

PRESS RELEASE for EMO 2019

Digitalization in machine tool manufacturing

World premiere at EMO 2019: The digital twin has become real.

Georg has implemented the first digital twin with the new “Sinumerik ONE” CNC software.

Kreuztal, Germany, August 21, 2019 At EMO 2019, **GEORG**, as pilot customer of Siemens, is going to present, as a first, digital twins of two of its machine tools. This makes Georg a pioneer in implementing in practice the next stage of the digital transformation in machine tools, using the new CNC generation “Sinumerik ONE”.



In the construction of complex machine tools, engineering and manufacturing often used to be two successive processes. First prototypes were designed and constructed, then the software was programmed, and processes and procedures could not be optimized and harmonized until during the commissioning phase.

The digital twin introduces a fundamentally different approach: The Sinumerik ONE software, which Siemens is going to present for the very first time at the upcoming EMO trade fair, maps all development processes in a virtual environment. Long before real prototypes are available are tasks transferred from the real world into the virtual world. An example: As early as during the manufacturing of a machine the control software is not only written, but also tested – in the virtual world. In parallel, the future operators of the machines can be trained on control pulpits that are of exactly the same design as those coming with the ordered machine.

The digital twin also offers considerable advantages in terms of service: GEORG's experts can use it to trace the customer's machining programs at the Kreuztal plant and provide advice on optimisation.

Also when it comes to clarifying and specifying with a customer what features the machine he is considering to buy should have, the digital twin is extremely helpful, as it is possible to show the customer the desired configuration and functions of the machine in every detail.

GEORG, as one of the pilot customers of the new Sinumerik ONE software, has already implemented digital twins for two of its machine types: for the grinding machine GEORG ultragrind SG2 and for the moving column milling machine GEORG ultramill H. Of the latter, GEORG is currently manufacturing one unit for its own workshop and one for a German customer.

GEORG is going to successively offer more machine tools from its range equipped with the new, entirely digitalization-oriented control system, for example, machining centers for turning and milling as well as roll grinding machines for the steel and aluminum industries.

As the operation of high-capacity machines for the machining of highly complex work pieces demands special control and operating requirements, GEORG has – on the basis of Sinumerik ONE – developed the proprietary control software GEORG smartcontrol UG. A special feature of this software is the highly intuitive HMI which allows the digital twin to be operated for training and testing purposes either via the real operator pulpit or its virtual counterpart.

Dr.-Ing. Wieland Klein, CTO of GEORG, is convinced that the digital twin will provide his customers with numerous important advantages: “The GEORG Digital Twin is the key to the digital transformation of our machines. It makes it possible to simulate and test our customers' operations in a completely virtual environment. From the integration of the virtual and the real machine along with GEORG's engineering knowhow, its high-capacity machines and the new high-performing Sinumerik ONE

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software, our customers will benefit in the form significant potential for productivity improvements. Being a pilot customer of Siemens, we are the first to offer applications on the basis of this groundbreaking new system.”

570 words

Heinrich GEORG at EMO 2019 Hanover, Germany 16 - 21 September 2019 Hall 13, Booth A64

About Heinrich GEORG Maschinenfabrik

GEORG is a worldwide well-reputed partner for reliable and powerful high-tech engineering and process optimization solutions. The company’s cutting-edge finishing lines and machine tools as well as production lines, machines and equipment for the transformer industry are in operation in numerous renowned companies around the world.

With its encompassing product and service offers and its worldwide network of sales and service branches, the family-owned company, which employs almost 500 people and is now in its third generation, caters to markets as challenging as energy, mobility and industrial.


For more information please visit georg.com

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Figures and captions:

High-resolution image files are available for downloading at:

[Pressefotos Georg](#)

<p>Fig. 1: The GEORG ultragrind SG2 grinding machine already comes with a digital twin. File name: GEORG ultragrind-21.jpg</p>	
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Fig. 2: GEORG is currently manufacturing an ultramill H moving column milling machine for its own manufacturing shop.

File name:
Georg Ultramill H Georg -2-.jpg



Fig. 3: As early as during the manufacturing of a machine the control software is not only written, but also tested – in the virtual world. In parallel, the future operators of the machines can be trained on control pulpits that are of exactly the same design as those coming with the ordered machine

File name: GEORG Zwilling 3.jpg



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