

## Emerson Process Management Helps Clients Achieve Top Quartile Performance

Emerson Process Management is a leader in helping businesses automate their production, processing and distribution across a variety of industries such as oil & gas, chemical & petrochemical, water & wastewater treatment and power generation just to name a few. Emerson helps with these automation processes through combining reliable products and state-of-the-art technology with innovative products, superior industry-specific engineering, consulting, project management and maintenance services.

From the very beginning of operations, one of Emerson's key initiatives has always been to put clients' needs first and foremost. This is done through close collaboration with the customer to learn exactly what solutions are required and then developing quality valve automation products to fulfill those needs. Late last year, Emerson launched a new key initiative entitled Project Certainty, which helps customers achieve Top Quartile project performance by eliminating cost, reducing complexity and accommodating change. This is yet another way that Emerson is able to do what it does best: help and support its clients. Emerson's Valve Automation has embraced this important initiative by launching three new products to its actuation technologies portfolio: DCMLink™ Software, SMART EHO Electro Hydraulic Operator and the Bettis RGS Q-Series and F-Series, which all assist clients in achieving and maintaining Top Quartile performance.

Valve World Americas had the pleasure of speaking with Dave Plum, President Emerson Valve Automation, Vikas Sharma, Director Product Marketing and Terri Melle-Johnson, Global Marketing Communications Manager, Valve Automation about the company's Project Certainty initiative, how it helps achieve Top Quartile performance and how Valve Automation's latest product offerings support that initiative.

By Candace Allison & Sarah Bradley

Emerson launched Project Certainty as a way of addressing a growing industry demand for transformational improvements in capital project execution. The main focus of the initiative is to utilize innovative technology along with an engineering-based approach to help improve capital efficiency and maintain more reliable project schedules. Due to project excesses, billions of dollars are lost annually in oil and gas exploration and production, hydrocarbon and gas processing, chemical, pharmaceutical, and other process industries. According to industry data, over 65 percent of projects greater than \$1 billion fail, with companies exceeding their budgets by more than 25 percent or missing schedules by more than 50 percent. Routinely, they also face operational problems continuing into the second year of operations. This consistently poor project performance can be a serious deterrent to process manufacturers considering new investments.

### Transforming the industry

"Many industries and customers find that projects are no longer sustainable, given current budget limits and stories of schedule excess," says Dave Plum. "It takes a comprehensive approach like Project Certainty to achieve game-changing project performance."

Emerson's Project Certainty begins with early engagement during engineering and design studies to define project goals and high impact strategies to meet those goals. Despite traditionally accounting for approximately four percent of a project investment, automation is revealing unique and repeatable ways to eliminate cost reduce complexity and accommodate late-stage project changes, beyond the automation discipline.

For example, Project Certainty relies on the right design engineering strategy to eliminate centralized control system room re-



Emerson's Bettis actuation products are built for industrial automation applications to provide high performance and safety reliability.

quirements by 70 to 80 percent, and can eliminate piping in some applications up to 50 to 60 percent. Additionally, tens of millions of dollars in capital spare parts can be eliminated through project-wide equipment reliability analysis. "Our role as a business unit within Emerson is to support Project Certainty with better solutions to achieve valve actuation. We work to reduce complexity of supplier dependencies, eliminate bottlenecks, drive concurrent work streams when possible, and simplify availability of data and documentation. This is done through better work processes and proper product selection, but also with innovative technologies that provide data rich features," says Plum.

Addressing one of the greatest project vulnerabilities, Project Certainty significantly improves project schedule performance. Dave challenges that technologies and proven methodologies which propel a project to achieve Top Quartile performance are available. It just takes collaboration and commitment to eliminate out-dated project approaches. That is the way to drive industry change.

