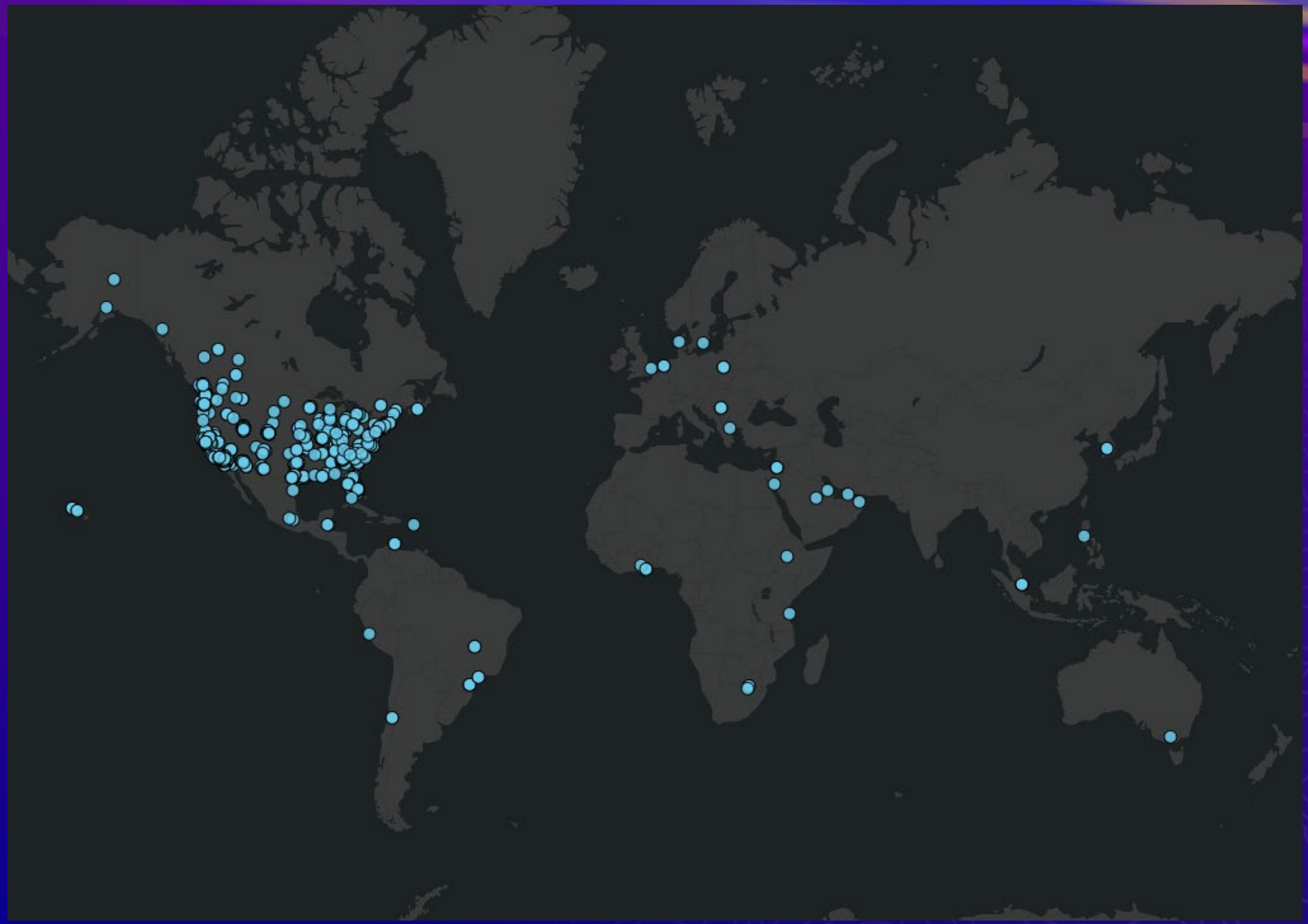
UC 2023 – Water Sunday Meeting

Check-In 1:00-1:15

Welcome!

