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Ingenuity for life

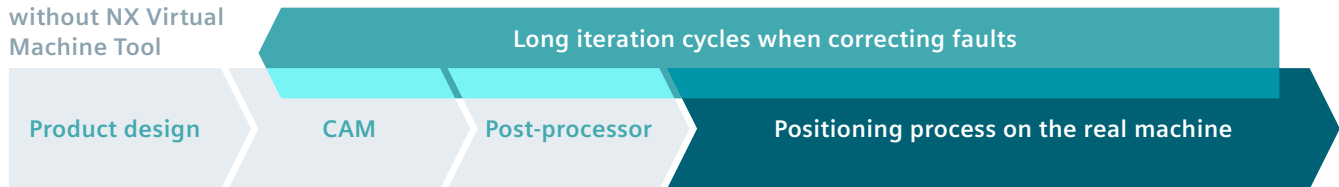
NX Virtual Machine Tool Services

Boost productivity: We'll build the digital twin of your machine tool

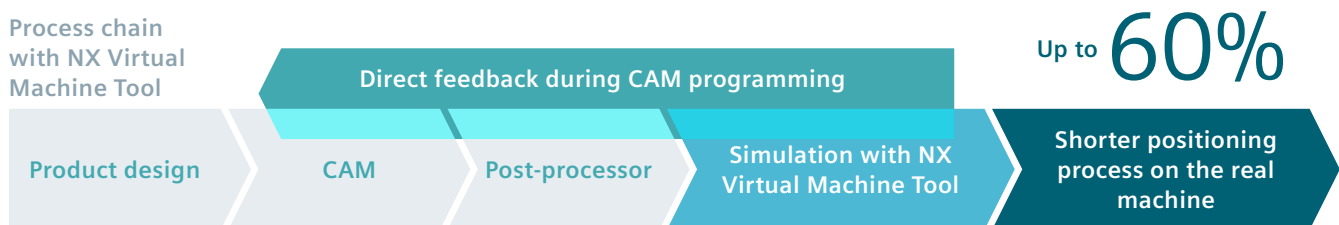
[siemens.com/motioncontrolservices](https://www.siemens.com/motioncontrolservices)

NX Virtual Machine Tool: The digital twin of your machine tool

Process chain
without NX Virtual
Machine Tool



Process chain
with NX Virtual
Machine Tool



Production using CNC-controlled machine tools is becoming more and more digital. NC programming is performed in a CAM system, where manufacturing strategies are defined and NC programs are generated by a post-processor. This is often where the digital world ends: NC programs are then conventionally positioned on the real machine – which involves both challenges and risks.

Errors in NC programs can result in damage to the machine, equipment, or workpiece. To minimize this risk, the first workpiece is positioned more carefully – a procedure that's time-consuming because it's usually done at a slower feed rate. Damage can be prevented only if the machine operator responds quickly. The underlying fault must then be corrected so that production can be resumed.

When NC programs are automatically generated by post-processors, however, the challenge comes from the fact that they can't be corrected by the operator. A fault discovered during positioning often has to be corrected in the CAM environment, which results in long iteration loops when troubleshooting.

These challenges reduce productivity and are made even worse by the trend toward small batch sizes.

»Do it right the first time«

With the NX Virtual Machine Tool, Siemens offers a software solution from the NX Software Suite that shifts these unproductive and risky activities from the real machine to its digital twin, thereby preventing unnecessary downtime, reducing the risk of damage, and making it easier to schedule production.

Our service offering for the entire lifecycle of NX Virtual Machine Tool

NX Virtual Machine Tool Services cover the entire lifecycle of the digital twin of your machine tool. Using your original data, we create an exact virtual copy of your machine,

and our experts help you install the necessary software. We also train your employees and help you update the digital twin.



Engineering Service

Based on your 3D CAD and control data, a machine kit is created for the NX Virtual Machine Tool: the digital twin of your machine tool. Tests are performed on your reference part to establish a comparison between simulation and reality. You then receive the machine kit via secure download.

