

The logo for Ulteig, consisting of the word "Ulteig" in white sans-serif font on a red square background.

We listen. We solve.®



ASSET MANAGEMENT & OPTIMIZATION FOR REDUCED PROCUREMENT & MAINTENANCE COSTS

Infrastructure asset optimization can benefit large, complex organizations as well as smaller ones across all Lifeline Sectors®—Power, Renewables, Transportation, and Water

After decades of robust investment, many U.S. utilities, facilities and municipalities are now faced with mounting sustainability challenges to current infrastructure. Water treatment facilities, sewer lines, roads, utility grids, bridges and more are at or past life expectancy, increasing the risk of failure. Federal funding is down, imposing additional stress on state and local budgets while political pressure to reduce costs continues to grow. Regulatory issues, department staffing cuts and incomplete record-keeping all combine to amplify the seriousness of the problem. Successful asset management and optimization are essential to reduce procurement and maintenance costs today and in the near future.

THE ASSET MANAGEMENT SOLUTION

Private and public facilities and municipalities require their valuable assets provide an extended service life. These organizations need substantial capital funding to function as their infrastructure cannot be modified or replaced regularly without emergency budget allocations. For that reason, many industries use an asset management solution to create a framework for infrastructure investment planning. Utilizing an asset framework approach today can help deliver the most cost-effective solution for extending the life of long-term infrastructure assets.

ASSET MANAGEMENT PROVIDES A COST-EFFECTIVE SOLUTION FOR ACCEPTABLE PERFORMANCE OVER THE LIFECYCLE OF THE ASSET.

Asset Management is a systematic process of maintaining, upgrading and operating physical assets cost-effectively throughout their lifecycle. Structured asset management provides a number of benefits, including:

- **Improved Reliability:** By enhancing day-to-day attention to system assets and their condition, unexpected failures become less likely, reducing emergency repairs and customer relations problems.
- **Long Term System Integrity:** By relating costs to asset condition and conducting long term planning for each asset, policymakers get the facts they need to sustain the infrastructure.
- **Cost Savings:** Asset management systems that maintain infrastructure in a sound and stable condition (based on minimizing life cycle costs) can significantly reduce operating and maintenance cost, as well as long-term capital expenses. A life cycle approach means that the utility always gets the most assets for its money.
- **Improved Regulatory Compliance:** Asset management involves the implementation of better O&M practices, which can significantly improve compliance.
- **Eligibility for Federal Funding:** The apparent need for increased infrastructure spending coupled with concerns over the quality of infrastructure management prevalent in the industry has led to a range of provisions in proposed funding legislation that include requirements for asset management plans.¹

¹<https://www.newea.org/about-us/committees/asset-management-committee/am-resource-center/definitions-and-benefits-of-asset-management/>



DEVELOPING AN ASSET OPTIMIZATION PLATFORM

Implementing an asset optimization platform to capture and use data to develop insights is critical to determining an informed, prioritized investment roadmap for your organization. Elements of a successful platform must include:

- **Data Sharing & Integration**
Establish an asset optimization platform to use across an organization by leveraging GIS-centric web and mobile applications to provide quick and easy access to information and as a decision support tool. The application should integrate with other business systems such as a work order management system to ensure current data is available across business systems.
- **Inventory & Data Collection and Insight Development**
Conduct GPS inventory collection to build a GIS database of assets. The asset database will capture and maintain the data and information necessary for assessing and managing assets for day-to-day operations and for long-term planning. Use captured data and information to develop business planning.
- **Asset Optimization Services**
Develop solutions to improve infrastructure management and optimization, ranging from mapping assets (to providing tools to quickly and easily view assets) to developing a three-year roadmap for asset inventory, management and optimization. Gain valuable insights to help guide capital improvement investments and maximize assets' life cycles.
- **Discovery & Assessment**
Evaluate existing data and systems and determine next steps.
- **Analysis, Reporting & Planning**
Lifecycle modeling, risk assessment and management, capital improvement planning, master planning, forecasting and long-term asset management and optimization planning.
- **Application Development, Hosting & Maintenance**
Identify applications and data hosting solutions to fit business needs best.