Agenda

1:00 – 1:15	Registration/Check-in		
1:15 – 1:30	Welcome & Introduction	Derek Lorbiecki	Esri
1:30-1:55	Assets need BIM! How Milwaukee Metropolitan Sewerage District's BIM Vision Supports Vertical Asset Management and Operations.	Emily Champagne	Geospatial Manager, Milwaukee Metropolitan Sewerage District
1:55-2:25	Using GIS to Support Facilities and Vertical Asset Management	Matt Kennedy	Esri
2:25– 2:45	Break		
2:45 – 3:15	Network Management Options and Best Practices	Matt Groves	Esri
3:15 – 3:45	Utility Network Piloting and Management Perspectives	Eric Akiyoshi, P.E.	Engineering Manager – Infrastructure Planning, Irvine Ranch Water District
3:45 – 4:00	Water Industry Resources	Finn Swann	Esri
4:00 – 4:30	Training, Questions, and wrap-up		



Water Attendees:843

First Time at UC:313

29 Countries

#1 Canada

#2 Brazil

#3 Malaysia

#1 California: 301

#2 Texas: 50

#3 Washington: 32

#4 Florida: 31

Water: 394

Wastewater: 83

Stormwater: 22

Water Resources: 191

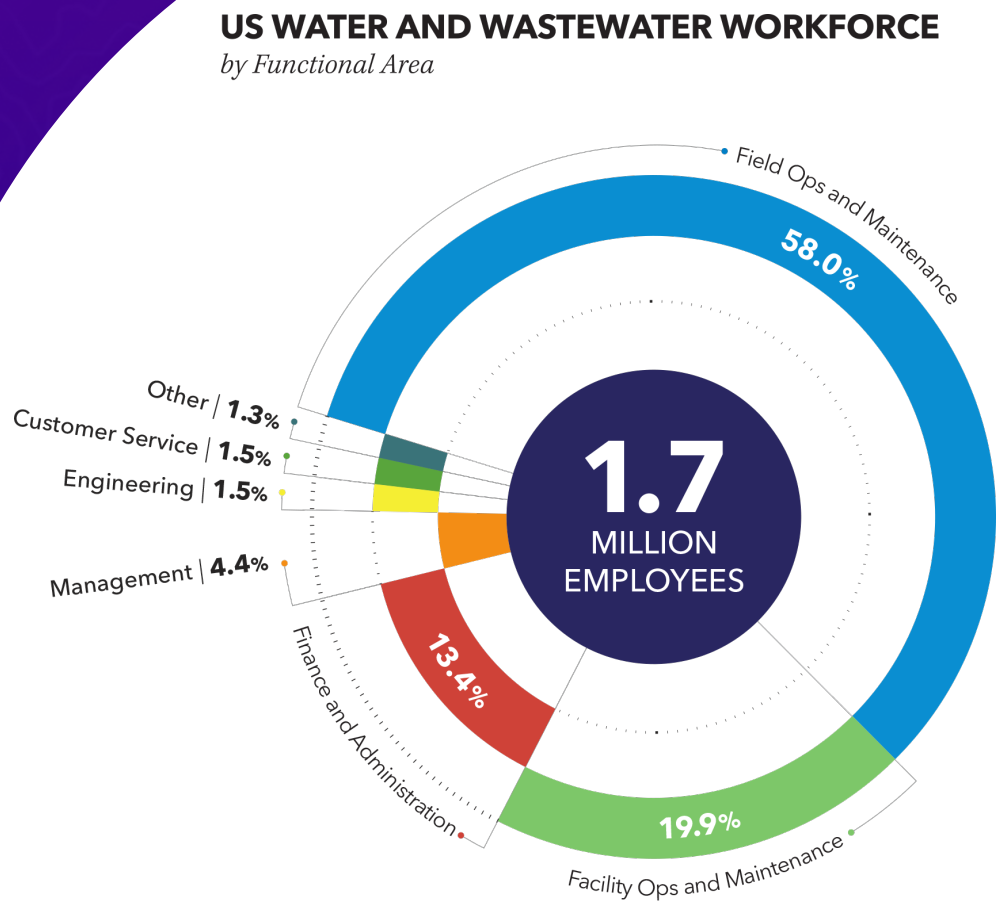
GIS & Digital Water Report

The Foundational Role of GIS in Digital Water Transformation

Created in collaboration with Bluefield Research

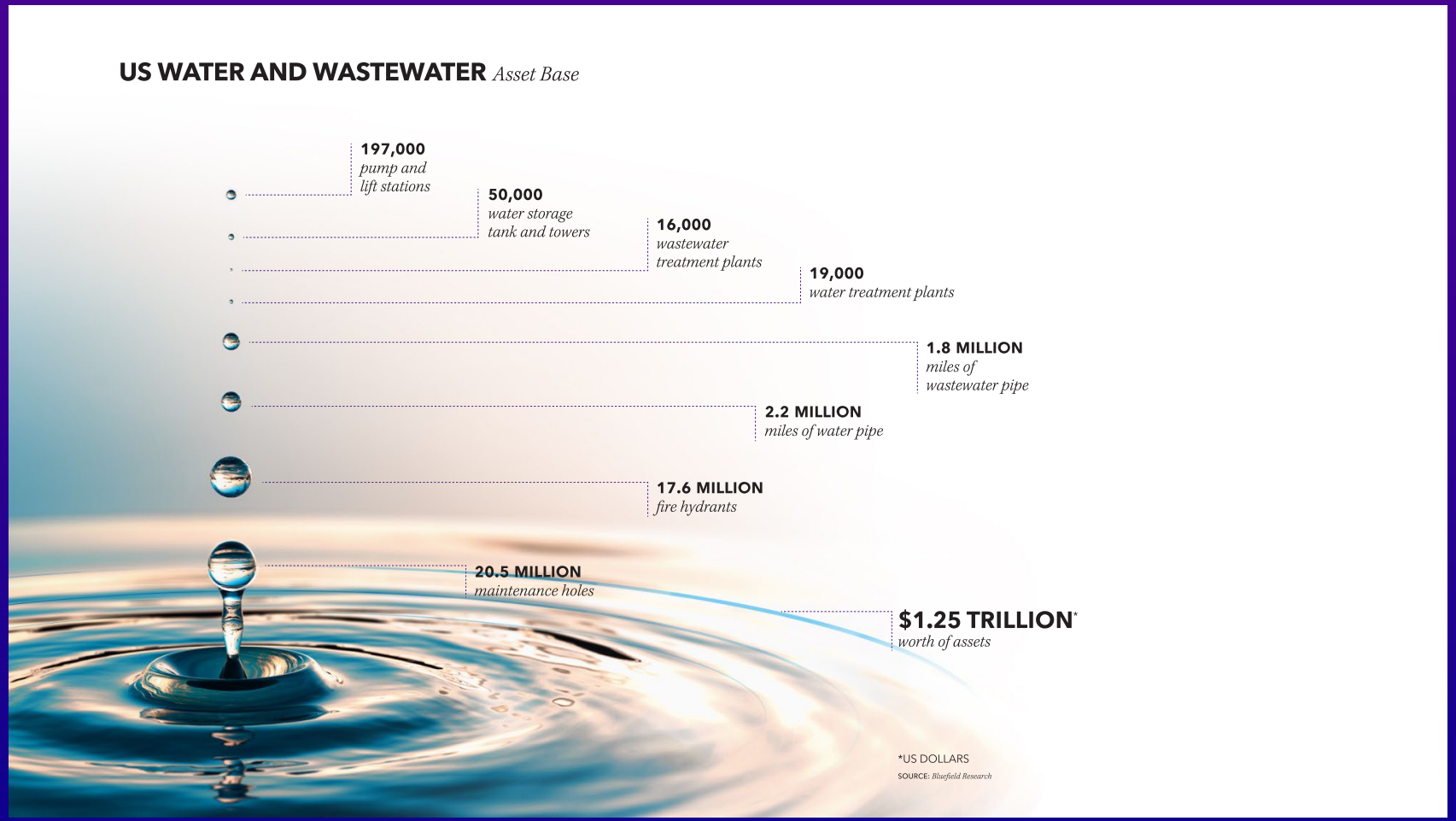
United States Water/Wastewater Industry

- 1.2% of the US Workforce
- Larger Workforce Than:
  - Farming, Fishing, Forestry (1.06M)
  - Secondary School Teachers (1.19M)
  - Post Secondary Teachers (1.69M)
  - Law Enforcement (1.23M)
  - Legal Occupations (1.49M)



SOURCE: *US Bureau of Labor Statistics, Brookings Institution, Bluefield Research*

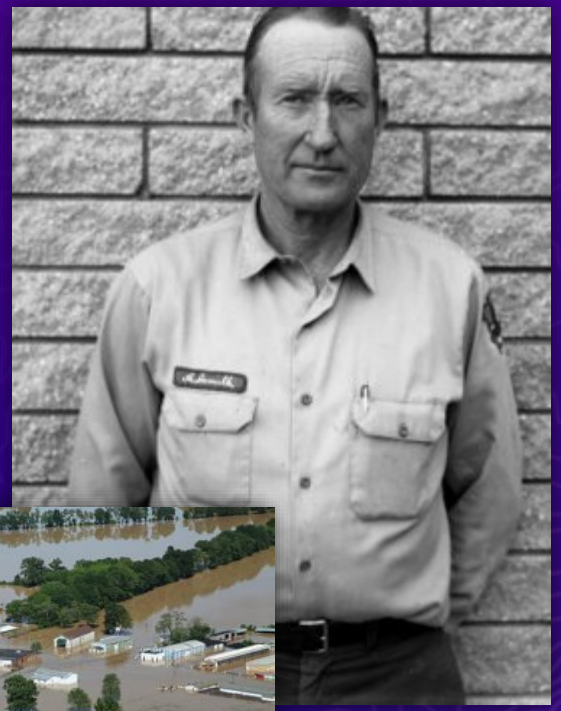
United States Water/Wastewater Utility Assets



