Nalco Water, an Ecolab Company: Committed to sustainability

Today, at over 70,000 locations worldwide, Nalco Water is actively helping customers to meet their sustainability goals. In fact we have been doing this for over 75 years, delivering significant environmental, social and economic benefits through the use of our water treatment, process and other programmes. By helping customers to use less water and energy, the earth's precious resources are conserved; emissions to air and water are reduced, protecting the environment; and process and operational efficiencies are improved, reducing costs, protecting assets, and facilitating investment.

We mirror these commitments to improvement at the customer site with efforts to minimise our own water and carbon footprints, energy use, and emissions. We also participate in important global initiatives as a key stakeholder in our common future. These include the Carbon Disclosure Project, The United Nations Global Compact, and the CEO Water Mandate. Since 2011, Nalco Water is part of Ecolab Inc.

water for people

WWF

3D TRASAR™ Boiler Technology and IPPC

3D TRASAR Technology meets the requirements of the Best Available Techniques for operation of indstrial membrane systems under the EU Integrated Pollution Prevention & Control (IPPC) legislation in the categories of increasing overall energy efficiency, reducing water use, reducing emissions to air, and reducing emissions to water.

3D TRASAR™ Membrane Technology

Delivering Superior Sustainability Performance

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3D TRASAR Membrane Technology

Your Challenges

In today's challenging business environment, companies are continuously striving to enhance safety, reliability, profitability and efficiency, while trying to improve overall sustainability performance, including environmental compliance.

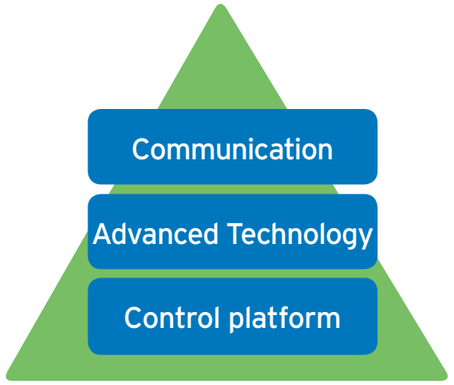
Excellent control of reverse osmosis (RO) feed water chemistry is essential in maintaining the energy efficiency and integrity of your RO plant. Improved management of your plant's membrane system will have a major impact upon asset integrity and performance.

Our new and innovative 3D TRASAR Membrane Technology can make a significant contribution to your goals.

Driving Sustainability

3D TRASAR Membrane Technology is the innovative and unique reverse osmosis membrane treatment package designed to deliver superior sustainability performance, operational efficiency, and asset protection. This ground-breaking technology continuously responds to changes in reverse osmosis operation and feedwater quality, reducing membrane fouling, ensuring optimal membrane cleaning frequency and minimising energy usage.

How we Deliver on Our Promise



3D TRASAR™

Nalco Water has built this innovation on the 3D TRASAR Technology platform. This combines novel sensor technology, advanced treatment programmes, modern communication, and expert consultancy. 3D TRASAR Membrane Technology provides real-time performance information, detailed reporting, a proactive response to changing conditions, and 24/7 peace of mind, all supported by a team of experts that understands the many challenges surrounding steam generation.

Case History

A company based in southern Europe operates several Reverse Osmosis (RO) plants in the region which are used to produce and distribute potable water. Nalco Water technology has been used to successfully treat these RO plants since their start-up some years ago, and some of the RO trains currently use Nalco Water technology for process monitoring and control.

The new 3D TRASAR Membrane Technology was put in place at the site, including the full suite of monitoring and control capabilities

3D TRASAR Membrane Technology delivered superior sustainability performance improvements for the customer, including:

- Savings of >41,000 m^3 (>6.25%) of fresh water used per annum
- Elimination of >41,000 m3 (>25%) waste water discharged per annum
- Reduction in energy demand for production equivalent to >9% per year
- Overall annualised reduction in treatment programme consumables of >15%

3D TRASAR Membrane Technology delivers measurable results

WATER	ENERGY	AIR	ASSETS	EARTH
Minimises membrane cleaning costs	Maintains and improves energy efficiency	Comtributes to lower greenhouse gas emissions	Protects valuable assets	protects staff through safer operations
Can provide an early warning for raw water break through	Minimises scaling tendency on RO membrane surfaces	Improves air quality	Assures that RO plant is available to generation of high qualit permeate	reduces waste materials and volumes
Optimises antiscalant dosage rates	Minimises pump energy usage	Reduces contribution to global warming	Minimises the cost to operate the RO plant	protects the earth's non-renewable & renewable resources
	Reduces non-renewable energy demand	Minimises risk to public health	Maximises the RO membrane asset life	Minimises carbon and water footprint