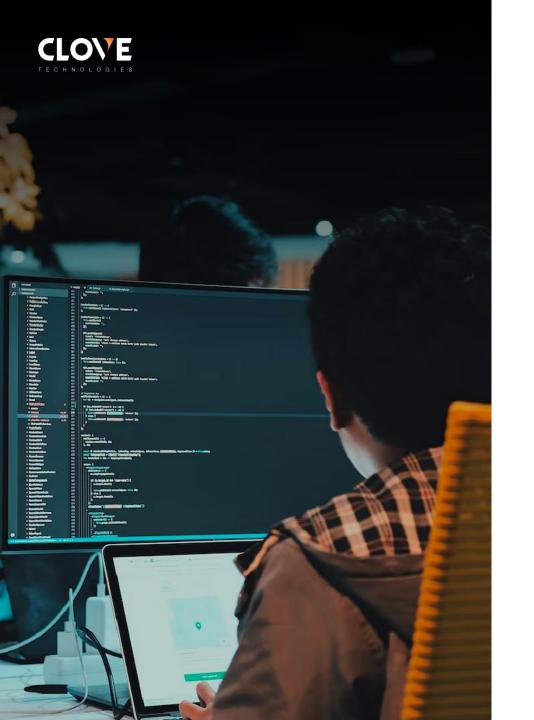
#### PARCEL MAPPING

Parcel map also known as a property map and tax map, are maps typically used to identify property boundaries. Some major counties of US are being processed.



#### LIDAR PLANIMETRIC MAPPING

Airborne LiDAR data used to draw precise topographic feature for a better city planning.



## Services / Digital Mapping

Formulating digital platforms to transform the landscape of Applications through leveraging modern techniques

#### OVERVIEW

To keep up with the ever-changing demands of the business world, traditional approaches just won't cut it. As organizations rapidly adopt new innovations, it's crucial to stay ahead of the game with a forward-thinking software strategy. At our company, we take a platform-based approach and focus on transforming processes and maximizing application value. By utilizing cutting-edge technology like APIs, DevOps practices, cloud computing, and real-time analytics, we're able to create efficient modern applications with a user-centered design. We continuously integrate incremental changes to ensure compatibility with future generations of technology. Our team of experienced developers brings a wealth of technical and industry-specific knowledge to every project, helping our clients upgrade their existing applications to more streamlined, flexible solutions.

- Utility Mapping
- Parcel Mapping
- Clutter Mapping
- Building Footprints
- Lidar Mapping
- Photogrammetry



### RELATED PROJECTS FOR APPLICATION DEVELOPMENT



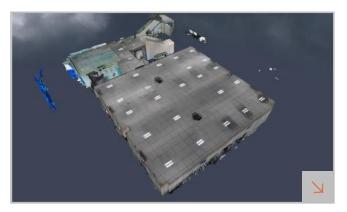
#### OVERLAY DATA ON CESIUMJS

CesiumJS is an open source JavaScript library used to overlay 3D mesh model of a Movie set for VFX effects.



#### POI SITE PLAN OVER GOOGLE SATELLITE MAGE

This helps to create geolocation of a property and nearby important places like hospitals, malls, schools etc. This help developers to increase their sales.



#### ADAPTIVE ONLINE POINTCLOUD VIEWER

Hosting huge size pointcloud data over consumes huge bandwidth and also time to get loaded. Point cloud is optimized to extent of browsing on mobile.



#### THEMATIC MAPS

Nimmakuru villages is mapped for local municipal body to dynamically query on any layer against specific fields, do measurement, draw edit or modify any feature as per requirement and need.





