FOR **PROFITABLE AND RELIABLE OPERATION** IN THE NITROGEN PROCESSING INDUSTRY
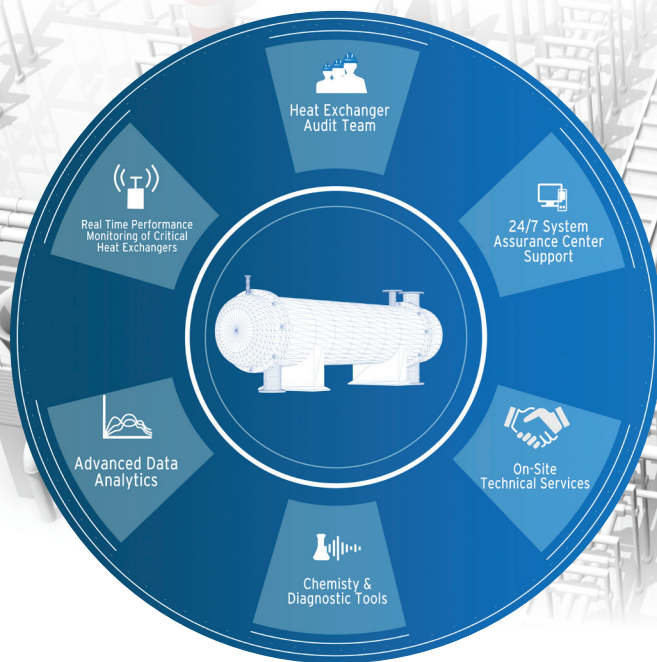
OMNI™
Total Heat Exchanger Performance

Nalco Water offers OMNI, a comprehensive platform that combines in-depth system audits, unique diagnostic tools, 24/7 monitoring, and high-performance chemistry, for the nitrogen processing industry.

A first-of-its-kind program **guaranteed** to maximize operational efficiency and improve your business outcomes – safely and sustainable.

- Heat Exchanger Audit Team
- Real Time Performance Monitoring of Critical Heat Exchangers
- 24/7 System Assurance Center Support
- Advanced Data Analytics
- On-Site Technical Services
- Chemisty & Diagnostic Tools

▶ PREDICT

Performance is predicted by using cloud analytics in partnership with Microsoft

▶ PREVENT

Generate insights about performance that allow our customers to prevent unscheduled downtime and make adequate business decisions.

▶ PROLONG

Extend asset life and prolong runtime by enhancing the ability to take proactive actions based on data insights.

Predictive Analytics & Optimization

ADVANCED MONITORING

- Non-invasive OMNI™ Heat Exchanger sensor technology
- MOC simulation replicates heat exchanger conditions, delivering real-time data to eliminate corrosion
- 24/7 asset monitoring by System Assurance Center
- Real-time U-value available on comprehensive enVision dashboard

HOLISTIC INSIGHTS

- Digital data combined with consultative analytics for total water planning
- Intimate knowledge of your full operation including ancillary assets

EXPERT SERVICE

- Skilled technical team measures current performance against design
- Valuable service provided by onsite team
- Customized solutions implemented by true experts

Partnership:

Leverage the power of the cloud to analyze data and securely deliver insights to a local plant or across an enterprise.

Microsoft

NALC❂ Water
An Ecolab Company

OMNI™ Total Heat Exchanger Performance

Optimizes Reliability, Asset Protection, and Total Operating Costs in Two Nitrogen Production Facilities

CHALLENGE:

Two different nitrogen fertilizer production facilities were facing challenging cooling water conditions:

- >20mils of localized corrosion of the heat exchanger tubes reducing life-cycle.
- High organic deposits of microbiological fouling cause potential downtime for cleaning,

SOLUTION:

The OMNI Heat Exchanger Performance platform was used to diagnose the root cause on each case, and identify potential mechanical, operational or chemistry solutions to the issues.

The OMNI solution included simulations of the actual conditions, online KPI tracking, simulation of critical conditions of the heat exchanger, in-depth system audits, and 24/7 monitoring.

RESULTS:

In the first facility, based on this new understanding of the nature of the corrosion deposits and the performance under actual heat flux conditions, the cooling water treatment program was adjusted. After these program changes, only slight corrosion was observed and pit depths were 0.1 mpy, a 99% improvement and a quantum change in asset protection.

In the second facility, the amount of bleach being added was adjusted using KPIs and ORP, Free Chlorine residuals. Restoring and maintaining U-Value performance, the plant avoided a projected cleaning date and was able to extend their production run until the scheduled maintenance turnaround.

OMNI Impact at Nitrogen Facilities:

PRODUCTIVITY

PREVENT
Production losses
>$2.4M

PROLONG
HX Time To Failures
>5 months

ASSETS

PROLONG
Life Cycle Extension
>$80K

PREVENT
Cleaning Cost
>$75K

Read the full case study on the Nalco Water OMNI Total Heat Exchanger Performance web page

- Contact Nalco Water: omni@ecolab.com
- Nalco Water: https://www.ecolab.com/OMNI-HX
- YouTube: https://www.youtube.com/watch?v=2zFTsWQy15U

NALCO WATER DIFFERENCE

We provide a unique combination of world-class service, total impact solutions and unsurpassed expertise to guarantee reliable high performance.