

The image shows two men in a factory environment. On the left, a man with glasses and a beard, wearing a blue jacket, is looking towards the other man. On the right, a man in a light blue shirt and dark trousers, wearing a Siemens lanyard, is smiling and holding a rolled-up document. In the background, there is a large industrial control panel with a screen and many buttons, and a window with vertical blinds.

SINUMERIK Manufacturing Excellence

Services to increase the
productivity of your machine tools

sinumerik

www.siemens.com/sinumerik/manufacturing-excellence

SIEMENS

The service portfolio for your machines and processes

If you want to optimize production, you must look at your machines as a whole.

Only then can the right package of measures be effectively applied to each phase of the life cycle.

SINUMERIK® Manufacturing Excellence will support you in achieving these goals – with its portfolio of products, solutions and services. Modules from this service package are selected based on your needs, which can be adapted specifically as required.

1 Develop

Machine Development

Simulation and commissioning of machines

Reduces machine development times

2 Operate

Manufacturing IT

Functions for planning and production

Process optimization and transparency in the machine environment

3 Support

Condition Monitoring

Functions for condition-based maintenance

Reduces machine downtime

Extended Machine Contracts

All-inclusive contracts for personnel and material based on agreed response times

Safeguards plant availability



Productivity Improvement

Acceleration and optimization of machine sequences

Cycle time reduction and quality improvement

Machine Retrofit

Upgrading the automation technology and mechanical equipment

Extends the machine's life cycle

Service & Support

Comprehensive service, including spare parts and on-site service

Ensures maximum production time

SINUMERIK Manufacturing Excellence Advantages throughout the life cycle



Getting the best performance and efficiency out of machine tools is paramount wherever they are built or operated. With its factory-wide automation platform SINUMERIK, Siemens not only supplies CNC solutions, but also provides solutions and services for optimizing machine tools with SINUMERIK Manufacturing Excellence.

Support throughout the life cycle.

Siemens serves machines throughout their life cycle – from the initial idea and concept through operation to retrofitting.

After all, innovative service concepts for machines offer enormous potential for optimizing life cycle costs. The cost-savings potential is not in the procurement price for new machines and systems, but, above all, in the development, engineering and operating costs.

Considerably lower overall design costs and greater productivity can be achieved early on when new machines are being planned and designed.

A central goal of the production process is to reduce unit costs. These are affected by expenditure incurred to operate the equipment during production, for example, personnel and tool costs.

Operating costs are essentially determined by the OEE indicator (Overall Equipment Effectiveness), combining the availability of machines and equipment, their productivity and quality.



SINUMERIK Manufacturing Excellence – Advantages at a glance:

For the machine manufacturer:

- Reduces the machine development time
- Cost-optimized machine development
- Improved machine service
- Machine with optimum dynamic response
- Opens new service potentials
- Reduces warranty costs

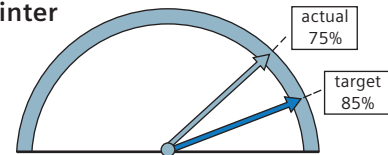
For the machine operator:

- Reduces unit costs
- Process optimization
- Improved productivity and availability
- Optimizes quality

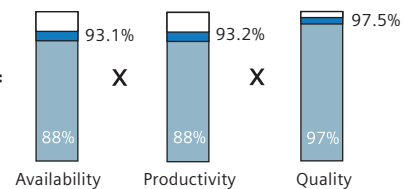
The service portfolio for production optimization.

This is where we apply SINUMERIK Manufacturing Excellence, and make an effective contribution to optimizing your production processes – irrespective of the technologies you use, the degree of automation of your plant or your planning and production strategies. You decide which modules from our SINUMERIK Manufacturing Excellence service package will be used for your individual solution.

OEE pointer



OEE=

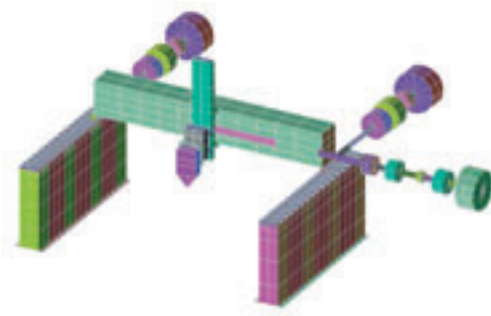


Shorter development times and increased productivity for your machine tool

Conventional approach, mechanical design



Virtual prototyping



Machine Development

Machine Development stands for innovation during the development process of new machines, by optimizing resources, reducing development times and, therefore, costs. This performance package draws on expertise and mature simulation methods that provide support in the machine design stage. Development targets are met on-time and within budget. What you get are machines with optimized productivity at defined costs from the very start. Machine Development services include Mechatronic Support and Machine Simulator.