Water/Wastewater Industry Drivers for Modernization

Unprecedented Challenges

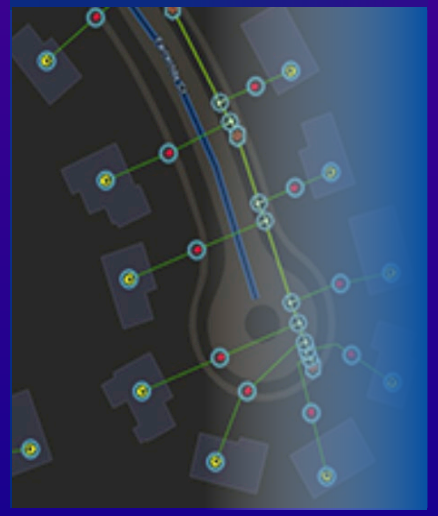
- Aging Infrastructure
- Aging Workforce
- Climate Change
- Rapidly Evolving Technology



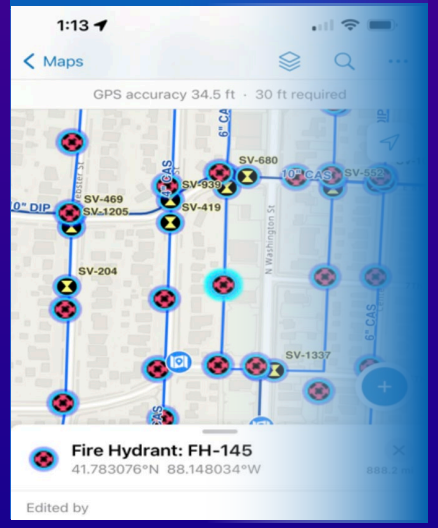
Strategic Initiatives

Water Sector Pillars

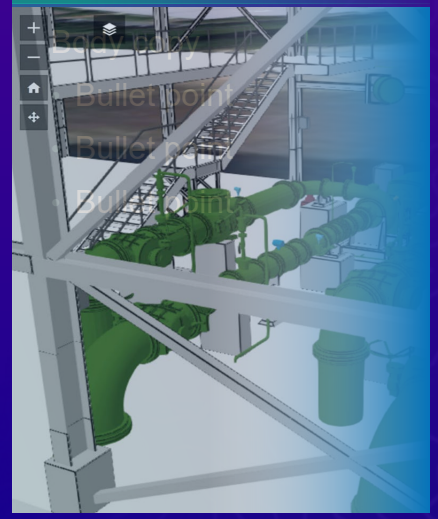
Network Management



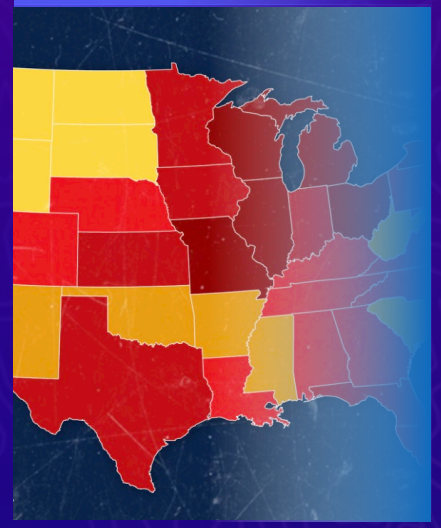
Coordinated Operations



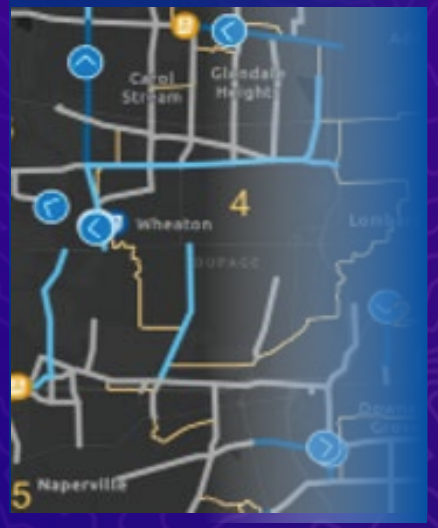
