

3D TRASAR™ TECHNOLOGY FOR POST-TREATMENT:

**Good for Water.
Good for Business.**

ECOLAB® | **NALCO** Water

BEGIN →

Water Is a Powerful Force in a Business' Operations.

However, It Poses Great Challenges:

- + Inconsistent Quality
- + Susceptible to Contamination
- + Difficult to Monitor and Manage
- + Decreasing Supply / Scarcity
- + Stringent Industry Demands

= **Inefficiency, Waste, Hazards and Expense**

With Wastewater, It Becomes Even More Challenging

INDUSTRIES TODAY FACE:

Variable Water Quality & Flow

Increasing Production Demand

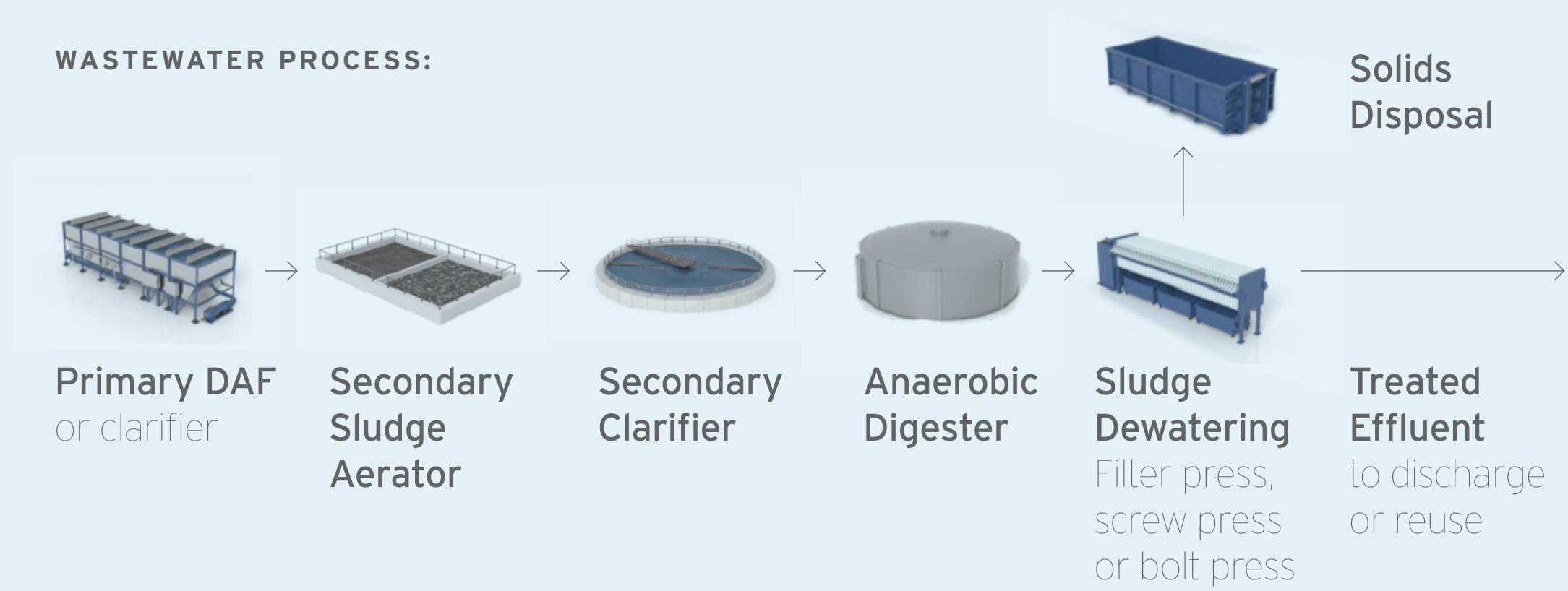
Lack of Operational Visibility

High Operational Costs

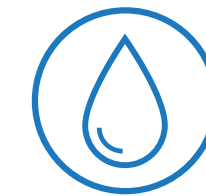


We Understand the Key Variables That Drive Wastewater Management

WASTEWATER PROCESS:



