

## Sinumerik One in the TIA Portal

- **Shorter development and commissioning times**
- **Software libraries enable standardization**
- **Commissioning tests on virtual test rack**

The new Sinumerik One CNC generation is at the heart of digital transformation for machine tools. As a digital native, the controller features not only a new hardware platform, but also versatile software for the creation of a digital twin. It closes the gap between the virtual and the real world and helps to reduce development and commissioning times considerably.

### **Sinumerik One as part of the engineering framework**

The central element for engineering the Sinumerik One is the TIA Portal. Both PLC (Programmable Logic Controller) and Safety are engineered in this engineering framework with modern programming languages and a seamless data flow. The integration of Sinumerik One into the TIA Portal enables a consistent digital development process for machine tools, which makes all engineering tasks easier. With the integrated Simatic S7-1500F, machine manufacturers can make full use of the advantages of the TIA Portal with Sinumerik One. Uniform, centralized data handling enables efficient engineering and considerably reduces the potential for errors caused by inconsistent data. Drag and drop is used to network peripherals easily and to establish communication links with other machine components. In addition, machine manufacturers can create software libraries with ready-made hardware configurations and numerous function and software modules in the TIA Portal, thus standardizing the development of the machine tool.

Sinumerik One is based on Safety Integrated as the Siemens industry standard in the field of safety. The controller also supports the safety functions integrated in the drive. In addition, thanks to the integration of the Simatic S7 1500F PLC for

implementation of the safety logic, only one failsafe program is required. This simplifies safety engineering and reduces safety commissioning time.

### **The digital twin as virtual test rack**

With Create MyVirtualMachine software, machine manufacturers can use a digital twin of the controller and utilize it as a virtual test rack. In this way, engineering and software modules can be tested comprehensively without the use of hardware. Programming tasks which previously had to be performed successively can now be completed in parallel. This creates flexibility and reduces dependencies. Using the virtual image of the controller, logic functions in the safety environment can be virtually tested and commissioned in advance. Virtual commissioning with the digital twin helps to minimize commissioning time in the real world. Run MyVirtualMachine software also offers the machine user the option of using a digital twin to transfer tasks such as running in products and training employees into the virtual world.



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This press release and a press picture are available at <https://sie.ag/36wCiSF>

Additional information about Sinumerik One can be found at

[www.siemens.com/sinumerik-one](http://www.siemens.com/sinumerik-one)

Additional information about TIA Portal can be found at [www.siemens.com/tia-portal](http://www.siemens.com/tia-portal)

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