Facilities and Vertical Assets



Lead and Copper



Real-Time Analytics



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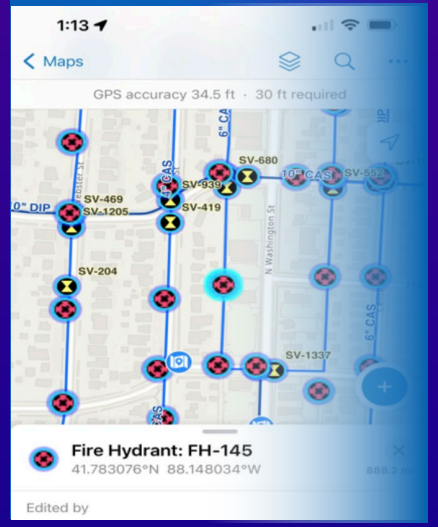

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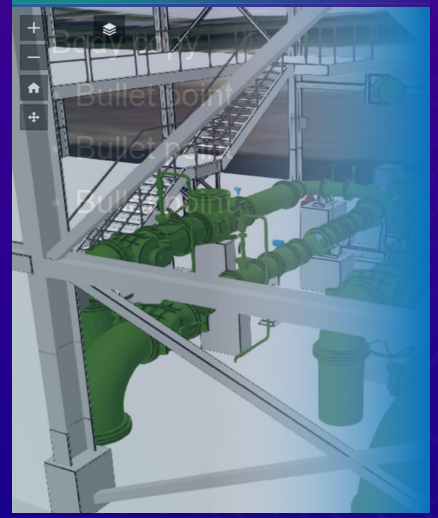

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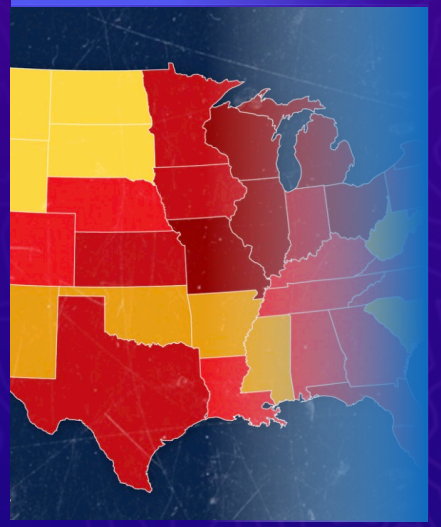

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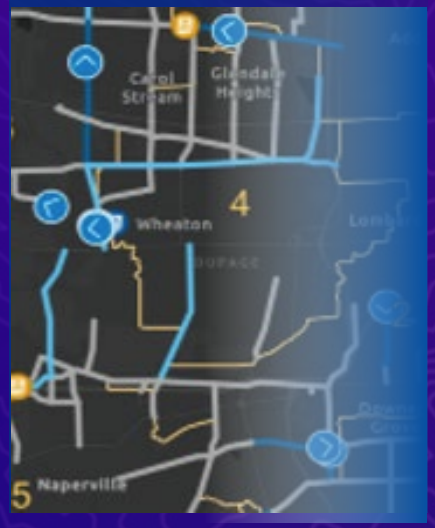
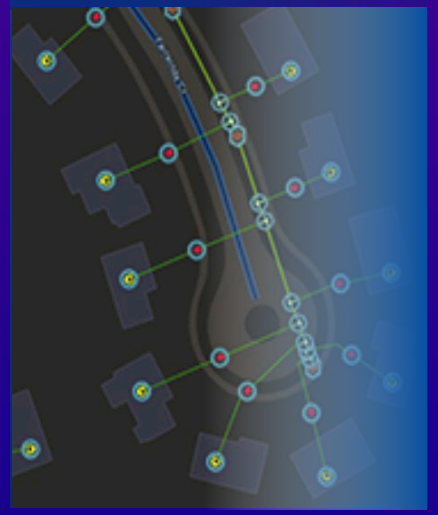


