Crafting your Connected Manufacturing Strategy

Organizations today, live in the world of hyper competition and continuous disruption. Companies no longer make products with only physical features, but based on new customer demands and expectations, companies are now focusing on expanding physical products with connected offerings. When you take a step back, the same logic for new products is now becoming a necessity in the organization's capabilities within their manufacturing facilities and extended supply chain.

No two factories or supply chains are the same. They vary in size, the products they make and the volumes they produce. However all manufacturers need to develop a Connected Manufacturing Strategy to stay competitive. The real challenge is "How do manufacturers build and incorporate both current technology with needed new technologies, to develop a winning strategy?" especially when they are barely keeping their heads above water.

From our view, there are *Three* key capabilities that your Connected Manufacturing Strategy needs to develop:

1. **Product Offering**
2. **Infrastructure**
3. **People**

Product Offering

You need to provide the capabilities within your factory that provide the ability for manufacturing and testing of Connected Products and Services. These are the same features that your product offers to the market place. You need to prepare your facility by considering that the products being built in your factory will need to be tested in the same manner your customers will be using the product. This will require a thorough review of the product design, how it will be manufactured and assembled and the incorporation of the quality measurement plan and how all these activities will be performed. This will provide you with he overall requirements that the manufacturing operation will need to support and will provide the framework for the solution architecture for the overall manufacturing footprint and solution.

Infrastructure

Infrastructure capabilities need to be viewed from two perspectives. One perspective is the needed IT Infrastructure that will connect the physical line and machinery to provide the needed information of "What" and "How" it is happening in real-time, while providing the status and health of all machinery in the operation, and where these capabilities can be incorporated. This will provide for the foundation needed to incorporate operational feedback and analytics to improve the throughput and overall efficiency of the operations. The second perspective is to provide the visibility of the extended Supply Chain for components and sub-assemblies that are going to be "Entering" your operations. Along with providing real-time visibility to the "Product" during its *manufacturing*, *distribution* from the *factory* to *warehouses (wholesale and retail) and* through *transportation* to its final destination. These capabilities will provide the fundamental Operational and Supply Chain visibility to make decisions and modifications based on real-time data.

People

To be able to incorporate current expertise that resides within your people into your Connected Manufacturing Strategy, you need to incorporate a mixed implementation strategy. The strategy needs to incorporate both People and Technology into a cohesive process. One capability is to incorporate your peoples' knowledge into digital work instructions which can be used for all new employees to learn the process. It is also critically important to incorporate the interaction of personnel and machinery to initially provide visibility to the operators on "what is occurring" and later incorporating feedback loops for "Feedback" and "Action". The bottom line is that you need to create a strong and flexible Connected Manufacturing Strategy that embraces your Product offering, Industrial IoT Technology, and People to enhance factory efficiency and improve the quality of your finished products.

In conclusion, it is time to create your organization's future Operations Platform. This platform meshes the physical world with the digital world to create a working environment that empowers your personnel to make decisions. Decisions based on real-time data with technology enhanced interactions while providing decision making support, with the goal of improving the Manufacturing and Supply Chain capabilities needed to enhance your company's profitability.

Next Month: Benefits of Integrating Requirements Management with your PLM Solution