Unleashing the power of digitalization in the manufacturing industry

Digital Factory

Manufacturing companies are facing the same challenges worldwide: They are required to reduce their time to market, increase flexibility, efficiency and quality, and rethink their business models while considering security aspects. Siemens' unique approach is to integrate and digitalize the entire value chain – by using digital twins of product, production and performance. By utilizing data obtained from both products and production processes, companies gain valuable insights, and thereby continuously improve their whole value chain. With the Digital Enterprise Suite, Siemens is collaborating with its customers so they can master their digital transformation already today. This comprehensive portfolio of software-based systems and world-leading automation technologies does not only apply to traditions production processes. Siemens also enables seamlessly integrated solutions for new disrupting technologies like Additive Manufacturing.

"I want to design my own shoe, and get this shoe delivered tomorrow" – meeting individual consumer needs is what drives digitalization at Adidas. The international manufacturer of sporting goods from Herzogenaurach plans Speedfactories all over the world, close to where the runners of this world live. Adidas can only do this with the help of digital twins of factories and shoes.

Reduction of development and installation times with the digital twin functionality is the concept of Bausch + Ströbel (B+S) based in Ilshofen, which designs, builds and sells packaging and production systems for the pharmaceutical, cosmetic and allied industries. Pharma is thriving. Nowadays, its customers want more complex machines, more flexible machines, and they want them much faster. So a few years ago, B+S started building real-life models of machines from wood, to give its customers a sound impression. Today, the team from B+S builds digital twins of their machines instead. This allows them to engineer 30 percent faster than in the past.

The importance of e-mobility is forcing Gebr. Heller Maschinenfabrik GmbH from Nürtingen to rethink their business model. Their customers in the automotive industry are reluctant to order long-living machine tool equipment from them, given the core of their legacy product, the combustion engine, might go away. As Heller is planning to rent out machine tools rather than selling them, the company

needs to better understand how its customers are using them. This is where Siemens' IoT operating system MindSphere comes into play: finding granular data on usage that could inspire pricing models. Heavy users pay more, while staying flexible in terms of replacing machines under changed production conditions. Until Heller gets there, using MindSphere helps to give existing customers a better understanding of the usage of the machines they currently own.

Rolls-Royce, a British engineering company focused on world-class power and propulsion systems, is renowned for its cutting-edge technology, manufacturing capability and service innovation. Digitalization can help the pace of innovation and delivery of value to customers. Rolls-Royce looks set to derive increased digital productivity from further embedding and exploiting industrial software and systems such as Teamcenter, NX, Simatic and Sinumerik. Data generated, captured and utilized at every stage will help to enrich and future-proof a first-class knowledge base that already provides customers with products that they rely on in the most challenging of operating environments.

Further information

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