



# OSIsoft leading the way in Process to Business Data Solutions in the Water Industry

Presented by **Anil Gosine**

# Setting the Direction

With the municipal water and wastewater industry at the point of retooling and starting to initiate large life cycle capital projects to revamp its' aging infrastructure and redefine how they operate and function, OSIsoft is poised to be a critical partner in secure data solutions for the industry.



## Business Challenge

- To provide valuable metrics and capture data from various data sources to underscore the value of the capital investments made.

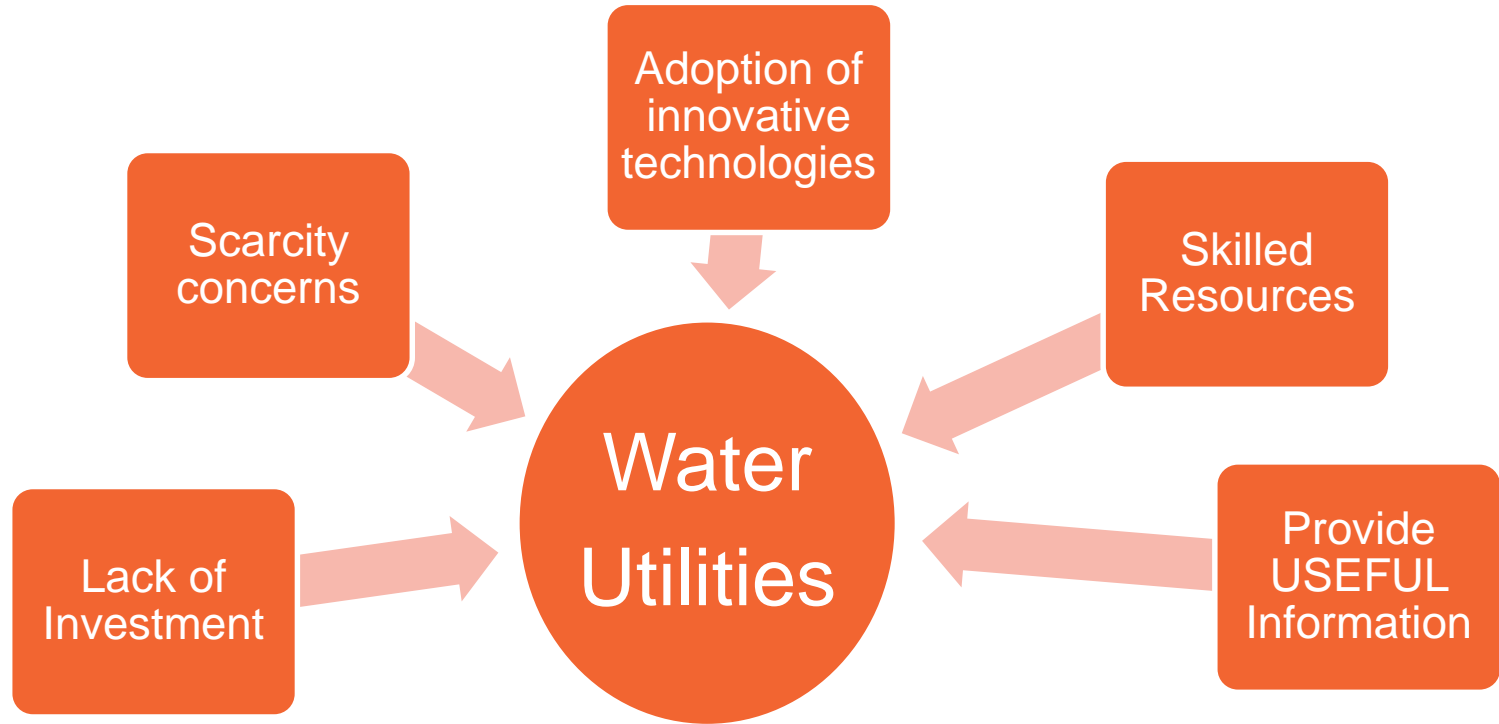
## Solution

- An easy and manageable system that can provide the infrastructure and tool sets that can provide useful information.

