



Kalyani Group shows how GIS can help in laying the foundation for a smart city

Kalyani Group is developing one of India's largest integrated development project, "Khed City", at the outskirts of Pune in western India. This is a joint venture between Kalyani Group, Bharat Forge and Maharashtra Industrial Development Corporation (MIDC). Initiated within the framework of the then guidelines of SEZ development under a public-private partnership, Khed City (envisioned to occupy about 5,400 hectares) is being developed in phases. The first phase of development underway accounts for 100 ha as an SEZ that will cater exclusive to export-oriented industries; about 110 ha for Domestic Tariff Area; nearly 1,500 ha of Integrated Industrial Area including residential, commercial and support services areas; and more than 25 ha for rehabilitation and resettlement of the project-affected community.

The organization was facing multiple issues due to silos of information, which was affecting the speed of the project. Data was decentralized with each department responsible for maintaining its own data, developing its own standards and procedures, and managing its own personnel resources. Apart from this, there were issues related to data integrity as the files were stored in a central file server, as well as individual desktops. To add to the complexity, data was stored in different file formats.

HIGHLIGHTS

- ✓ Efforts for manual tasks have been reduced by 43 percent
- ✓ Project planning efforts have been reduced by 45 percent
- ✓ Time for searching data has come down by 52 percent; time for processing data has come down by 48 percent

To resolve these issues, the group implemented a web-based Geospatial Information System (GIS). It established a centrally managed Geographic Database and GIS Architecture usable by multiple stakeholders. It then integrated GIS with other business systems like ERP and CRM.

The system includes regional data derived from external sources including information on general location, connectivity and access to the SEZ; topographic data based on the actual mapping of the terrain carried out using satellite imageries, DGPS and total station surveys of the land for the SEZ; and planning data derived from the master plan and other detailed design plans created for internal and external features in the SEZ including revised layout and subdivisions of plots and various utility networks proposed.

MIS reports/ internal financial reporting systems and the site-logs generated via GIS enable continuous monitoring of the resources, erection plans and usage of material on site and its updating. This ensures that even the smallest deviations in the construction/ erection plan are captured in advance. This has resulted in negligible (<0.1 percent) unforeseen costs. This saving is huge considering the fact that in the construction industry unforeseen costs are always projected at 10 percent of

SNAPSHOT

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Project: Geospatial Information System Implementation for Khed City
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the project cost.

Earlier, multiple CAD software tools were used for viewing different information. Post deployment of GIS, all the end users refer to a single system, which has reduced expenses in managing these tools. This system also allows end users to access all drawings online, which has significantly reduced printing and storing efforts. Due to the availability of multilayer information of utility network, operational expenses have come down as the exact location of utility is now available.

Prior to GIS deployment, data duplication resulted in errors and significant costs on account of maintaining multiple copies of the same data. The problem has been resolved post deployment of the system. In addition, the system has provided new analytical capabilities including what-if analysis tool.

The GIS system is also being considered by other Kalyani Group companies. For example, the group's Wind Energy Company has plans to utilize the system for land acquisitions required for wind farms and to map existing assets on the GIS platform. **IN**