



Bayer Reliability Expert, Joel Holmes, Joins Experittec Reliability Team

“ **Reliability Is an Evolution and Journey...It’s a Process, but You Can Certainly Get Big Benefits From Even Small Steps.** ”

To say that Joel is passionate about his field is a gross understatement. Joel realized early on that he had the aptitude and ability for both manufacturing processes and economics—stand out qualities amongst his fellow engineers.

At Monsanto, which later became Bayer, he started as an Electrical Instrumentation Maintenance Engineer, where he developed systematic problem-solving techniques, leading towards efficient troubleshooting and identification of the root cause from multiple angles. As he advanced to Electrical Maintenance Reliability Engineer, Joel’s journey intersected with an early version of Emerson’s Asset Management System (AMS) Device Manager, which he eagerly installed in the herbicides operating unit for instrument and valve maintenance.

Right away Joel saw that AMS Device Manager was a two-fold toolkit consisting of both preventive and predictive technologies. The preventive part comprises all of the functionality to ensure that typical operator rounds and routine inspections, calibrations, etc. are seamlessly managed and enforced. However, the real power is the predictive part—the alert monitor—which provides condition-based status and asset health to relay early warning signs of any changes in the condition of field assets contained within the AMS Device Manager Database.

This began his simultaneous journey with Emerson as a speaker, Board Member, and reliability advocate for the industry.

At Emerson Exchange, Joel presented multiple case studies over several years—where he was repeatedly awarded ‘best in track’. He was subsequently invited to join the Board of Directors, where he served for many years. Additionally, Joel holds a seat on Emerson’s User Driven Enhancement Program (UDEP), where he suggests enhancements or improvements to existing products, along with feedback for those in development.

Joel is available to meet with customers and apply his decades of manufacturing process experience to your most pressing reliability challenges.



Opening Everyone's Eyes to the Value of Reliability

“Identifying and quantifying these wins and promoting them to upper management helped expand the Reliability ‘concept’ to the entire facility and, as a result, I was on my way to being an integral leader in Monsanto’s first formal Reliability Group.”

Saving \$1M by Identifying a Plugged Meter

Joel recalls one event where he was monitoring and assessing alerts inside the AMS Device Manager application, where he discovered that a mass meter on a continuous process was showing a drive overrange alert that was increasing over time. Utilizing the embedded diagnostics and edge analytics within the meter, AMS Device Manager indicated a likely coating or plugging condition within the sensor tubes. The board operator didn't notice any problem from the control room console, but Joel asked for a back flushing sequence, just in case. This cleared up mass meter plugging, and allowed Joel to later review the results with the area's technical specialist and confirm that a latent problem had been averted. This early success was quickly promoted to Monsanto's management team via an 'AMS One-Page Success Sharing'.

This example was noteworthy because it not only proved the power of predictive monitoring as a means to avoid major downtime events—one that could have cost \$1M in lost production, let alone repair costs—but it also began to reshape the minds of those around the Maintenance and Production Unit departments that Operations should embrace, care, and take Reliability seriously.

Severe Packing Leak in a Critical Control Valve

During one of the control valve field evaluation assessment surveys, Joel identified a severe packing leak in a control valve that was impacting loop performance. Understanding both the mechanical and production sides of this scenario, Joel recognized that problems with this asset posed more than just the inherent risk of downtime. He had to consider the costs if the valve needed to be removed from the pipeline and serviced, but also realize that every hour that the valve was underperforming likely equated to some appreciable loss in throughput and/or product quality.

Because it was identified early on, a corrective rebuild was scheduled during normal clean-out times, leading to hundreds of thousands in cost savings and lost revenue, with the added benefit of being able to control the maintenance schedule of the valve maintenance rebuild without enduring a reactive emergency repair. Joel was able to prove the value of the tools, but also advertised the wins to executive leadership to promote and grow the culture of Reliability with stakeholders around his department.

Monsanto's First Formal Reliability Group

Word about these successes spread quickly in the industry overall which was already starting to focus on reliability in a lean manufacturing environment. Multiple initiatives were formed and quickly developed into a full implementation program—including AMS Device Manager.



What Is a World-Class Program?

Joel began to define the parameters of a world-class program based on three aspects of Reliability that he has observed throughout his career:

- 1 Rotating/mechanical equipment and the fundamental PdM technologies to maximize early detection (i.e., vibration, ultrasonics, lubrication analysis)**
- 2 Electrical reliability around motors, drives, and electrical starters where tools like infrared thermography and motor analysis play a role**
- 3 Instrument and control valve performance, especially on critical loops**

At the time, Monsanto had 16K-18K assets within that plant and was an early adopter in defining asset criticality. There were eight different operating units at the site tied into SAP. Having implemented asset criticality rankings to all of the site assets provided the ability to assign those top critical assets to the Reliability Programs and initiatives being developed.

The Reliability Challenge

“It’s always been a labor-intensive position to drive reliability to get buy-in. I’m not only a cheerleader, but also keep my contacts and technology knowledge growing while educating others. I have a lot of passion around this topic. I have notoriety in the entire industry and have followed through in proving the worth of these solutions. That drove Experitec to invite me to help lead their customers’ Reliability charge!”

— Joel Holmes



Experitec has served the industry for over 100 years, partnering with our customers to gain competitive advantages and unlock the hidden potential in their facilities. By optimizing operator and control performance, improving asset reliability, creating safer places to work, and helping clients reach their environmental and sustainability goals, Experitec is dedicated to achieving positive outcomes for the businesses we serve. Our unique long-term partnerships with Emerson and others enable us to connect customers with innovative technologies, subject matter expertise, and 24/7 lifecycle support and engineering services. As employee owners, the Experitec team is eager to partner with you on your next automation or reliability project in a positive, driven, and collaborative way. We have local offices in St. Louis, MO; Kansas City, MO; Memphis, TN; and Decatur, IL; as well as warehouse and service locations in the surrounding areas.