SGL | SCANPOINT GEOMATICS LIMITED

Application of GIS in
Land Record System

White Paper 2023

INTRODUCTION

The land record system holds immense importance in society as it ensures clear ownership, seamless transactions, effective planning, revenue generation, and environmental management. In this regard, GIS and remote sensing play a vital role by providing valuable data and analysis for spatial management, accurate mapping, land use planning, valuation, taxation, and dispute resolution. These technologies greatly enhance efficiency, transparency, and facilitate effective land administration.

To address these needs, SGL has developed a Land Records solution on the IGiS platform. This solution offers a comprehensive set of GIS tools specifically designed to facilitate the efficient management of land records.

Some of the key features of Land Record System in IGiS platform are:

Parcel Data Management

RoR data Integration

Survey Data Integration through Mobile Application

Digital Land Parcel generation

## Automated Mutation of Land Parcel data

Improved Land Acquisition

Real-time Land ownership records

Visualisation and Report Generation

Parcel Data Management

Efficiently managing parcel data with IGiS involves centralizing, organizing, and integrating spatial datasets. It enables data visualization, query and analysis, editing and maintenance, data sharing, and collaboration while ensuring data security. These capabilities enhance data accessibility, analysis, and collaboration, leading to improved decision-making, streamlined processes, and increased efficiency in land administration and management.
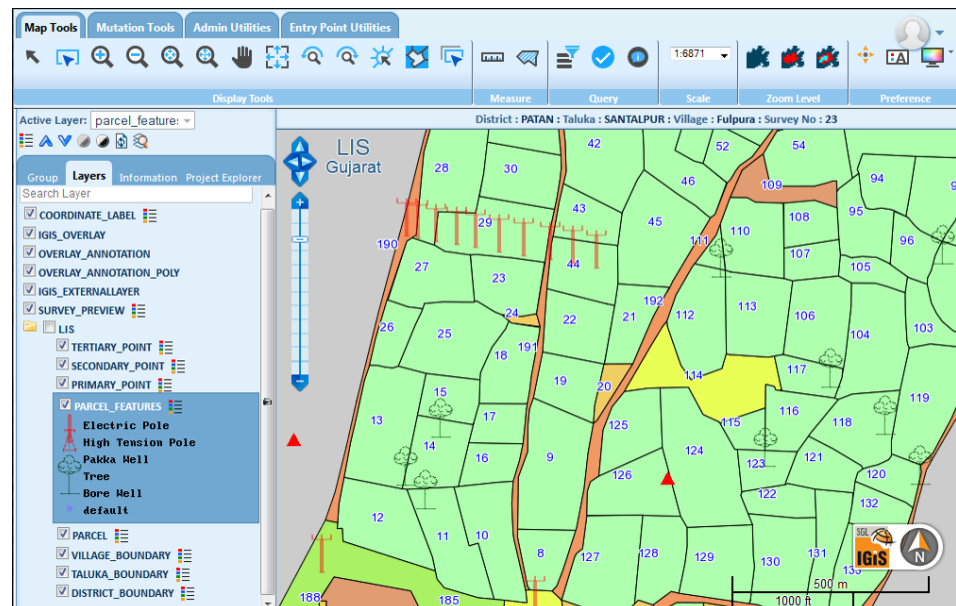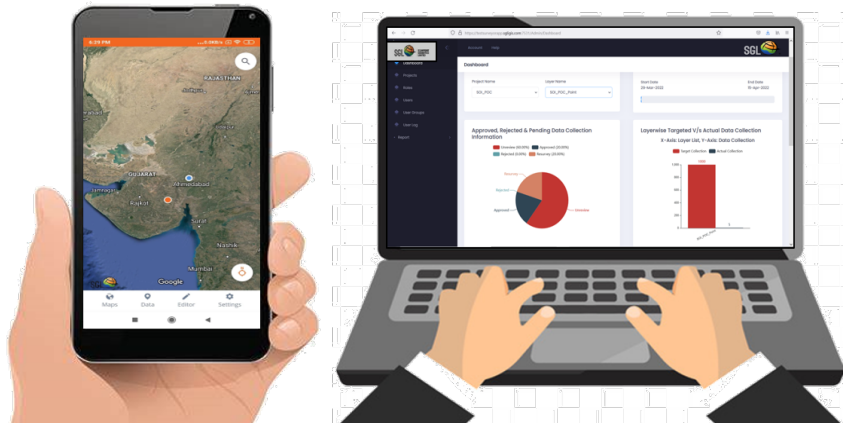

