

Bringing
ground realities
to the cloud

Ready GIS Solutions on hand.

Key Solutions

A geographic information system (GIS) lets us visualize, question, analyze and interpret data to understand relationships, patterns and trends. GIS is a collection of various science and technology tools that are used to manage geographic relationships across space and integrate numerous types of information to learn about an area, manage a project, choose an ideal site for something and/or choose a delivery route among many other things. GIS can be a useful tool in many sectors like Agriculture, Mining, Environment, Healthcare, Water management, Land management and many more. It can revolutionize the way we plan and manage Utilities, Natural resources, Land etc.

Infinium provides excellent solutions in the GIS sector with a team of dedicated experts in the development. Unlike traditional GIS developers, Infinium believes in user friendliness of the products and aims to achieve maximum productivity for the clients it caters to. GIS is one stop solution to the entire mapping to land detailing queries of a layman with using technologies and tools like Lidar, GPR, GPS, DGPS, CAD, Remote sensing, Bathymetric Lidar, UAV/Drones, Total station/ETS, Building Information Modeling, Aerial photography, etc.

Land Information System

GIS is used in gathering land records digitally and creating large national databases which are used in various activities like land use planning, real estate cost trend analysis, property tax estimation and many more.

- **Land Data Management:** Maps with attached non-spatial data. Spatial data, Survey No., Unique Land Identification No., Lenders/Buyers info (Historical info for landowners). Users can view and query the data as per the requirement on the basis of UPIN, Owner Name, Ward No., etc.
- **Dispute Management:** In this module detail information about the Dispute related to any particular plot would be registered by linking of the Court Case number to Unique Geotagged ID of the Land Parcels. Hence the software can keep a track and record of a legal issues regarding plots of a project.
- **Property Value Assessment:** This statistic is useful to common public as well as management for buying or renting a new property or other future development.

GIS Solution for Urban Development



Smart Building Permission System

Our Smart Building Permission System can be widely implemented for e-governance. A smart unified platform collaborated between urban authorities, government, citizens and other stakeholders can also be accessed from anywhere at anytime through computer or mobile application.

- Software and mobile application for uploading digital documents, for monitoring progress and for making payments.
- Algorithms to check for building regulations.
- Identification for unacceptable plan errors.
- Reducing the need for unnecessary site visits.
- Integration with property tax department and Land management System.

City Vision Solution -CitySpect



City Vision Solution provides the information about the area with geographical reference. This includes the creation of spatial database for administrative boundaries, transport network, properties built-up, public utility, waste management, water bodies, TP/DP plots, health departments etc.

- This application give information about exact location of all the mentioned features on map in the district and their information is stored in databases which can be also viewed in chart and tabular forms. The Application covers the following functionalities:

- | | |
|-----------------------|---------------------------|
| ✓ Public Utility | ✓ Land Information Module |
| ✓ Complaint portal | ✓ MIS Module |
| ✓ Map View Module | ✓ User Management Module |
| ✓ Property Tax Module | ✓ Emergency services |

GIS application in Mining

GIS has evolved many mining activities from exploration, mineral production to mine rehabilitation. GIS helps in Evaluating mining conditions, model mine construction, and display data such as geochemical or hydrological. GIS can also be employed in applying for mining permits, assessing environmental impact, and designing closure and reclamation plans.

- **Mineral exploration:** GIS helps Analysis of geophysical images, geochemistry, geologic maps, radiometric surveys, boreholes, and mineral deposits. GIS gives the exploration tools to manage, display, and analyze data, resulting in successful, cost-effective discovery of new mineral deposits.
- **Mine planning and design:** High resolution digital terrain models of the area and surrounding areas helps in planning construction and development of mines and supporting infrastructure like route location and design of rail lines, pipelines, power lines etc.

- **Volume Mapping:** For stock mapping or pit volumes LIDAR survey or Drone survey can be done. This kind of survey can provide 3D and 2D data.
- **Mine Expansion:** For expansion of mine in dangerous and inaccessible locations, topographic survey can be done with drones and high resolution, which can be processed into 2D and 3D models.
- **Disaster planning:** GIS can be used in disaster monitoring and planning such as Leakage detection in coal mine or crude oil mining, land slide detection in a hilly area, etc.
- **Stock Mapping:** The most important thing in a mine is to keep a frequent record of stock and the maximum mining limit.

