

NOVEMBER 2022

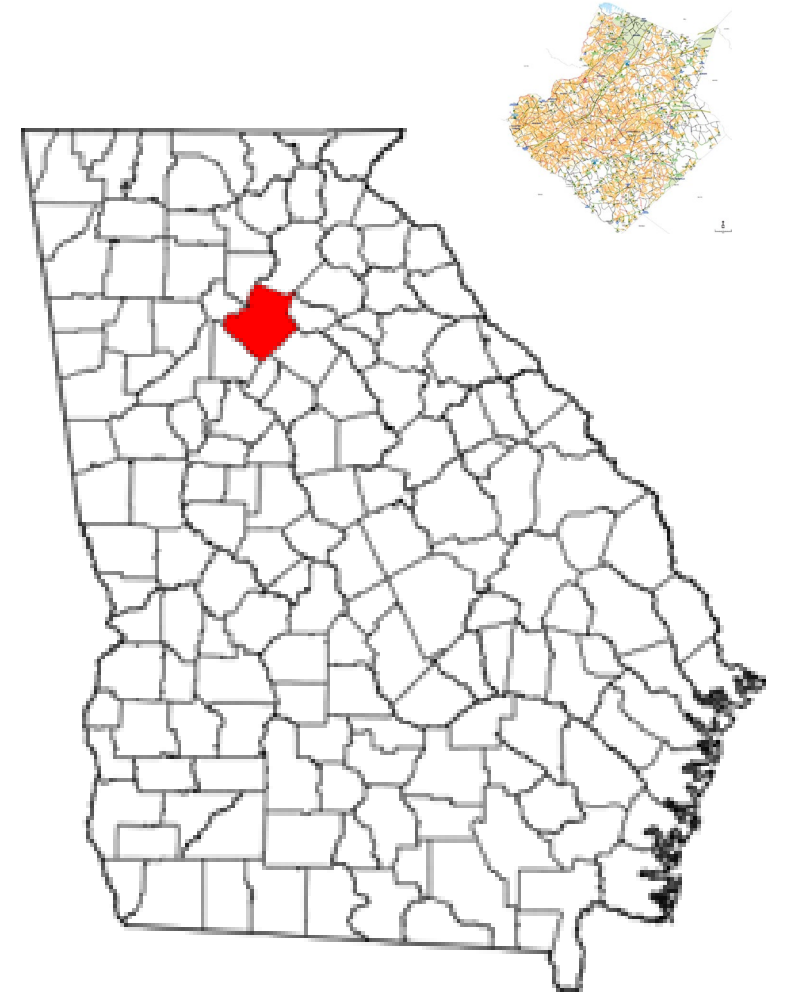
Gwinnett County's unified platform to improve performance and optimize water production

AVEVA

About Gwinnett Water Resources

SCADA Modernization

- Share the journey towards SCADA modernization
- Deployment of UOC
- Implementation of cyber security
- Lessons learned throughout this journey





Outreach and Education

- About 40 miles north of ATL Airport
- Spread out about 437 sq miles
- With a population close to one million people

Award-Winning Water



Peak Performance Award
Platinum 2010-2019

Excellence in Management
Platinum 2022



Utility of the Future
2016



Adopt-A-Stream
Trainer of the Year
2020



Platinum Certified
Green Community
2018



Research Innovation
and Outstanding
Subscriber Award
2022



Plant of the Year –
Crooked Creek WRF
2022

Best Tasting Water
2022

Outreach and Education

Since 2017, DWR has:

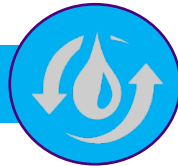
- Removed **150,163lbs** of trash and debris from streams, floodplains, and roadsides at volunteer **113 events**
- Conducted **88 workshops** for **1,576 attendees** on topics from water conservation to pollution prevention
- Made **338 visits** to schools and educated **44,556 students** with the *Water on Wheels* education program



