Trendsetter for 50 Years in CNC Technology

April 2010
Progress in tune with the times

From 1960 to the present time. From workshop up to large series production – the SINUMERIK CNC automation system has been continually setting milestones in the history of CNC with innovative developments.
1960

Time for a new class …

The first NC control from SINUMERIK
In 1960, the Mercedes 300 SL Roadster ushered in a new class of sports car …
In the same year, the first numerical control revolutionized machining. This is the birth of SINUMERIK.
It is based on relay technology, can handle point and line motion control and supports analog absolute encoders.
From 1963 to 1969: Time for new developments

- First path control
- SINUMERIK “System 200”
- SINUMERIK “System 300” in transistor technology with magnetic wire memory
- Gerätewerk in Erlangen starts to build the unit
1970:
A new production facility for SINUMERIK

- Gerätewerk in Erlangen produces
  SINUMERIK
From 1971 to 1976: From NC to CNC

- NC becomes CNC, the first NC minicomputer: SINUMERK “System 500”
1976

Into a new era
at high speed …

CNC with microprocessors
In 1976, the BMW R 100 racing motor cycle was launched with a larger cubic capacity. In the same year, SINUMERIK entered the race with the first CNC with microprocessors and semiconductor memory – and took first place. In the following years, the units became increasingly smaller and more favorably priced; also PLC functions were now integrated into the CNC.
1979 to 1983: A whole raft of new functions

- PLC is integrated, CNC now operates in multiple channels
  - Networking DNC, contour path programming, cycle support
  - The first CNC with grinding-specific functions
- SINUMERIK “System 3”: The first CNC with monitor, graphic functions and electronic gear
Reach for the stars …

Gear hobbing for the first time with CNC
In 1985, space shuttle Atlantis places two satellites into orbit during its maiden flight, SINUMERIK also launches the first CNC gear hobbing function. Therefore, opening up new possibilities - for instance in gearbox production in the automobile industry.
1985 to 1996: Modularity establishes itself

- Openness in the HMI
  Customers can configure their own graphics and menu trees, first digital drive interface SINUMERIK 810, SINUMERIK 820

- Modular CNC for the upper performance range
  Computer coupling, tool manager, code carrier system
  Modular CNC for the upper performance range

- Modular CNC for the lower performance range

- Office buildings are constructed at the Erlangen location
1985 to 1996: Modularity establishes itself

- PC is integrated –
  first workshop programming with SINUMERIK 840C
1985 to 1996: Modularity establishes itself

- With SINUMERIK 840D, the first open CNC control in the NC kernel with digital drive coupling is launched into the market
- SINUMERIK 810D is the compact CNC for the medium performance range
- SINUMERIK 802S/C/D is convincing as the compact CNC in the lower performance range
1996

Safety First redefined …

The first CNC-integrated safety solution
1996 is all about safety: Crash tests become mandatory for vehicles and SINUMERIK introduces the first CNC-integrated safety solution, thereby defining new safety standards for man and machine through software-monitored operation.
1997 to 2000 – programming becomes simpler

- ShopMill and ShopTurn for workshop production – simple and fast graphic programming increase productivity
- Yaskawa Siemens Numerical Control is jointly founded by Siemens and Yaskawa Corp, Tokyo
- First PC-based SINUMERIK (SINUMERIK 840Di)
Top speeds are achieved ... For up to 248 axes
Top speeds were achieved … for up to 248 axes

On the 23rd of May, 2000 the German ICE 3 train sets a new speed record of 368 km/h on a test run. The SINUMERIK 840D CNC also achieves peak performance for up to 248 axes. Through the simplified programming of milling machines and lathes, smaller production facilities also have the possibility of working with CNC controlled production machines.
2001 to 2007: Welcome to the virtual world

- Machine simulation, virtual prototyping and WEB services – Mechatronic Support, machine simulator, virtual NCK, virtual prototyping, Condition Monitoring via the Internet
2001 to 2007: Production facility in China

- Compact CNC for extremely simple lathes
- The production facility in Nanjing is significantly expanded
2001 to 2007: Technology and Application Center

- Technology and Application Center (TAC) is opened in Erlangen. Together with customers, automation solutions are tested and further developed.
- Siemens CAD/CAM and SINUMERIK Integration
Exploring new worlds …

Lifecycle Management for CNC

2008
In 2008, the International Space Station (ISS) is fitted with new modules. Product Lifecycle Management becomes fully integrated in the SINUMERIK process chain. This means that solutions are now available over the complete lifecycle of machines or CNC applications – from the original idea through design up to construction, realization and optimization.
With the focus on the user

Tailored, compact CNC: SINUMERIK 828D for the workshop – compact, powerful, simple - SINUMERIK® 828D sets new standards regarding ruggedness, performance and operator friendliness in the class of compact CNC controls. As a consequence, it is perfectly tailored for use in workshop environments and opens up a unique opportunity to increase the productivity when machining turned and milled parts.
With the focus on the user

An additional highlight of the CNC SINUMERIK family: The new intuitive and transparent SINUMERIK Operate user interface for efficient machine control. It combines the established HMI-Advanced, ShopMill and ShopTurn under an integrated, innovative user and programming interface. The result: A standard user interface for all new SINUMERIK controls.
With the focus on the user

The new SINUMERIK MDynamics technology packages bring milling up to speed. These combine the powerful SINUMERIK CNC hardware, intelligent CNC functions and a unique CAD/CAM/CNC process chain in technology packages for 3-axis and 5-axis milling – to provide a cost-effective package price.
50 Years of Experience and Innovation ...
The Success Story Continues!