## Results and Benefits

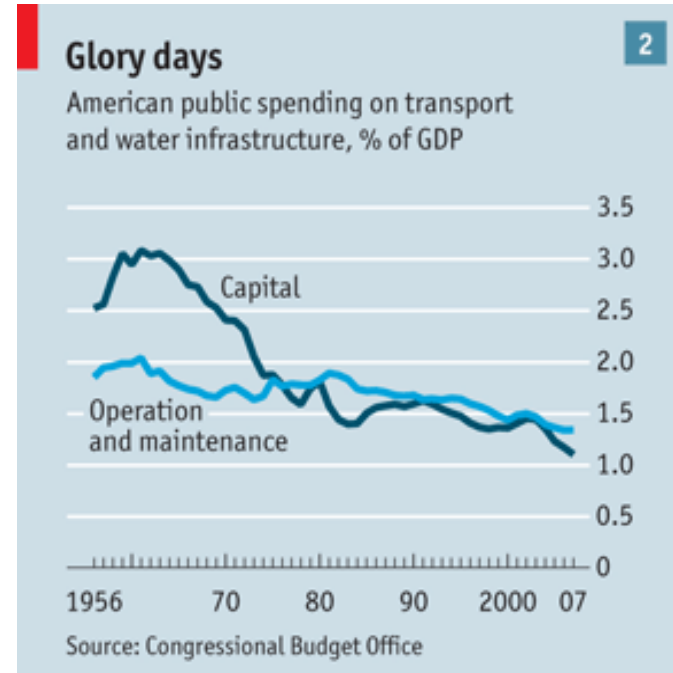
- Better utilization of resources
- Cost savings in reduced or eliminated programming and reporting development

# Drivers in utilization efforts



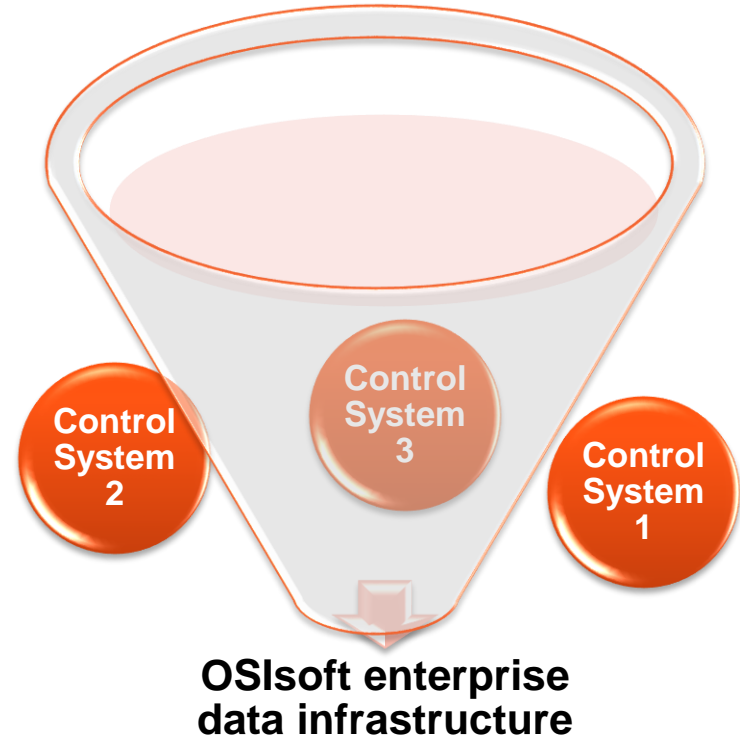
# Appreciate long term spending increases

- The American Society of Civil Engineers 2013 Report Card for America's Infrastructure , stated that it would take more than \$1 trillion to repair and replace systems.
- What will be the visual interface that demonstrates added value to the end users/customers for this spending?



