

Improved Operational Uptime and 13% Reduction in Water Treatment Costs with KETOS SHIELD

Multinational Steel Company Implemented the KETOS SHIELD to Proactively Monitor Water Quality to Identify and Prevent Further Corrosion Risks

KETOS Customer

A multinational steel company with more than 10 million tons of installed capacity worldwide. This steel manufacturer services shipyards, oilfield fabricators, heavy equipment producers, and other end-users needing high-quality carbon plating.

Challenge

The customer operation leveraged multiple water sources to cool motors, heat exchangers, and pumps. The team used traditional, manual testing methods, including handheld devices and lab tests.

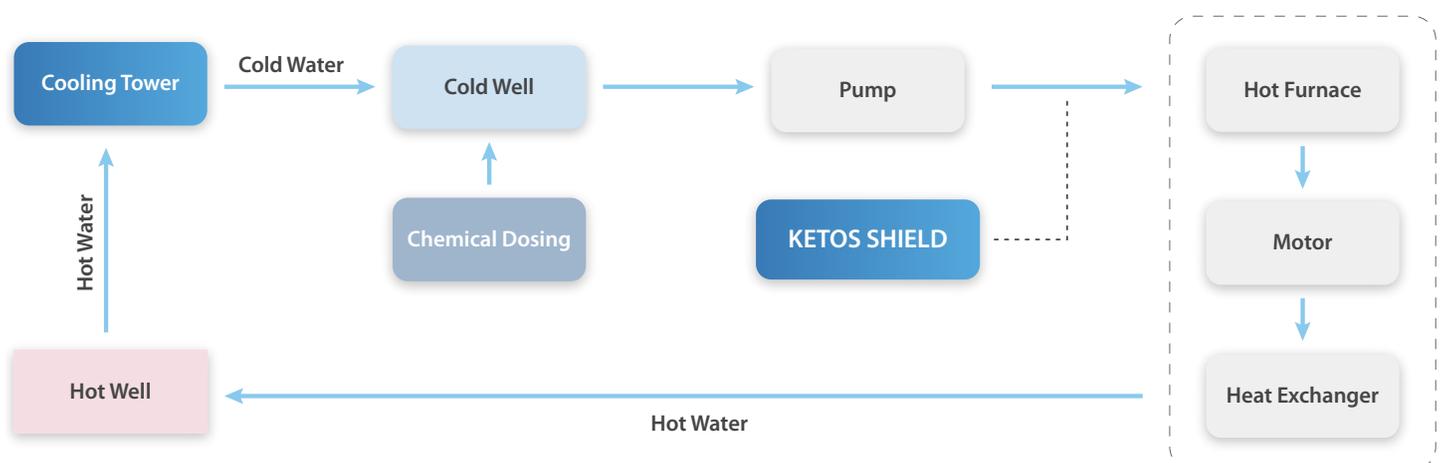
Collecting samples and sending them to labs could take days or weeks to get test results, resulting in water quality and operational blind spots. When technicians used handheld devices, test results could vary somewhat from one technician to the next.

Without a consistent process and real-time insight, operators could not easily identify cooling tower scaling or corrosion, significantly impacting operational uptime and productivity. In addition, the team often over-treated water to ensure compliance.



Solution

The team implemented the KETOS SHIELD remote monitoring device to monitor water quality from the cold well pit that cooled the hot furnace, the motor, and the heat exchanger onsite before it went back through the Cooling Tower (see process diagram below).



In addition, the KETOS Smart Water Intelligence solution was configured to sample and report the continuous environmental parameters every minute automatically, and the scheduled parameters every 6 hours to provide immediate, lab-accurate water quality insight for each of them.

Of particular importance were the LSI measurements - an essential indicator of scaling & corrosion.

Benefit / Outcome

Operational

Real-time data and alerts from the KETOS SHIELD enabled operators to immediately identify unusual LSI levels (a key scaling and corrosion indicator) in the cold well water. As a result, they were able to proactively identify scaling risk in the cooling tower, add chemicals to inhibit scaling, and significantly improve operational uptime.

Water Treatment Savings and Compliance

Lab-accurate water quality data of Free Chlorine and ORP provided the customer with the night they needed to optimize their water treatment approach. As a result, operators were able to reduce the volume of chemicals used - and reduce their treatment costs by 13%.

FREQUENCY OF MEASUREMENT

PARAMETERS MONITORED EVERY MINUTE

- ✓ Conductivity (EC)
- ✓ Dissolved Oxygen
- ✓ pH
- ✓ Oxidation Reduction Potential (ORP)
- ✓ Salinity
- ✓ Specific Gravity
- ✓ Temperature
- ✓ Total Dissolved Solids

SCHEDULED PARAMETERS MONITORED (EVERY 6 HOURS)

- ✓ Alkalinity
- ✓ Calcium
- ✓ Langelier Saturation Index
- ✓ Free Chlorine
- ✓ Temperature



About KETOS

KETOS is a fully integrated platform that combines hardware, software, connectivity, automated reporting, predictive analytics, and maintenance to automate water monitoring and testing. KETOS enables water operators to identify and solve mission-critical water efficiency and quality challenges in real-time, or before they happen through predictive algorithms, to ensure that water meets specific quality and safety standards.

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Proactively Solving Problems with KETOS Analytics

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