

**MUELLER**

# Data Driven Approach

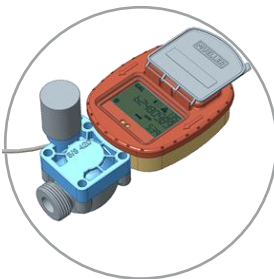
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## Holistic Management of Water Quality and Pressure Management

Presenter:  
Justin Garrison



# Data From Many Directions...



## RESIST IT!

Too Much Information  
**Too Accessible**  
Confusing  
**Where Did That Come From?**  
Who Has the Time?  
**Too Much...Too Fast!**  
Now What?  
**What Could Have Caused That?**  
I Can't Keep Up!  
**Now I Have More Work To Do!**



# DATA

## EMBRACE IT!

More is Better!  
**I Need It to Make Decisions.**  
Takes the Guess Work Out of It.  
**I Thought So, Now I Know For Sure.**  
I Can Now Manage Time Better.  
**Really! I Didn't Realize That!**  
That Makes More Sense Now!  
**This is Great! The Regulators  
will Appreciate the Facts.**  
This Just Saved Us Thousands!  
**I Can Stop Chasing Theories.**

## The Questions...

Where is it coming from?

How is it going to help me

What are the risks?

How do I filter it all?

What's most important?

What tools do I need?

How many programs  
will I need to learn?

What is all of this going to cost?

What is it going to save me?

What's the "end game"?

## The Research...

Determine what information voids you have.

**Research the tools and techniques.**

Know who the leading players are.

**Identify what the best tools are.**

Who in the neighborhood  
is using these tools?

**How easy are the interfaces to  
manage?**

What will make this effort a  
success...set the criteria.

**How do I avoid Data fatigue?**

Will vendors partner with me on  
this journey?



# DATA

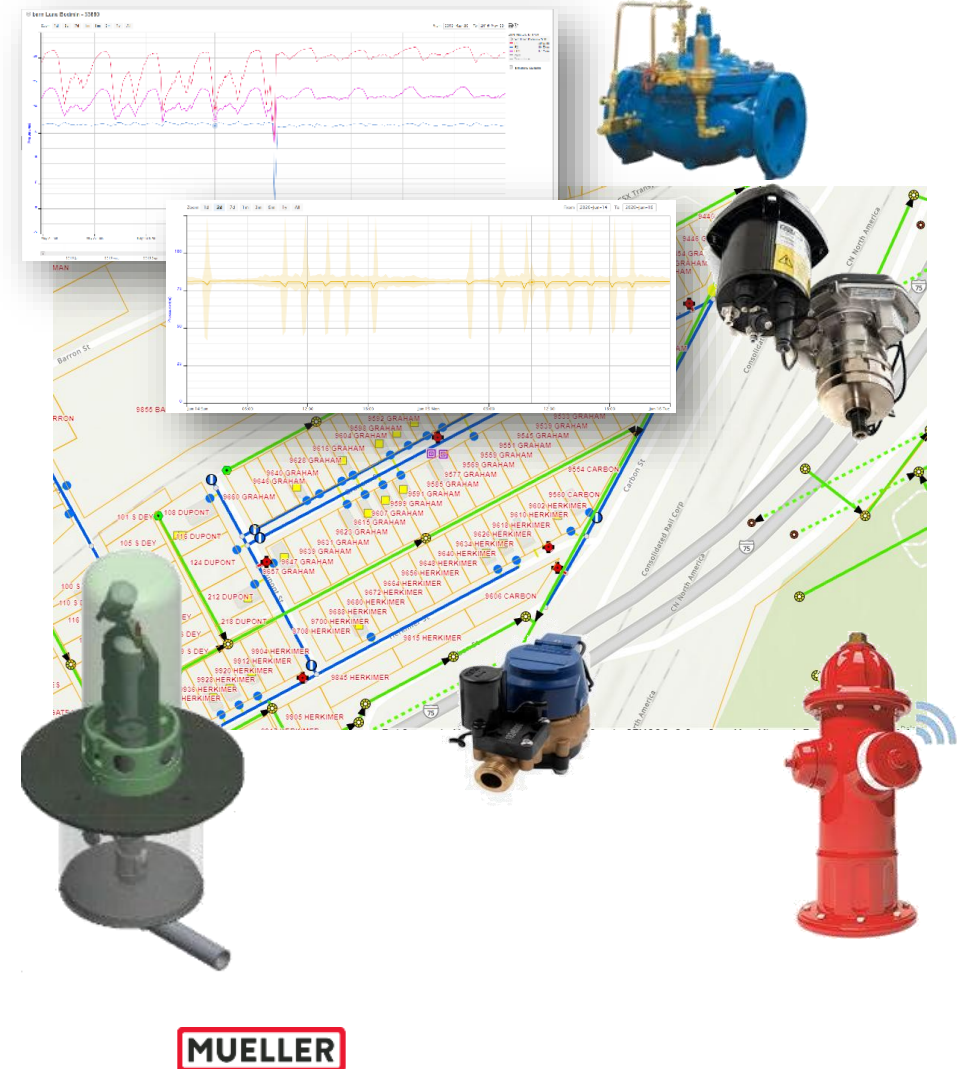
## Cutting through the clutter.