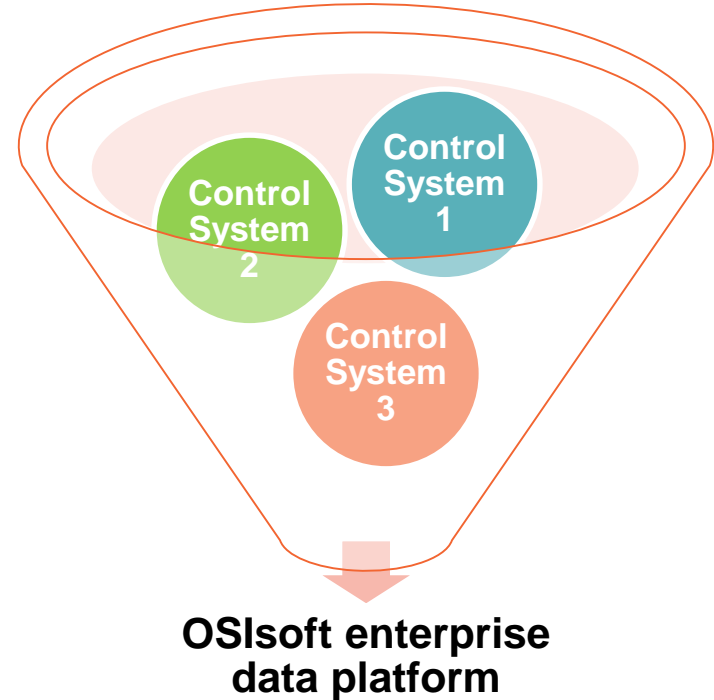
# Data Sources

- Telemetry System
- Eaton Power Metering
- Schneider Power Metering
- Emerson
- Rockwell
- ScadaPak



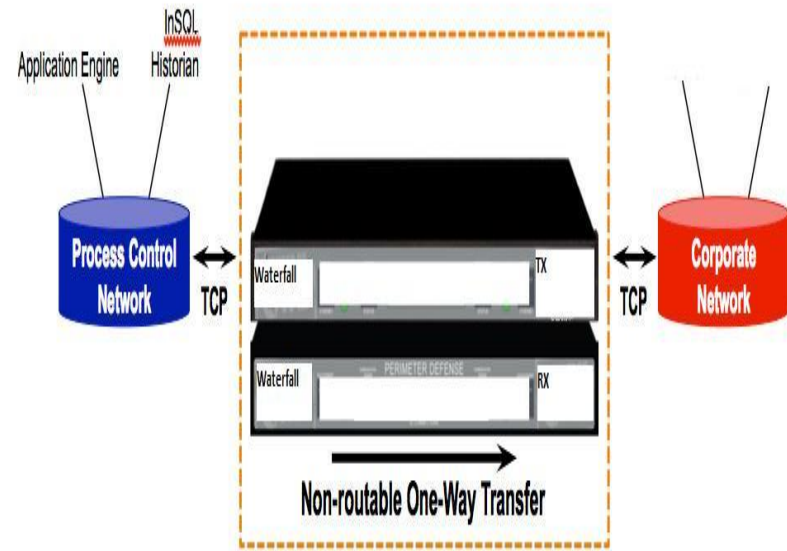
# OSIsoft consolidating Process platforms to provide Enterprise Data solutions

- In an industry that is conservative by nature and resistant to change, OSIsoft product initiatives and integration will assist in innovations in water management.