Mechatronic Support – Advantages at a glance:

- Shorter development times to get you to market faster
- Development targets met reliably
- No-risk testing of creative machine concepts
- Higher quality and increased productivity from the start

Machine Simulator – Advantages at a glance:

- Time-to-market reduced by shorter development and reduced commissioning times
- Safeguards machine productivity
- Training on realistic machine models

Mechatronic Support: Faster to the machine – faster to market.

With Mechatronic Support, the mechanical, electronic and IT systems are tested and optimized for functionality and interaction with the machine early on in the design stage.

Machine ideas and new developments can be tested and modified at low cost in a short period of time. After that, the first real prototype can be built as a functioning machine. As the end customer, you benefit from an optimized, high-performance machine solution.

Machine Simulator – as perfect as reality.

Machine Simulator opens up completely new prospects throughout the life cycle of a new machine. From software development, through commissioning and training, to service – Machine Simulator realistically tests and optimizes the interaction between the machine and automation early in the machine's life. For you, as the machine tool builder, verified user software gives you overall improved software quality. As the end customer, you benefit from a machine with a mature and reliable software solution.

Improved availability with modules for production and maintenance



Siemens supports your production and maintenance needs with various modules.

Manufacturing IT, Condition Monitoring, Extended Machine Contracts, Machine Retrofit or Productivity

Improvement – correctly applied, these modules will improve the availability, performance and quality in production and assembly.

Manufacturing IT

Manufacturing IT – for production according to schedule

Based on the well-known software suite MCIS, Manufacturing IT supports the integration of the machine into the IT production environment and offers comprehensive IT and data security consulting.

Production data management

This allows you to interlink data from planning to production throughout the factory. The following data is acquired, evaluated and visualized:

- **Machine-related data and information**

A multitude of functions permit perfect analysis and evaluation, for example, using the factors for determining machine availability (OEE), cycle times or capacity utilization.

- **Part-related data and information**

Machining results from mechanical production and assembly are acquired and evaluated.

- **Contract-related data and information**

Default and feedback data are exchanged between the ERP system and production. This up-to-date information makes it possible to intervene in the production process quickly and easily.



Manufacturing IT – Advantages at a glance:

- Optimum utilization of resources
- Shorter setup times and greater efficiency
- Reduced machine downtimes
- Automatic fault analyses
- Production transparency down to the machine level

NC Program Management

Provides integrated DNC networking of your CNC machines, supports you with the transfer of NC programs to and from the machine and reduces the costs of NC organization.

Tool management

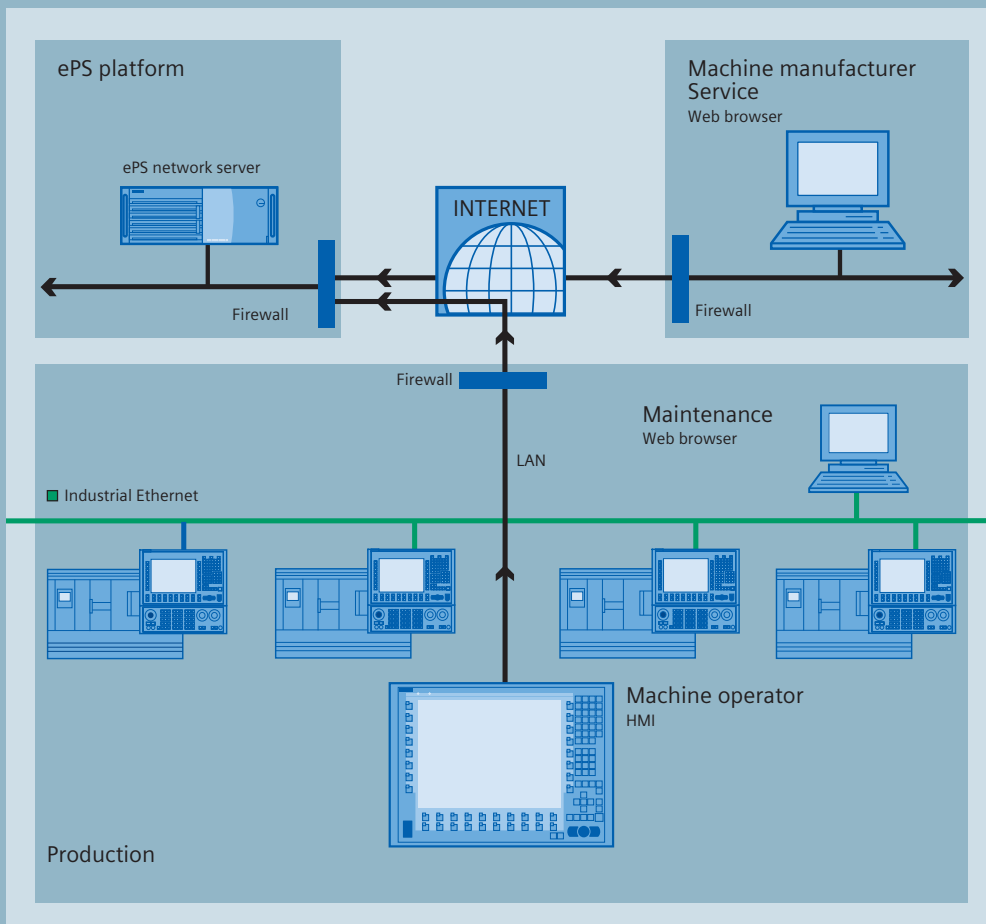
Whether you need it for single machines, flexible transfer lines or your entire machine facilities, you have round-the-clock access to all tool data with Siemens tool management. The system ensures that the right information gets to the right place at the right time. More importantly, tool statistics put clarity into your tool management.