WHAT IS GIS?

Geographic Information System (GIS) serves as a repository of location information and asset details, based on a web map with layers corresponding to various systems that can be updated and shared in real-time with workers in the field.

UTILIZING GIS TRACKING IN ASSET MANAGEMENT

GIS is becoming more powerful, affordable and comfortable for use in organizations interested in infrastructure asset management. Tracking infrastructure assets often falls to third party GIS consultants to obtain, with data then mapped into a web-based platform or utilized in an app for continued optimization. Utilizing this location-based tracking gives both public and private clients a method of mapping exactly where assets (utility poles, bridges, stormwater, signs, culverts, etc.) are located.

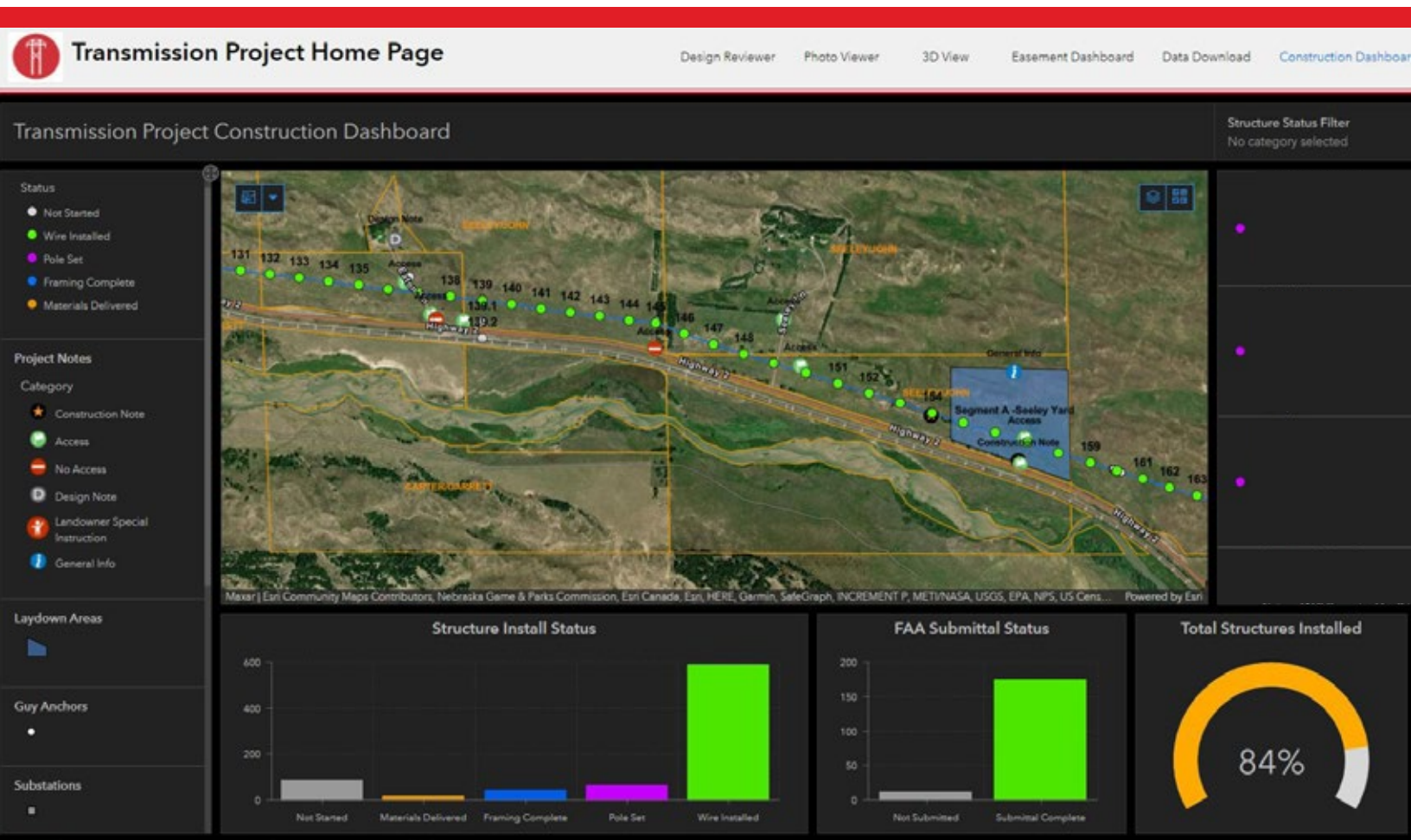
GIS PLATFORMS ARE GAINING ADOPTION AS THEY BECOME MORE AFFORDABLE AND FEASIBLE TO IMPLEMENT.

