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Large amount of data requires an outside management system

BY PRATAP NAIR
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There can be too much of a good thing, even technology.

Technological advances have made it possible for vast volumes of data to be captured on a daily basis in process manufacturing facilities. As a result, more data than the typical core facility engineering team can possibly analyze is captured. This data is rarely converted to information and, even less so, to actionable knowledge that improves performance and profitability.

Plant operating staff and technical support staff are drowning in a sea of data that they do not have the time and tools to analyze.

At the same time, every department and work process must find new opportunities to reduce costs. These opportunities are hidden in the deluge of data and must be discovered by technical experts, but the discovery of these cost-reduction secrets usually means hiring more staff.

It's a Catch 22, since tight profit margins usually preclude hiring more people dedicated to analyze data for cost-reduction improvements. Even if there is a budget allocation for additional technical staff, the level of focus and unequivocal attention required for this business process is practically impossible for an in-house technical services team, who are constantly distracted from ongoing operations and capital projects.

ANALYSIS TEAM

A thorough and effective analysis requires a team of multifunctional experts to detect crucial cost reductions and other operational improvements.

By adding an analysis and inference layer to oversee the data collection, analysis, and information generation — a process guidance review — a facility immediately becomes more competitive through its in-depth knowledge of current operations and how those operations interact with economic conditions to affect profitability. It also gains the ability to identify opportunities and threats.

Human expertise must be combined with a unified technology solution to create an intelligent knowledge management system. Only in tandem, can the intrinsically non-intuitive behavior of most chemical processes be attempted to be predicted from the extremely complicated data.

That's why data simulators and multi-variable statistical analysis as part of an intelligent knowledge management system can form an essential and cutting-edge tool that facilitates the "knowing" process. This serves as a "GPS" for process manufacturing, showing the best way to chart the operations course, be it most reliable, lowest cost or an optimization of the two.

PROCESS GUIDANCE

Overall, the benefits from a process guidance solution include:

- Capturing "missed" operational improvements.
- Lowering production costs (energy, raw materials) through incremental efficiency capture.
- Increasing throughput/production.
- Increasing safety via "second set of eyes."
- Enhancing return on existing technology investments.
- Reducing equipment downtime.

To minimize costs, a guidance business process can be outsourced to a remote, low-cost geographic *A guidance business process can be outsourced to a remote, low-cost geographic location, where the necessary skills are available, thereby circumventing the need for new resources, skill sets or job descriptions, in-house.*

location, where the necessary skills are available, thereby circumventing the need for new resources, skill sets or job descriptions, in-house. Such a system can easily be made compatible with existing work processes and staffing levels. The benefits from such a structuring of the business process ex-

ceed the cost of setting up the process by an order of magnitude. This business process is effectively being used on a remote basis at several chemical and petrochemical facilities, to:

- Monitor daily operations.
- Weed out errors in data.
- Study operational inefficiencies.
- Aid in root cause analysis.
- Optimize operating conditions and sequences.
- Improve energy efficiencies.
- Optimize cleaning cycles.
- Optimize capacity utilization.
- Constantly benchmark with internal, external and theoretical best.
- In general, drive toward continuous operations performance improvement. As businesses strive to get ever more competitive in the international marketplace, leveraging technology and remote resources in a cost-effective manner is an imperative. Dwindling reserves of qualified and experienced professionals compels enterprises to consider new ways to outsource selected processes so that they can focus their own valuable resources on immediate business-critical activities.

With an open mindset, proper preparation and by deploying well-tested business models, global utilization of talent can yield sustained cost savings and other strategic benefits.

Effective utilization of a process guidance solution that combines analysis tools with human experts is rapidly becoming a necessary business process, which is most effective when it is utilized in a continuous manner. The type of performance improvements resulting from a guidance solution include enhanced energy efficiency and lowered ongoing maintenance costs.

Offline benefit studies combining technology tools with experts have been reported to proffer similar benefits. The continued gleaming of such benefits requires a structured independent business process, as offered by a process guidance solution.

PRATAP NAIR is a founding member of Ingenero, which provides continuous remote monitoring and operations guidance for the process industry.

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Pratap Nair, Ph. D., Ingenero
President and CEO
www.ingenero.com