

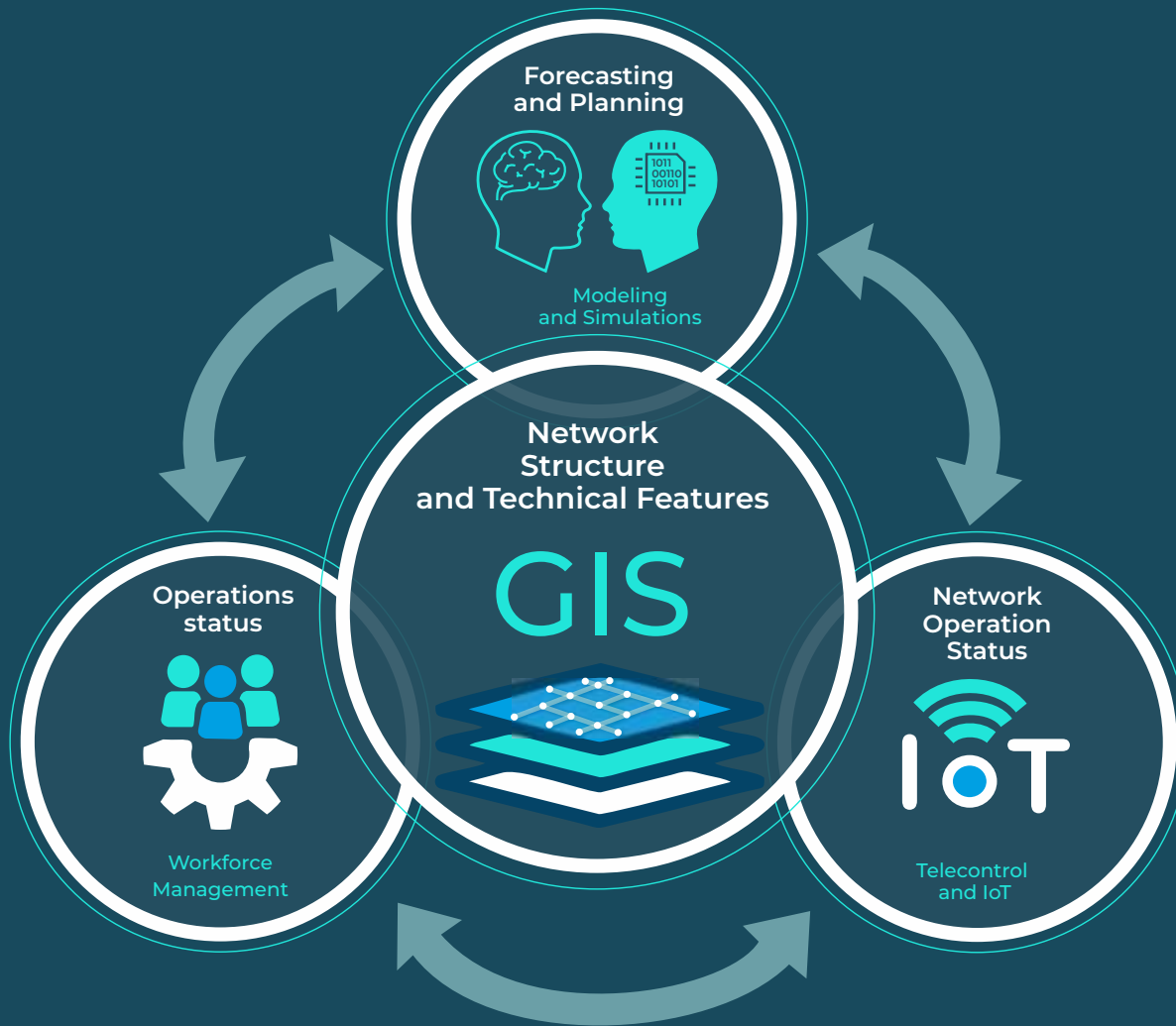


Smart Gas  
Management System





# SMART MANAGEMENT OF TECHNOLOGICAL NETWORKS



The revolution of traditional business models has also involved energy supply chains such as gas. From dispersion risk management to ATEM tender projects, digitization is becoming an indispensable element for Network Operators.