AWARD WINNING ASSET MANAGEMENT & OPTIMIZATION

Managing and optimizing capital assets in today's tight funding environment has never been more vital. At Ulteig, our asset management and optimization platforms focus on using data, information, insights, technology and engineering to manage day-to-day needs as well as identifying and prioritizing strategic asset management, investment decisions and long-term planning.

We work with all clients, across all Lifeline Sectors®—Power, Renewables, Transportation and Water and have the tools and experience necessary to capture and use data to develop insights critical to determining an informed, prioritized asset management and investment roadmap for our clients.

Asset optimization is as important to large, complex infrastructure organizations as it is to smaller businesses, which is why we work with clients of all sizes to help them reduce procurement and maintenance costs with Asset Optimization.



ULTEIG'S RECENT ASSET MANAGEMENT PROJECTS

1. GIS Application Solution for Energy Distribution

An Iowa energy client requested an in-field design methodology applied to their energy distribution upgrades across the Cedar Rapids, Iowa, area. By leveraging the latest location-based technology, Ulteig provided the company with real-time access to data throughout the project. Ulteig developed an interactive GIS application to decrease survey and design time spent in-office.

Ulteig received the Grand Prize Award in the Energy Production Category of the American Council of Engineering Companies – Iowa 2019 Engineering Excellence Awards for this project.

The results were a more collaborative and efficient distribution design service model and decreased outage times for their customers. Distribution design included:

- GIS, Survey, Transmission & Distribution, Right-of-Way collaboration
- GIS-centric approach for field-based distribution design
- Inventory, planning, right-of-way and design

2. GIS Application Solutions

The client expressed the need for an innovative design process that would increase efficiency by reducing time spent on pre-design activities and communication processes throughout the project. To address those needs, Ulteig conceptualized and executed an in-field design methodology that increased project efficiency when compared to traditional methods of project design that utilize in-office design processes.






The in-field design methodology was achieved using existing GIS application capabilities combined with modern technology like cloud-based web services, in-field iPads and survey-grade GPS receivers.

This combination of hardware and software gave the ability to quickly collect existing utility inventory data in-field, which was instantly accessible to all project participants using the real-time web or mobile database. The methodology has already seen success in decreased time spent on traditional in-office design methods and has streamlined communication between all project participants. These efficiencies have also contributed to less downtime and outages for the client and their surrounding energy consumers.