HOTEL BULDING



HIGH RISE OFFICE BUILDING



CULTURAL BUILDING



OFFICE BUILDING



HOPPING BULDING



**COMMERCIAL SPACE** 





HOTEL BULDING



**RESIDENTIAL BUILDING** 



**RESIDENTIAL BUILDING** 



COMMERCIAL BUILDING



COMMERCIAL BUILDING



COMMERCIAL BUILDING

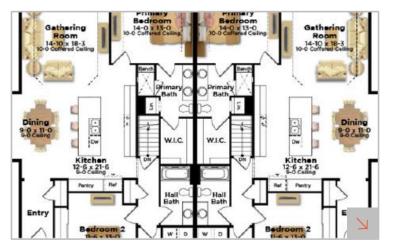




BROCHURES FOR HOME BUILDERS



MAPPING API SOLUTIONS



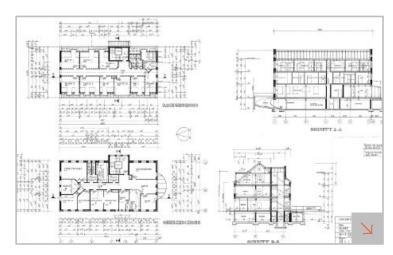
COMMUNITY DEVELOPMENT PLANS



AL-RAYAN STADIUM, QATAR - STADIUM

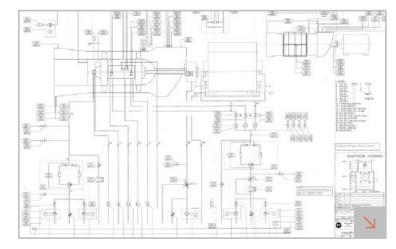


#### GOOGLE MAP UPDATIONS



### **RESIDENTIAL PLAN**





#### SCHEMATIC PLAN



MERIDIAN METRO HOSPITAL, LONDON

DUCTING PLAN



AL-SAHEL RESORT, BEHRAIN



**ESCAPE AND RESCUE PLAN** 

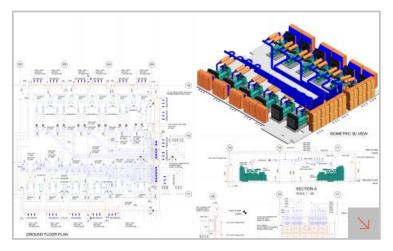


NAGPUR METRO RAIL CORPORATION PVT. LTD,

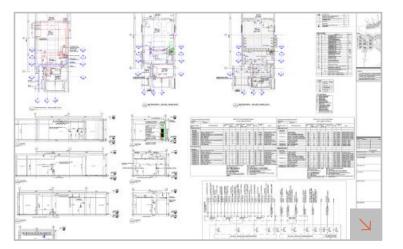




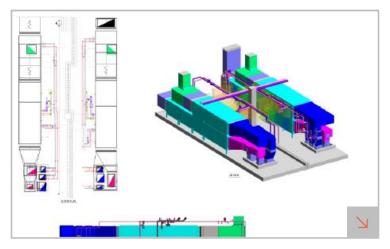
#### **COMMERCIAL MALL**



DC SET GENERATOR ROOM



#### **ELECTRICAL SERVICES**



**RESIDENTIAL PLAN** 

PUMP ROOM



COMMERICAL BULDING





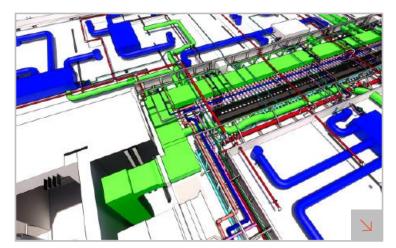
COMMERCIAL MALL



DC SET GENERATOR ROOM

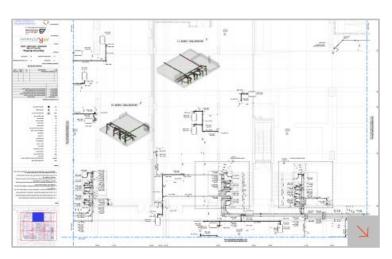


ELECTRICAL SERVICES



PUMAHVAC DESIGN

PUMP ROOM

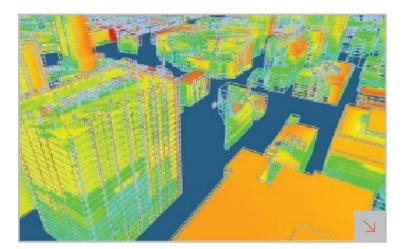


PLUMBING DESIGN





NAVVIS INDOOR LASER SCANNER





SLUM DEVELOPMENT



3D CITY MODELLING



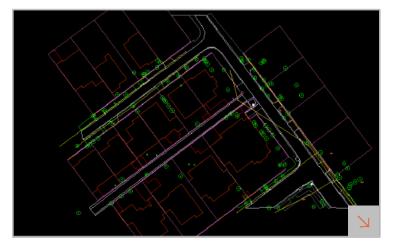
GOOGLE STREET VIEW



PARCEL MAPPING

**3D BUILDINGS** 





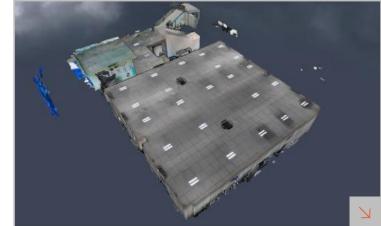
LIDAR PLANIMETRIC MAPPING



POI SITE PLAN OVER GOOGLE SATELLITE IMAGE



OVERLAY DATA ON CESIUMJS



CULTURAL BUILDING



THEMATIC MAPS



Empowering engineers across the world to build, operate and maintain intelligent infrastructure by accelerating technology breakthroughs in Digital Engineering. We solve complex problems of Infrastructure Industry with our innovative services of BIM, Geospatial, Geomatics and Technology.

Since our inception in 2004, with a team of 400 and counting, we are serving customers from various geographical locations including Europe, USA, Australia, Nordic Region, India, UK, and UAE.