GIS Solution for Environment

Application of GIS can be very useful for Environmental planning.

- **Pollution Mapping:** Mapping concentration of different atmospheric gases and noise pollution can be done with respect to land use and prevent further environmental damage or that data can be used for other planning activities.
- **Forest Mapping:** Mapping of forestland and its entity allows government authorities to identify and quantify plants, species and other forest resources seasonally for future analysis and planning.
- **Wetlands Management:** Wetland management helps reduce effects from floodwaters and storm surges, help recharge aquifers, filter sedimentation and pollution from upland drainage.
- **Planning for Disaster Mitigation and Recovery:** Remote sensing and other data can be used very effectively for quickly assessing severity and impact of damage due to earthquake, landslides, flooding, forest fires, cyclones and other natural disasters.

GIS Solution for Agriculture

GIS technologies are able to fulfill the need of a systemic approach for collection, management and processing agricultural activities. Using remote sensing data, important decisions about the policies can be made, tackle national issues regarding agriculture.

- Application supports in managing crop yields, monitoring crop rotation process, monitoring soil loss for individual farms, etc.
- Solution has the database from which analyzing, visualizing, crop and land management of agricultural environment is possible.
- Disaster analysis and accurate crop insurance data can be derived.

Healthcare Database Management System

GIS can be used to analyze public health care parameters, provide critical information in a timely manner, support health care policy development, monitor climatic events, coordinate medical response measures, and educate decision makers and the general public.

- Disease Trend Analysis
- Demand and supply of Hospitals
- Demand and supply of Medicines
- Demand and supply of Medical professionals
- Patient History database
- Ambulance databases
- Patients access to doctors in remote locations
- Demographic statistics, economic vectors and resources

GIS Solution for Dairy

Milk procurement activities are spread over large geographical areas and it involves a large number of far flung village level dairy societies and thousands of farmers who are members of these societies. GIS helps in integrating the Dairy operations in a more precise way to get correct information and for better planning.

- Milk quality and quantity trend across all village dairy societies.
- Animal historic data and trends across all villages.
- Milk collection route planning.
- Seasonal trends mapping.
- Demand and supply analysis for milk and finished goods

GIS Solution for Oil/Gas Distribution

There are many GIS solutions that apply to this industry. Oil & Gas both are highly flammable material, requires strong safety parameters and that can be achieved with application of our GIS solutions.

- Pipeline network survey and mapping
- Oil/gas pipeline route network information system
- City gas distribution management system
- Pipeline integrity management system
- SCADA/PLC automation/ data acquisition & monitoring
- Logistics fleet performance monitoring and management system
- Consumer mapping & spot billing
- Inventory/spares/ spools inventory / WIP management system
- ERP & third party system integration

GIS Solution for Ports

The GIS in marine transportation are used in varied areas namely:

- **Port Design, Infrastructure and Expansion Planning:** High resolution digital models helps in planning construction and development activities.
- **Facility and Utility Management Property:** GIS supports coordination and communication tasks through network for actual tracking of the ports vehicles. Internal port utility information such as electric line, fire, fuel, water, telephone , drain etc.
- **Asset Management:** Advanced Asset Management systems can improve bottom-line profitability of the port. Best allocation of limited resources maximize the use of asset investments and resources by gaining awareness of current conditions and life cycle predictions.
- **Port Security Improvement Using GIS:** GIS integrates multiple sources of information, displays results on a map or satellite image, and delivers the resulting situational awareness on a secure network.
- **Lease Management:** It helps to evaluate performance of leases annually based on financial viability, minimization of environmental impacts and maintenance of the facility. Tenure of lease, total profit etc on a single application will help in decision making of Port management.
- **Meteorological Monitoring:** Weather forecasting and cyclone monitoring, can be linked to the web application, so that in case of any bad weather situation or any other hazardous cases, the port can get alerts and the necessary steps can be taken to minimize the losses

GIS Solution for Power



GIS technology allows developers to easily design executive dashboards for management that allow uncomplicated data access. consumers can visualize up-to-date infrastructure data, load management, power demand, outage information, land leases, schematics and more, which helps them quickly identify network efficiency and opportunities for transmission line management and expansion.