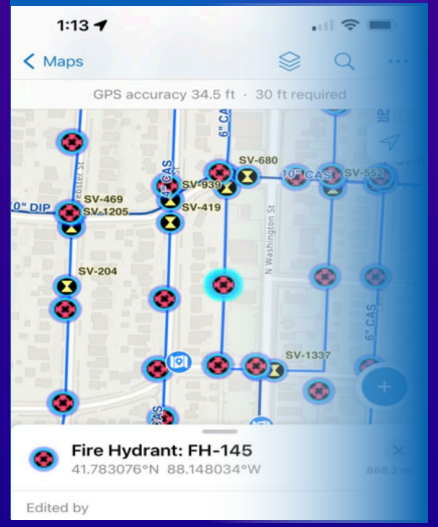
Strategic Initiatives

Water Sector Pillars

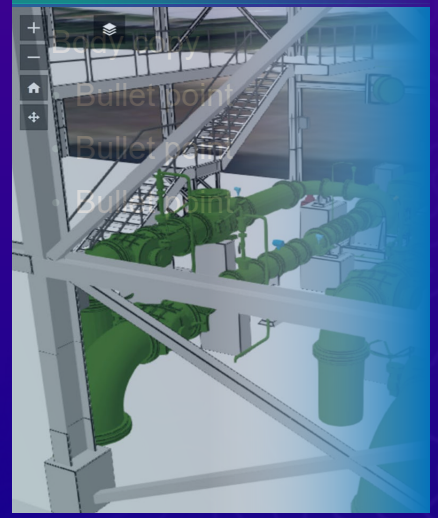
Network Management



Coordinated Operations



Facilities and Vertical Assets



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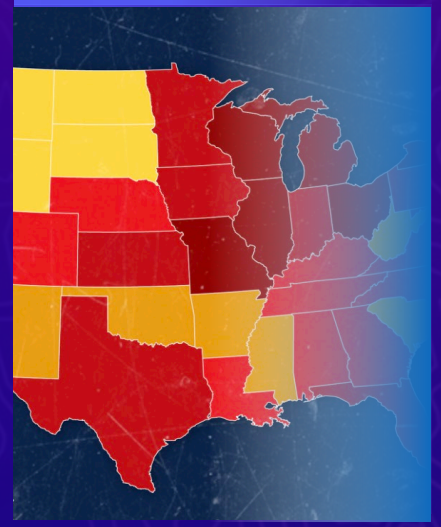
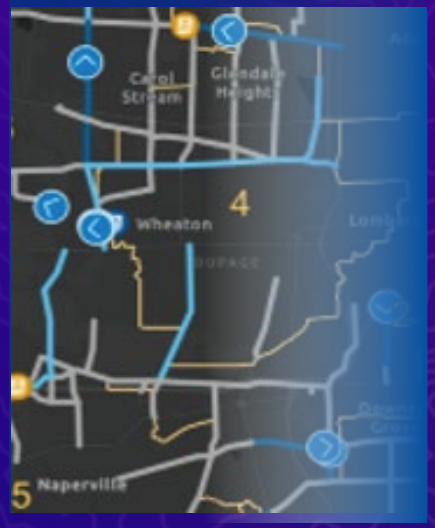


Real-Time Analytics



Modern Approaches to Network Management

What is your Network Management Strategy?

