



Reliance Infrastructure Limited

GIS Integrated with SAP and SCADA

CASE STUDY



CHALLENGE

Rlnfra had scattered asset and customer data. The company wanted to improve work order and outage response time, thereby increasing customer satisfaction.

RESULTS

- Data that was once scattered among SAP, SCADA, and other systems is now integrated with GIS.
- Work order and outage response times have significantly improved along with an increase in customer satisfaction.

"GIS is the only system we found with the potential to represent reality and assist with complexities encountered in the field, which makes it an ideal IT for power distribution."

Prashun Dutta

Senior Executive Vice President of IT and Quality for Reliance Infrastructure Limited

Reliance Infrastructure Limited (Rlnfra) distributes electricity to more than 25 million consumers across India, including in Delhi and Mumbai. The company generates, transmits, and trades electricity from power stations in Maharashtra, Andhra Pradesh, Kerala, Karnataka, and Goa. Rlnfra is also working with partners to construct power plants as an emerging lead player in the engineering, procurement, and construction (EPC) segment of the power sector.

The Challenge

Rlnfra's electric distribution network has a dispersed and complex nature. The company's assets are spread out among scattered customers and work sites, each with specific and diverse needs. To accommodate its unique situation, Rlnfra needed a complete system to map, model, and manage its assets, maintenance, and operations.

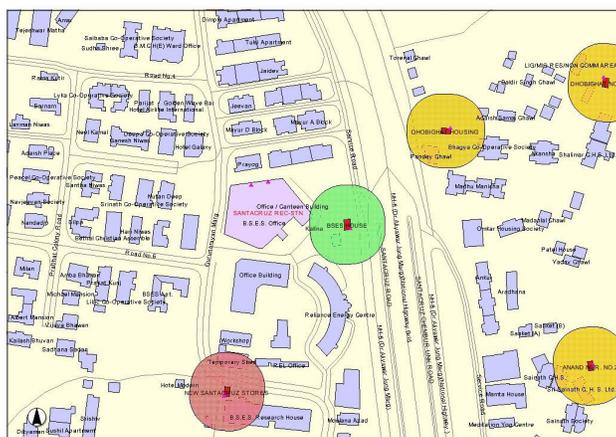
Rlnfra also needed to streamline its work order process—increasing accuracy of its data and improving outage response time.

The Solution

Rlnfra selected a geographic information system (GIS) platform from ESRI. To ensure fresh data and enable better analysis for decision making, the company integrated GIS with its SAP® business software and supervisory control and data acquisition (SCADA) system.

"GIS is the only system we found with the potential to represent reality and assist with complexities encountered in the field, which makes it an ideal IT for power distribution," said Prashun Dutta, senior executive vice president of IT and quality for Reliance Infrastructure Limited.

A technical team at Rlnfra integrated GIS with SAP plant maintenance (PM) and billing/customer care and services (ISU/CCS). All integrated modules are Web enabled and allow one-window access to functionalities from anywhere. The Microsoft® .NET Framework allows the creation of Web services within SAP. GIS applications use these Web services to



Rlnfra uses ArcGIS® technology for disaster management such as flood analysis.

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ESRI SOFTWARE USED

ArcGIS Desktop
ArcGIS Schematics

OTHER SOFTWARE USED

SAP R/3
Telvent Miner & Miner Network Adapter
Telvent Miner & Miner Conduit Manager
Microsoft Visual Studio®
Microsoft .NET Framework

DATA USED

SCADA
SAP PM
SAP ISU/CCS

HARDWARE

Standard PC

FOR MORE INFORMATION



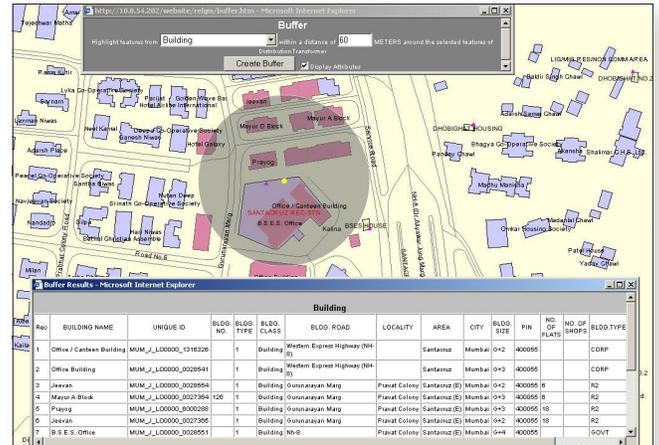
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provide multiple user functionalities including equipment history, creation of work orders, data table loading, and customer billing information.

Rlnfra then integrated GIS with its SCADA system to enhance the problem-solving capability of the network by allowing real-time data analysis and updates from the GIS.



Within its GIS, Rlnfra creates buffer zones around a distribution transformer.

The Results

The integration of SAP and GIS immensely helps staff identify work order locations and find related faults, thereby reducing the resolution time and increasing customer satisfaction.

Rlnfra field crews now rely on GIS-based operations and maintenance applications to manage both planned and unplanned outages and perform energy audits for accounting reports. Decision makers rely on the GIS for a visual representation of the network, facility search options, and work order management.

Because of the GIS/SAP integration, SAP notifications and work orders can be retrieved through GIS along with technical data for equipment maintained in SAP. Customer data can be retrieved from SAP based on service points selected in the GIS. Notification of outages and work orders based on customer calls are also enabled through this integration.

"The integration has given us various parameters that, through a common window, help us plan and analyze the network, leading to higher productivity and a reduction in the time required to execute a task," Dutta said. "This allows more effective problem solving and faster, better service to our customers."

Learn more at www.esri.com/electric.