Unlock the Power of Data with

Techwave's ISM Framework for Utilities

Techwave's Integrated Support Model (ISM) transforms BAU Data Maintenance into a strategic advantage. By unifying governance and operations across GIS (GE Smallworld, ESRI, etc.), ERP, and ADMS platforms, our framework ensures data integrity, seamless interoperability, and real-time visibility. Utilities gain the precision, agility, and confidence needed to deliver reliable service and drive operational excellence.

Core Components of ISM

Data Integrity & Quality Assurance

Structured asset data capture and automated validation workflows leveraging CIM, EQA and custom quality tools

System Synchronization

Alignment of ERP asset hierarchies and work orders with GIS and ADMS platforms for consistent data across systems

Rapid Geospatial Updates

Timely updates reflect evolving field conditions, reliable outage mobility, real-time grid visibility for uninterrupted service, new connections, asset replacements & retirements

Defect Prevention & Continuous Improvement

Automation-driven defect management, process optimization and ongoing training

GIS Data Maintenance in Utilities

A well-maintained GIS, can reliably locate underground and above-ground assets, supports outage and incident management. It enables effective capital planning, and integrates with ERP, OMS, SCADA, and AMI systems.

As utilities move towards AI-powered tools, accurate asset data becomes even more critical, helping in safe operations, fast emergency response, regulatory compliance and efficient field work. By integrating AI into the data lifecycle, utilities can not only keep asset information accurate and up-to-date but also uncover issues before they impact operations.

How AI is helping GIS maintenance workflow:

- Automated quality checks that compare attributes, geometry, and relationships across datasets to flag inconsistencies or missing information

- Predictive data validation that identifies likely errors based on historical patterns and recommends corrections

- Intelligent change detection that uses imagery, LiDAR, or field inputs to spot asset changes and trigger updates automatically

GIS maintenance ensures that every change in the field - new construction, retirements, inspections, repairs, pole replacements, meter swaps, or switching device updates are accurately reflected in the utility's authoritative digital systems.

What the Service Includes

Routine updates to network asset data (electric and gas), including structures, conductors/pipes, equipment, easements, valves, meters, vegetation clearances, and connectivity

Work order & inspection reconciliation, converting as-built drawings, redlines, and inspection records into accurate GIS and asset registry updates

Quality assurance & validation (topology checks, schema compliance, connectivity, and attribute completeness)

Integration updates between GIS and asset management systems (e.g., GIS-to-ERP syncs, network model updates)

Backlog cleanup & data corrections from field audits, LiDAR, mobile mapping, or system migrations

Support for capital projects, ensuring that design-to-as-built workflows maintain data quality at every stage

Governance & standards enforcement, ensuring adherence to naming conventions, asset hierarchies, symbology, and utility data models

Business Outcomes

Improved Operational Efficiency
Streamlined workflows and automated data synchronization reduce manual effort and errors.

Enhanced Reliability & Resilience
Accurate, real-time data supports outage management, switching, and emergency response.

Regulatory Compliance & Audit Readiness
Robust governance and documentation ensure compliance with industry standards.

Cost Optimization
Reduced downtime and resource wastage through proactive maintenance and accurate asset tracking.

Better Decision-Making
Consistent data across platforms enables informed planning for maintenance, capital projects, and grid operations.

Integration Dependencies

Enterprise GIS
Publishes validated data to ERP, ADMS, WMS such as location, connectivity, core attributes

ADMS
GIS for topology and operational status

ERP/WMS
GIS for asset IDs, work order closure, inspection scheduling, maintenance history, cost, inventory

Mobile GIS
Pulls latest topology, shares maps, photos, checklists

Why Techwave?

Since 20 years, with 500+ clients, operating across 5 continents, Techwave is empowering world's largest businesses to turn their business challenges into opportunities of success. With our vast experience & expertise in Cloud, Data, Engineering, Automation & AI, SAP, and Application Development, we are enabling digital transformation for our clients.

We enable utilities to modernize networks faster, cost-effectively, and in compliance with industry standards. Our capabilities in data management, LiDAR processing, and geospatial SAP integration deliver accuracy at scale and reduce rework. AI-driven automation and field tools keep the physical grid and ADMS model in sync, prevent data drift, enhance operational safety, and simplify audits with a complete asset lineage—ensuring resilient, future-ready infrastructure.