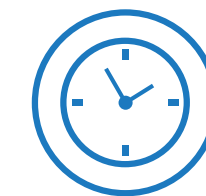
Reliability & Safety



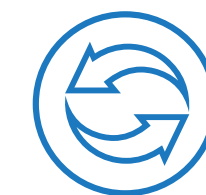
Environmental Compliance



Total Cost of Operation



Ease of Use & Labor Efficiency



Sustainability

3D TRASAR™ Technology for Post-Treatment

Nalco Water delivers measurable results by reliably achieving environmental compliance at the lowest total cost of operation.

OPTIMIZE

Chemical Usage

SAFER

Chemical Handling

REDUCE

Surcharges
& Hauling Costs

IMPROVED

Monitoring
& Performance

MEET

Discharge Permits

REDUCED

Chemical Discharge

LOWER

Labor Dependency

RECYCLABLE

Packaging

3D TRASAR™ Technology for Post-Treatment Overview

Wastewater Presents Unique Challenges

Wastewater is Dynamic

- Different processes lead to different wastewater streams
- The same wastewater stream can also vary throughout the day
- Wastewater characteristics can vary from site to site

Wastewater is Not Linear

- It requires an integrated approach between chemistry, equipment and automation



Ours Is a Holistic Approach

We understand the interconnectivity of various elements within a wastewater treatment plant.

With 3D TRASAR™ Technology for Post-Treatment, we focus not only on feeding correct chemistry but look across your wastewater operations to achieve the desired results.



3D TRASAR™ Technology for Post-Treatment

Designed to support your unique water needs, 3D TRASAR™ uses a linked ecosystem of smart technology, connected chemistry, extensive expertise and actionable insights to further optimize your operation.



Extensive Expertise



Smart Technology



Connected Chemistry



Actionable Insights

POWERED BY ECOLAB3D™

3D TRASAR™ Technology for Post-Treatment

A platform that includes Nalco Water's latest and most advanced technologies.

EXTENSIVE EXPERTISE

- 90+ years of water treatment experience
- 1000+ onsite wastewater experts
- Local and global network of experts for ongoing support
- R&D (Innovation) and analytical services

