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Innovation At Every Level

Delivering GIS Services for Today and for the Future

Implementing Modern Network Management for the Future

Seattle City Light is working to provide GIS services for its diverse customer today and for the growing demands of the future.

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About Seattle City Light

Seattle City Light (City Light) generates and delivers affordable electricity to power the homes, businesses, and communities we serve. We provide carbon-neutral electricity, generated primarily from carbon-free hydropower. And we are people, committed to making a difference and helping our community and customers thrive.

The Challenge

City Light is currently implementing Esri's Utility Network and Schneider Electric's ArcFM Solution XI Series. City Light transitioned to Esri's modern network management to support future software customers, including Advanced Distribution Management System (ADMS) and Distributed Energy Resource Management System (DERMS), that would require a more comprehensive and refined dataset. This move will also unify the organization's disparate overhead and underground electrical GIS systems into a single platform – benefiting existing users. Before implementing the Utility Network (UN), the organization faced several challenges with their existing workflow:

Data Set Limitations

Future software solutions, such as ADMS and DERMS, required a more robust data foundation. They needed to enhance their data quality to support both current and future software customers.

Fragmented GIS Systems

City Light operates two separate Geographic Information System (GIS) platforms which leads to duplicate locations for data, multiple interfaces, and teams working in different editing environments. Unifying these systems into a single, cohesive platform, 'One GIS', has become a priority. By recognizing these issues and aligning our resources, they embarked on the journey to improve their UN management.

Customer Quote

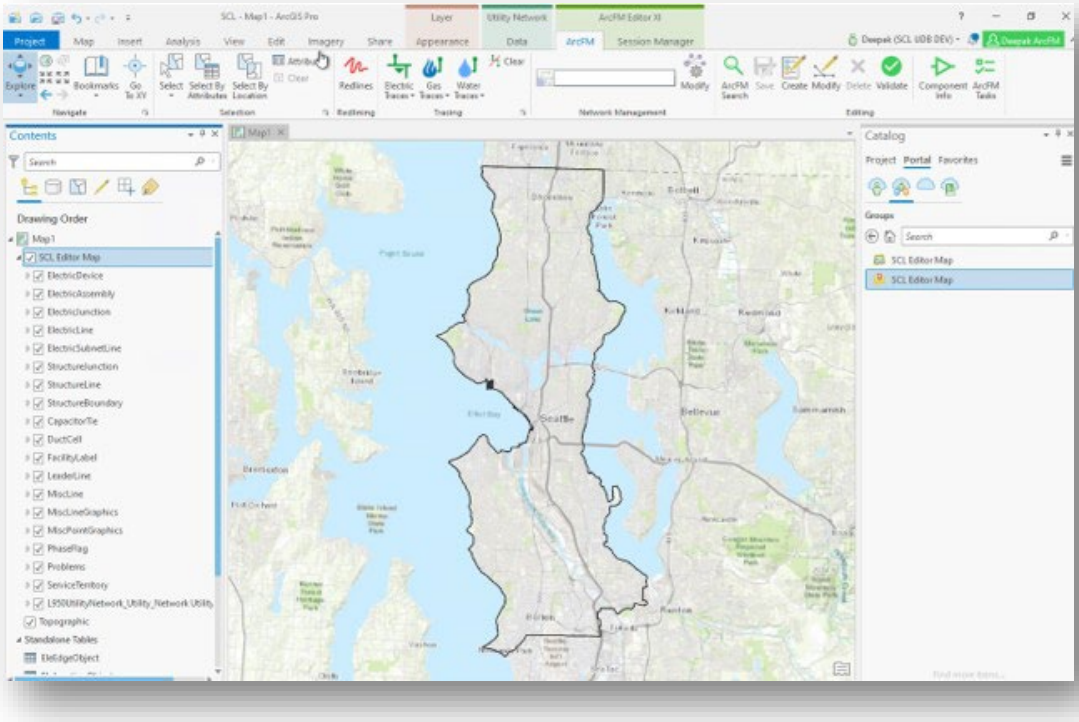
> One GIS aligns with City Light goals and visions, providing what City Light needs now and in the future.
>
> ~ David Holmes,
> GIS Services Manager at City of Seattle City Light

The Solution

City Light kicked off with a data Proof of Concept project with the goal of merging City Light's two sources of data into the Esri Utility Network, requiring meticulous data review to establish a robust data model upfront.

With the data model solidified, they embarked on Phase 1 of the project. The implementation began with configuration of ArcFM Editor XI, integration with City Light's Outage Management System (OMS) & other critical systems. Additionally, a suite of map products required configuration. They quickly realized that the current state of OMS required a rewrite of the OMS integration with UN; ArcFM Feeder Services has emerged as a critical solution, acting as middleware for GIS by distributing data to other software applications.

When complete, the ArcFM XI/Utility Network solution will create an improved GIS dataset, ultimately benefitting future systems. Implementing this in a phased approach has prioritized data integrity, user engagement, and system compatibility, resulting in a more efficient network.



The Results

City Light has already realized several benefits from the proof of concept and data migration. The proof of concept proved to be crucial in establishing a basis for data migration. During this effort, the GIS team was able to establish data rules and requirements that removed data error potential. User Acceptance Testing during Phase I revealed minimal issues—only 50 out of 1,100 test cases required attention and none were the result of data integrity.

The data modeling effort also produced the foundation City Light needed to combine overhead and underground electric distributions data into a single GIS. The insights gained from moving towards the vision of 'One GIS' have provided a roadmap for future integrations with ADMS, DERMS and other systems.

Phase II will include a data migration to the UN and replacement of the custom editing application with the ArcFM XI solution for City Light's underground electrical infrastructure.

Project Team

City Light collaborated with Schneider Electric to implement the ArcFM Solution XI Series. Additionally, they worked with RAMTeCH for the data migration.

The GIS team pulled together stakeholders from across the organization to implement the UN, fostering collaboration and the opportunity to restructure processes. Going forward, the GIS team will serve as a data hub, delivering up-to-date data to various systems throughout the company.

Additionally, within City Light, early user adoption and buy-in were crucial, so they utilized an organizational change management consultant. As they move into Phase II, change management remains a significant part of the strategy.

About Schneider Electric and ArcFM Solution XI Series

Schneider Electric is the technology and implementation partner for City Light. The ArcFM Solution Series is the most comprehensive set of utility-specific GIS applications built to fully digitize and automate the updating and maintenance of the utility's GIS. ArcFM bridges the gaps between siloed data, disconnected workflows, and isolated systems to ensure network assets are accurately modeled to feed critical systems.

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