HEIDENHAIN

HEIDENHAIN Automation Solution

Tool and workpiece automation

Productive and reliable manufacturing processes

HEIDENHAIN Automation Solution

Rigorous quality demands, short lead times, constant price pressures, burgeoning variant diversity, and varying lot sizes represent not only major challenges but also opportunities for differentiating oneself from the competition. The endeavor of automating machines and multi-machine systems is an excellent chance for tackling these challenges and gaining a competitive edge.

Automation potential is particularly high for machine tools and usually depends on a variety of factors. As a modular system package containing a variety of hardware and software products, the HEIDENHAIN Automation Solution enables customized solutions.

HEIDENHAIN Automation Solution

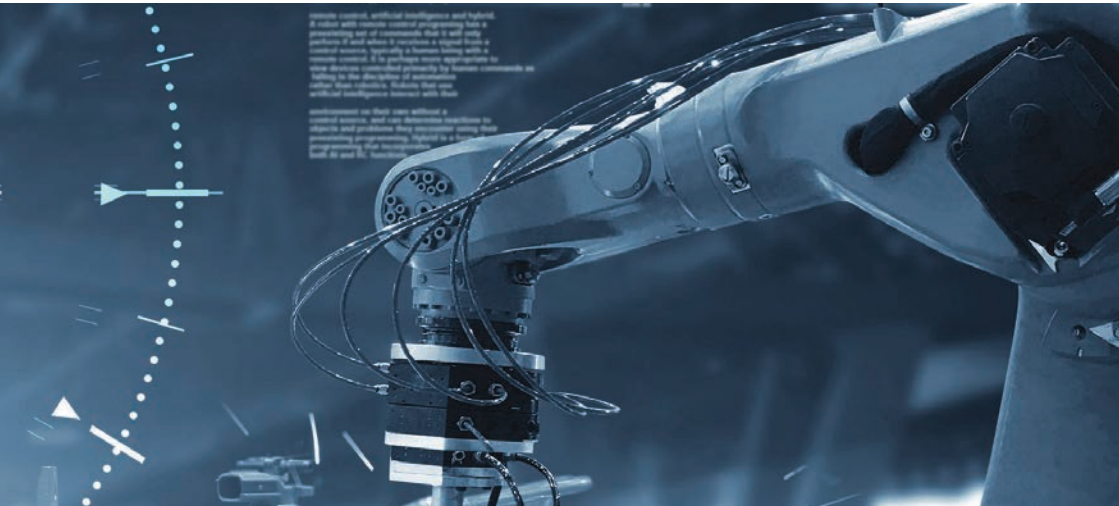
Hardware | **Software** | **Services**

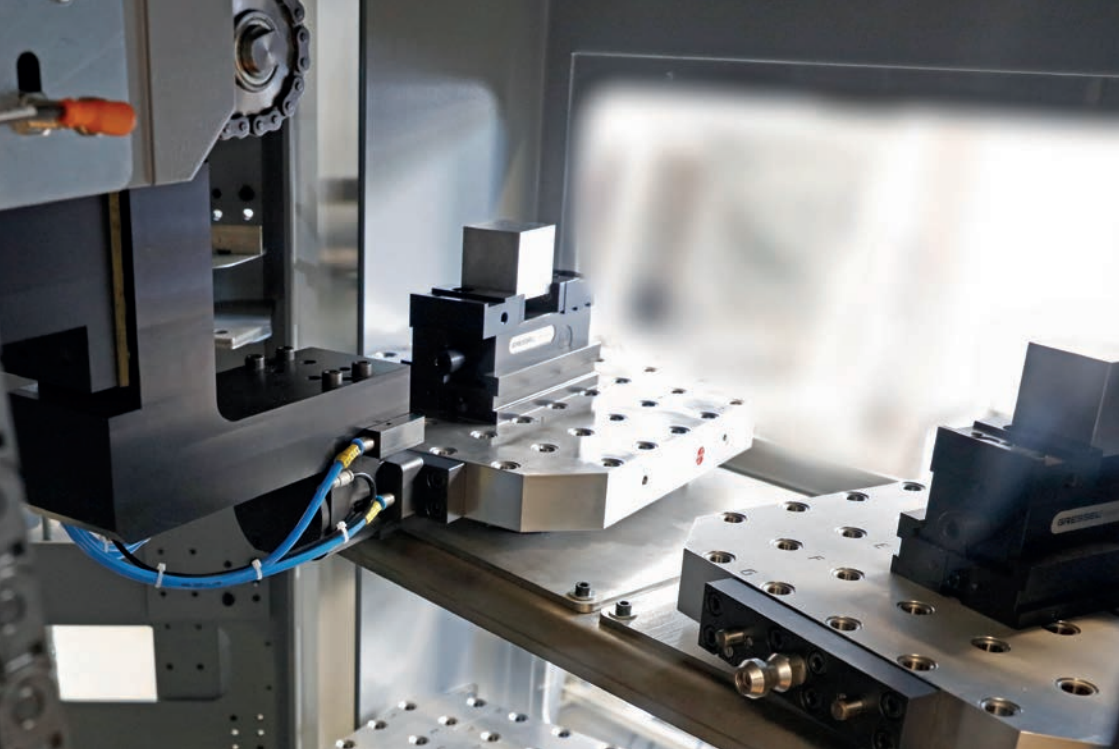
Machine system operators benefit from an intuitive user experience. The package's software enables seamlessly executable movements of tools and workpieces without extensive up-front familiarization.