ADVANCED POLYMER ACTIVATION

- Dry Flocculant Activation system
- Liquid Flocculant Activation system

SMART TECHNOLOGY

DOSING & CONTROL

- Flow-based: 3D TRASAR™
- Performance-based: 3D TRASAR™ for DAF

MIXING TECHNOLOGIES

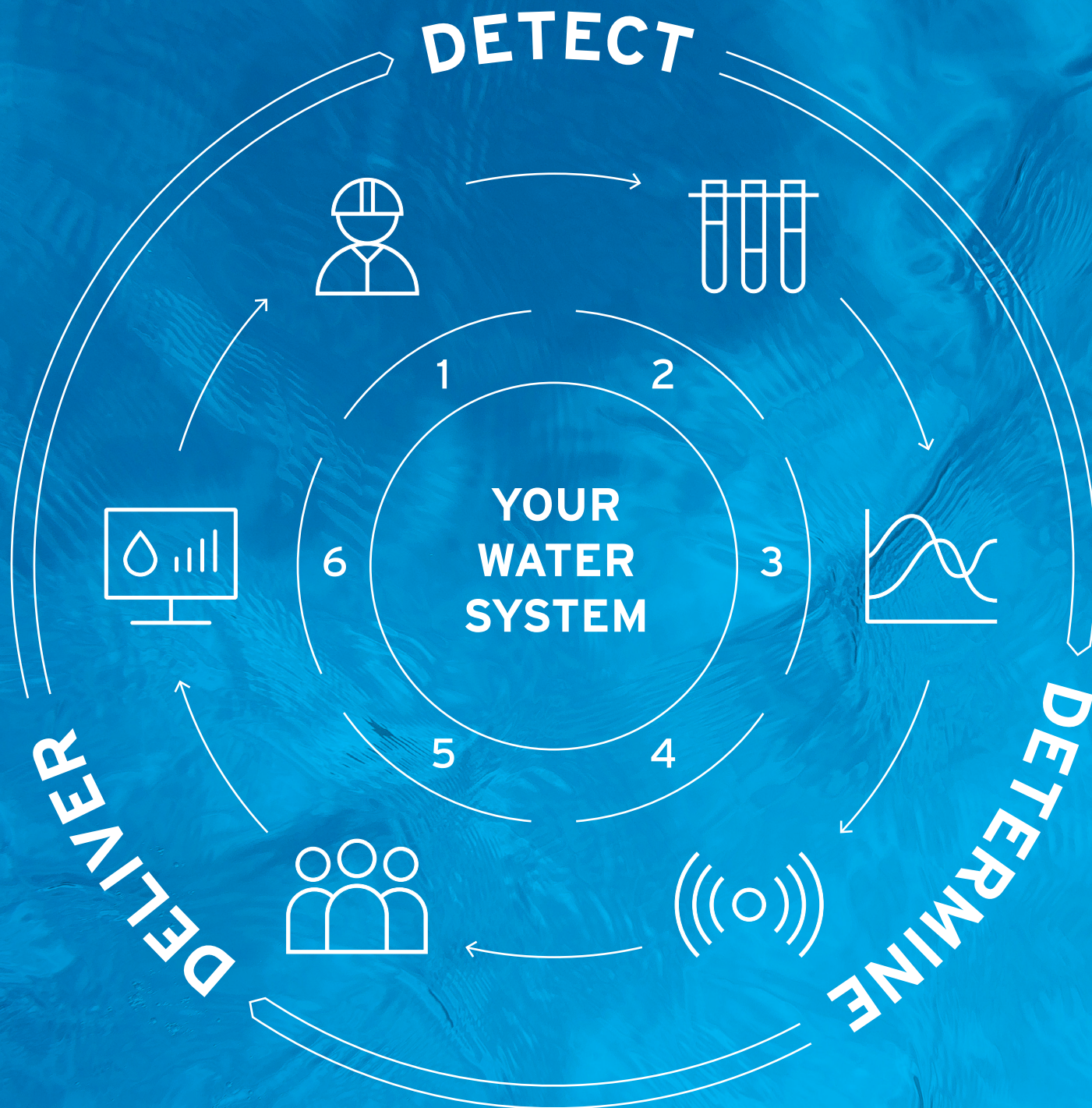
- Pareto™ mixing technology for DAF & Clarifiers
- Flocmaster™ mixing technology for dewatering

ACTIONABLE INSIGHTS

- Automated reporting and alarming
- Actionable dynamic visual dashboard via ECOLAB3D™
- 24/7/365 remote monitoring by System Assurance Center

CONNECTED CHEMISTRY

- Ultra-high molecular weight dry flocculants
- New structured latex emulsion flocculants



3D TRASAR™ Process

- 1 On-Site Technical Services/Expertise
- 2 Chemicals & Equipment
- 3 Modeling & Optimization
- 4 Best-in-Class Automation
- 5 System Assurance Center
- 6 Customer Data Services

Extensive Expertise

Nalco Water Is Committed to Service Excellence

With 90+ years of water treatment experience, we're uniquely positioned to tackle the challenges of variability in wastewater



- Our sales engineers and industry technical experts work closely with you on-site, understanding the interconnectivity of your plant's processes and recommending solutions to fit your plant's KPIs and drive value
- With our advanced ECOLAB3D™ digital platform and 24/7 remote monitoring capabilities, we're uniquely positioned to serve you any time
- Our managed operations capabilities are positioned to provide end-to-end solutions with wastewater operations for complete peace of mind
- Our years of research expertise and data intelligence constantly drives innovations that provide our customers with better and more proactive capabilities

Local Expertise

Local service representatives providing hands-on expertise to manage system performance and ensure operational objectives are met.