The following utility applications are integrated with the GIS application:

- Customer Information System
- Asset Management System
- Trouble Call Management System
- Utility Billing and Energy Accounting System
- Load Flow and Load Growth studies

Water Distribution Management System

Scarcity of water is a real problem in big cities because operating cost for water distribution is very high and most of the water supply systems have large quantity of unaccountable water. All this can be prevented and the system can be made more efficient with our solution.

- **Pipeline Integrity Management System:** System will display the pipeline network along with other administrative boundary layers on map along with related information integrated with the centralized database.
- **Document Management:** Centralized repository of documents, facility to upload and download documents pertaining to network and user authorization.
- **Supervisory Control and Data Acquisition:** It is a technique for quickly and accurately identifying the operational status of water supply and sewerage facilities. Automatic control enables smooth and smart operation of the facilities, making it easy to achieve the target water quality and conserve energy.
- **Leakage Identification and Management:** Leakage information can be collected by the survey and other robotic tools and by that information the pipelines can be replaced to avoid any disastrous situation.
- **Outage Management System:** It helps to reduce restoration time, improve operational efficiency, enhance safety and aids easy maintenance.
- **Consumer Mapping & Spot Billing:** Customer information is available at one place, errors are eliminated and bill is available immediately.

Utility Mapping and Management



Utility management is one of basic need of the modern infrastructure management. Investment made on different utility supply lines will be useful in planning many sectors such as Land, Transportation, water supply, infrastructure etc.

- Water Supply, Sewage and Stormwater drainage lines
- Overhead and underground Power & Telephone lines
- Oil & Gas pipeline

Architecture Diagram



Key Benefits and Objective Served

- Using the route optimization feature ensures that vehicles use the most efficient routes when going from site to site.
- Prevent pilferage as well as improve operational efficiency of the entire dispatch cycle along with production system.
- Pull geospatial data from all your sensors into one analytical system that produces shareable, focused, meaningful maps.
- Mitigate boundary violations issues and avoid potential business risks arising out of such violations.
- Online Evaluation of nearby Emergency Response Centers within defined range of concerned area.
- This immensely helps in sharing information resources and reduces redundant data sets.
- Decisions can be made with more confidence and conviction based on detailed information through GIS.
- GIS pollution data, forest mapping and other environment data helps in future planning and it can help tackle many current world environmental crisis.
- GIS solution for water management can make current water distribution system more efficient and leak proof.
- GIS can be used to analyze public health care facilities and patient need, mapping of disease affected area can help in tackling future outbreaks.

Differentiators

Subject Matter Expertise

The team brings extensive research and application principles to guide clients in proper implementation and execution of the project. Providing the best technological solutions help organizations achieve their business objectives.

Innovation

Constant effort of bringing new technologies by anticipating future consumer behavior and risk factors helps in making future – safe investment and realization time. Experience working at Different levels ensures that the solution is well integrated.

Broad Project Experience

Infinium has completed numerous projects across various geographic areas; the understanding of various business needs along with policy risks and compliance factors help the projects to run on scheduled time and avoid disruptions.

Product Fitment

Infinium offers a clearly differentiated product that is secure, flexible, compliant, robust and scalable. The services offered with the customization options guarantees a strong fit with the business model.

Clients


- Department of Geology and Mining, Govt. of Tamilnadu / Electronics Corporation of Tamil Nadu Limited (ELCOT)
- Department of Mines and Geology, Govt. of Karnataka
- Jamnagar Municipal Corporation
- Adani Enterprise Limited (AEL)
- Gujarat Gas Limited
- Ahmedabad Municipal Corporation
- Bhavnagar Municipal Corporation
- Gujarat State Petronet Limited (GSPL) / SKP Projects
- Guj Info Petro Limited (GIPL)
- Gujarat State Petroleum Corporation Limited (GSPC)
- PT Lamindo Inter Multikon
- HET Graphics
- Manan Agro Private Limited
- M.S. Granites and Exports
- Oil and Natural Gas Corporation Limited (ONGC)
- Cairn India Private Limited
- Apex Spatial Tech Solutions Private Limited
- Oil India Limited
- PetroIT Limited
- Wapcos Limited
- Rajasthan Police Academy
- Ahmedabad Municipal Transport Service


Certifications






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