What's more, machine manufacturers and automation providers can adapt the operational design to their needs and add their own operating functions.

HEIDENHAIN: Competence in automation

Benefit from over 40 years of experience in the machine tool industry.





Workpiece automation

High efficiency through automated workpiece loading

For greater manufacturing capacity, machine tools can be equipped with automated workpiece loading capability.

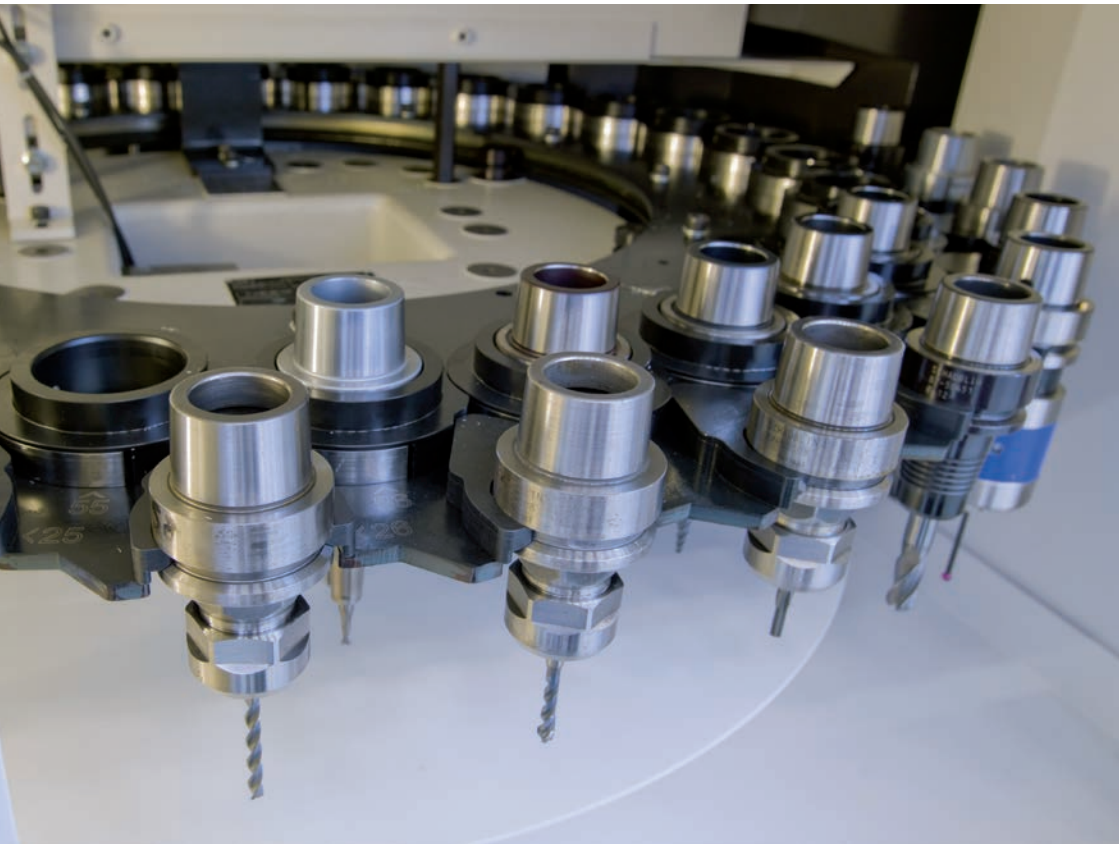
This involves a handling system that transfers the workpieces either onto pallets or directly into the machine's work envelope. In the process, the HEIDENHAIN Automation Solution manages the workpiece magazine. The package's software provides intuitively operated staging-area support that manages the magazine pockets and controls all movement of materials.

