



# Your Goals Are Our Goals

## ➤ ALUMINUM INDUSTRY

Solving challenges that impact your business most



WATER



ENERGY



QUALITY



COSTS



ASSET  
PROTECTION

# Commitment to Success

Nalco Water drives results in the areas that matter most to your operation.

## > Water & Energy use

Our technologies help customers reduce, reuse and recycle water while improving process efficiency to lower energy use and environmental footprint.

## > Reliable Product Quality

Our unique combination of chemistry, automation and monitoring helps minimize water variability to maintain reliability and minimize defects.

## > Cost Management & Reduction

Integrated solutions that help reduce resource consumption, protect assets, improve productivity and help prevent water-related quality issues.

## > Asset Protection

We have the programs to help protect and extend the life of your critical systems: cooling water, boiler water, wastewater plants, molds and casters.

**NALCO**Water  
An Ecolab Company

## Experience Leading To Measurable Impact



### 130 Countries

Serving the biggest aluminum customers throughout the world



### Water Treatment Expertise

Industrial Technical Consultants — on-site and remote



### 300+ Aluminum Plants

Monitored each year by 3D TRASAR™ technology and Global Intelligence Center



### 796,088,000 lbs. of CO<sub>2</sub> Emissions Eliminated

With reduced scrap rework



### Your Sustainable Growth Partner

Moving forward, faster, together toward creating 2030 Positive Impact



### Water Intensity

The combined savings from aluminum-producing customers per year is **2.6M gallons of water**



# Customized Solutions for the Challenges Your Plant Faces

## Exceptional System Control



### 3D TRASAR™ Technology

Reliable and connected water monitoring systems detect out-of-spec conditions and help determine the appropriate corrective action to deliver exceptional performance from your boiler, cooling tower, extrusion system and reverse osmosis.

