

Emerson Asset Optimization Business Breaks New Ground

By Larry O'Brien

Summary

Emerson's Asset Optimization business is a separate division under Emerson Process Management. It operates on the same level as the company's Systems and Solutions, Valves and Regulators, and Measurement businesses. This focuses attention and excellence in asset management across all Emerson Process Management's businesses.

Emerson continues to put significant emphasis on its Asset Optimization business, a strategic element of Emerson Process Management's total business. Emerson has set itself apart by covering the broadest scope of production and automation assets in the industry. New developments within the Asset Optimization business include the incorporation of electrical equipment data, an expansion of the company's capabilities in machinery health monitoring, and enhanced uses of predictive diagnostics in wireless offerings.

A Business of Vital Strategic Importance

Emerson Process Management visited ARC recently to brief ARC analysts on the company's Asset Optimization business. This is a separate division under Emerson Process Management. Asset Optimization operates on the same level as the company's Systems and Solutions, Valves and Regulators, and Measurement businesses. The division's ultimate goal is to drive excellence in asset management across all Emerson Process Management businesses. In ARC's view, the Asset Optimization business serves as the fulcrum for the company's overall automation strategy. This strategy is to drive greater integration between control systems, valves, and instrumentation, and to take all the data that comes from these intelligent devices and use it to optimize plant maintenance and operations.

The Asset Optimization division encompasses Emerson's AMS Suite plant asset management (PAM) offerings, as well as other services and technologies for mechanical equipment, electrical systems, process equipment, and field instrumentation and valves. The division officially came into existence in 2004.



While much of the current business for plant asset management solutions is in existing plants, Emerson is trying to get its customers to take a more life-cycle-oriented view of PAM and begin to implement an intelligent asset management strategy in the earliest stages of capital projects. Determining your PAM strategy at the front-end engineering and design (FEED) stage of the project allows you to build in predictive diagnostics and take full advantage of the latest technologies that can drive improved availability and performance.



AMS Suite Now Includes Access to Data from Multiple Types of Equipment across the Plant

Emerson deploys its expanding consulting services to design maintenance strategies and necessary infrastructure to help users successfully install, implement, and incorporate AMS Suite in the plant from the beginning. This ensures that the plant maintenance and operations are optimized from the onset and, with the help of Emerson, allows appropriate changes in the work processes to maximize the benefit of their PAM investments.

Of course, Emerson cannot do this successfully without a compelling economic value proposition, especially today with users more focused on reducing costs. Emerson

promises a 30 percent reduction in automation project costs and an overall 2 percent operational improvement savings through implementation of its PlantWeb technology.

Asset Optimization is divided into two areas of expertise: PlantWeb Technology and Services, and Asset Reliability Services. The former, encompasses Emerson's AMS Suite offerings and related services, while the latter includes a wide range of services designed to increase plant reliability. In the instrument and valve business, this means providing services for startup, OEM repair and replacement, certified calibrations, inventory optimization, on site mobile service centers, and emergency related services.

For mechanical equipment, Emerson offers vibration analysis services, infrared thermography, sonic and ultrasonic analysis, motor analysis, oil analysis, and laser alignment and balancing.

Many in the industry may not be aware that Emerson also offers a wide range of services for electrical equipment. These include electrical equipment acceptance testing and commissioning, engineering services, online partial discharge testing, medium and high voltage testing, arc flash services, equipment retrofits and upgrades, repair services, and emergency services. The critical role of electrical assets is another area that demonstrates that Emerson has built capabilities to be a provider with a comprehensive portfolio that spans critical plant assets.

AMS Suite – The Foundation of PlantWeb Technology and Services

Emerson’s AMS Suite offering is really at the core of their PlantWeb technology and services. Today, AMS Suite goes way beyond the field device-centric PAM solution that it was at its inception. It now interfaces with mechanical, process, and electrical equipment to cover a broad scope of critical plant assets.

Recent Additions to AMS Suite Include Electrical Integration

Emerson’s recent introduction of diagnostics from Schweitzer Engineering Laboratories’ electrical products (such as smart relay switches), illustrates the company’s continued focus on the electrical side of the business. Activities such as these broaden the scope

of critical plant assets integrated into the AMS Suite predictive maintenance application.

Equipment condition diagnostics available through Schweitzer smart protective relays include circuit breaker wear indication, transformer temperature and life expectancy data, motor thermal capacity and statistic data, time stamped sequence of events reports, and other functions.



Motor Protection Relay Dashboard in AMS Suite

The electrical diagnostic intelligence is integrated into AMS Suite.

Integrating these smart relays into AMS Suite can provide significant benefits, including improved availability of electrical equipment and power to run the assets in the plant. Electrical power is the most important asset, for without it automation investments would be for naught. Remote monitoring capabilities alert users of impending electrical equipment failures and sequence-of-event-recording assists in fault troubleshooting. Incorporating electrical data into AMS Suite provides additional intelligence on plant assets to enable better decision-making.

Extending Smart Machinery Health Management

The recently introduced CSI 6500 Machinery Health Monitor for turbomachinery builds on Emerson's platform of predictive diagnostics by integrating prediction and protection into a single rack. Emerson showed this at both its recent Emerson Global Users Exchange and at ARC's October conference in Houston. The CSI 6500 complements the predictive diagnostic capabilities of AMS Suite and integrates with DeltaV and Ovation to provide maintenance and operations with essential machinery information. Emerson has also introduced real-time, online performance monitoring to augment their offline model-based approach to performance monitoring.

Asset Management Goes Wireless

Asset Optimization services and technologies support Emerson's pioneering wireless offerings with a portfolio of wireless asset management capabilities. The offerings include AMS Suite's Wireless interfaces and AMS Wireless SNAP-ON application to help plan and maintain a wireless network. Emerson recently introduced the CSI 9420 Wireless Vibration Transmitter. This has been completely integrated into the AMS environment. The company also offers a wide range of the necessary services for the lifecycle of wireless networks.

More Additions to AMS Suite

The AMS Suite has also been enhanced with the ability to use predictive diagnostics from plant assets to drive work notifications into an EAM/CMMS system. Support for automated work notification includes connections to MAXIMO, SAP, Datastream, and others. Other AMS Suite enhancements deliver ease of use through Enhanced EDDL, the intuitive

user interface that provides helpful images, graphs, and charts to aid in troubleshooting and support decision-making.

Asset Expertise for the Largest Jobs

The Electrical Reliability Services business within Asset Optimization is the largest independent electrical services provider in North America. This business' goal is to help customers improve reliability and performance of medium- and high-voltage electrical distribution systems. Assets served include generating stations, substations, transformers, and switchgear.

The Asset Optimization division also includes an extensive OEM-certified instrument and valve services network across North America that enables the company to marshal resources for even the largest projects. The company has built an entire services business for plant turnarounds and has extensive expertise in disaster recovery.

For further information or to provide feedback on this article, please contact your account manager or the author at lobrien@arcweb.com. ARC Views are published and copyrighted by ARC Advisory Group. The information is proprietary to ARC and no part of it may be reproduced without prior permission from ARC.