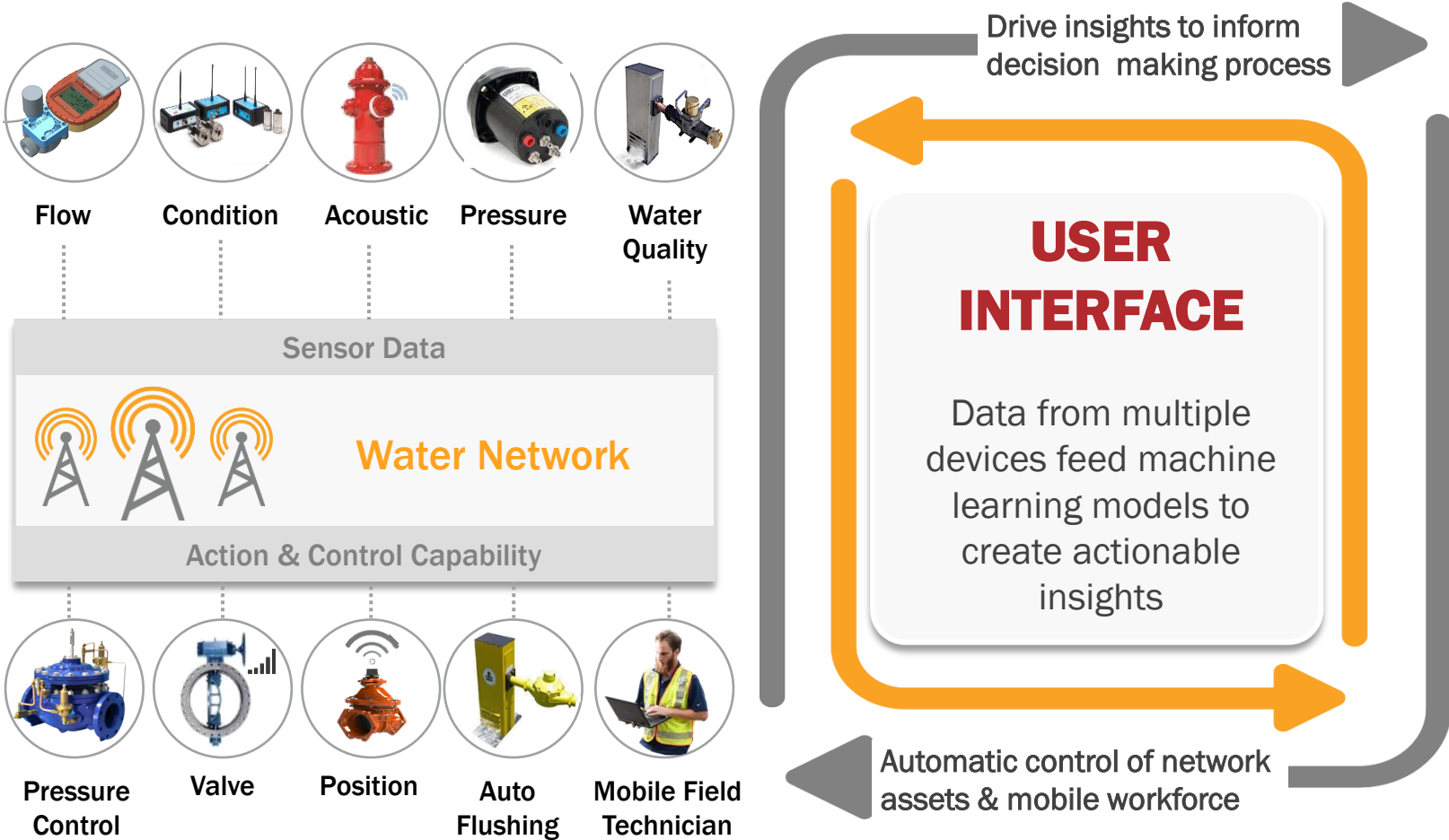
- Limit the number of data sources to a manageable size.
- Don't oversaturate the network with data points that fail to provide the information you need.
- Determine how you can limit the User Interfaces you must interact with.
- Don't let the information overwhelm you.
- Know what you want and how you intend to use it.