Network Modeling to fit your needs

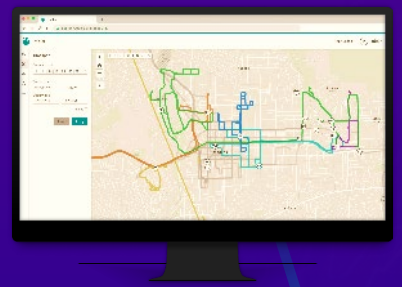
Visualization & Embedded Analytics

Accessed Anywhere Online/Offline

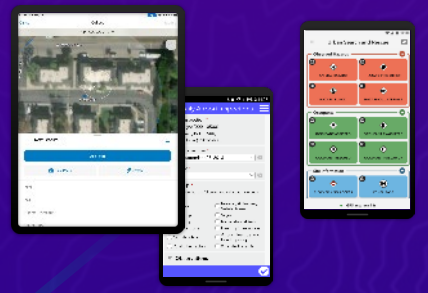
Ensuring Coordinated Operations

Collaborative access to accurate and timely data

Planning & Design



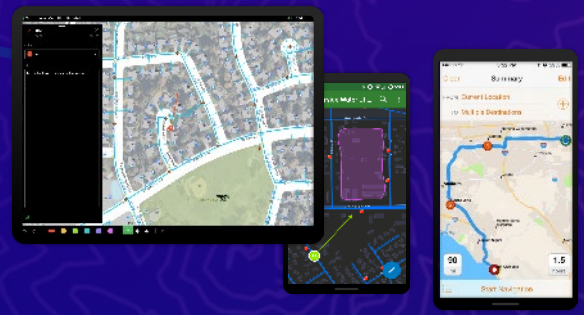
Dynamic Data Capture



Real-Time Operations

Accurate & Timely Information

Increased Field Productivity Online/Offline

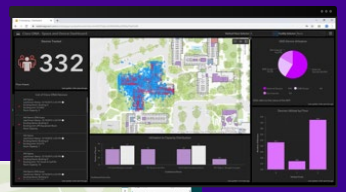


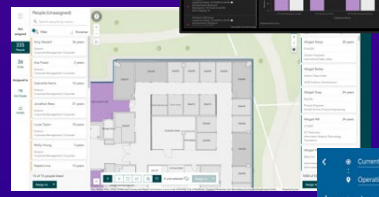
Facilities & Vertical Assets

Bringing the fidelity of your horizontal assets inside the fence

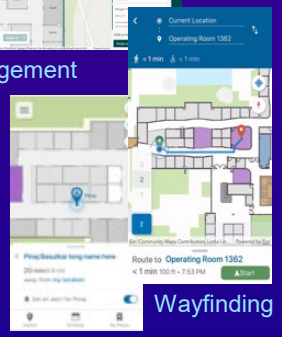
3D Information Model

Dashboards



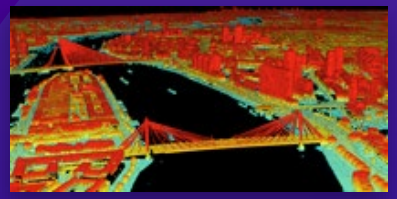


Asset Management



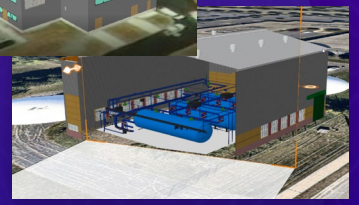
Wayfinding

Location Sharing



Point Clouds / Lidar

Hazen and Sawyer
HRSD

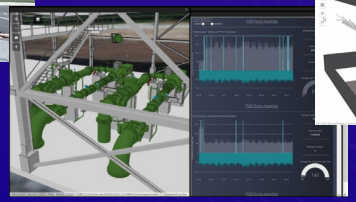


LandTec
Westford Water

Scene Layers

Flood Mapping
ArcGIS Solutions

Extrusion
Coachella Water District

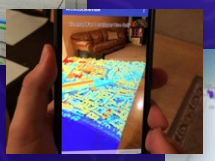


KCI
Gwinnett County

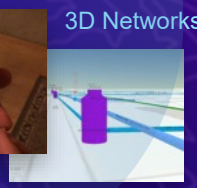
ArcGIS Indoors
Raleigh Water

Advanced Visualization

AR & VR



Tablets and
Phones



3D Networks

Using GIS to Support Facilities and Vertical Asset Management

Matt Kennedy - Esri

2023 ESRI USER CONFERENCE

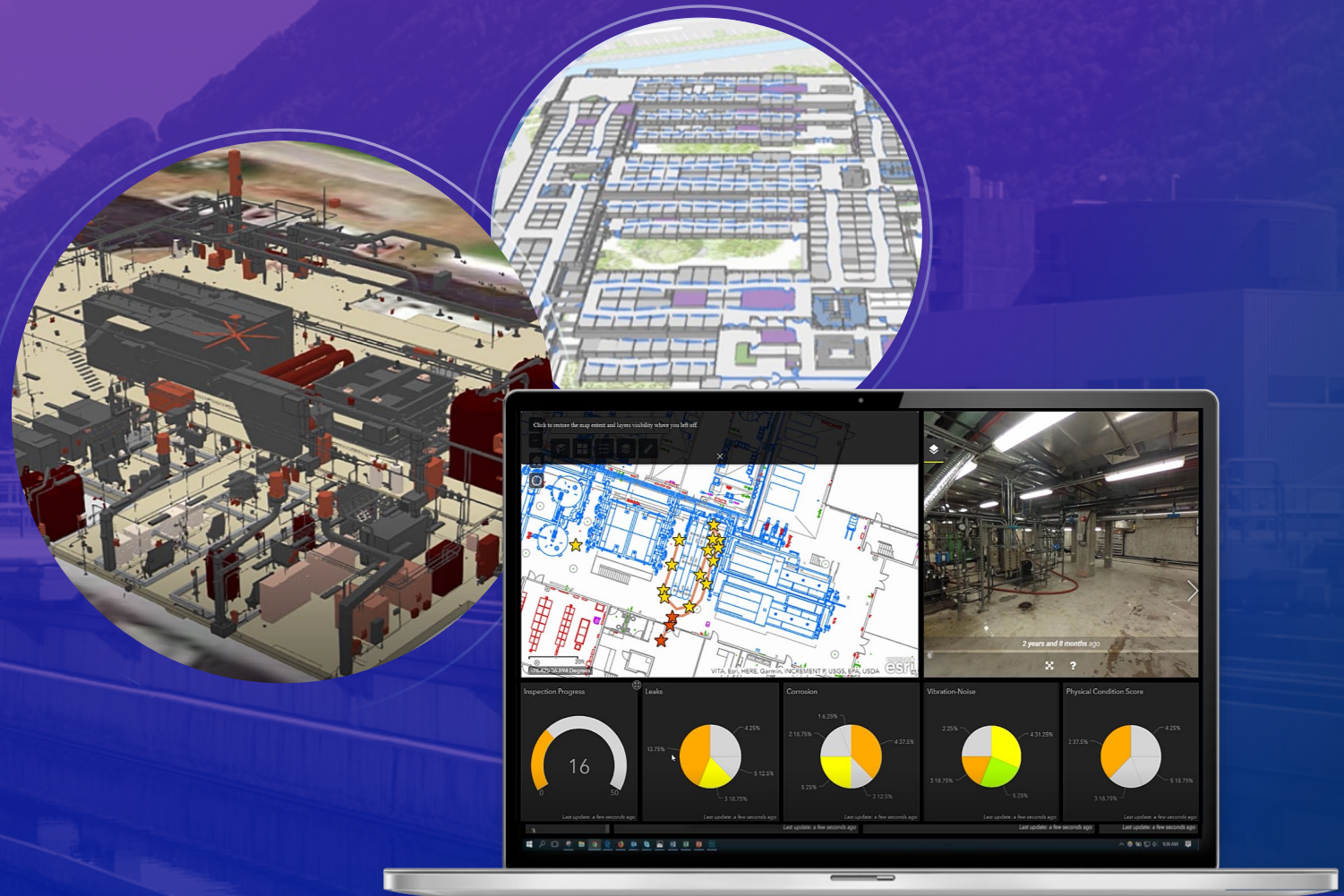
Approaching Facilities and Vertical Assets with GIS

A system for managing, sharing, and applying geographic information inside the fence