## Extend Asset Life

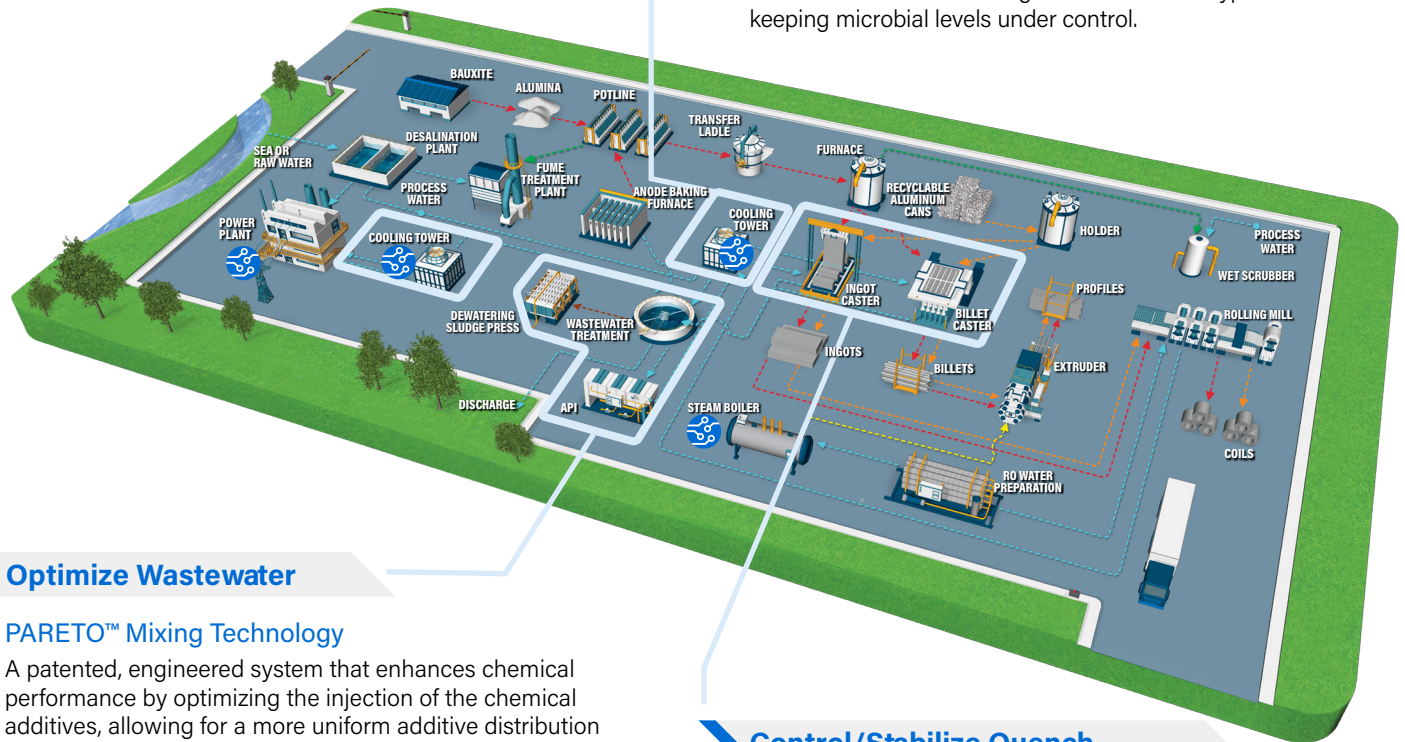
### Yellow metals corrosion inhibitor

Stable, high performance corrosion inhibition that helps ensure compliance, is less toxic to aquatic life and supports extended asset life of molds.

## Improve Safety with Biocide Control

### PURATE™

Efficient, cost-effective on-site production of  $\text{ClO}_2$  to help minimize chemical handling and undesirable byproducts while keeping microbial levels under control.



## Optimize Wastewater

### PARETO™ Mixing Technology

A patented, engineered system that enhances chemical performance by optimizing the injection of the chemical additives, allowing for a more uniform additive distribution to be achieved in a shorter time compared to traditional injection systems.

### Advanced Polymer Activation System (ADPAS)

Patented, automated solutions for dispensing and activating dry powdered polymers and emulsion latex products used in industrial wastewater treatment applications.

### FLOCMASTER™

Mixing technology combined with a Nalco Water Sludge Dewatering Program integrates all your chemical, equipment and service needs for an optimum sludge management operation.

## Control/Stabilize Quench

### NALQUENCH™

Consistent water quenchability at the caster can help support operational efficiency, contribute to extended asset life, help prevent defects and scrap and reduce environmental footprint by lowering remelt-related energy use.

## Digital Insights Powered by ECOLAB3D™

ECOLAB3D™, our secure, cloud-based platform contextualizes your operational data into actionable insights. It leverages advanced algorithms and predictive analytics to enable quick detection of issues for faster resolution. When combined with our industry-leading expertise, ECOLAB3D™ digital services through Water Quality Intelligence help to improve your operational efficiency and water resiliency.



## Case Studies

Aluminum Casting Facility | North America

### Partnership to Reduce: Scrap Rates, Casting Water Variability and Operational Costs



#### Situation:

The customer faced increasing costs, decreasing recovery rates in key alloys and the loss of technical expertise and focus from their vendor.

#### Solution:

A detailed and specific program helped identify important issues. Nalco Water proposed a combination of proprietary technology, on-site expertise, process management, digital monitoring, automation and accountability.

#### Results:

Reduced overall scrap rate &  
Improved recovery in key alloys  
over a 3-year period:

Water-related scrap ↓ \$800K      Water-related aborts ↓ \$74K

Reduced downtime between casts  
with a block spray system

More predictable & stable casting water  
Quench deviation in spec for 31 consecutive months

Reduced overall costs

**TOTAL VALUE DELIVERED = \$3.3M**



Scan or click for the  
FULL CASE STUDY

Aluminum Plant | Latin America

### Nalco Water PURATE™ Technology Saves \$3.3 Million



#### Situation:

The customer was looking to lower production costs, obtain higher production rates, reduce chemical handling and cut down on the amount of scrap.

#### Solution:

To improve the microbiological control, the Nalco Water team used PURATE™ technology. This technology, unlike other programs, produces ClO<sub>2</sub> in a proper generator under controlled conditions, resulting in greater safety and efficiency in the application.

#### Results:

Increase in the  
Concentration cycle ↑15%

Reduced water  
consumption ↓20%

Reduced chemical  
consumption ↓54%

Reduced need of mold cleaning &  
replacement, saving \$124K per mold

Increased productivity with plate efficiency  
shifting from 97.6 to 99.1

**Total value delivered = \$3.3M**



Scan or click for the  
FULL CASE STUDY



Scan or click for more information about how  
**Nalco water supports the goals  
of aluminum processing plants**

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