RoR data Integration

The integration of RoR (Rights of Records) data within the land management module of IGiS enables the seamless incorporation of land rights information into the system. This integration allows for a comprehensive and unified view of land ownership, boundaries, and associated rights within the IGiS platform. By integrating RoR data, users can effectively manage land records, facilitate accurate parcel mapping, support land transactions, resolve disputes, and improve overall land administration and management processes within the IGiS system.
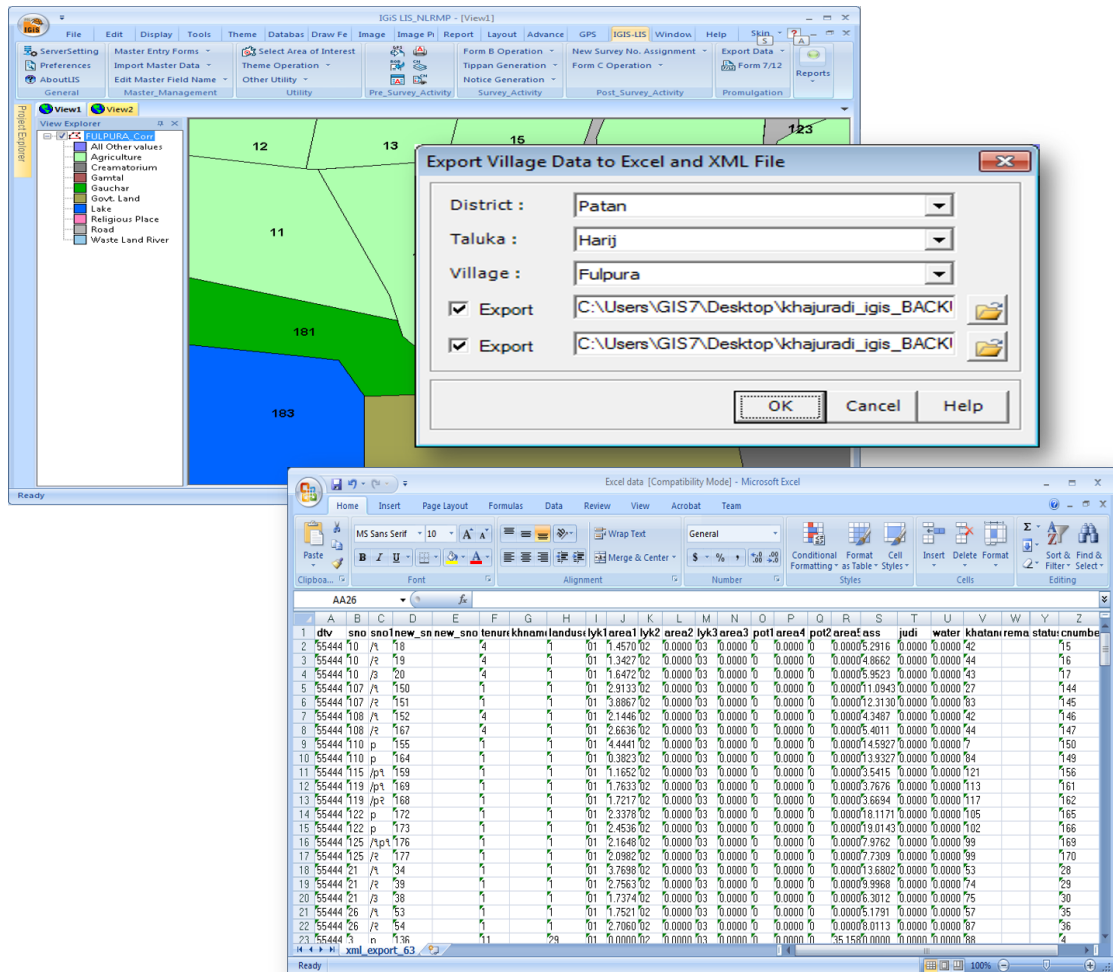
Survey Data Integration through Mobile Application

The IGiS QPAD mobile application facilitates the integration of survey data into the land record management system. It enables field surveyors to collect data directly on-site using mobile devices. The QPAD application allows for seamless synchronization of surveyed data with the IGiS system, ensuring real-time updates and accuracy in the land record database. This integration streamlines the data collection process, improves efficiency, and enhances the overall quality of the land record management system by incorporating up-to-date survey information.