# Advancing system knowledge.

- Collect data from critical points from within the distribution network.
- Analyze data points in conjunction with one another to identify potential issues or points of concern.
- Use data to enhance system-wide performance.
- Use data to make the hydraulic models more dynamic.
- Use data to enhance decision-making.
- Use data to improve maintenance and purchasing decisions.



# The Tools for Effective Data Collection...



## Water Network Administrators

Utilize insights & visualization tools to:

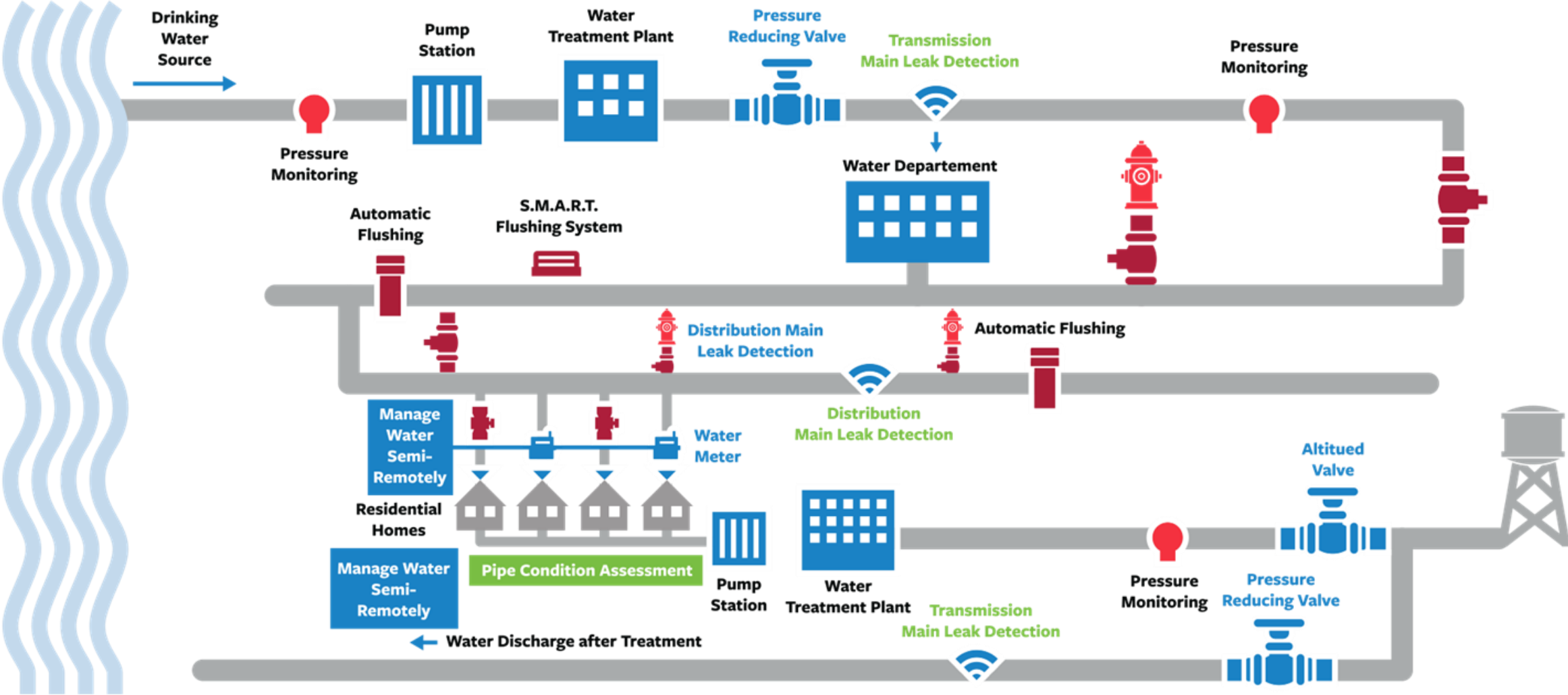
**Asset Managers**

- Extend Asset Life
- Optimize and Prioritize Expenditures

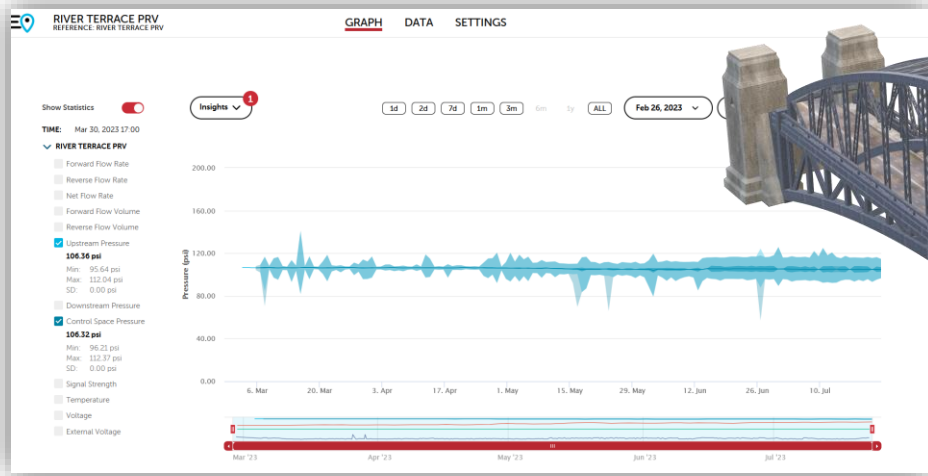
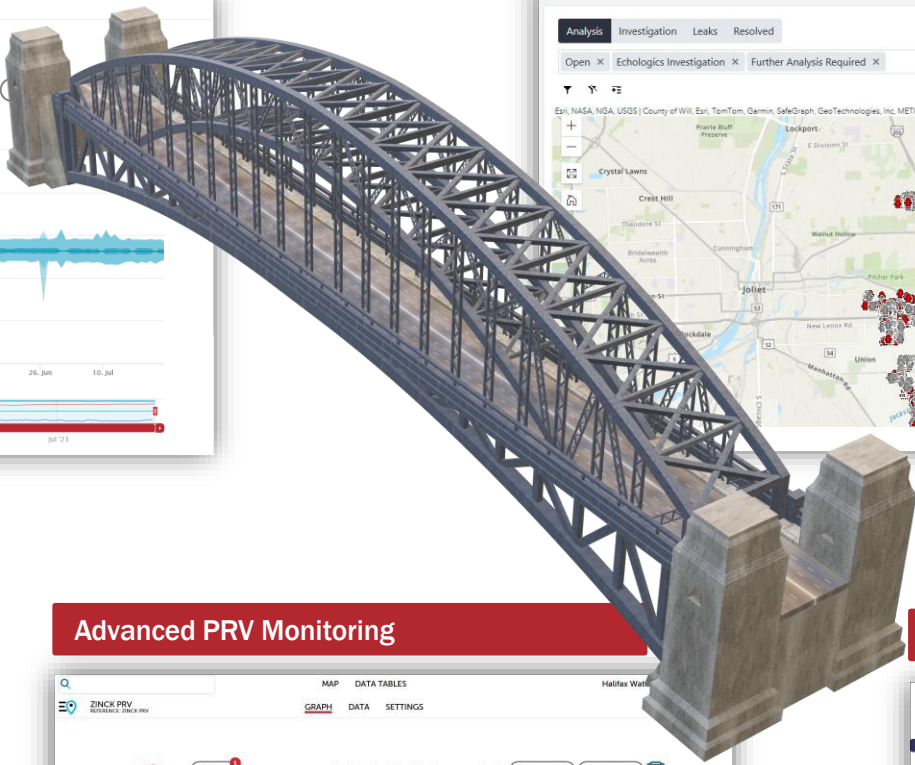
**Field Supervisors**

