

# INFRASTRUCTURE INSIGHTS PRO

## FOR UTILITIES

Cost and complexity of managing vegetation growth have been increasing for utilities. Driven by the struggle of climate change and the fast-approaching energy transition, there is a growing need for automating field operations. Deloitte, in collaboration with Google, has developed a scalable solution to proactively maintain vegetation surrounding critical assets in the field for utilities, oil and gas, industrial products, and others. **Infrastructure Insights Pro for Utilities**, leveraging Google Cloud tools including BigQuery, Google Earth Engine, DataProc, and Vertex AI, maintains a technology-agnostic approach, adapting to a company's existing technology ecosystem to best fit their needs.



### FIELD OPERATION CHALLENGES

Utilities with extensive field assets face challenges that require field service digital transformation to stay ahead and navigate.



**The fast-approaching energy transition**  
*Managing field assets has become more challenging and complex than ever before due to an increase of distributed infrastructure, new areas such as EV and solar, as well as ambitious public sector goals. Boosting reliability, resilience, and security all while moving to cleaner power will require a comprehensive new approach.*



**The struggle with climate change**  
*Rarely a week goes by without the collision of climate change and utilities, be it events like wildfires or extreme cold or chronic changes like drought or rising temperatures, ER&I companies are constantly challenged to re-imagine how to manage a dispersed network of diverse infrastructure. These conditions put constant stress and pressure on utilities to be agile and proactive.*



**The proliferation and complexity of assets**  
*Utilities are managing 10x times more assets than they were managing 20 years ago. Companies with assets in the field now maintain and oversee a sprawling ecosystem of assets with different maintenance needs, compliance regimes, operating scenarios, and depreciation timelines, necessitating a thorough re-thinking of how they manage and maintain their assets.*

### VEGETATION MANAGEMENT OVERVIEW

Proactive planning, monitoring, and control of plant growth in specific areas around field assets to ensure the safety, reliability, and efficiency of infrastructure.

**#1** **Single largest cause of service outages** in US per Federal Energy Regulatory Commission (FERC)

**\$100M**

**Average annual spend** on Vegetation Management by individual utilities in the US

**\$6-8B** **Estimated Annual spend** on Vegetation Management by Utilities across the US

**\$1M**

**Regulatory fine per violation**, per FERC standard FAC-003, for failure to address vegetation encroachment requirements

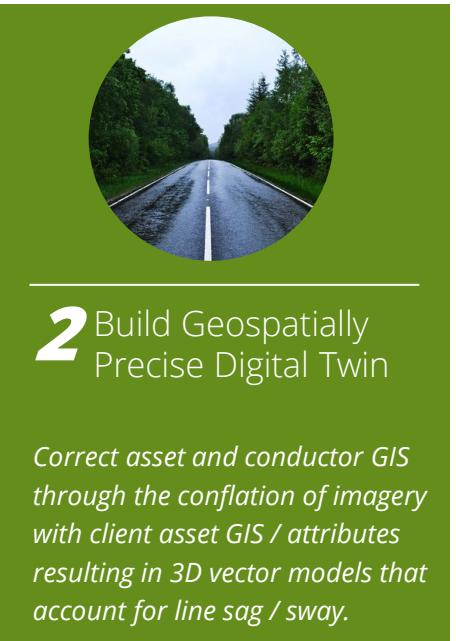
# INFRASTRUCTURE INSIGHTS PRO FOR UTILITIES OVERVIEW

Infrastructure Insights Pro's leading AI models enables Field Service operation optimization, enhanced environmental stewardship, and promotes safety.



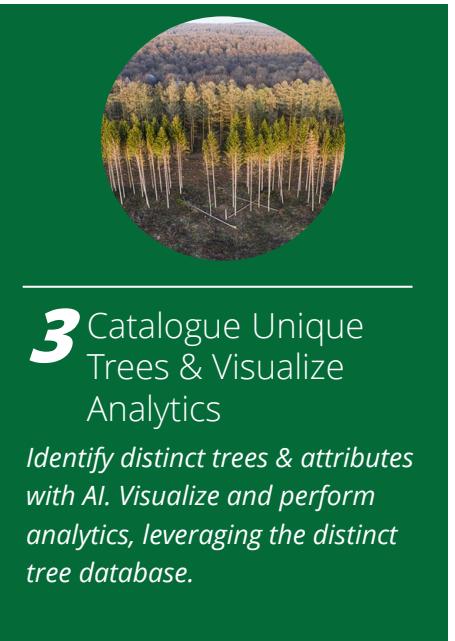
## 1 Collect & Integrate Remote Sensing Datasets

*Use-case specific datasets are curated within a hyperscaler environment.*



## 2 Build Geospatially Precise Digital Twin

*Correct asset and conductor GIS through the conflation of imagery with client asset GIS / attributes resulting in 3D vector models that account for line sag / sway.*



## 3 Catalogue Unique Trees & Visualize Analytics

*Identify distinct trees & attributes with AI. Visualize and perform analytics, leveraging the distinct tree database.*



## 4 Auto-Inspect Unique Trees & Prioritize Work

*Utilize the remote sensing imagery to automatically create risk prioritized work orders.*



## 5 Dispatch Crews with AI Optimized Routing

*Natively integrate AI work orders with various field service applications.*

## ANTICIPATED ADVANTAGES

Infrastructure Insights Pro can deliver tangible results by enabling:

**Gained efficiency** of vegetation inspections

**Reduced risk** from AI model evaluation

**Integrated field execution** by deployment within existing work management tools

## LEARN MORE



**GET  
IN  
TOUCH**

**Mike Segala**  
Principal  
Deloitte Consulting LLP  
[msegala@deloitte.com](mailto:msegala@deloitte.com)

**Travis Parker**  
Principal  
Deloitte Consulting LLP  
[tparker@deloitte.com](mailto:tparker@deloitte.com)

**Jon Leist**  
Senior Manager  
Deloitte Consulting LLP  
[jleist@deloitte.com](mailto:jleist@deloitte.com)

This publication contains general information only and Deloitte is not, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your business. Before making any decision or taking any action that may affect your business, you should consult a qualified professional advisor. Deloitte shall not be responsible for any loss sustained by any person who relies on this publication.

As used in this document, "Deloitte" means Deloitte Consulting LLP, a subsidiary of Deloitte LLP. Please see [www.deloitte.com/us/about](http://www.deloitte.com/us/about) for a detailed description of our legal structure. Certain services may not be available to attest clients under the rules and regulations of public accounting.