SGMS is an ever-evolving system that integrates data from multiple sources (SIT mapping, sensors, works management, redelivery points, customer databases, ...), state-of-the-art technologies, and accurate, flexible, and configurable design.

In this way, SGMS realizes a true "digital twin" capable of ensuring a complete knowledge of the network, processing huge volumes of data with very high performance, interfacing with enterprise systems and providing analysis and forecasting with multichannel access: a valuable tool to ensure Managers efficiency, safety, quality and competitiveness.



SGMS provides Gas Distribution operators with a holistic view of the physical system and all key processes. Its ability to combine multiple applications ensures constant monitoring and continuous improvement of assets, operations, and services.



### AT THE CORE ARE GIS TECHNOLOGIES

- Maps, searchable tables, and thematic layers
- Natively provided or externally integrable
- Network tracing and asset consultation

### PHYSICAL-MATHEMATICAL MODELS FOR WHAT-IF ANALYSIS

- Geostatistical indicators and multifactorial analytics
- Advanced tools for forecasting and scenario simulation
- Accurate planning and problem prevention



## INTEGRATION WITH IOT AND WORKFORCE MANAGEMENT

- Management of huge volumes of data on measurements and interventions
- Real-time calculation of balances, alarms, and derived measures
- Scheduling, rapid intervention, and activity tracking



## INTERACTIVE AND MULTICHANNEL VISUALIZATION

- GIS-based maps, as well as graphs, reports, tables, and dashboards
- Modeling and automatic extraction of network diagrams
- Dynamic accessibility from desktop and mobile





# A HIGHLY MODULAR AND CONFIGURABLE SYSTEM

## OUTAGE RISK AND PREVENTIVE MAINTENANCE

To plan replacements and investments thanks to predictive algorithms based on the network status, received reports, and past interventions.

## SWMS CORE BASE

Basic WebGIS functionality, Network Monitoring, Network Analysis, and Visual Analytics, for the acquisition, visualization, querying, and statistical analysis of data on location, operation, and consumption.

## SWMS CORE ADVANCED

Basic Asset Manager, for the management of fundamental network infrastructures, and WFM Monitoring regarding field activities and maintenance.

## FLUID DYNAMICS MODELING

For the management, editing, and visualization of calculation models, automatically derived from GIS, with variants and scenarios.



### **ACOUSTIC IMPACT**

Management of acoustic impact assessment of reduction plants, noise calculation model, cartographic representation, management of estimated and measured data, production of reports and KPIs.

### **NETWORK SCHEMATICS**

Network schematization, interactive visualization, automatic derivation of diagrams from GIS.

### **ENTERPRISE ASSET MANAGEMENT & AUGMENTED REALITY**

Evolved Asset Management, for complete life cycle management of equipment from purchase to decommissioning, including Augmented Reality tools.

### **GIS UPDATE MANAGEMENT**

Workflow for master information, activity tracking, and role definition in constant alignment with the actual situation.





## **LEAK DETECTION**

Tools necessary for field data collection (Picarro, Huberg, etc.), scheduled leak detection management, inspection monitoring, production of reports on the annual scheduled leak detection to be provided to the authority.

## **DISTRICTING AND SUBNETWORKS**

Management of plant districts and subnetworks to identify District Metered Areas (DMAs), calculation model based on structure, connectivity and pressure class, cartographic representation and calculation of





## **ASSET VALUATION**

For a comprehensive assessment of the network, including infrastructure and land, even from an asset perspective and with historical depth, and for the preparation of documents for ARERA and ATEM tenders.

## **CATHODIC PROTECTION**

Management of Cathodic Protection systems, creation and updating of CP systems, calculation models of protected networks, verification and cartographic consultation of systems, production of technical documentation, etc.



## NUMBERS

**3**  
CLIENTS

**+80.000**  
KM OF NETWORK

**+45.000**  
SENSORS





# THE ADVANTAGES

- GIS-centric, based on ArcGIS Enterprise
- Entirely usable via the Web
- Interfacing with various enterprise systems  
In order to collect and integrate information  
and application services
- Advanced analysis and decision support  
tools
- Modular and flexible to adapt to different  
needs and usage profiles
- Advanced, robust and scalable architecture



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through innovation

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