The Process Digital Twin: A step towards operational excellence

BUT, PRODUCT DIGITAL TWINS ALONE CANNOT SUPPORT ADVANCED MANUFACTURING SCENARIOS THAT NEED ATTENTION, NOW

Process Digital Twins enhance the value of product digital twins to optimize the entire production environment. They use mixed reality to enhance machine-to-machine-to-people (M2M2P) interactions and enable immersive collaboration across organizations.

Of large-enterprise businesses will adopt AR, VR, or mixed reality solutions by 2019

PROCESS DIGITAL TWINS HELP ACCELERATE INDUSTRY 4.0

End-to-end engineering optimization: Leverage insights gained from mixed reality and data from Process Digital Twin interactions to simulate design changes and continuously improve production quality and plant performance

Horizontal integration: easily immerse into processes across supply chains and enable product engineers to use mixed reality to experience how products work in operation

Vertical integration: connect internal processes virtually and enable manufacturers to work simultaneously on physical and virtual models to make changes in the moment

Intelligence

Mixed reality

10% Increase in effectiveness by 2017 of organizations that use digital twins

Today’s Product Digital Twins can:

- Simulate faster and more holistically
- Analyze in-process performance
- Optimize information exchange

New technologies enable manufacturers to improve virtual models of physical assets and products, or “Product Digital Twins.” These models enable unique insights into the product lifecycle, from design to sustainment and retirement.

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BEYOND EQUIPMENT LIFECYCLE OPTIMIZATION WITH PRODUCT DIGITAL TWINS

But, Product Digital Twins alone cannot support advanced manufacturing scenarios that need attention, now.

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15–20% Improvement in productivity in the next 5-10 years after companies embrace the principles of Industry 4.0

Gartner: “Industry 4.0: The Future of Productivity and Growth in Manufacturing Industries,” Boston Consulting Group

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