1,000+ Wastewater
On-Site Experts

Hands-On
Problem Solvers

Knowledgeable

Results-Oriented





Global Support Network



1 Industry-Aligned Business Teams

2 Industry Technical Consultants

3 Peer Connected Communities

4 Equipment Help Desk

5 Technical Expertise Center

6 Research & Development Scientists



Our Digital Capabilities Are Built for Your Wastewater Needs

- Remote monitoring keeps watch over your system 24/7/365, even when your staff can't be there
- Critical alarms help you proactively control parameters beyond discharge limits
- Our data intelligence delivers powerful insights into your wastewater process
- Real-time data via online dashboards allows you to track system performance and benchmarks
- With better data visibility, you can make smarter decisions about wastewater management



Smart Technology

Advanced Polymer Activation

- Patented automation solutions for both dry & liquid polymer
- Reliable polymer activation of 95% or more for improved sludge quality and throughput
- Compact, low maintenance and easy to install and operate
- Award-winning chemistry packaging that is safe to handle & dust-free for dry polymer
- Help reduce total cost of operation up to 20%*



Smart Dose Technology

- Patented 3D TRASAR™ performance- & flow-based solutions
- Continuous monitoring and control
- Help improve chemical dosing by quickly identifying and responding to process changes
- Optimization of labor in wastewater plant



Application Technologies

- PARETO™ & FLOCMASTER™ mixing technologies
- Help maximize chemical effectiveness
- Reduced chemical consumption based on improved coagulation and flocculation
- Reduced fresh water and energy demands
- Lower sludge disposal volume and disposal cost per ton due to cake solids



Connected Chemistry

Custom-Fit Chemistry, Selected & Fed to Meet Your System's Unique Needs

Effective Chemistry

- GRAS-, NSF- & CFIA-compliant chemistry
- Newest, ultra-high molecular weight and highly structured flocculants
- A variety of delivery options, including our award-winning Porta-feed™ delivery service
- Highly experienced wastewater consultants help select right mix of chemistry for your system



Actionable Insights



System Assurance Center

The global center for 3D TRASAR™, comprised of proactive experts watching over your water systems and delivering real results.



Connected

Customer Systems Monitored

24/7

Systems Monitored Daily

25k+

Knowledgeable

Engineering / Analytic Experts

140

Years of Proven Experience & Success

10+

Responsive

Corrective Actions Taken

2.2M

Critical System Upsets Averted per Year

64k

Dashboards and Reports

Access real-time data visibility via online dashboards, allowing you to track system performance and benchmarks.



Visibility

Access Data in **Real Time**

3D TRASAR™ Controllers Connected **25k+**

Insightful

Data Points Collected per Year **72B**

Amount of Data Collected per Year **5TB**

Actionable

System Reports Sent per Month **68k**

Chemical Tank Levels Monitored **10k**

ECOLAB^{3D}TM

Is the digital platform that helps you translate data into meaningful actions and implement solutions that improve operational efficiency and reduce environmental impact.