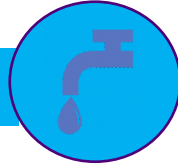
The Department of Water Resources

Mission: To provide superior water service at an excellent value

2 Water production Plants



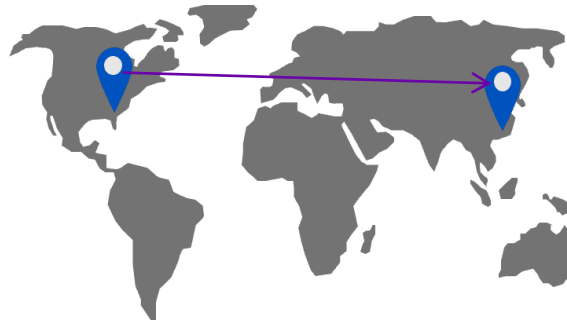
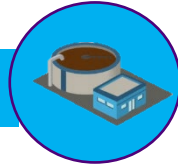
Water Distribution System



WW Collection System



3 WW Reclamation Plants



Protecting Public Health



World Class Water System



Digital Transformation



Utility of the future

SCADA Modernization

Gwinnett County DWR

SCADA UOC Access Portal

Standardization of SCADA systems

New Situational awareness graphics

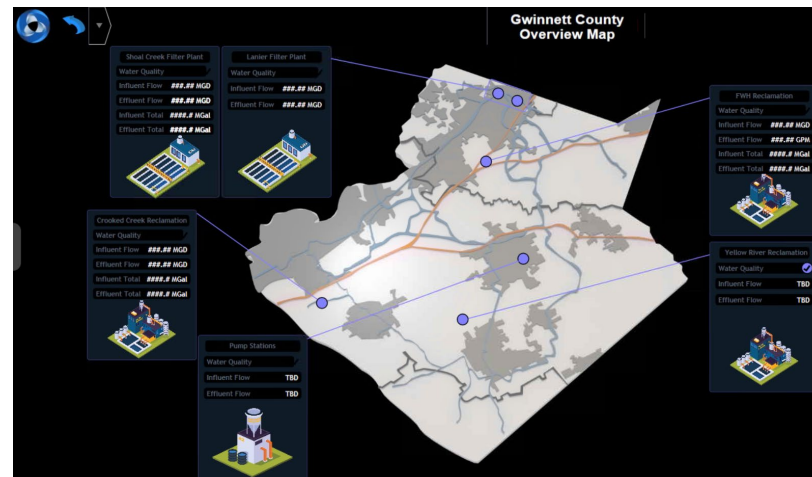
Improved redundancy and reliability



Unified SCADA Platform - UOC

Challenges & Mitigation strategies

Secret behind the success !



Working to be a Utility of the Future

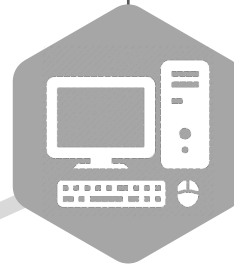
DWR Strategy

- Continuous improvement through personal commitment, innovation, efficiency, and education

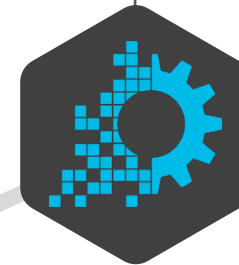
*Providing
fundamental &
reliable services*



*Optimizing
operations,
delivery and
Support*



*Transforming
operations and
systems to meet
future needs*



*Continue to be a utility
of the future*



World-class upstream operations



Challenge

Providing a secured unified platform to improve performance and optimize water production with a focus on sustainability

Solution

Deployed a full range of AVEVA products and integrated technologies to support distributed Process Monitoring & Advanced Analytics on multiple platforms