### Achieving Top Quartile

It is exactly this change of the entire industry that needs to happen in order to transform a company from being just "good enough" to becoming a true "Top Quartile" performer. Emerson's Valve Automation is committed to helping its clients accomplish their goals through continuous improvement of efficiency, safety and reliability. One of the ways that Emerson is helping its customers

become Top Quartile performers is by identifying opportunities for both continuous improvement and fundamental transformation through the innovative new online tool EmersonTopQuartile.com. The combination of blog and website is a growing compilation of provocative leadership posts on topics ranging from the industry's inexplicable acceptance of project underperformance to deriving real business value from the industrial Internet of Things. The site is intended to spark conversation among technical specialists and business decision-makers about what is truly possible, urging them to question the status quo in pursuit of dramatic performance improvement.

As Scott McWilliams, Vice President of Global Operations at Emerson Process Management, aptly stated, "Why address a situation only after it negatively impacts the bottom-line? The damage is done." He cited the example of how many industries adopt a standard of "Abnormal Situation Management." That is, protocols and procedures outlining what to do in the event of a deviation from normal operation. Certainly, a company must have a game plan to mitigate damages, but McWilliams argues why isn't more effort put into "Abnormal Situation Prevention" instead? After all, if the abnormal situation is prevented, it never has to be managed in the first place. He continued, "A quick fix of a broken part or asset at a manufacturing plant isn't a success story. Instead, it is an example of autonomous decisions that operate on a run-to-fail approach instead of a reliability approach."



Bettis EHO



RGS Stainless Pneumatic Actuator

## lients Achieve Top Quartile Performance

A culture change is needed to re-emphasize the benefits of adopting a more proactive approach. Maintenance should be scheduled in advance, and that is where advanced technology comes in to monitor and measure situations. It is necessary to know and anticipate what spare parts are needed and when maintenance should take place (before a part breaks) to prevent wasting money. In order to ensure assets are available when needed and thus increase net income, these assets must be kept in optimal shape.

### Innovative new products

Also helping customers successfully achieve Top Quartile performance is Emerson Process Management Valve Automation's full product portfolio. These wide ranges of dependable valve actuation technologies result from close collaboration with clients and have been proven to reliably, safely and effectively complete the job. This has never been more applicable than the three new product offerings that Emerson Process Management Valve Automation has recently introduced into the market. The DCMLink Software, the Bettis EHO Electro hydraulic operator and the Bettis RGS-Series pneumatic actuator are all perfect examples of meeting current industry needs while also fitting into Emerson's key initiatives of Project Certainty and Top Quartile performance.

### DCMLink Software

Released in December 2015, the DCMLink Software is the command and control software that can be used with most of the Valve Automation electric actuators. It is an innovative software platform that can enhance plant productivity by joining together all electric actuators on common platform. This allows plant operators to gain deeper insights into asset status and performance, enabling them to be more proactive instead of merely retroactive.

Vikas Sharma, says this about DCMLink: "The DCMLink™ software allows Emerson customers to diagnose, configure, and monitor all electric actuators from a central location independent of protocol, actuator or host system. Whether it is viewing real time operating characteristics or live actionable diagnostic data straight from the actuator, plant operators will benefit from improved productivity and increased actuator reliability and asset maintenance effectiveness. Integration with the Emerson PlantWeb™ digital plant architecture and synergy with Emerson software products will not

only reduce customer learning curve but also ensure smooth transition and a tighter integration with other Emerson productivity solutions."

The properties of the DCMLink Software permits users to configure, monitor and diagnose all electric actuators from a central location independent of protocol, actuator or host system. The software extends the useful life of field assets by providing actuator data gathering, condition monitoring, events log and prioritization of actuator alarms in a unified and consistent user interface. It further allows customers to have real-time actuator status and remote monitoring with live trending of critical parameters of over 50 alarms. In fact, whether it is viewing value torque profile, live trending data or actionable alarms straight from the actuator, plant operators are able to access detailed monitoring and diagnostics data, allowing them to take action before a fault occurs, which aligns perfectly with Emerson's Project Certainty initiative. The product also offers advanced control and diagnostics, including torque profile curves, initiating partial stroke test or emergency shut down and alarms in NE-107 format. The current communications support included Modbus, TCP-IP and Bluetooth.

