

## **Flawless Operations Through Deterministic Outcomes**

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For a process operator in a batch environment, their typical practices are not keeping up with other technological advancements in the rest of the plant. Common practices do not take advantage of what is now possible in other areas:

- Prediction of upcoming problems or bottlenecks in an operation
- Comparison of current batch with “Golden” batch in real time
- Limited views of current batch
- Improperly sized control

The ability to anticipate or predict upcoming process problems in a batch can give an operator adequate time to plan and avoid the problem altogether. This results in a higher throughput and an avoidance of downtime. In times of high demand, this has a direct and tangible impact on the bottom line. Typical problems such as process deviations or failed equipment can benefit from guided troubleshooting, suggesting how an operator or technician can return to production without an extended downtime window.

Understanding how a current batch is performing against a “Golden” batch has many advantages. For example, less experienced operators can understand how more experienced operators streamline steps to optimize the process. Likewise, a wholesale analysis in aggregate can uncover best practices that can be deployed to all operations, decreasing cycle time and improving productivity.

Operators have multiple responsibilities, and cannot be tied down to a fixed station viewing a batch in a pre-defined method. They need to be able to view the process in whatever method makes the most sense to them. It needs to be accessible in a variety of formats, whether through a traditional console, a tablet PC, or on a smartphone.

Process controllers tend to be oversized for the task of unit control, with multiple units being allocated to a process controller because they happen to fit. This increases maintenance complexity and makes it more difficult to perform updates. A more flexible approach is needed that can deploy unit based control to both physical and virtual based controllers.

Examples will be provided to demonstrate a new approach to batch execution. This can transform the process operator into a business operator by giving them more relevant information in a timelier manner to optimize their operations.