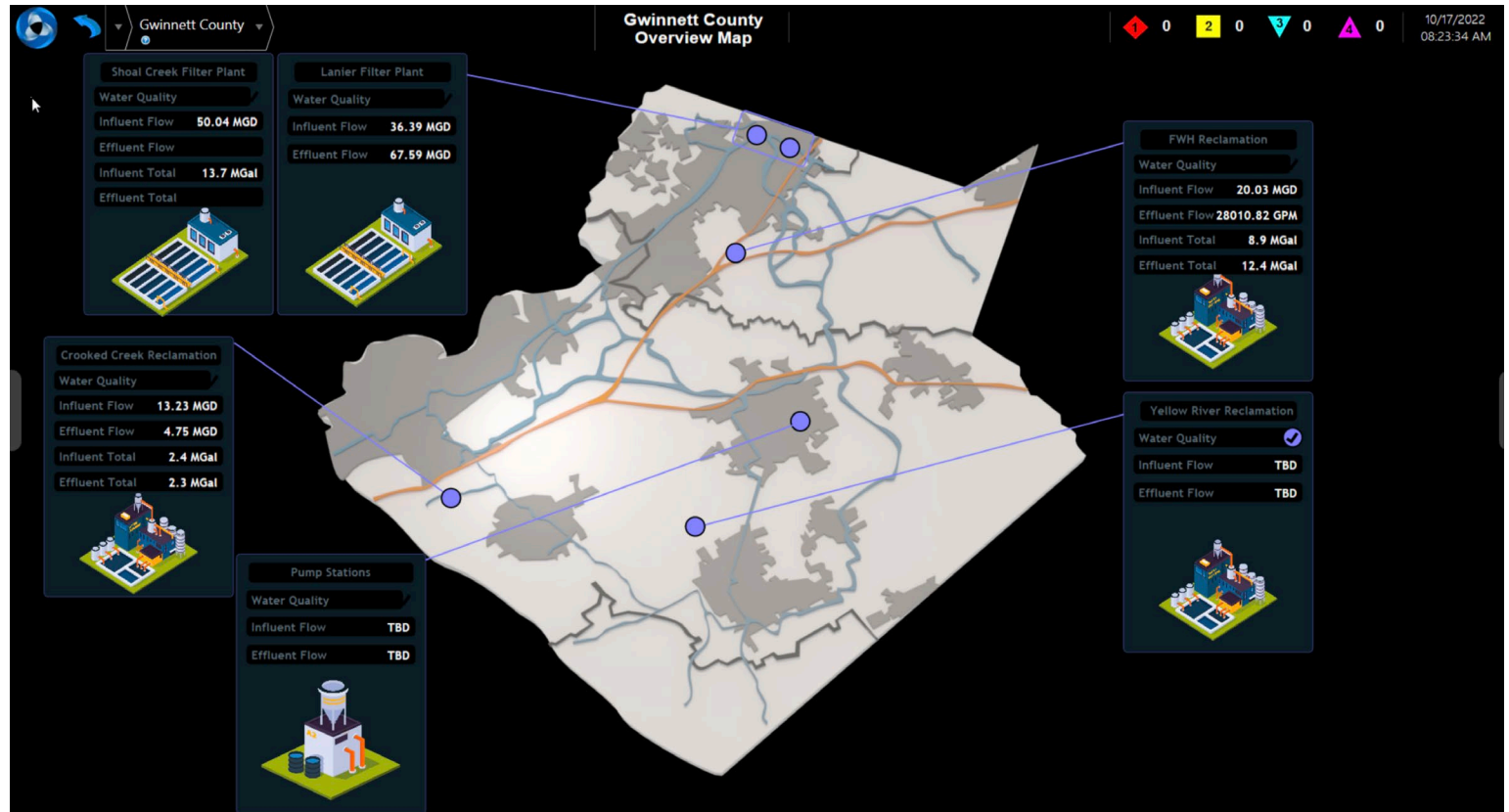
Benefits

Increased production and operational efficiency, reduced costs, mobile inspections, exception-based surveillance, significantly accelerated 'Time to Value' for Advanced Analytics & Machine Learning projects