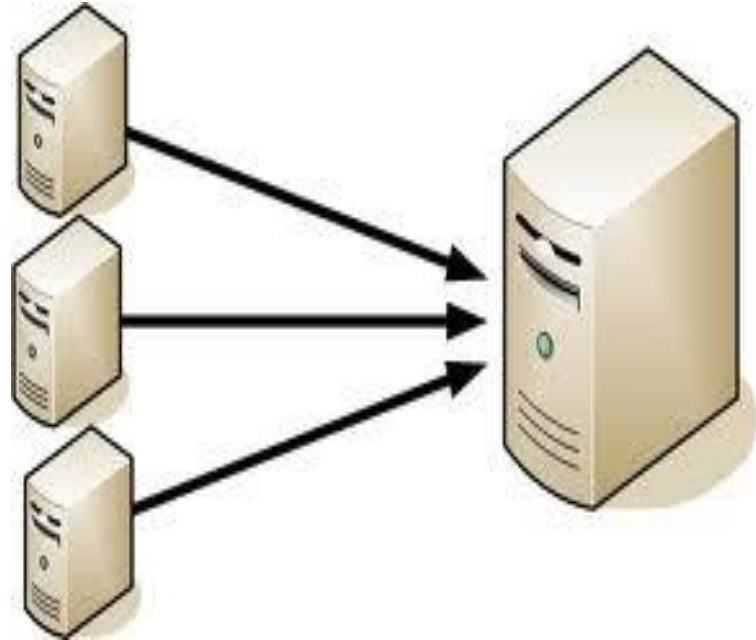
# Steps to enterprise data solution

- In order to leverage and share process control data in real-time, we greatly enhanced our security policies and procedures and looked for a cyber-security solution to provide our critical environments the highest security level, while retaining our operational needs and functionalities - Waterfall Security delivered on both these requirements.
- A main advantage of this security solution was the robust and comprehensive integration that Waterfall did with the OSIsoft PI System.



# Continued ...

- The business challenge of creating a cohesive unifying interface for our users on the business platform while collecting and aggregating data from multiple user interfaces and disparate technologies on the process control system was directly addressed in a cost effective manner by introducing OSIsoft's technology and services.

