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IT/OT Convergence Is Easier Than You Think

How to Enable Data-Driven Decision-Making on the Plant Floor and Across your Enterprise by Connecting all your Production Data.

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IT/OT Convergence and corresponding buzz words are all over the place. If you are in manufacturing, chances are you have seen ads and read articles like this one on the necessity of keeping up with the ever-changing digital landscape. No matter what the source, important data needs to get to the right people at the right time, so where does one start?

In a plant, chances are you have many sources of IT and OT data that contribute to seamless operations. Whether it is an oil & gas, food, chemical or mineral process, on the ideal days, your operation runs like a well-oiled machine. That being said, how easily and consistently can the entire plant or enterprise operate efficiently, solve problems and reduce bottlenecks? Accurate and fast data access, intuitive data visualization and analytics are needed to make decisions that affect production on a 24/7 basis. Resources are also at risk when changes are made, even if they are for the better. Ripping and replacing data systems and equipment is expensive and involves a lot of risk.

No matter what the source, important data needs to get to the right people at the right time, so where does one start to make small, gradual IT/OT changes?

Utilize Tools you Already Have While Adding New Tools That Drive Change

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Firstly, you can leverage the data assets you already have. Risk is reduced considerable when you can add on products that enhance data sources you already use. For example, if you utilize a data historian that works well for your needs, you can add a data visualization and analytics solution on top, as well as connect other sources that were previously siloed. Not replacing the historian saves a headache and allows your important production to continue without interruption. Using what you already have means saving valuable financial resources that can be allocated to other needs, faster ROI and reduced risk.

How Energy Transfer Empowered Their Operations

An example of a company that utilized current tools and enhanced their operations with new ones was Energy Transfer, a midstream energy company headquartered in Houston, Texas. Energy Transfer had an enormous amount of data at their 477 sites and 90k miles of pipeline. The company has acquired assets over the years, resulting in multiple vendor data systems across the Enterprise, and did not have a good way to share it. Engineers and management both needed data from all sites but couldn't make operational decisions before the window of opportunity had passed. They also knew future acquisitions with different data systems might come, so a flexible future was critical. Energy Transfer purchased a reliable data visualization and analytics software solution and was then able to combine data from all sites with just one program.

Not only was the data easily available, but the tools enabled the data to be customized to the way that everyone- from operator to engineer to management- wanted to see it. Sites could customize and access data they specifically needed, while corporate headquarters could access data they wanted and customize it to their specific needs. By joining their OT and IT worlds in a future-proof manner, Energy Transfer not only improved efficiency but they saved time and money while doing it to the tune of $10M in annualized savings.

Start Small and Involve Your Team in the Integration of IT/OT Data

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Another step you can take is to get your people on the same page about digitizing as many processes and data as you can at your plant. This means small steps such as LIMS data and process data being shared digitally rather than manually through eliminating time-consuming methods such as handwritten reports and manually entered excel spreadsheets. Manual processes create delays and perpetuate data silos as they are only available to those who receive them through arduous, dated methods. A reliable data visualization and analytics software can help you do this, allowing you to share the data seamlessly. The small things can add up to the big things in IT/OT convergence. Getting the team into a digital mindset is an important step.

Starting with a team to talk about IT/OT convergence is a wise first step. Formulating a plan with goals, milestones and deadlines helps make the process more bite sized and manageable. Defining roles, assigning tasks and meeting about progress are effective ways of incorporating your IT/OT data into your manufacturing process and reporting.

W.R. Grace Connected their Data Sources Enterprise Wide

An example of a company that started small and soon widely adopted IT/OT convergence was W.R. Grace, a $2 billion specialty chemical company that manufactures a wide array of chemicals and is the world's leading supplier of FCC catalyst and additives. Grace has manufacturing locations on three continents and sells to over 60 countries and is headquartered in Columbia, Maryland. Grace's IT and OT worlds were very disconnected. Grace had robust OT and IT data but was limited in the way they could use this data. Most Grace staff were required to use the operator control system functions to interact with process data because the existing historian tools were ineffective, slow, and not intuitive, resulting in no buy-in, especially from operations staff.

Grace implemented a data visualization solution across several of its chemical facilities, including its largest facility, Curtis Bay, with over

600 employees. Grace Curtis Bay unified key sources of data with a robust data visualization and analytics product. Grace employed intuitive, fast and effective dashboards, unifying operations and information technologies and thereby increasing process management effectiveness, decreasing downtime and increasing profitability. These dashboards were easy to use and highly intuitive, and in turn they got utilized by many staff who were hesitant to engage the previous system. Grace saw an ROI from the implementation of data visualization software tools in less than six months. Using the data visualization & analytics tools also allowed Grace to make predictive and proactive changes in their operations resulting in increased first pass quality.

If you lack high performing data visualization and analytics across your plant or enterprise, achieving IT/OT convergence is relatively simple when you employ the right resources and have a plan that allows for gradual changes that add up to significant results. Small changes such as combining existing systems, effective software tools and a mindset of proactive digital awareness for your team can significantly impact the overall success of your operations. Newfound ease in your daily tasks and reporting are results of effective IT/OT convergence and will be experienced by everyone. From the operator to the engineer all the way to corporate management, small changes become major impacts when completed strategically and as part of an effective plan for positive digital progress.

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