Implementation Service

The data and software are installed in your IT environment. This includes installation of the Run MyVNCK software and integration of the machine kit into the data structure of your system.



Training

During our one-day training course, we train your IT administration to install and maintain the necessary software and data. We also train your machine users to work with the NX Virtual Machine Tool so that your productivity can be increased as quickly as possible.

Support

In addition to technical support, our services also include updating the machine kit, when changes to the real machine need to be integrated into a new machine kit. If the software versions you use change, modifications to the machine kit requirements will be implemented by us.

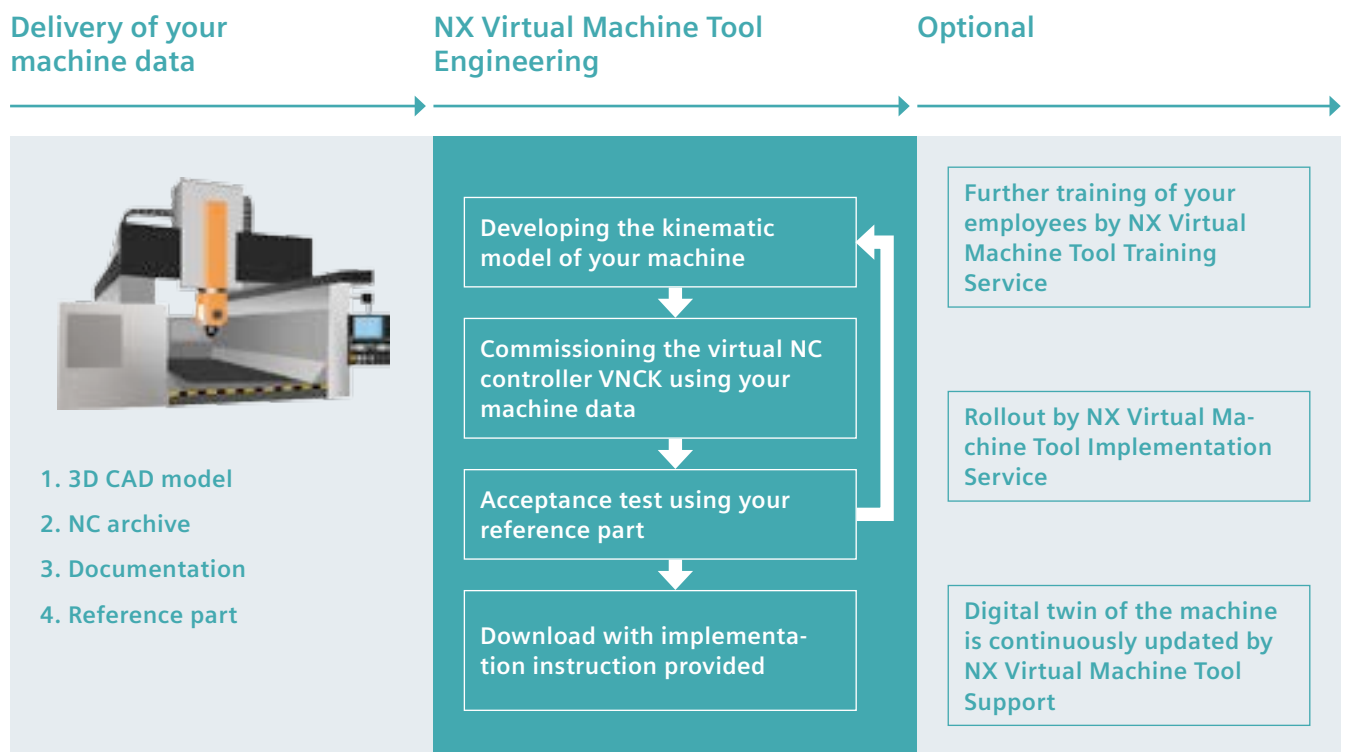


A closer look at NX Virtual Machine Tool Engineering Service

The most important element of NX Virtual Machine Tool Service is the engineering – the initial generation of the digital twin of your machine tool is based on the real machine data.