Project Challenges

Improve Performance & Optimize Water Production

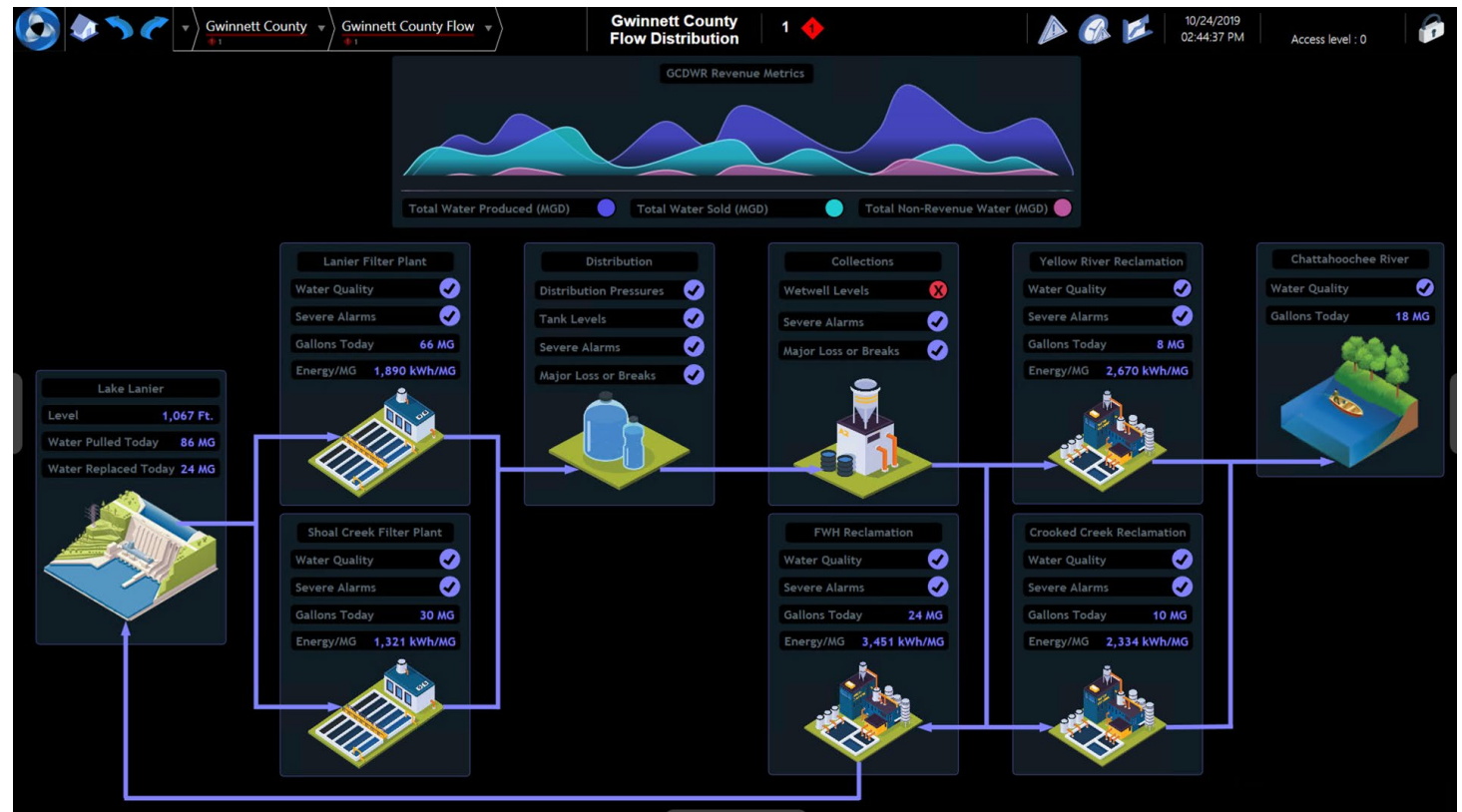
- Visibility
 - Unified platform County-Wide
 - Remote Workers
- Design
 - Aligning UI with emerging workforce
 - Adaptability & Consistency
- Analytics
 - Anomaly Detection
 - Preventive Maintenance
 - Pump Performance