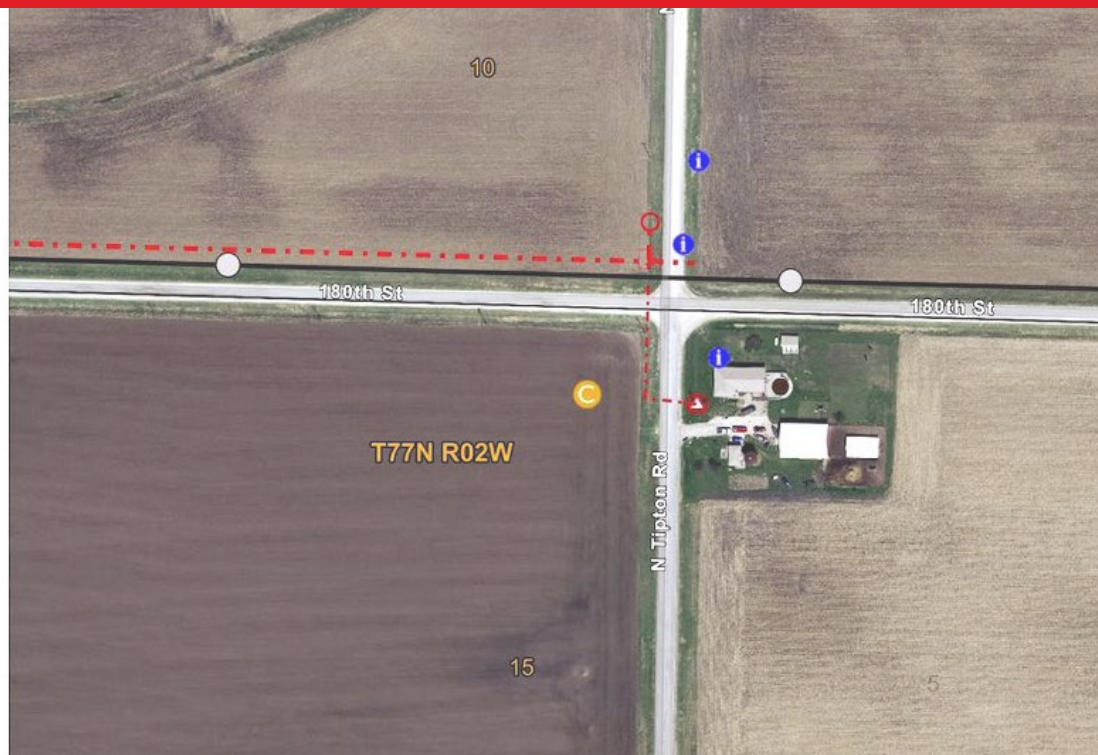
Construction Notes



Structures

-  Not Started
-  Framing Complete
-  Pole Base Set/Drilled Pier
-  Pole Top Set
-  Wire Installed

Substations



ULTEIG'S RECENT ASSET MANAGEMENT PROJECTS

3. South Dakota Department of Transportation Sign Replacement

Working with the South Dakota Local Government Assistance Office within the South Dakota Department of Transportation (SDDOT), Ulteig inventoried all signs, delineators, object markers and hazards in the County, Township and City right-of-way within Hanson County, South Dakota.

Our team of experts designed sign replacements or additions to be compliant with the Manual on Uniform Traffic Control Devices (MUTCD), federal law, state law, and SDDOT standards.

Ulteig collected information on the signs, including MUTCD sign code, sign size, sign height, post material, sign condition, sheeting type, date of install and anchor type. Existing inventoried items included 1,187 signs, 280 delineators and object markers, 210 hazards, 78 curves, 349 intersections and 347 participating culverts.

4. Construction Management Mobile App

GIS, Field Services, Project Management Collaboration. Support field operations by providing mobile apps and an operations dashboard for the Client.

5. Crowned Ridge ALTA Survey Tracker

The client required research, topographic surveying, platting, monumentation and construction management services for the construction of a 600MW wind farm project spanning three counties in South Dakota. While GIS was not originally in the project, it was utilized during the design.



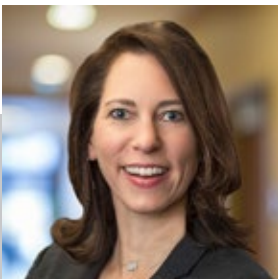


WORK WITH THE INDUSTRY EXPERTS

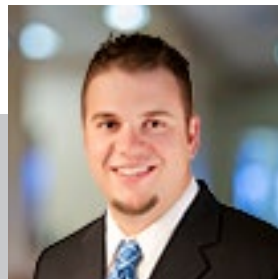
Ulteig is the vendor of choice when it comes to using data, information, insights, technology and engineering to manage your day-to-day business needs. We'll help identify and prioritize strategic asset management, investment decisions and long-term planning to help you reduce procurement and maintenance costs through asset management and optimization.

CONTACT US NOW for a FREE consultation with one of our asset management experts.

CONTACT OUR ASSET MANAGEMENT EXPERTS



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