**Detect Anomalies
& Find Insights**



**Real-Time
Monitoring**



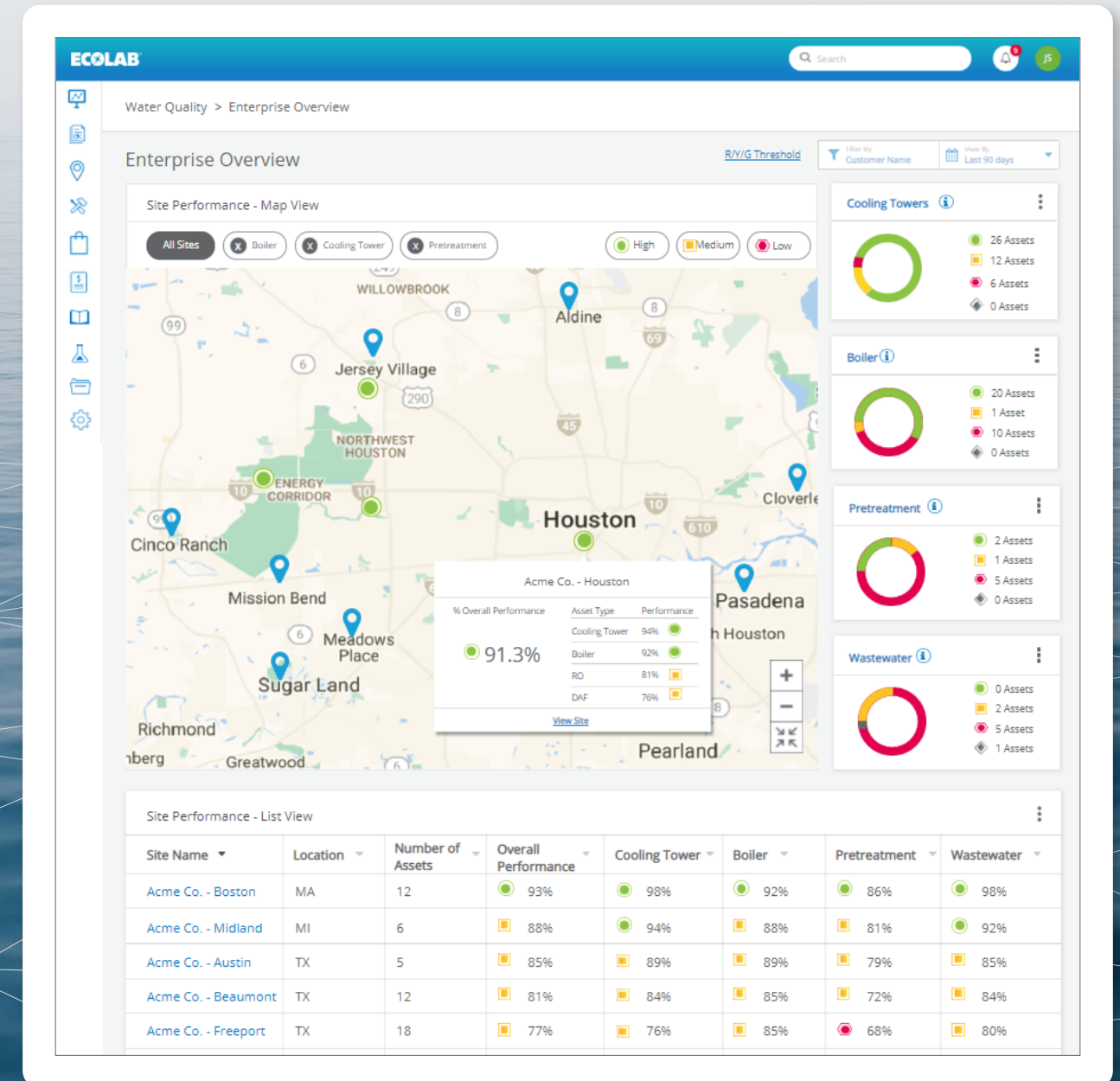
**Enterprise Rollups
& Drilldowns**



**Prioritize
Resources**



**Benchmark
& Optimize**





At Nalco Water, we strive to provide our customers with peace of mind while managing their wastewater operations.

We fulfill our commitment through our unparalleled support capabilities, digital expertise and continuous innovation, helping our customers reliably achieve environmental compliance at the lowest total cost of operation through:

- Optimized chemical usage
- Lower surcharges or EPA fines
- Reduced sludge hauling costs
- Better system monitoring & performance
- Improved safety & sustainability footprint

[CONTACT US TO GET STARTED](#) ↗