- Produce Digital Workflows
- Plan Maintenance & Inspections

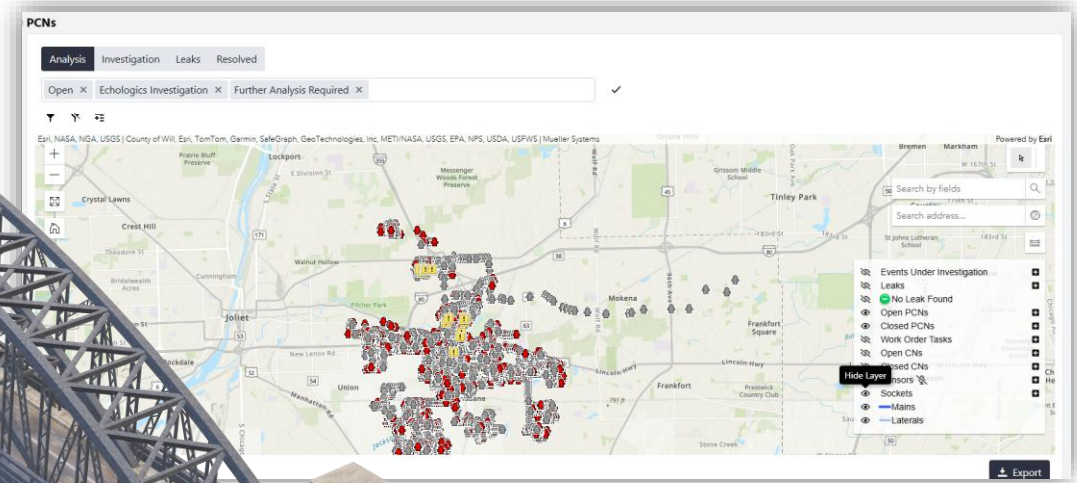
# Analyze data points in conjunction with one another.