Tool automation

Practical added storage for expanding the tool magazine

Machine tools with automated tool loading require a sizable stock of tools. To accommodate them, a machine's built-in tool magazine can be expanded by means of an external auxiliary magazine.

The components of the HEIDENHAIN Automation Solution enable project planning for these auxiliary magazines using familiar TNC software tools for easy connection to the machine tool's control.



HEIDENHAIN Automation Solution: Components

Hardware

The PNC7 software is the basis for the modular system package underlying the HEIDENHAIN Automation Solution.

Industrial PC with display

IPC 344 with a 15.6-inch touchscreen for displaying the operating interface

Compact inverter

The UxC inverters for three to six axes combine a PLC, controller, frequency inverter, and power supply unit in a single device.

Fieldbus modules (optional)
PROFINET or PROFIBUS for
connecting to a fieldbus system

Tool touch probes (optional)
TT 160 or TT 460 for tool measurement
or workpiece-carrier measurement

Handwheel (optional)
For example: the HR 520 for
manual robot positioning

HEIDENHAIN Automation Solution: Components

Software

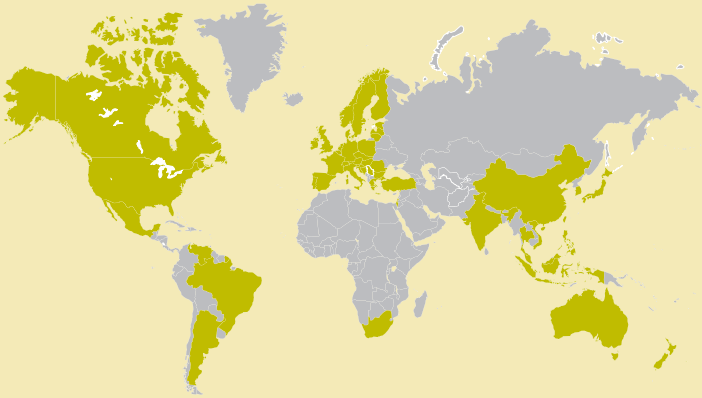
- PNC7 software (HEIDENHAIN HEROS 5 operating system, software based on the TNC7 software)
- PLC basic program with ready-made, adaptable user interfaces
- Extensive programing and diagnostic software
- Python programing for the creation of user interfaces (full version is included in the standard package)