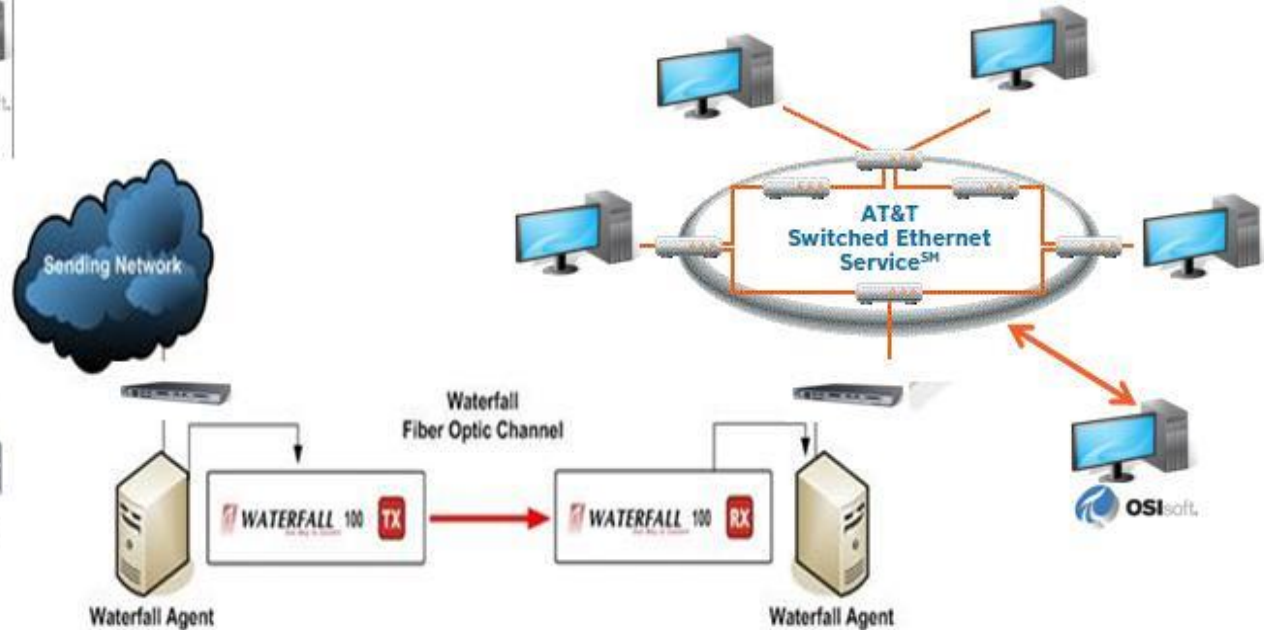




## Process

# Architecture

## Business



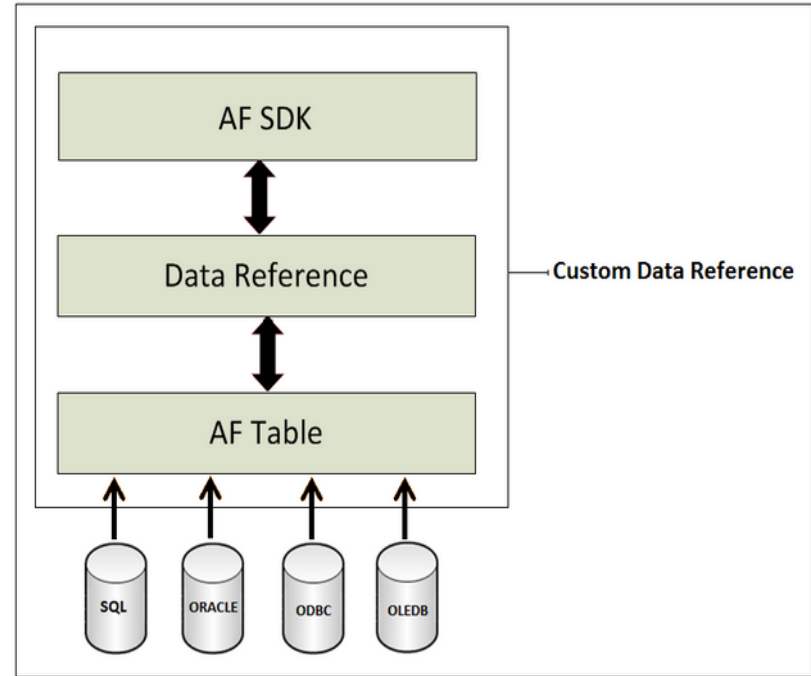
# What is PI Asset Framework (AF)

PI AF is a component of the Enterprise PI Server that enables you to define a representation of your plant assets and use these assets to easily view and analyze your plant data.

You can recreate the control system equipment hierarchy in PI AF to provide the same data structure in the Enterprise PI System

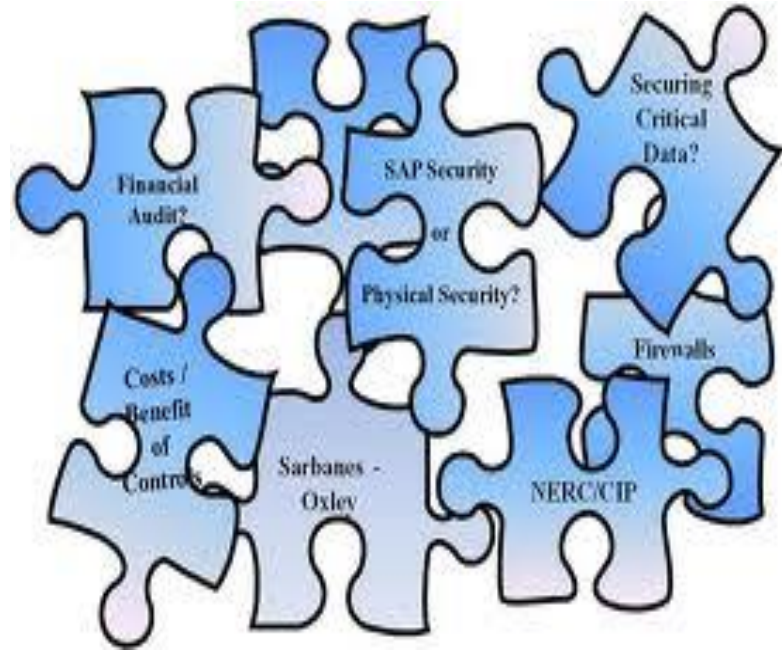
# OSIsoft PI Asset Framework

- The Waterfall PI Connector is a secure network integration solution for OSIsoft PI Asset Framework (PI AF) that replicates the PI Asset Framework from safety-critical and reliability-critical networks to corporate networks, creating new possibilities for secure integration.