Project Solution

Deploying a full range of AVEVA products

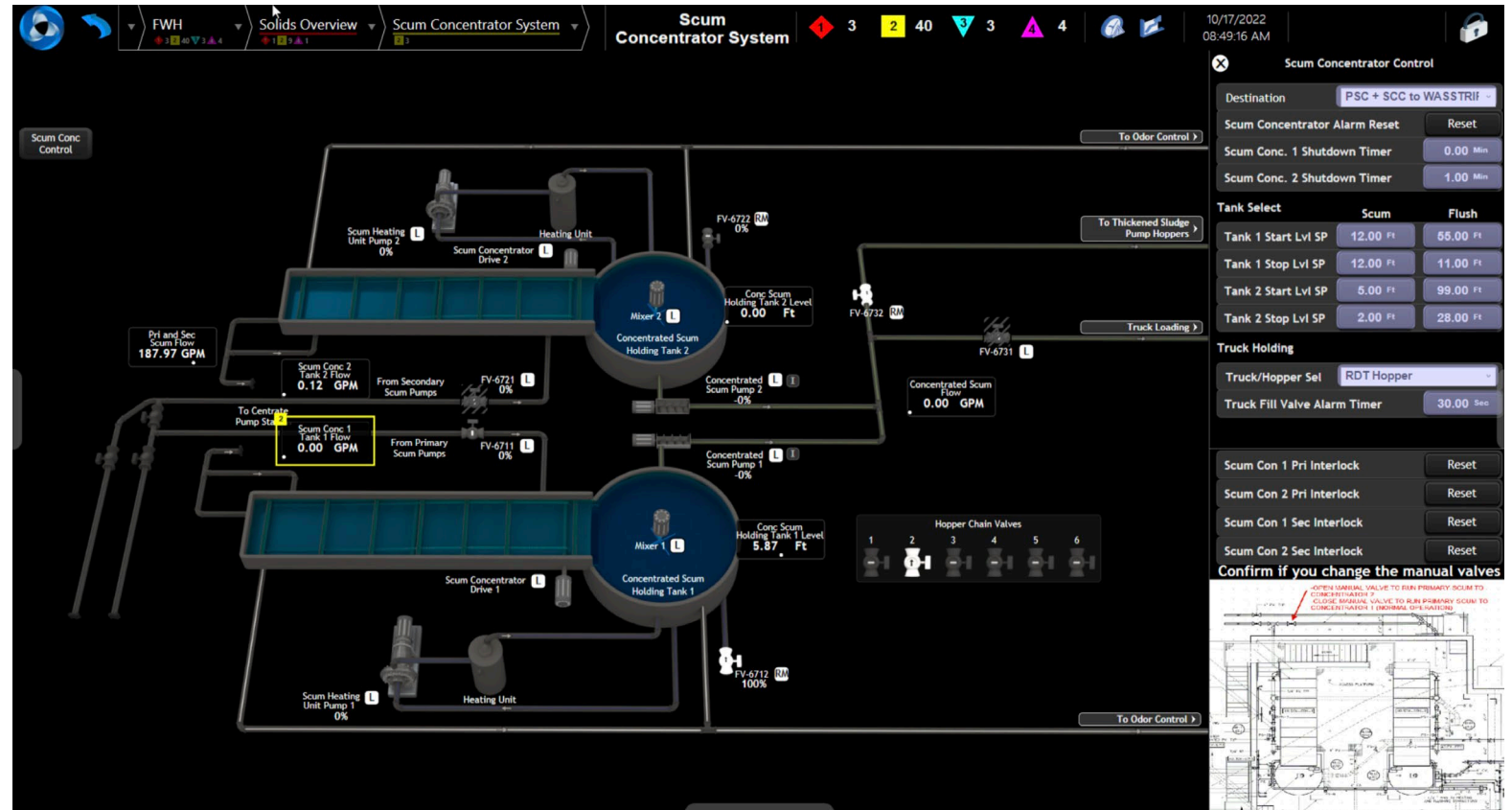
- Unified Platform
 - Multi Galaxy (DMZ & Enterprise)
 - Access Anywhere OMI
- Data Analytics & Access
 - Historical Replication
 - Analytical Platforms
 - Reporting
- Security
 - Architecture
 - 2FA
 - Privileged Access



