Driving Digitalization in the Water Sector to Transform the Way We Treat Water

Rick Bacon, CEO, AMS

At the Forefront of Digitalization

As a relative newcomer to the water treatment industry, unfettered by legacy technologies, Aqua Metrology Systems (AMS) is focused on bringing about a paradigm shift in the way we treat water with the goal of widening access to safe drinking water and reducing the industry's impact on the environment, whether from its effluent discharges or the greenhouse gases (GHGs) it generates.

AMS enters 2023 with an expanding and diverse industrial and municipal client base in the U.S., Europe and Asia, a highly competitive portfolio of advanced water treatment technologies, and several significant achievements in 2022 that position it for a broad-based and robust growth of its **AMS Analytics** and **AMS Environment** divisions in 2023 and beyond.

Encouragingly, this progress has taken place at a time when the global water industry is beginning to recognize its responsibility for a significant share of global GHG emissions and the actions that need to be taken to reduce this. Digitalization of the water industry and the broad adoption of real-time, high-density data and predictive analytics into water and wastewater operations are essential components for bringing about meaningful change and a significant reduction in GHGs.

For the past 12 years, **AMS Analytics** has been at the forefront of the digitalization of the water sector by providing its clients with online, accurate and dependable water quality data. We have maintained an unremitting focus on ensuring the reliability and availability of data through continuous remote monitoring of the condition of our global analyzer network and the support provided by our field-based service network. Our real-time analytical solutions enable clients to optimize water treatment processes and reduce the use of chemicals and energy while meeting ever-wider and more stringent water quality regulations for drinking water and wastewater discharges. In the case of large industrial water users, real-time water quality data enables them to significantly reduce their net water use by controlling the performance of their water reuse systems and managing corrosion of heating and cooling systems more effectively.

ams aqua metrology systems

The extensive experience we have gained from the continuous monitoring of water treatment and corrosion management technologies has been instrumental in the support and fast growth of **AMS Environment**. Our novel in-situ reagent generation system — SafeGuard™ H2O — addresses the multiple weaknesses of traditional treatment systems based on ion exchange, reverse osmosis, electrocoagulation and dosing of bulk chemicals such as organosulfides, ferrous salts, ozone, and phosphates. These legacy technologies have significant lifetime costs. The SafeGuard™ H2O technology is a sustainable and cost-effective system that can be retrofitted easily to existing treatment plants to enable them to meet treatment goals while reducing lifetime costs and GHG emissions. Moreover, this technology can operate with renewable energy sources that further enhance its attractiveness to the global water industry.

Adoption of technology innovations in the water industry takes time; especially when an organization is reliant on obtaining public funding to support product development, trials, and evaluations. AMS has brought its advanced water treatment technologies to market considerably faster by self-funding all stages of innovation and adopting efficient product development strategies that reduce time-to-market. This has been made possible by the long-term and sustained support of our investors, the commitment, innovativeness and experience of the AMS team, and the trust we have built with our clients and consulting engineers who have been willing to travel on this amazing journey with us. To you all we owe our deep gratitude.

AMS Analytics

We expect the trend to adoption of our online water quality monitoring solutions to accelerate with the more widespread digitalization of the water industry, especially with Asia now beginning to embrace this trend.

New regulations in the U.S. aimed at reducing the exposure to lead poisoning from water system corrosion is expected to drive adoption of our lead corrosion risk monitoring solutions.

The rapid expansion of the U.S. semiconductor industry is under increasing pressure to reduce its net use of water and improve the quality of its effluent discharges will provide several opportunities to expand AMS' market leadership position in this sector.

Tighter regulations for the presence of manganese and phosphates will bring with them the need for monitoring and treatment, both of which fall within the capabilities of AMS.

AMS Environment

With the proposal of a lower regulatory limit for Cr6 in California, we expect many of the systems and water sources that will be impacted by it, to begin to take immediate steps to secure compliance. Given the competitive position of the SafeGuard™ H2O system, we expect this to generate significant opportunities for 2023 and beyond.

The cost and performance advantages of SafeGuard™ H2O over traditional treatment technologies are being proven through demonstrations at numerous sites contaminated with arsenic, manganese, hydrogen sulfide, and phosphate. These independently validated demonstration results are also anticipated to drive interest for retrofit of existing systems and new-build applications.

In conclusion, the water treatment industry has committed to deliver on the sustainability goals of Water 2050 that call for a significant reduction in GHG emissions to support the fight against climate change. However, without the broad implementation of online water quality analyzers and intelligent treatment systems, meeting the goals of Water 2050 are unlikely to be realized.

While new treatment facilities will be designed with a focus on reducing carbon footprint, these carbon-conscious facilities are few-and-far between to have a meaningful contribution to the significant reduction in GHG emissions that the water industry has committed to make. Significant reductions in GHG emissions will only be achieved by making upgrades to existing water and wastewater treatment processes that include the broad adoption of digital solutions to help facilities reduce the amount of energy, chemicals and other resources used. At AMS, we stand committed to helping transform the way we treat water by providing facilities with proven solutions that will improve their energy efficiency and help them control their GHG emissions.

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