The service offerings of HEIDENHAIN

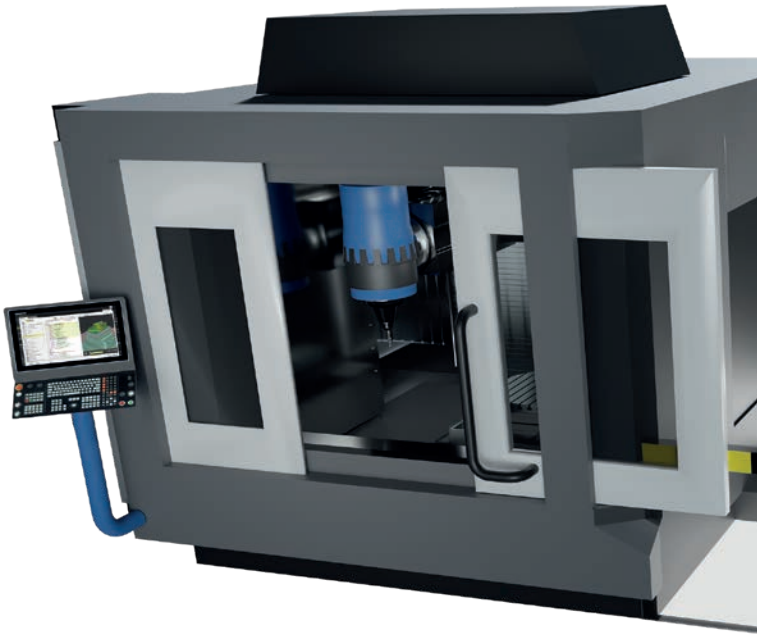
We offer comprehensive support for your automation projects:

- User interfaces on controls
- Interfaces
- Safety functions (functional safety (FS))
- Bus systems (HSCI, PROFIBUS, PROFINET, IO-Link)
- Tool and pallet management

On-site, international support



Easy entry into automation

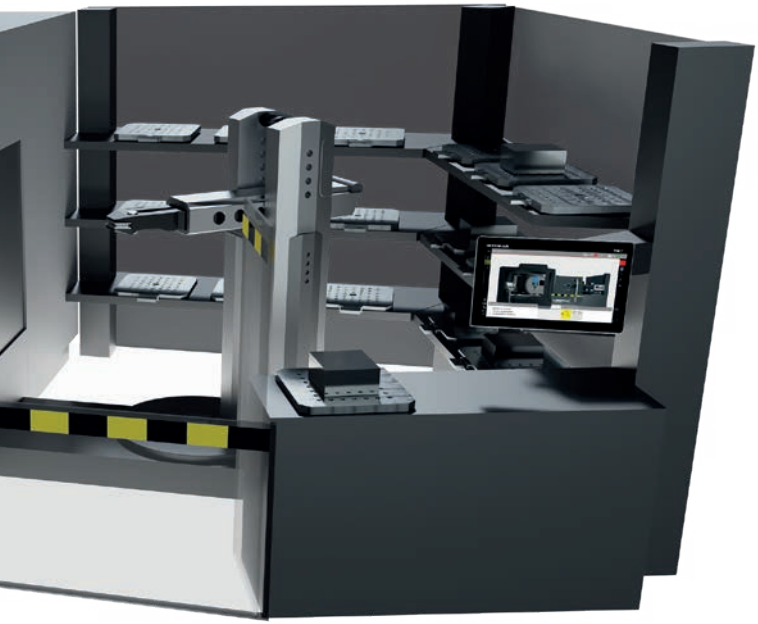


Benefits for machine manufacturers and automation providers

- Universal interfaces for all common machine tool controls
- Proven components used in machine tools
- A free hand in creating user interfaces with the Python programming language
- Time-tested PC tools from HEIDENHAIN for project planning, diagnostics and servicing
- Self-contained machine design, not bound by the type of machine tool
- Integrated safety functions

Additional benefits in conjunction with HEIDENHAIN controls

- Easy data exchange through standardized software libraries from HEIDENHAIN
- Batch Process Manager for coordinating jobs for workpiece automation
- Extended tool management for tool automation



Benefits for the machine system operator

- Intuitive, easy-to-operate user interface
- Integrated support for setup and verification
- Avoidance of improper operation through integrated user administration
- Job-specific management of production documents

Additional benefits in conjunction with HEIDENHAIN controls

- Flexibility in the planning and management of production jobs
- Pre-check of the machining setup for collisions
- Simulation and monitoring of tool service life
- Seamless automated machining thanks to extensive error recognition

Find out more about StateMonitor:
www.heidenhain.com/statemonitor

HEIDENHAIN
StateMonitor

Leverage the systematic collection and analysis of machine tool utilization data with automated workpiece loading.

In the event of machine standstill, the Messenger function sends an alert directly to your smartphone.

HEIDENHAIN

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1329179-21 · 2 · 08/2025 · H · Printed in Germany