Digital Land Parcel Generation

The process of digital land parcel generation using IGiS includes acquiring relevant data, integrating it with existing GIS datasets, georeferencing the layers, digitizing cadastral maps and property boundaries, associating attributes with parcels, maintaining and updating the data, performing spatial queries and analysis, and sharing and visualizing information through user-friendly interfaces. By leveraging GIS, this approach enhances efficiency, accuracy, and accessibility, ultimately improving land administration and decision-making capabilities.
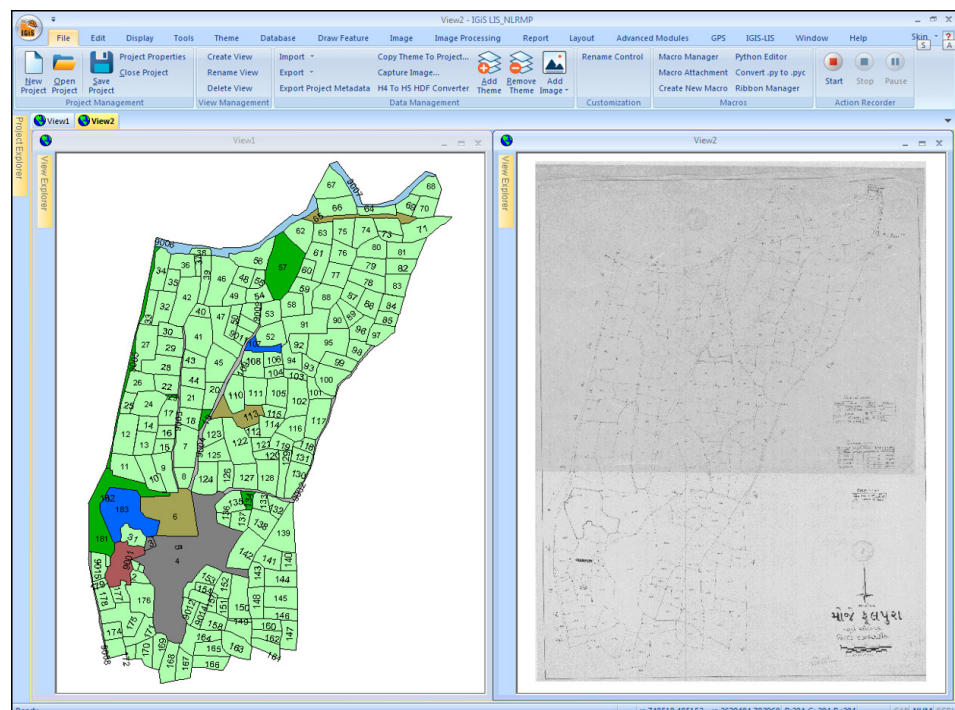
Automated Mutation of Land Parcel data

Automated mutation of land parcel data using IGiS involves efficiently updating and modifying land parcel information. The process includes data acquisition, integration, detection, automated mutation, quality assurance, data integration and visualization, and documentation. By leveraging IGiS's automation capabilities, manual effort and errors is reduced, enabling timely updates and accurate land administration.
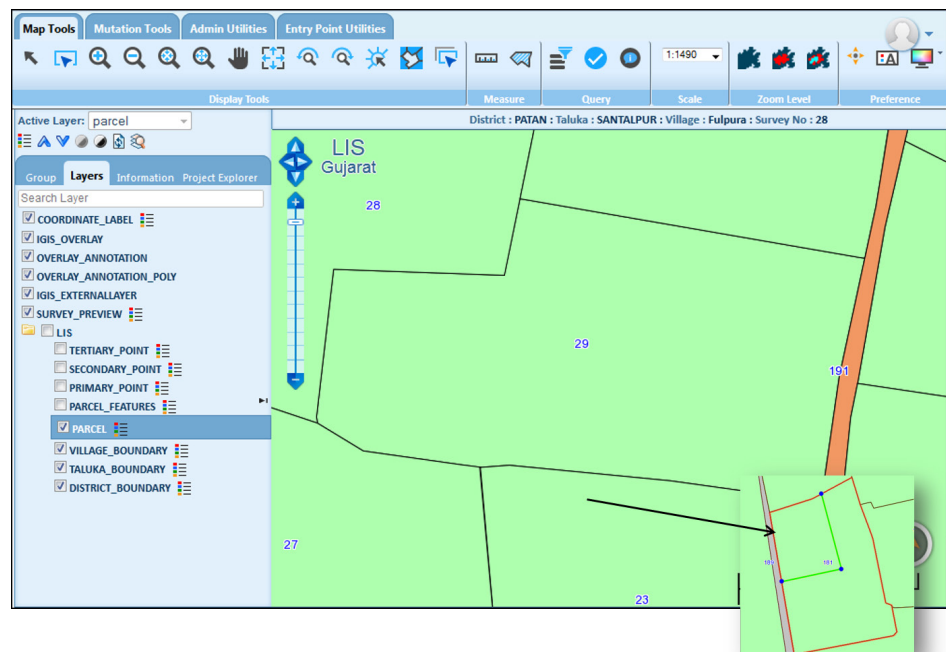
Improved Land Acquisition