# OSIsoft PI Asset Framework

- This solution makes PI System data fully available to external users, without exposing critical and industrial systems to external hacking and online attacks. Waterfall Unidirectional Gateways are a powerful and robust solution for dramatically simplifying compliance programs for NERC-CIP, NRC, NIST, CFATS and other and cyber-security regulations



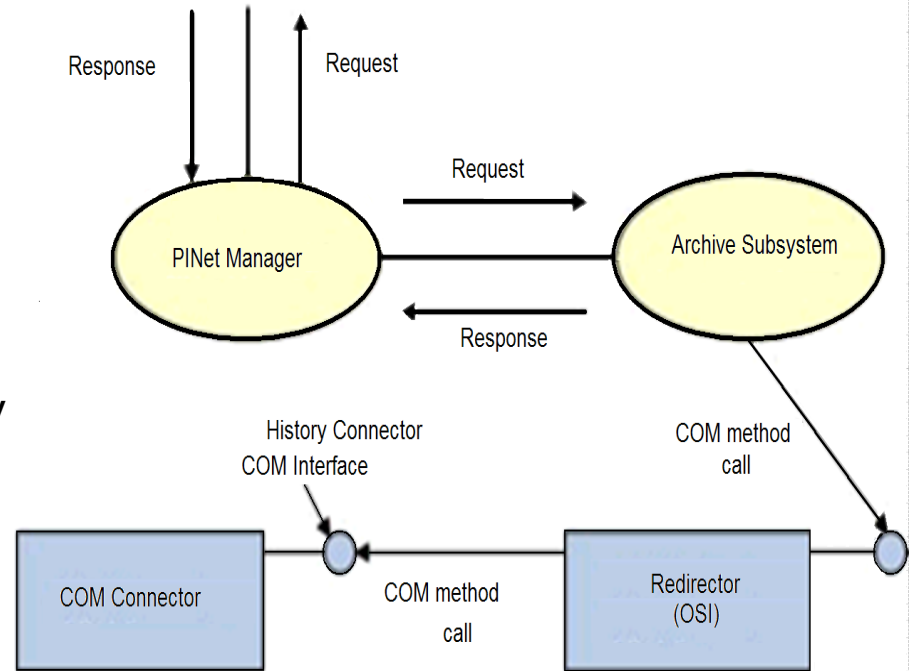
# PI Native Connectors

- The PI AutoPointSync (PI APS) Connector for the Emerson Ovation Interface is a tool for synchronizing the PI Server points for interfaces with the points in the data sources associated with the interface. When synchronizing the PI Server points for an interface instance, PI APS uses an interface specific PI APS Connector to obtain current point definitions from the data source.



# PI COM CONNECTORS

- **Features**
- Use OSIsoft client products to view data from foreign systems;
- One system of record for each data stream since data is not replicated;
- Incorporate native and non-native PI System data on a single display or report;
- Create aggregate values and custom calculations using non-PI System data