### OUR VISION

To Empower Engineers across the world to Build, Operate and Maintain Intelligent Infrastructure We were acknowledged by Industry for consistent innovation in processes and solutions -'Excellence Award' by Institute of Economic Studies (IES), '25 Most Promising GIS Solution Providers in APAC Region' by CIO Outlook Magazine and many more.

### OUR MISION

To Accelerate Technology Breakthroughs in Digital Engineering Our way forward is to Accelerate: Digital Construction, Digital Mapping, Digital Measurement, and Digital Transformation to reduce cost and increase productivity across Infrastructure Industry.



## WORK CULTTURE

### FIRST TO CHANGE

Be self-assessing corporate citizens promoting creativity and innovation

### 2 FIRST TO CHALLENGE

Be keen to embrace winning attitude irrespective of the vertical & ranking

### 3 CONSISTENT IN PERFORMANCE

Be in a persistent oracle, determined to yield best results time after time

### COLLABORATE ACROSS DIVISIONS

Be operative with Inter-team correlations and aid overall company growth

### 5 LEARN FROM EVERY FAILURE

Be attainable to understand mistakes, learn from them and rise from them

# + 250+

YEARS ON THE MARKET SATISFIED CLIENTS

## 650+ PERSON ON TEAM

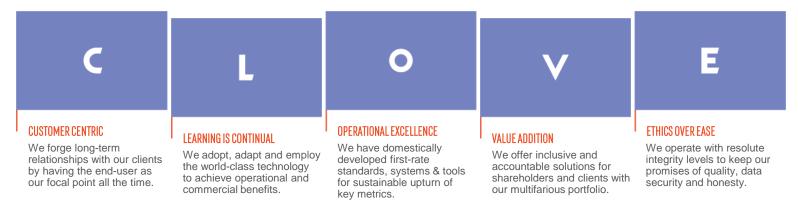
COMPLETED PROJECTS

35

## OUR VALUES

WHY US

Acquiring advanced earth surface information data using advanced sensors-onboard airborne or spaceborne platforms





## OUR LEADERSHIP TEAM

Clove Technologies' leadership team crafts, articulates and passionately owns the company vision and uncompromisingly drives it to the triumph. With over 20 years of individual domain expertise and about 19+ years of contribution for progression of the organization, our leaders transformed a small-sized organization into an internationally emerging enterprise. They brought together a global team of skillful professionals to discover their true potentials and now expanding the talent pool to a greater size to serve best to our clientele. They share a dream, direction and belief.

## AWARDS



2016

BY INSTITUTE OF

ECONOMIC STUDIES



2016 BY INSTITUTE OF ECONOMIC STUDIES



2019 20 BY BEST OFFICE AWARDS



2017 BY TV5 NEWS PRESENTS



2016 17 BY EMPLOYER BRADING INSTITUTE



2016 BY APAC CIO OUTLOOK MAGZINE





#### NDIA: HYDERABAD

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