IGiS can enhance land acquisition processes through efficient data management, spatial analysis for site selection, visualization for planning, accurate land records and documentation, legal compliance integration, monitoring and reporting capabilities. By utilizing IGiS, land acquisition can be improved in terms of efficiency, accuracy, transparency, and compliance, facilitating better decision-making and effective management of land-related information throughout the process.
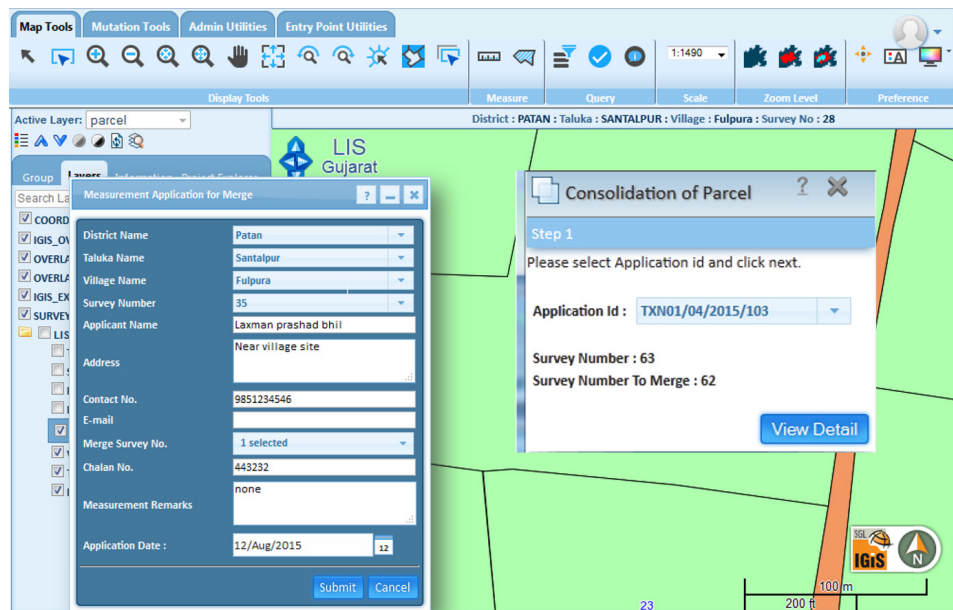
Real-time Land ownership records

Implementing a real-time land ownership record using IGiS in a land record management system involves integrating ownership data, processing real-time updates, automating data validation, visualizing data on interactive maps, generating notifications, ensuring user access and security, and integrating with official land registration systems. This implementation enhances accuracy, transparency, and accessibility of land ownership information, enabling stakeholders to make informed decisions, improve land administration efficiency, and mitigate disputes or conflicting claims.

Visualisation and Report Generation

The Land Record System Module in IGiS enables users to easily visualize a parcel map and generate reports such as LPM, 7/12, notice encroachment register form etc. in PDF format. These reports contain essential information such as land owner details, chalta number, and khata number for a specific land parcel. Additionally, the report can be customized further as per the user requirement. This functionality enhances user understanding and facilitates efficient data comprehension.

CONCLUSION

Thus, IGiS with its comprehensive GIS capabilities enhances the efficiency, accuracy, and accessibility of land record management, by incorporating spatial intelligence into the process. It facilitates effective decision-making, supports land administration, and contributes to sustainable land use planning and development.

ABOUT
Scanpoint Geomatics Limited

Scanpoint Geomatics Ltd. is the leader in the Indian Geomatics Industry. We pioneer the nation's geospatial domain through IGiS. An indigenous technology that brings GIS, Image Processing, and Photogrammetry together on the same platform under the Make in India Initiative. We are proud of our partnership with the Indian Space Research Organisation (ISRO). With an innovative approach and over two decades of rigorous research and development, the duo developed the IGiS platform. Backed by ISRO's domain expertise, we aim to push forth innovation and uplift the global geospatial domain.