Asset Recording (SOR) and Mapping

Operational Workflows and Decision Support

3D Component for Data Visualization



GIS supports the lifecycle of Facilities and Vertical Assets

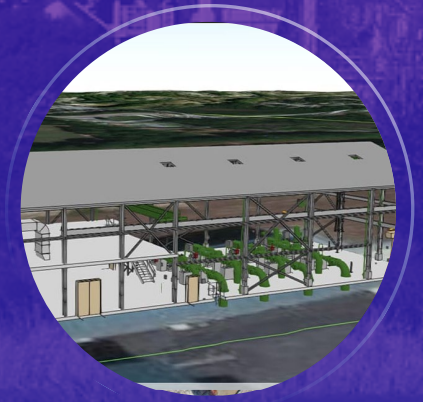
Design

Build

Operate

GIS supports the lifecycle of Facilities and Vertical Assets

Common patterns of adoption across the industry



Asset Management & Operations

- Understanding the assets in 3D space
- Locations to perform work upon
- Documentation for a changing workforce

Design Build

- Manage assets from cradle to grave
- Standardized set of contractor deliverables
- Support long term planning

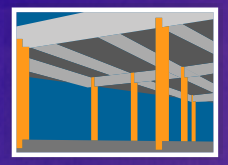
Network Management & Analytics

- Cross domain connections and impacts
- Real time behaviors and scenarios
- Predictive analytics

Steps to get started mapping Facilities & Vertical Assets

GPS Coordinate and Image Capture

Reality capture with Hardware



Import CAD / BIM Models

Digitize as built drawings

Incorporate into GIS

Simple Feature Services (Marking Locations)

Configure Indoors and import data into ArcGIS

Utility Network Data Model supports F&VA out of the box

Beginning Workflows

High Accuracy Data Collection

Connect BIM360 with GIS for asset visibility

Design Web applications tailored to your needs

Set up dashboards to monitor and support decisions

Deploy Indoors for routing and wayfinding

Have a Great Week!

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