# Bridging the Data to Affect Change.

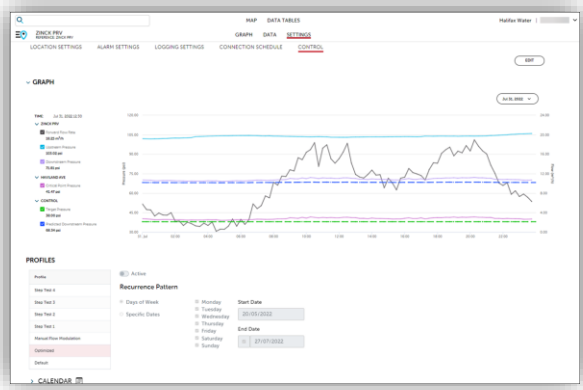


Pressure & Flow Logging



Leak Detection and System Monitoring

Advanced PRV Control



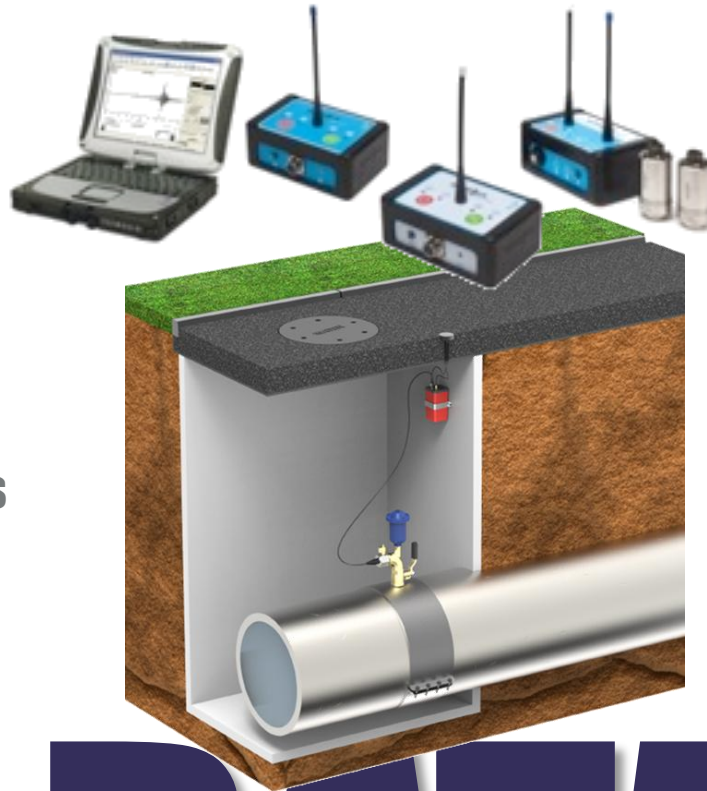
Advanced PRV Monitoring



Advanced Flush Management + Monitoring



Improved Efficiency  
**Faster Response Times**  
Customer Confidence  
**Improved Partnership with Regulators**  
Reduced Operational Costs  
**Proper Levels of Data**  
Increased Longevity of System  
**Confidence of the Board**  
Elevated Team Knowledge  
and Competencies  
**State of Art Operations**



# DATA mastered

Reduction in Energy Costs  
**Reduced Truck Rolls**  
Improved Water Quality  
**Reduced Water Age**  
Enhanced Management of  
THMs and HAA5  
**Reduced Leak Rates**  
Improved Leak Location  
Identification  
**Improved Asset Management**  
Advanced Inventory Control of  
Maintenance and Repair  
Materials

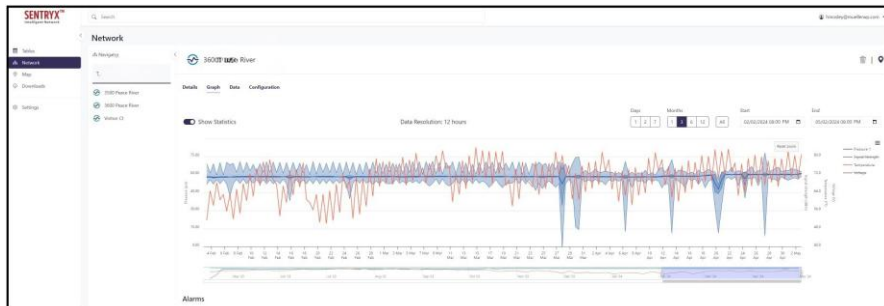
# HIXSON UTILITY DISTRICT



## Hydro-Guard<sup>®</sup> Connected Flushing Systems

The Hixson Utility District enhances routine flushing program by installing remotely managed, cellular connected, advanced flushing systems to ensure water quality remains high in areas where disinfectant residuals are low and water age is high due to lower than needed usage.

- Remote Flush Scheduling and Device Management
- Constant Monitoring and Water Pressure and Temperature.
- Flushing Sequence Alerts and System Pressure Alerts
- Water Temperature Data for Water Quality Insights from the Installation Point and Close Proximity.
- Digital Record Keeping for Compliance with Local, State and Federal Standards



# CITY OF DECATUR IL



## Hydro-Guard® Connected Sample Stations

The City of Decatur, IL and Mueller have been synonymous for over 160 years. Today, the City has elected to further its use of Mueller products and technology by installing Hydro-Guard® Water Quality Sampling Stations that are equipped with i20® Pressure Logging Systems.

- Dedicated Water Quality Sampling Points
- 24/7 Access to Sample Points...No Appointment Necessary.
- Sampling of Utility's Supply...Not Impacted by Supply Lines Inside Buildings.
- Water Pressure and Water Temperature Data for Water Quality Insights from the Installation Point and Close Proximity.
- Digital Record Keeping for Compliance with Local, State and Federal Standards

# CITY OF DURHAM NC



## i20<sup>®</sup> Pressure Management & Monitoring

With an average of 12 main breaks a month, the City of Durham installed a combination of Hydro-Guard sampling, pressure monitoring and water quality sample stations to perform remote pressure monitoring, flushing and water quality sampling. With these devices deployed, the City is able to ensure they are maintaining adequate pressure and water quality to residents and the large number of High-Tech Commercial customers the utility serves.

- Water Pressure and Water Temperature Data for Water Quality Insights from the Installation Point and Close Proximity.
- Enhanced Water Quality to meet Customer Expectations and to Remain in Compliance with Local, State and Federal Standards.
- Validation of Hydraulic Modeling