CITY LAYERS

An Integrated Platform For Geo-Enabling E-Governance

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BACKGROUND

‘Development is all about people, who they are, where they live and how they live.’

A new generation Geo-enabled Decision Support System (DSS) would prove to be a vital tool for G-governance and help in

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<th>Revenue Generation</th>
<th>Real-time Monitoring</th>
<th>Large Data Handling</th>
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- Haphazard road digging activities
- Unassessed properties within municipal boundaries leading to leakage in Revenue
- Lack of digital Complaint Redressal system
- Unattended garbage collection causing grievances to citizen
A GLANCE INTO CITY LAYERS

01. Variant of ‘Layers’ Web GIS Enterprise Platform

02. Departmental modules for Urban Local Bodies

03. Cross Browser, Cross-Device and Cross-Platform

04. Built on OGC compliant Open Source Technologies

05. Cert-in Certified product

06. Already implemented at: VMC, BMC, AMC, DDA and ongoing at PCMC
SALIENT FEATURES OF CITY LAYERS

- Supports multiple projects and projections
- Single Sign-On functionality using LDAP
- Maps rendering in WMS format for best performance
- Centralised data repository
- API based Integration capabilities with ERP, IoT, VTS, SCADA etc.
- Enhanced Data Security
### Functionalities of City Layers

#### Layer Management Module
- Layer switcher
- Layer styler
- Attribute table

#### Basic GIS Tool
- Zoom in / out
- Measurement Tool
- Dynamic Basemaps
- Information tool
- Select Tool

#### Advanced GIS Tool
- Routing options
- Network Tracing
- Buffer Tool

#### Query Module
- Attribute Query
- Spatial Query
- Bookmark

#### Dashboard
- Maps and charts
- Geopdf Printing
- Report Generation

#### Spatial Editing and Validation (QGIS and Web)
- Attribute Query
- Spatial Query
- Bookmark

#### Advanced Features
- Raster Processing
- LiDAR Data and pano viewer
- 3D visualizations
- Integration Module
- PDM Module
ASSET MAPPING AND VISUALIZATION

Fig.2 A schematic representation of the Utility Mapping
Enhanced Integration capabilities helps the government to determine the Tax defaulters

Fig.3 An illustration of ERP Integration Capability
Integration with Complaint Redressal system to map and monitor the status of the complaints for each department

INTEGRATION CAPABILITIES: ERP

Complaint Redressal

Fig.4 An illustration of ERP Integration Capability
INTEGRATION CAPABILITIES: IoT

- Integration with SCADA to visualise and monitor water quality parameters like - PH, CL, Turbidity and quantitative parameters like flow, pressure and Level parameters
- Evaluate Overhead Reservoir Tank Capacity and per capita consumption

Fig.5 An illustration of IoT Integration Capability
INTEGRATION CAPABILITIES: IoT

Air Quality

Integration of IoT with Air-Quality sensors to visualize its real time status for various pollutants across the region.

Fig.6 An illustration of IoT Integration Capability
INTEGRATION CAPABILITIES: VTS

Solid Waste Management

Service Area Mapping

Tracking Vehicle paths through Routing

Fig.7 An illustration of VTS Integration Capability
NOC Certificate Generation from concerned departments to take permission before commencing any field work

Fig. 8 An illustration of PLAN, DIG & MONITOR Module
GIS ENABLED SERVICES FOR CITIZENS

Helping Citizens to locate various:

- Landmarks
- Heritage Sites
- Health services, public spaces, education institutes, etc.
- Ability to locate shortest path to the facility

Provides details about recent advances pertaining to lifestyle and entertainment viz., amphitheatre, swimming pool, auditorium, town hall, etc.

Fig. 8 A schematic view of the Citizen Portal of the City Layers
CLIENTELE

Fig. 1 Application Suite
ACCOLADES

- Best Research Paper Award: FOSS4G, Asia Conference, Sri Lanka in 2018
- Vadodara Smart City GIS project – Best GIS Project in a smart city in India 2019
- India Smart Cities Awards Contest 2020 (GIS Governance – Vadodara)
- “Best GIS Product Solution” Award: GESIA Annual Awards for Excellence in ICT 2022
THANK YOU

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