ITALIAN MACHINE TOOLS, ROBOTICS & AUTOMATION INDUSTRY ~ NEWS

July 2024 PIATTAFORMA INDIA PROJECT NEWSLETTER NO. 91

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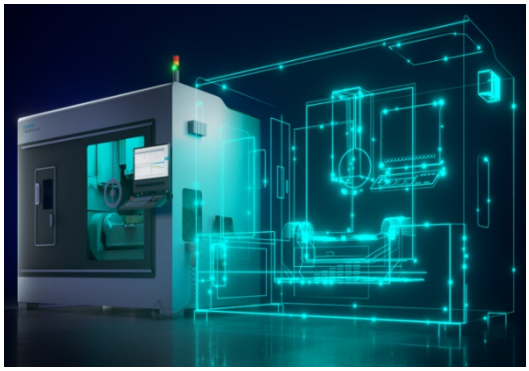


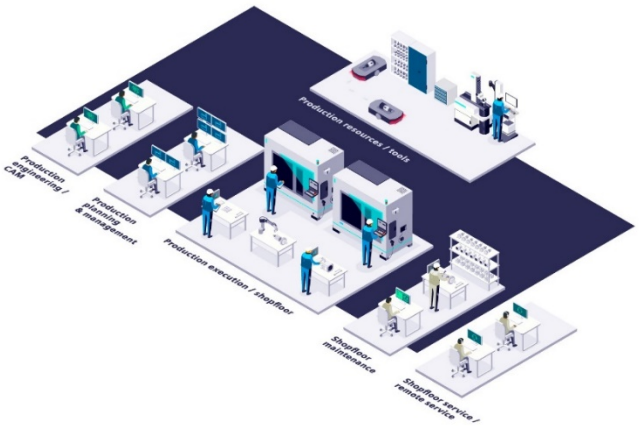
Machine users and machine manufacturers alike face growing challenges to enhance productivity and adapt to constantly changing conditions. The digitalization of production processes and the associated data-based applications and services are an important tool for addressing these challenges — especially as traditional optimization methods are reaching their limits. However, companies often struggle to identify the right place to start. To overcome the hurdles on the path to digital transformation, **SIEMENS** offers a tailored trainings plan based on its digital portfolio, specific use cases and suitable solutions, so companies can get their shop floor fit for the future.

SIEMENS is a technological leader company with a portfolio designed to drive a digital and sustainable transformation of industry and infrastructures. Siemens develops and produces its own Software and Hardware technologies and then tests it in its own production sites. Sustainability is a fundamental component of Siemens strategy, permeating every aspect of the business activities.

Nowadays the growing complexity of parts, increasing production quality requirements, small batch sizes, short order lead times, and mounting cost pressure are the most challenges companies in the metal processing sector are facing, this is why most of OEMs and Endusers start relies on technology with the end-to-end digitalization of production processes in order to reduce set-up and throughput times.

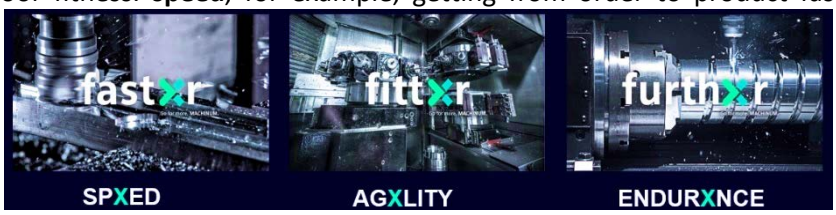
Efficiency, flexibility, and productivity: The big drivers of digitalization.

In embracing digital processes as the answer to current market challenges, The high potential that companies see in digitalization is also reflected in the increasing diversity of the goals they are pursuing in their transformation; studies indicate that the drivers of transformation have shifted from efficiency gains to flexibility and resilience, also more and more companies see digitalization as an important tool for overcoming their challenges around sustainable productivity. With a tailored training plan to success,



SIEMENS helps many companies struggle to find the right starting point for their digital transformation. The transition to a digital shop floor is very similar to setting up a training plan for reaching a fitness goal; hardly anyone can run a marathon without proper preparation. It's the same with digital transformation. Good preparation, clear goals, and tailored measures can help companies and processes get fit for the digital future. The training plan should address all areas of the production value chain from the engineering of the production process to job preparation to actual production. It is important to focus on the right use cases — in other words, to start with the biggest pain points on the shop floor that can benefit the most from improved fitness, that is, from digitalization.

Three performance goals are used to assess shop floor fitness: **speed**, for example, getting from order to product faster; improved **agility**, to be able to respond flexibly to new requirements; and better **endurance**, for example, to increase the productive time of machines and improve process stability.