To provide you with an exact model of your machine, we use the data you supply. This comprises 3D data, control data, machine documentation, and a reference part

for testing the virtual machine. Our services include enhancing the 3D data with kinematic information, commissioning the virtual SINUMERIK controller Run MyVNCK with your NC archive, and subsequent testing against the reference part.



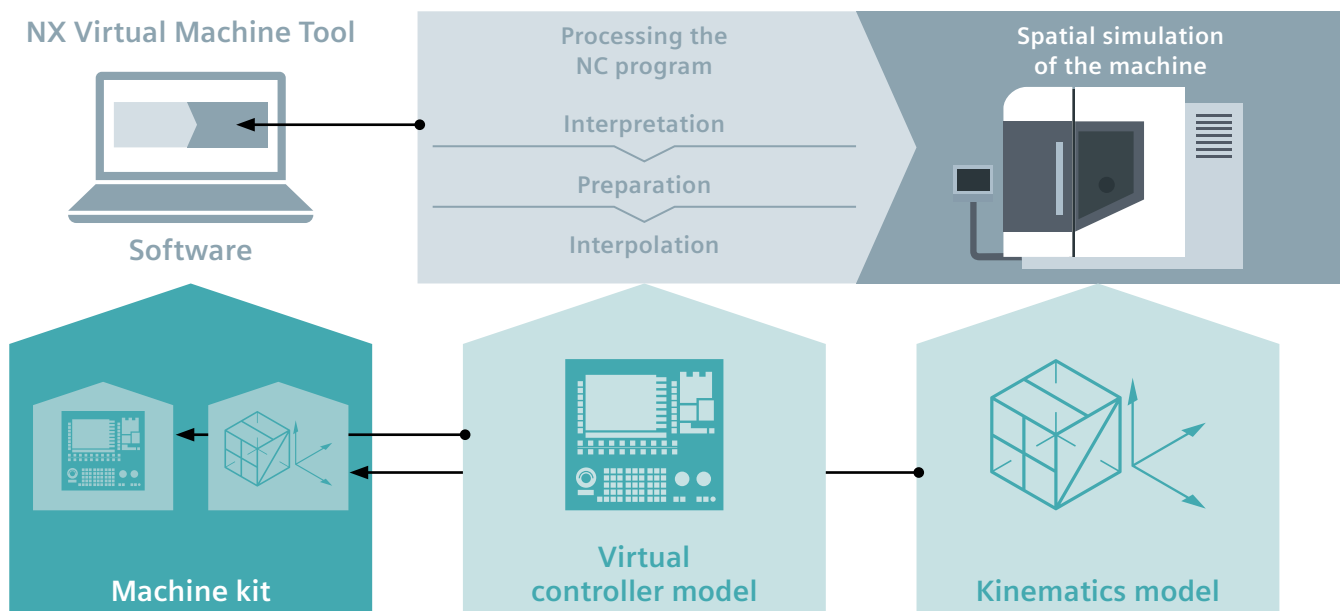
Maximize the availability and productivity of your machine tool

The combination of powerful software and comprehensive NX Virtual Machine Tool Services enables you to boost the productivity of your SINUMERIK-controlled machine tools, minimize risks, and improve production scheduling.

NX Virtual Machine Tool Services: The path to the digital twin

By combining material removal simulation and collision monitoring from NX CAM with SINUMERIK Integrate Run MyVNCK, the NX Virtual Machine Tool provides a realistic simulation of machining with SINUMERIK 840D sl-controlled machine tools. Because both the kinematic design and the control configuration of each machine tool are

unique, specific data sets – called machine kits – are required for each machine. A machine kit contains, among other things, a spatial model of the machine and the control data from the real SINUMERIK 840D sl installed in the control cabinet.



Your benefits at a glance

- Boost machine productivity
- Guarantee machine availability
- Protect investments
- Improve ability to schedule