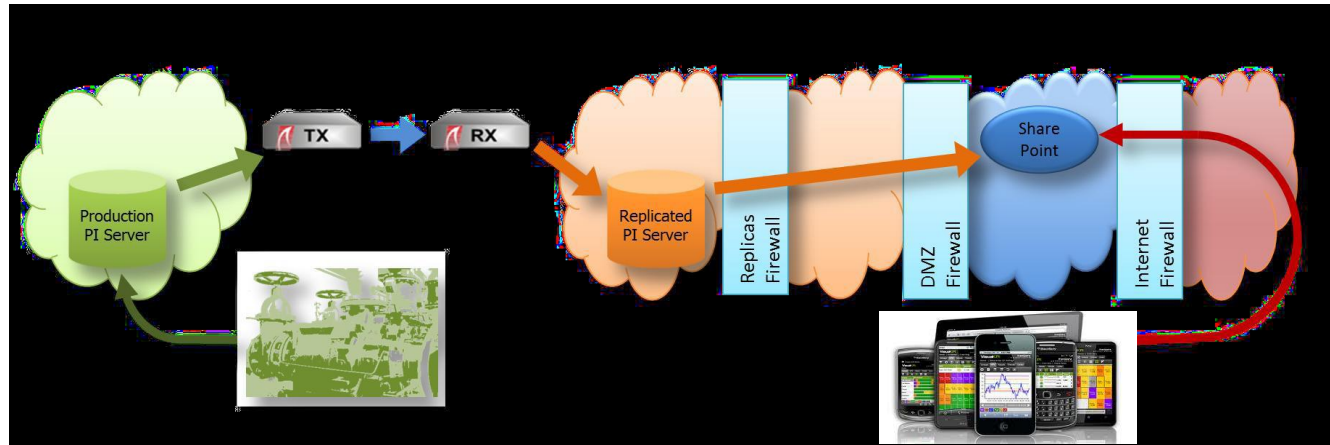


# PI COMM CONNECTORS BENEFITS

- Single source of data. With the PI COM Connector, moving data into the PI System is unnecessary.
- Seamless data access and retrieval from foreign data providers. Establish an infrastructure to present and manipulate foreign data as though it were native PI Server data from a PI Data Archive.
- Information accessible from all PI Client tools. Take advantage of all the power of PI ProcessBook, PI DataLink, PI ActiveView, RtWebParts and the entire suite of OSIsoft client products.
- Component Object Model (COM) compliant objects. Utilize industry standard communication protocols to access information from specifically designed products

# Secure Process Data to Field

- Field crews can compare field equipment readings with Main Control System Center readings on mobile devices
- PI System -> SharePoint -> Internet -> mobile devices
- On-site fault diagnosis, no waiting for over-loaded system operators
- No risk of Internet or external networks compromising the controls system; thus eliminating this risk to water system operations



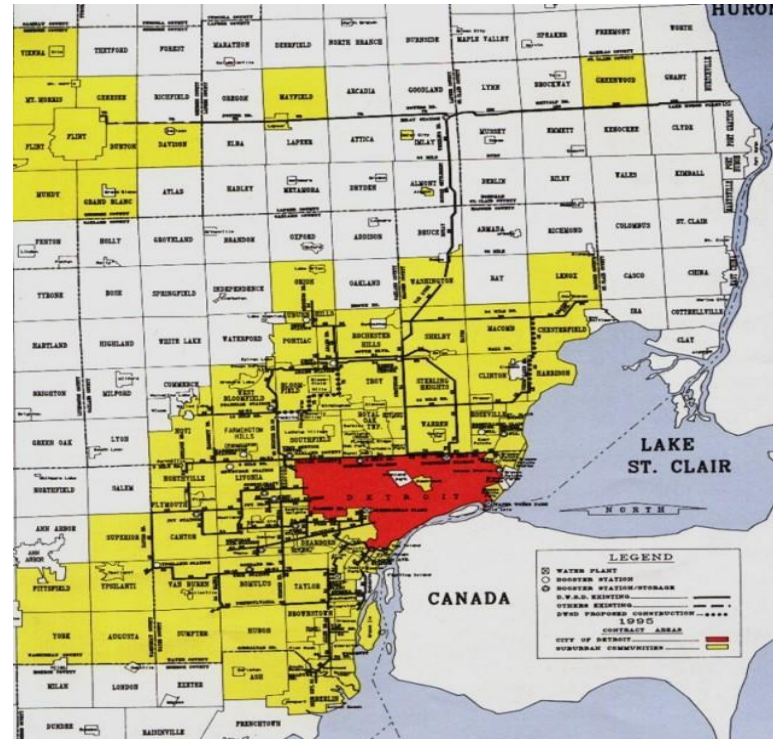


# Savings - \$700,000 over the next 5 yrs

- Optimized utilization of engineering resources
- Eliminate customized programming translations in stand alone devices, which are failure points
- Less time on the maintenance of customizations
- Eliminate use of resources to communicate to Main Control Room for data

# Detroit Water and Sewerage Department

- The City of Detroit Water and Sewerage Department (DWSD) provides roughly 4 million residents in southeastern Michigan with an average of 610 million gallons of water per day. Its main Wastewater Treatment Plant (WWTP) is one of the largest single-site WWTPs in the United States; it collects and treats residential, commercial and industrial wastewater for 76 southeast Michigan communities and the City of Detroit



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# THANK

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