Maintenance management

This software module takes charge of your preventive maintenance by optimizing the timely signaling of necessary maintenance tasks such as cleaning, inspection and/or repair.

Data management

Makes for easy backup, adjustment and management of your controls. This means central data management with maximum fault tolerance and availability as well as efficient archiving of all machine data. When components are replaced, all the data that are needed to operate those components are immediately activated.





Condition Monitoring – Advantages at a glance:

- Increases plant availability
- Increases productivity
- Reduces inspection and maintenance costs
- Low investment costs
- Concentration on core business

Condition Monitoring

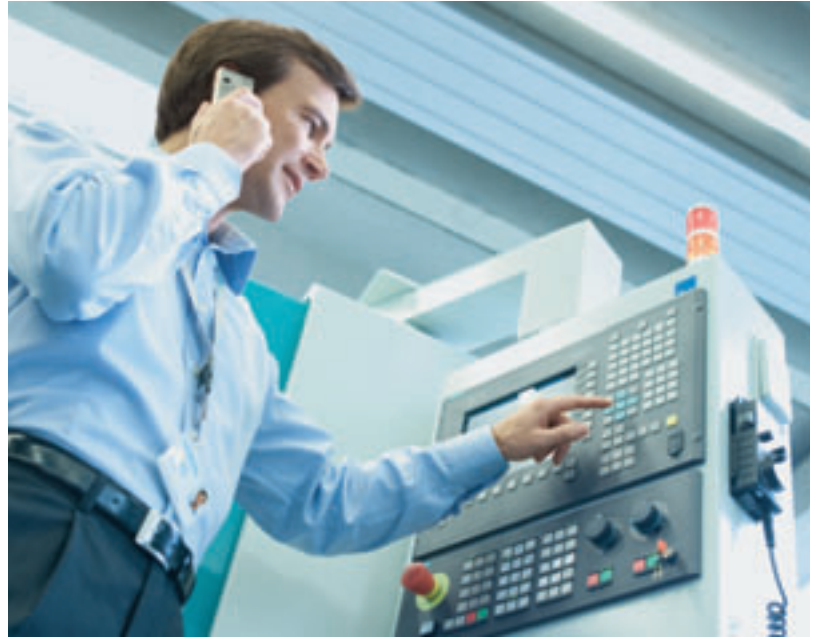
Condition Monitoring delivers efficiency – reliably and safely.

Investment decisions are increasingly being dictated by the costs incurred over the entire life cycle of the machine. Next to consumption-oriented quantities, unproductive times are another major cost factor. Condition-related inspection and maintenance can minimize those times.

ePS Network Services offer a comprehensive range of functions for evaluating machine condition. Using automated test procedures, the machine condition is acquired cyclically and information about the machine's real load is displayed. Knowledge about the condition of individual components is the first step toward increasing productivity. ePS Network Services are available for machine tools and production machines and help machine tool manufacturers, maintenance engineers and service providers to increase plant availability and to take productivity to new levels.