Delivering Digital Transformation

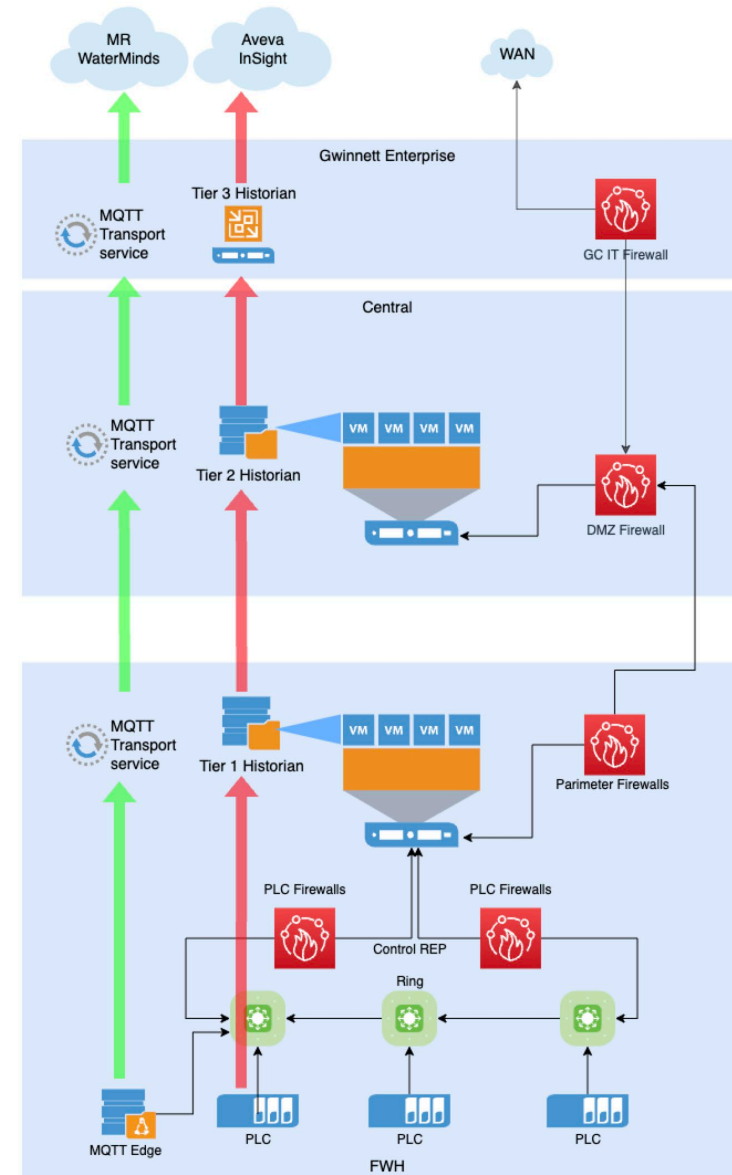
Unified Platform

- UOC
 - Multi Galaxy (DMZ & Enterprise)
 - Access Anywhere OMI
- OMI (Plant Level)
 - Design Concepts & Situational Awareness
 - PreVision (Visual Pattern Recognition)
 - Playback
- Enterprise Level
 - Insight View (Cloud)
 - AI/ML (Behavioral Analysis)
- Story
 - Flow Totalizer Analysis
 - Water Loss



Data Analytics & Access

- Tiered Historians
 - Replication
 - Segregated and Segmented Network
- Aveva Analytical Platform
 - InSight
 - AI/ML (Behavioral Analysis)
 - Aveva Reports
 - SCADA Playback
 - Historical Process Screens
 - Relevant Equipment
- External Platforms
 - Tableau
 - PowerBI
 - Hach Wims
 - Alexa Integration



Data Analytics & Access

- The screenshot displays the 'Machine Learning Artificial Intelligence' dashboard. At the top, there's a navigation bar with icons for various functions and a date/time stamp of 10/24/2019 03:30:00 PM. Below this is a search and filter section with dropdown menus for 'Date Filter', 'Feedback Filter', and 'Type Filter'. The main content area is divided into two parts. On the left, there's a sidebar menu with options like 'All Equipment', 'DWRDMZHIST02', and 'Insight'. The central part features a table with columns for Tag, Timestamp, Location, News, and Feedback. The table lists several news items related to equipment status and flow rates. To the right of the table, there's a vertical list of feedback buttons. Below the table, there's a section titled 'DWRDMZHIST02.WRFWH_401_NRS_CE2_412113_FLOW.ENG_VAI has lower variation than usual'. This section contains an area chart showing a green line representing normal variability and a red shaded area indicating lower variation. The x-axis shows timestamps from 10/16/2019 2:49:39 AM to 10/16/2019 3:22:59 AM. A legend at the bottom explains that areas in red exhibit lower than normal variability.

