Leading Industry 4.0 Trends

There is a manufacturing revolution that is taking place around the globe and it goes by many names: Industry 4.0, Factory of the Future, Smart Factories, the Industrial Internet of Things (IIoT). No matter what the label, this transformation touches every aspect of a company's ecosystem from product design to manufacturing processes to its extended supply chain and its methods of servicing its products for their customers. With the current workforce challenges, environmental sustainability and global competition, North American organizations have started to accelerate their digital transformation by deploying leading Industry 4.0 technologies. This digital transformation enables manufacturing to improve its manufacturing agility, flexibility, operational productivity and performance, while providing the organization with manufacturing resilience.

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Some of the key challenges that need to be addressed to accelerate this adoption are: Managing Product and Process Data, Manufacturing Technology modernization and Manufacturing Personnel Training. Building these pillars is imperative to deploying your Industry 4.0 initiative and these key capabilities:

♦ **Real-time interaction with shop floor equipment**

Connecting and acquiring manufacturing equipment data in terms of equipment status, output, performance and key characteristics. Interacting with this information to understand and predict overall production output, equipment maintenance needs, and inputs and outputs of the manufacturing process that can be used to

♦ **Automate Manufacturing Workflows**

To drive "common/normal" work via automated methods and concentrating key manufacturing personnel on the "anomalies" and/or "errors" that are occurring or about to occur. This helps improve manufacturing consistency and elimination of defects. Integrating this information with enterprise data such as material planning and supply chain visibility, improves decision-making and then organizations can incorporate

♦ **Robotics and Autonomous Equipment**

To provide manufacturing capabilities that provide solutions for workforce challenges, as well as, making redundant and complex steps/processes repeatable and resilient with consistent quality. Many organizations have initiatives to utilize collaborative "Cobots" that can work side by side with key manufacturing personnel, as well as providing assisted training and work instructions through

♦ **Augmented Reality (AR) /Virtual Reality (VR) by utilizing the Digital Twin**

With today's AR/VR capabilities such as "Expert Capture" where you can capture as a digital twin the method for performing manufacturing operations. Organizations can also utilize, "Collaborative In Session" solutions for problem solving, where you can utilize key global personnel and their knowledge to solve local plant challenges. These technologies also help address the current workforce challenges.

For North American manufacturing organizations to stay competitive globally, the need to embrace a digital transformation and develop their roadmap to implement key Industry 4.0 Technologies and Capabilities is key to their success and survival.

If you'd like to talk about our experience in enabling Industry 4.0, please give us a call!

Next Month: Creating Business Synergy by Utilizing Analytics