Adani Group Plans Building India's Largest Commercial All-weather Port with ArcGIS

Client
Adani Enterprises Limited

Industry
Ports

Organization Profile
Adani Enterprises Limited (AEL) is the flagship company of the Adani Group, driven by the philosophy of incubating stellar infrastructural asset catering to underserved sectors of India. Its diversified portfolio is broadly split into 4 sectors like 1) Energy & Utilities, 2) Transportation & Logistics, 3) Consumer Goods and 4) Primary Industry with other emerging businesses. AEL is recognized as India's largest listed business incubator and known for their successful execution of large-scale projects in the energy and infrastructure sectors in India. These businesses are a balanced combination of well-established ventures and emerging enterprises, all dedicated to meeting the evolving needs of India. AEL is presently focused on businesses related to airports, roads, water management, data centres, solar manufacturing, defence and aerospace, edible oils and foods, mining, integrated resource solutions and integrated Agri products.

Project
Land Information System

Website
www.adaniports.com

> "The GIS-based system has helped us to achieve maximum efficiency in decision-making and planning, data distribution and handling, eliminating redundant data, integrating information from many sources, generating new information via complex analysis/queries involving geographical reference data, and updating data quickly and correctly."
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> **- Rajesh Goswami, Deputy General Manager, Adani Enterprises Limited**

Project Summary

Adani Group has incorporated a major project of Mundra Master Planning and Development using ArcGIS. The project consists of a port and an industrial hub in the gulf of Kutch, which is currently operational. It has vital scope for future development along with an impact on surrounding (Influence zone).

Spatial planning using GIS technology has helped the organization in successful planning of the port and industrial hub operations with feasible future expansions and eventually becoming one of the largest commercial all-weather ports in India with state-of-the-art infrastructure and the largest coal import terminal which provides faster cargo evacuation and minimal turnaround time.

Challenges

Before the implementation of the GIS System, the major challenges for the organization were retrieving necessary information for any concern, and managing incompetent reconciliations as information was scattered with multiple stakeholders, and end users had limited accessibility. To resolve these challenges, the company required a common base. It needed an enterprise level Geographic Information System (GIS) system designed for gathering, storing, processing, analysing, organising, and visualizing location specific information on geographic maps.

Solution & Benefits

GIS technology became an appropriate tool to create a common location-based information system that facilitated data collection, compilation, conversion, development, validation, storage, analyses and visualization. The system enabled integration of data from multiple data sources and stakeholders, leading to enhanced collaboration and informed decision-making.

The following are the major advantages of using GIS in the Mundra Master Plan:

- Visualization and Interaction with dynamic data.
- Support to everyday operations (engineering, planning, land sorting, security, environment, port lease management, and others) with geo-referenced information.
- Visual support to port operations allowing real-time display of ship movement.
- Incorporation of rules and restrictions related to manoeuvres, berthing requests, and infrastructure availability.
- Access to information across the organization and integrate with existing legacy systems.
- Improvement in the effectiveness of existing procedures.