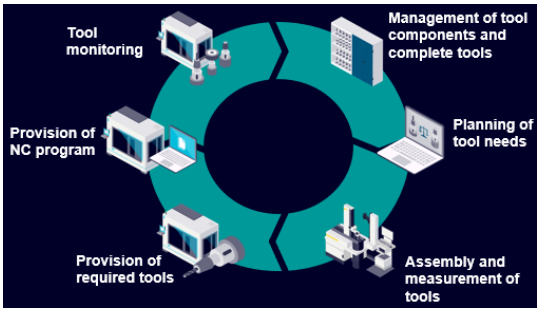
With its **MACHINUM** CNC digitalization portfolio, **SIEMENS** offers a variety of solutions to help companies achieve these goals. You can find all of them on **Siemens Xcelerator** platform.

Increased speed: Faster from order to product.

A key point to reduce time in the process chain between the order and the finished product is the set-up and programming of the machine tool. Errors lead to delays and idle times during which the machine tool is not working productively. This is where simulating the machine program can help with a digital twin, NC programs can be created and checked offline without a real machine, and machining processes can be safely optimized in a virtual environment. Then, before machining can begin on the real shop floor, the necessary production resources must be prepared. Digital resource management helps to link tools and machining resources with the correct NC program. This allows companies to save significant time in job preparation. And last but not least, cycle times can be reduced during machining on the actual machine, as adaptive feed control can minimize machining times and detect tool breakage at an early stage. Together, all these features help to increase machine productivity. Manufacturers that use these applications were able to reduce its cycle times by 18%.

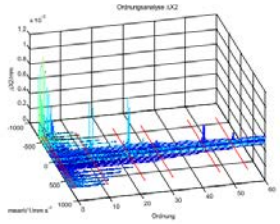
Enhanced agility: Greater flexibility in machining.

If companies want to produce small batch sizes and complex geometries quickly and cost-effectively, they need to make their processes more flexible. Digital solutions can help here as well. Before starting the job, the user can employ the "**Digital Twin**" of the machine tool to check whether the component can be manufactured efficiently on that machine and to calculate the program runtime for the workpiece. Additionally, virtual prototypes can be developed in the model to map new requirements. The corresponding production resources can then be allocated via digital resource management. Efficient and targeted retooling on the machine allows companies to take changes to the production plan into account and implement them more quickly. Most of users confirms this, the digital resource management described above and achieves set-up time savings of around 50%. This helps companies to respond more quickly to changes. “They can see immediately which tools need, which tools are available in what quality, and which material need.

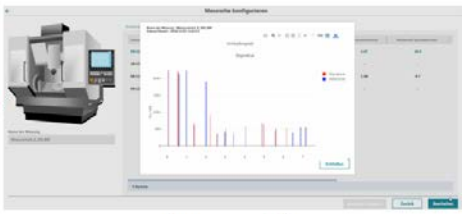


Improved endurance: Extending the service life of machines and tools.

Digital solutions also help companies to increase the endurance of their processes in other words, to extend the service life of machines and tools. Special applications use machine data to enable easy predictive maintenance of machine tools, preventing unplanned downtime. Digital solutions can detect tool wear and excess stress on tools in advance of tool damage and thus prevent tool breakage which is important for highly productive, automated, and unattended machining processes.. During machining, machining and workpiece data can be used to determine when and on which workpieces or which parts of a workpiece a quality inspection is required. This eliminates unnecessary inspections.



Internal evaluation after measurement run



In-app screenshot

Keeping an eye on the entire production: get more out of digitalization.

As these examples show, getting started with digitalization can be made much easier and project risk can be minimized with the right training plan and the right goals for increased performance. An industry expert with the relevant experience and know-how, can provide support for the digital transformation. And last but not least, a consistent portfolio for the entire shop floor that can integrate different systems via open interfaces is crucial for the success of the digital transformation of a production

facility. Siemens offers this with **MACHINUM**, the digitalization portfolio for the machine tool industry based on Siemens Xcelerator. With **MACHINUM**, not only large, but also small and medium-sized companies can benefit from suitable solutions for their digital transformation of their shop floor.

For further information: **MACHINUM digitalization for Machine tools**

The project Piattaforma India has been promoted by UCIMU – Association of Italian Machine Tools Manufacturers and AMAPLAST – Italian Plastics and Rubber Processing Machinery and Moulds Manufacturers Association. The two associations agreed on the idea that promoting a network of associations and entrepreneurs who have developed knowledge and experience on the Indian market, can be useful in favoring of new paths of development for business. The Indian companies who are interested to form JV, cooperation, technical tie up, purchase machinery etc from/with Italian companies can contact below mentioned address for any assistance:

Contact information of Piattaforma India desk:

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