

CASE STUDY

# Building a Modernized Digital Foundation for a Growing Municipal Utility

Faced with aging, outdated equipment and dramatic expected growth in demand, a municipal electric utility set out to modernize its capabilities. This multiyear effort aligned core systems, data and governance to support more flexible, reliable, customer-focused utility operations.



## Challenge

In 2022, a major municipal electric utility launched a digital transformation program to advance sustainability, reliability and competitiveness. The utility was motivated by both aging technology and rapidly evolving operational demands. Its geographic information system (GIS) and its outage management system (OMS) were approaching end of life, and the organization was missing out on the broader capabilities of an advanced distribution management system (ADMS).

At the same time, the utility expected its service population to grow from roughly 150,000 to 230,000 by 2040. Residential and commercial electric vehicle adoption was projected to rise to nearly 50% over the next two decades, placing additional strain on the distribution network.

## Project Stats

### Client

Confidential

### Location

South-central U.S.

**53%**

growth expected in service population

**5**

years in implementation road map

**100+**

circuits targeted for FLISR deployment

The utility also aimed to add smart, controllable devices across the system and support community-owned distributed energy resources (DER), including solar photovoltaic systems and potential battery storage. ADMS features and functionalities are specifically designed to monitor, control and optimize these grid assets, making a modern digital foundation essential for maintaining reliability, efficiency and resiliency as the grid grew more complex.

The utility knew it had limited resources and knowledge to deliver its aspirational vision of modernizing and digitalizing its utility technology infrastructure. This led the utility to search for a partner with knowledge and experience in electric utilities and their core technologies.

## Solution

The utility engaged 1898 & Co. as the owner's engineer, solution architect and subject matter adviser across a broad, multiyear portfolio of initiatives. The work began with building a 20-year business case supported by a five-year implementation road map, centered on migration from its on-site legacy GIS to a cloud-hosted Esri ArcGIS Utility Network and deployment of Schneider Electric's ArcFM Solution XI suite. The road map also included enterprise asset management (EAM) modernization, mobility enablement, planning for an ADMS, and integration planning for DER management.

As the program advanced, we led system architecture design, GIS data model validation, data readiness assessments and software configuration support. We facilitated cross-functional coordination among utility operations, engineering, information technology and executive stakeholders to keep technology implementation aligned with operational priorities. Training support and structured change management activities helped prepare the organization for new workflows and system capabilities.

Gathering requirements and preparing documentation for a request for proposal (RFP) for procurement of the new ADMS to replace the legacy OMS platform were later added to the scope. Our planning recommended phased rollout of advanced applications such as fault location, isolation and service restoration (FLISR) and distributed energy resource management systems (DERMS) integration.

We also supported implementation and configuration for IBM Maximo, the utility's EAM platform, along with associated mobility solutions. This work required integration between asset management processes and the upgraded GIS environment. A supervisory control and data acquisition (SCADA) migration and redesign initiative was also initiated as part of the broader modernization effort.

Given the scale and complexity of the transformation, our phased governance model provided structure for executing and managing dependencies across technical and organizational workstreams. Each phase included defined objectives, milestone tracking and stakeholder review sessions to maintain transparency and support informed decision-making.

Because the effort involved significant coordination across multiple vendors and platforms — including Esri, CyberTech, Schneider Electric, IBM Maximo and Emerson — our team managed vendor interactions, aligned implementation timelines and addressed integration risks across third-party systems.

Through architecture design, interface planning and data validation efforts, our team maintained compatibility across systems and supported development of an integrated network model capable of enabling advanced grid functionality. By documenting business workflows, evaluating data readiness and planning for integrations, and thereby establishing a robust technical framework with strong data quality, the program reduced risk associated with legacy systems while creating a scalable platform for continued innovation.

## Results

Our project team provided ongoing oversight and technical consulting aligned with the utility's integrated project management methodology. Acting as an extension of the internal team, we relieved the utility of day-to-day coordination burdens while maintaining strategic alignment with long-term modernization goals.

Migration to the ArcGIS Utility Network marked the first major milestone in the utility's broader IT and operational technology (OT) modernization strategy. It improved data integrity and established a flexible GIS framework that can support integration with the ADMS, EAM and other operational systems.



The program also successfully completed the requirements gathering and issuance of RFP documentation for the ADMS, leading to vendor selection and the start of implementation activities. The IBM Maximo effort has progressed through multiple release cycles, and the SCADA migration is underway.

Together, these efforts have moved a set of separate technology upgrades into a coordinated digital transformation program with a stronger technical and organizational foundation for reliability, operational visibility and long-term grid flexibility. Looking ahead, the utility plans to deploy distribution devices and roll out FLISR on more than 100 circuits as the broader modernization and integration effort advances.

### About 1898 & Co.



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