Tag	Timestamp	Location	News	Feedback
DWRDMZHIST02.WRFWH_253_SEC_CB_242I	10/16/2019 9:23:59 PM	GCDWR/SCADA/Reports/WRFWH_253_SE	DWRDMZHIST02.WRFWH_253_SEC_CB_242101_FL	
DWRDMZHIST02.WRFWH_371_EFF_BYP_371	10/16/2019 8:43:20 PM	GCDWR/SCADA/Reports/WRFWH_371_EFI	DWRDMZHIST02.WRFWH_371_EFF_BYP_371308_FL	
DWRDMZHIST02.WRFWH_371_EFF_TOT_37130	10/16/2019 3:58:42 PM	GCDWR/SCADA/Reports/WRFWH_371_EFF_T	DWRDMZHIST02.WRFWH_371_EFF_TOT_371300_FLOW	
DWRDMZHIST02.WRFWH_610_ELE_LTG_61950	10/16/2019 2:17:13 PM	GCDWR/WRFWH/HighLine/SanitaryPS/WRF	DWRDMZHIST02.WRFWH_610_ELE_LTG_619501_CONT	
DWRDMZHIST02.WRFWH_401_DWC_FD_40300	10/16/2019 11:14:42 AM	GCDWR/SCADA/Reports/WRFWH_401_DWC_	DWRDMZHIST02.WRFWH_401_DWC_FD_403000_FLOW	
DWRDMZHIST02.WRFWH_341_GAC_15A_3454	10/16/2019 9:53:35 AM	GCDWR/SCADA/Reports/WRFWH_341_GAC_	DWRDMZHIST02.WRFWH_341_GAC_15A_345409_FLO	
DWRDMZHIST02.WRFWH_341_GAC_17A_3474	10/16/2019 9:33:15 AM	GCDWR/SCADA/Reports/WRFWH_341_GAC_	DWRDMZHIST02.WRFWH_341_GAC_17A_347409_FLO	
DWRDMZHIST02.WRFWH_401_NRS_CE2_41211	10/16/2019 3:47:29 AM	GCDWR/SCADA/Reports/WRFWH_401_NRS_I	DWRDMZHIST02.WRFWH_401_NRS_CE2_412113_FLOW	
DWRDMZHIST02.WRFWH_322_GAC_BWS_321C	10/16/2019 12:24:27 AM	GCDWR/SCADA/Reports/WRFWH_322_GAC_J	DWRDMZHIST02.WRFWH_322_GAC_BWS_321005_FLO	
DWRDMZHIST02.WRFWH_371_EFF_NW3_37131	10/15/2019 11:43:53 PM	GCDWR/SCADA/Reports/WRFWH_371_EFF_N	DWRDMZHIST02.WRFWH_371_EFF_NW3_371304_FLO	
DWRDMZHIST02.WRFWH_401_FOG_FD_40505	10/15/2019 11:43:49 PM	GCDWR/SCADA/Reports/WRFWH_401_FOG_I	DWRDMZHIST02.WRFWH_401_FOG_FD_405056_FLOW	

DWRDMZHIST02.WRFWH_401_NRS_CE2_412113_FLOW.ENG_VAI has lower variation than usual

The chart shows a green line representing normal variability and a red shaded area indicating lower variation. The x-axis shows timestamps from 10/16/2019 2:49:39 AM to 10/16/2019 3:22:59 AM.

