The Setup
American Water at a Glance

With a history dating back to 1886, American Water (NYSE: AWK) is the largest and most geographically diverse publicly traded water and wastewater utility company:

- 16 million in 46 states & Canada
- 6,900 dedicated professionals
- 51,000 miles dist & collection
- 1,500 water production facilities
- 800 water treatment facilities
- 2,700 water storage facilities
- 500 wastewater facilities
Our Strategic Plan

GIS Strategy

**Strategic Goals**

- **Increase collaboration across American Water**
  - GIS community calls (b-weekly)
  - Establish collective space for enterprise GIS stakeholders

- **Achieve full data maturity for asset inventory & basemap data**
  - Review & update data model
  - Establish baseline data maturity standards, ensure high quality
  - Identify & refine data sources

- **Document and standardize asset control workflows**
  - Establish baseline data collection workflows
  - Establish timelines for workflows
  - Establish quality control

- **Implementation of mobile and web GIS platforms**
  - Bring enterprise GIS environment up to service level needed
  - Proper capacity for utilization
  - Proper tools for development

- **Achieve mission critical integration between asset systems**
  - Integrate asset inventory systems (SAP, GIS, etc)
  - Serve out data to “single pane of glass” apps

- **Incorporate emerging technologies into enterprise GIS workflows**
  - Plan for infrastructure needed to support drone program
  - Plan for intersection of operational technologies

- **Execute enterprise GIS support program**
  - Migrating standard support to other resources
  - Building out documentation for standard support questions

**Actions**

- Communicate progress & changes effectively
- Collaborate with stakeholders & seek variety of input
- Identify & refine data processes
- Establish national basemap data as service for stakeholders
- Drive process integrity
- Establish submission standards for as-built/enc documents
- Ensure proper sourcing of asset information
- Standardize corporate symbology where possible
- Right tools for the job
- Coordinate asset control procedures with Asset Management team
- Plan for future needs
- Plan for collaboration with corporate “single pane of glass” initiatives
- SCADA, meters, etc
- Review and plan for impactful technology changes

**Outcomes**

- Business expectations aligned to results
- Choosing the right solution to challenges collectively
- Improved system performance
- Increase trust in the asset data
- Increased availability of outside information needed
- Repetitive processes provide efficiency and quality improvements
- Easier management of data
- Increased system performance
- Lower costs in the long run
- Increased ability to utilize information
- Reduction in data silos
- Reduction in duplication of efforts
- Increased data quality through automation
- Apply best practices across all business entities
- Increased ability to utilize disparate operational data
- Free up enterprise resources to work on advancement of business objectives
- Provide a standard of care to all the entities our team serves

**Vision**

A comprehensive enterprise GIS consisting of high quality data and industry leading technology, supporting all American Water’s business objectives.

**Mission**

Provide American Water’s business entities with consistent data and workflows and drive innovation and collaboration among those entities in support of business objectives.

**Date:** Sept 1, 2017

**Making everyone feel like a part of the team**
**Ensuring everyone is on the same page**
**Stronger ability to provide information to key stakeholders**
**Consistent, high quality from the field to the enterprise**
**Improved timeliness of data**
**Easier training**
**Improves data quality and value**
**Push the right information out to a broader audience**
**Improved communication**
**Drives data improvement**
**Improved information available across multiple systems**
**Improves data ownership**
**Improves process ownership**
**Drive business value through the application of cutting edge technology**
Our Strategy

Innovation
Innovation

Integrated Platform
- Real-time integration through message brokering & block chain
- Big data platform for parallel processing
- Containerized app components
- Iterative development
- 0 training apps
- Responsive web design
- Every app will have a truly innovative component

Imagery & Deep Learning
- Image Classification
- Image Segmentation
- Augmented Reality
- Web optimized

Product Development

Infrastructure Enhancement
- High throughput, scalable platform
- Any Device capable for employees, contractors, & customers
- Hardware that meets the specialized needs of the use case
Strategy for Achieving Innovation

Teamwork

Radical Candor

Agility

• Passion, Purpose, and Pursuit

Component

- Asset 1V
- Asset Information Gap Analysis
- AWE Optimization
- Data Model Migration
- Digital As-Built
- DMS
- GIS Product Development
- GIS/SAP Integration
- GIS Web
- Imagery & Deep Learning
- IOC Alerts
- Meter Routes Optimization
People & Process

Enterprise Vision, Strategy, and Goals

- ~80 GIS staff/contractors in the states
- Support customers
- Support customers of customers
- Internal and External products
Tactical Outcomes

Integrated Platform
- Methodology MVP – PI/PO
- Data Governance MVP
- Power Plan NY Asset Data Reconciliation

Imagery & Deep Learning
- Image Classification Model – Tank Rust MVP; 30 tanks analyzed for rust

Product Development
- IOC Threats Complete
- Map 1V MVP
- T&D Asset Gap Analysis (GIS – 97% accurate)
- T&D Asset BPM’s Complete; 14 state workshops

Infrastructure Enhancement
- New GIS DMZ environment launched; upgrade from 1,500 > 10,000 user capacity
- Core & Flex Data Models for all states
- Data Model Migration Validated in DEV; 29 to 14 DBs, 100 to 20 asset classes