

How machine tool builders can implement digitalization

Machine tool builders are becoming familiar with the concept of digitalization and its benefits. However, many don't know the best way to incorporate digitalization into their business models or how long the process will require before they can market the concept to their own customers and prospects. The appropriate solution, as well as the time invested, depend upon the types of machines being built.

For example, if the machines being built are for the mid-range or low-end market, then a relatively easy digital twin would be ideal. Our SinuTrain software, for example, is a low-cost, entry-level solution for machine tool builders. If we are working with a customer in the automotive supply chain, then we can go to them and setup a two-day workshop on their digitalization strategy. Even though they frequently have a great digitalization roadmap and they know what they need for the OEM, most companies struggle to communicate clearly. And while a workshop takes time and resources, it helps to clearly identify what end-customers need. This saves a significant amount of time during the production process.

First, however, you need to identify if your main concern is connectivity, information flow management, etc. For the long term, it's advisable to develop a strategy for analyzing machine tool data and offer customers extra value in maintenance and service. Ideally, each CNC machine could be shipped with an industrial PC (IPC) to capture data and someone could visit the end-customer and gather that data, though this latter service may be deemed impractical, so there are alternative solutions, including cloud-sharing.

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It's always smart to offer additional services to your customers. Most companies don't often use value-added selling or cross-selling. Instead, they choose to think about sales and service in only one way. By selling maintenance contracts or software, companies are developing a long-term strategy that prepares them for the future and leverages their knowledge and skill in service to their customers. This is especially true for small machine tool builders, where the focus is on building more machines. In the future, companies must prepare for customers using CNC machines in different ways.

Many end-users are talking about how they can optimize the machines they have on the shop-floor, how to retrofit and re-purpose them, absent the ability to initiate a wholesale changeover in machine tool technology at a brownfield location. Siemens supports this scenario by making the production of the CNC machine more efficient with digital solutions such as the digital twin to simulate the machine process. Additionally, we offer products that can be re-sold and adapted to their machine without having to build everything from scratch. This represents a dual benefit to the machine tool builder, as they can implement design criteria more quickly, thus becoming much more flexible as a builder of application-specific CNC machines, as well as enhanced standard models.

Time is a very common constraint regarding a machine tool builder's use of digitalization. Many are so busy that they don't have time to think about it. A workshop is a perfect opportunity not only to bring in the engineering department, but also the sales and marketing teams. A representative from each should participate in such digitalization workshops. How does a digital twin impact sales? Would it be easier to sell if a customer could look at a virtual model through VR glasses? A marketing professional can take this idea and craft a new message, while an engineer can test new materials on the machine. Furthermore, the CEO can sell the digital twin and create a source of ongoing revenue. As you can see, there are numerous benefits to adopting the digitalization mindset at your machine building enterprise.

Digitalization isn't something that can happen overnight. It's a process that takes time — but one that brings tremendous benefits to every department when properly implemented.

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