Terri Melle-Johnson explained that, "Emerson leads in developing a single, unified actuator platform technology for electric actuators. DCMLink provides real-time actuator monitoring and control, integrated management of asset data, profiles, alarm and event logs from one dashboard for multiple actuators. Plant operators no longer have to walk around with a laptop to upgrade multiple actuators in the plant or visit hazardous locations."

### SMART EHO Electro Hydraulic Operator

Emerson's SMART EHO Electro Hydraulic Operator was designed for electric powered actuator applications requiring fail-safe capability, when the electric powered actuator has a low power consumption requirement and requires fast close or open stroking times. Many remote aging pipelines do not have reliable electric-power sources, which is why Emerson's EHO can also be solar powered. This is also ideal for shutdown pipeline situations where electric power sources may not be reliable. The technology answers the critical pump station emergency shutdown service requirement with reliability and safety. The EHO is also well-suited for use with fail-safe ESD valves at tank farms or terminals, in critical pump station emergen-



cy shutdown service and with critical shut off valves in refineries or plants where instrument air is not available.

Furthermore, the SMART EHO integrates with Emerson's new DCMLink Diagnostic, Configuration and Monitoring Software enhancing plant productivity by unifying all electric actuators on a common platform while allowing plant operators to gain deeper insights into asset status and performance.

### Bettis RGS Q-Series and F-Series

The Bettis RGS Q-Series and F-Series pneumatic actuators were specifically designed for use in extreme environments such as high-temperature, high-pressure and/or high-corrosion atmospheres. These severe service environments demand reliable products with superior control and unmatched reliability because there is absolutely no room for failure. Once again, highlighting Emerson's Project Certainty initiative, the Bettis RGS Q-Series and F-Series pneumatic actuators work on the premise of being proactive since they are able to withstand many severe services in which they are placed. They also don't require constant maintenance, which helps minimize any downtime to maintain the actuator, not to mention giving the customer substantial savings in labor and equipment.

### SMART new innovation

Emerson's 'SMART' capabilities also include a wireless technology that is transforming the industry by providing solutions to countless process applications. These wireless products provide technology that creates an opportunity for the customer to effectively implement a variety of solutions that were previously operationally or cost prohibitive. Also, as safety is always a top priority for customers in all process industries, the wireless technology enables Emerson's customers to remove people from potentially hazardous environments.

Wireless technology has been proven to accelerate development and implementation of other capabilities for the customer in a cost effective, flexible and secure way.

Emerson Valve Automation's quest to partner with, and solve customer problems using wireless Valve Operating Systems™ (VOS) with either pneumatic or electric actuators, leads a new trend in the industry. Emerson's wireless VOS address these challenges: worker safety, worker efficiency, higher production efficiency, reduction of lost batches and environmental protection. By combining a 4300 series wireless controller, actuator and accessories as a complete kit, Emerson creates value by simplifying the entire procurement process. Wired and wireless VOS assemblies can be installed on-site as a complete unit, fully documented and ready for use. Emerson Valve Automation's wireless VOS fits together with the other Emerson wireless solutions like their Prevasive Sensing™ solution, the PlantWeb™ digital plant architecture and the Rosemount™ line of wireless transmitters, sensors, and guided wave radar all brought together with the Rosemount™ Wireless Gateway.

These innovative products are one of the ways that Emerson's Valve Automation is supporting Emerson's overall key initiative of Project Certainty by using dependable and reliable materials that will prevent problems with failures and/or shutdowns before they occur. By using this proactive strategy companies are able to eliminate costs through reducing complexity and helping to achieve and maintain Top Quartile project performance, something that Emerson wants for all of its client companies. As Melle-Johnson explained, "We approach each project with leading edge innovation for providing safer, more cost effective and extended asset reliability. Our customers can count on us to be their trusted advisor and not just a supplier."



DCMLink Software



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