CYIENT
Nothing Less



Making Urban Assets Visible:

GIS-led Intelligence Transforming Municipal Services in Varanasi

Business challenge

Rapid urban growth increased the complexity of managing property, water, and sewerage assets across Varanasi's five major zones. Property tax assessments relied on legacy systems, while manual receipt posting introduced administrative errors and revenue loss.

The city needed a scalable, secure, and map-based system that could provide a single source of truth for municipal assets, enable accurate tax assessments, and improve service delivery. Without integrated spatial intelligence, planners lacked the visibility required to identify unassessed properties, monitor assets, and make informed infrastructure decisions.

What we did

Cyient implemented an integrated GIS-MIS platform that unified spatial intelligence and operational data, delivered end to end through the program lifecycle. Built on over two decades of geospatial and utilities expertise, the solution leveraged data automation, agile delivery, and proven Esri technologies to ensure scalability, reliability, and long-term governance.

Digital city mapping:
Developed a GIS-based digital map of Varanasi from the ground up, enabling comprehensive digitization of urban assets.

Geo-referenced asset intelligence
Used high-resolution satellite imagery and field surveys to map water and wastewater infrastructure, linking physical assets directly to spatial data.

Integrated billing and revenue systems
Enabled web and mobile-based billing and collection for property tax, water, and sewerage services through automated workflows.

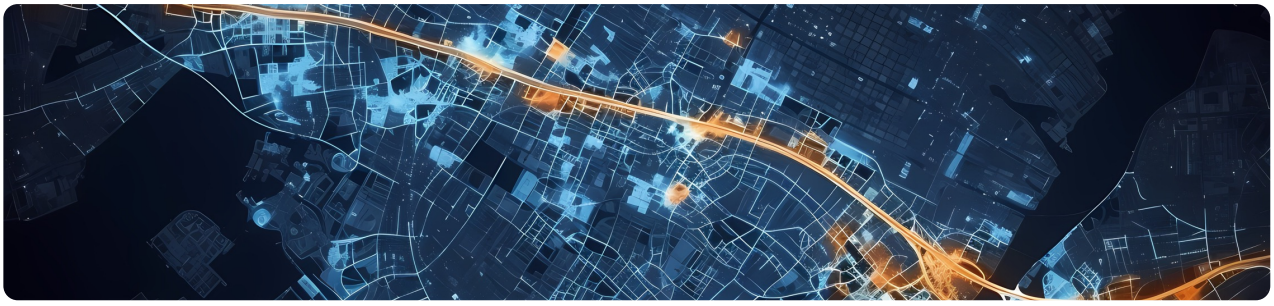
Unified decision platform
Integrated existing MIS systems with GIS to provide city officials with a single, map-based operational view of assets, revenues, and services.

Secure data infrastructure
Ensured continuous, secure access to GIS data through centralized data centers and disaster recovery safeguards, reducing operational risk and manual dependencies.

The results

The GIS-led transformation delivered measurable outcomes across people, business, and systems:

- Improved transparency and accuracy in property, water, and sewerage tax assessments
- Enabled a single-view decision platform for faster, more informed urban planning
- Increased municipal revenues by identifying lost, unassessed, and unidentified assets
- Improved reliability and quality of water supply and sewerage services for citizens
- Established a scalable foundation to integrate additional departments and smart city systems
- Strengthened data security and operational continuity across municipal functions



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