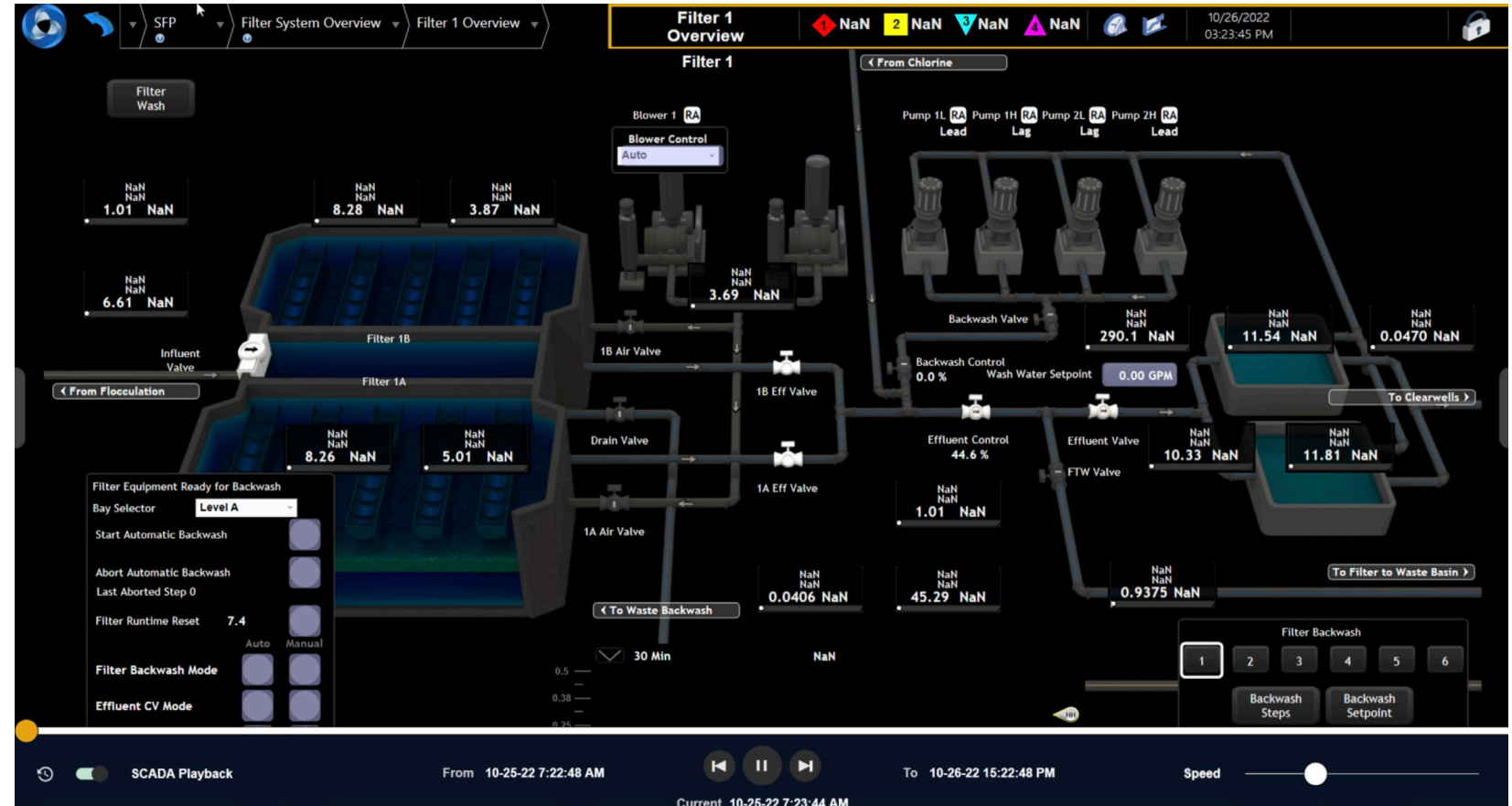
Areas in red exhibit lower than normal variability.

The data source is DWRDMZHIST02.
posted 10/16/2019 3:47:29 AM.

Delivering Digital Transformation

Data Analytics & Access

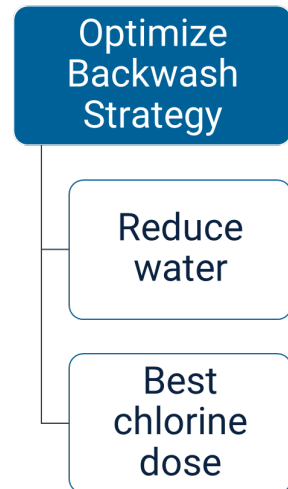
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Impact of Digital Transformation

- Production Optimization – By using situational awareness graphics, it helps Ops to make decisions faster and easier.
- By using the data from Tired historians,
- Reduced Equipment and energy use

- Asset Maintenance





Optimize Backwash Strategy

Reduce
water

Best
chlorine
dose

Questions?

Please wait for the microphone.
State your name and company.



Please remember to...


Navigate to this session in the mobile
app to complete the survey.



Thank you!

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ABOUT AVEVA

AVEVA is a global leader in industrial software, sparking ingenuity to drive responsible use of the world's resources. The company's secure industrial cloud platform and applications enable businesses to harness the power of their information and improve collaboration with customers, suppliers and partners.

Over 20,000 enterprises in over 100 countries rely on AVEVA to help them deliver life's essentials: safe and reliable energy, food, medicines, infrastructure and more. By connecting people with trusted information and AI-enriched insights, AVEVA enables teams to engineer efficiently and optimize operations, driving growth and sustainability.

Named as one of the world's most innovative companies, AVEVA supports customers with open solutions and the expertise of more than 6,400 employees, 5,000 partners and 5,700 certified developers. With operations around the globe, we are headquartered in Cambridge, UK and listed on the London Stock Exchange's FTSE 100.

Learn more at www.aveva.com