Extended Machine Contracts – Advantages at a glance:

- Planning, reduction and controlled maintenance costs
- Reduced downtimes and increased productivity
- Individually configurable service packages
- Supports and offloads your own service personnel
- Access to Siemens service



Extended Machine Contracts

Extended Machine Contracts – ensure your system's maximum production time.

Siemens "Extended Machine Contracts" package gives you a service contract for your machine. The performance features of the service contract are individually tailored to your requirements and charged at a flat rate.

What you get is a tailor-made solution that efficiently supports your maintenance needs. The result: Enhanced availability of your machines. All-inclusive contractual charges give you planning security for your production and rule out cost risks.



Machine Retrofit – Advantages at a glance:

- Increased levels of efficiency and productivity
- Secure, long-term supply of spare parts
- Improved operating and programming comfort
- Reliable data management and increased storage capacity
- Low-cost alternative to purchasing new equipment

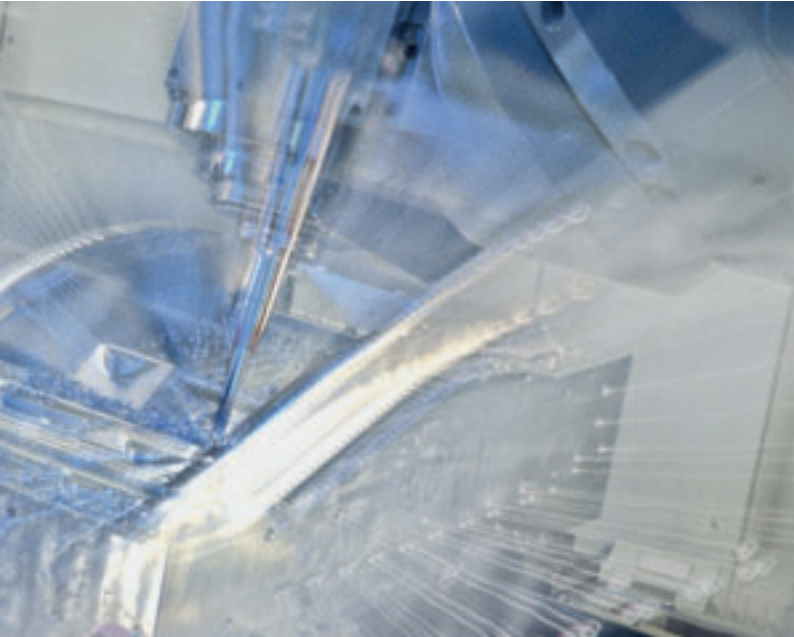
Machine Retrofit

Machine Retrofit – bring new life to your machine.

Retrofits and machine tool modernization give your machines a new lease on life and extend the life cycle of machines and systems. Individual components are replaced with modern and innovative technology, raising the machine to state-of-the-art with

- new control and drive technology
- expanded functions
- mechanical refurbishment

New technologies and features make for infinitely more flexible production – for example, by introducing CNC program packages (ShopMill® and Shopturn®). Complete solutions for mechanical and electrical overhauls secure your long-term machine and plant investment.



Productivity Improvement – Advantages at a glance:

- Reduced machining times directly reduce unit costs
- Improved quality and fewer rejects
- Shorter setup times for new workpieces
- Shorter machine downtimes due to systematic and time-optimized project processing

Productivity Improvement

Productivity Improvement – seeking out and exploiting potential.

Through Productivity Improvement, it is now possible to analyze machining processes without interrupting production, providing an opportunity to seek out and exploit potentials in productivity. With Productivity Improvement, Siemens offers a comprehensive

approach to reducing the cycle times of machine tools in the customer's production process. If Productivity Improvement detects unused potential, it can be leveraged in the production process at a suitable moment.

All-inclusive service for automation technology



The cornerstones for ensuring the availability of your machines and systems are the performance features of our on-site service, our fast and low-cost provision of spare parts and our completion of repairs – worldwide.

Siemens Field Service offers you everything you need for commissioning and maintenance – from fault elimination to spare parts provision. This package is supplemented by a comprehensive training program for all of our solutions.

Service and Support – Advantages at a glance:

- Available 24 hours a day / 365 days a year
- Specialists located near you
- High spare parts availability
- Low-cost replacement parts

Technical support:

Europe: Germany +49 180 5050 222
America: USA +1 847 640 1595
Asia: China +86 1064 719 990

www.siemens.com/automation/service&support

For more information

Everything you need to know about SINUMERIK CNC:
www.siemens.com/sinumerik

Everything you need to know about the SINUMERIK
Manufacturing Excellence services portfolio:
www.siemens.com/sinumerik/manufacturing-excellence

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