

# HEIDENHAIN



HEIDENHAIN  
JobTerminal



HEIDENHAIN  
Maintenance  
Manager



HEIDENHAIN  
StateMonitor



HEIDENHAIN  
Messenger

Job planning



Production  
planning



Production



Production  
monitoring

## Digital Shop Floor

Software solutions and services for your process chain

[www.digital-shop-floor.heidenhain.com](http://www.digital-shop-floor.heidenhain.com)

# Digital Shop Floor

With its Digital Shop Floor package, HEIDENHAIN offers universal modules for your entire production environment, even beyond the machine tool. These innovative software solutions for machine data acquisition, job management, and the visualization of maintenance tasks intelligently and usefully complement your everyday work tools.

The package's digital, 360° view of your operations encompasses all related process steps, from the preparation of a quotation through to shipping. HEIDENHAIN also supports you with competent advisory consultation and a wealth of other services for improving process reliability and productivity.

Additional automation solutions and online services from HEIDENHAIN convert your shop floor into a highly efficient production environment.



## The 360° View of Your Shop Floor



### Advisory Consultation

Identify potential through production analysis

### Software Services

Custom programming, software setup, and tailored training courses

### Online Services

Stay up to date with training courses and webinars

### Automation Solutions

High-performance hardware and software, with extensive service offerings

### Software Solutions

Greater process reliability and productivity with customized modules

### Digital Twin

High process reliability through a realistic model of the machine

## Intelligently networked with the right software

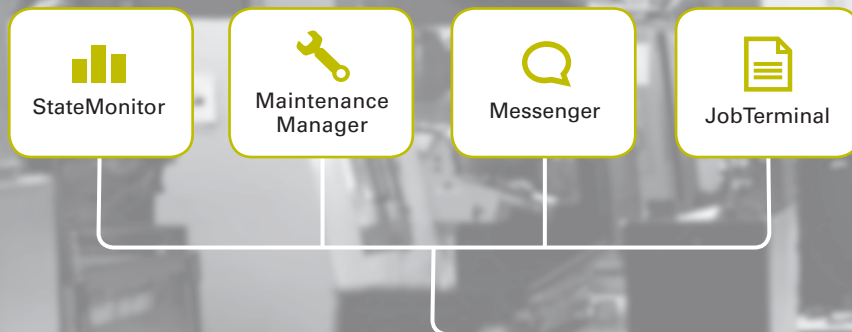
Anyone aiming to digitally network their shop floor must first lay a suitable foundation: HEIDENHAIN supports you in this endeavor with the right software solutions. Powerful software modules such as StateMonitor, MaintenanceManager, Messenger, and JobTerminal provide efficient data management within a digitized production environment. This makes digital job management possible, making your work simpler with ease of data usage, time savings, and transparent processes.



HEIDENHAIN controls connect all areas accompanying your production process with each other, while being adapted to existing structures and at the same time being open for future developments.

Extended Workspace Compact offers more room for critical information: alongside the main window with the familiar control interface, its 24-inch widescreen displays an additional window for any other desired applications. Remote Desktop Manager allows you to exchange data with your Windows PC or operate your PC from the control.

## Software Solutions as Flexible Modules



## Connected Machining: Hardware Solutions and Interfaces



# StateMonitor

StateMonitor gives you a real-time view of your machines' production and maintenance statuses, introducing transparency to your processes and helping you optimize workflows. The software's rapid detection of bottlenecks and its notification functions for unplanned incidents enable transparent and efficient production organization.

StateMonitor can be used with mobile end devices, allowing you to stay in touch with the machine from your office or during a meeting. Comments can also be added to machine statuses for further detail. This valuable information supports your decision-making processes.

## Protocol types

- HEIDENHAIN DNC
- OPC UA
- MTConnect
- ModbusTCP
- Fanuc and Siemens (native connection)

## Easy-to-understand visualizations

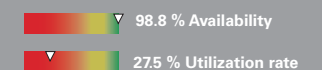
- Current operating mode and machine messages
- Program status and override settings
- Current job
- Pending maintenance events and malfunctions
- Machine messages



## Status overview of the machinery



- 20.0 % Productive (Overrides ≥ 100 %)
- 20.0 % Productive (Overrides < 100 %)
- 40.0 % OK, but not productive
- 0.0 % Not ready for operation
- 0.0 % Delay
- 20.0 % Machine not in use







## Messenger



The Messenger function actively alerts you to machine events. You can individually define the specific machine message, malfunction, pending maintenance event, and time interval after which StateMonitor should send a notification. You can also define who should be contacted for the given occurrence. As a result, downtime due to malfunctions or a completed/aborted program can be mitigated or avoided altogether. Using StateMonitor can also be an effective way to reduce your legwork, particularly in multi-machine operation.

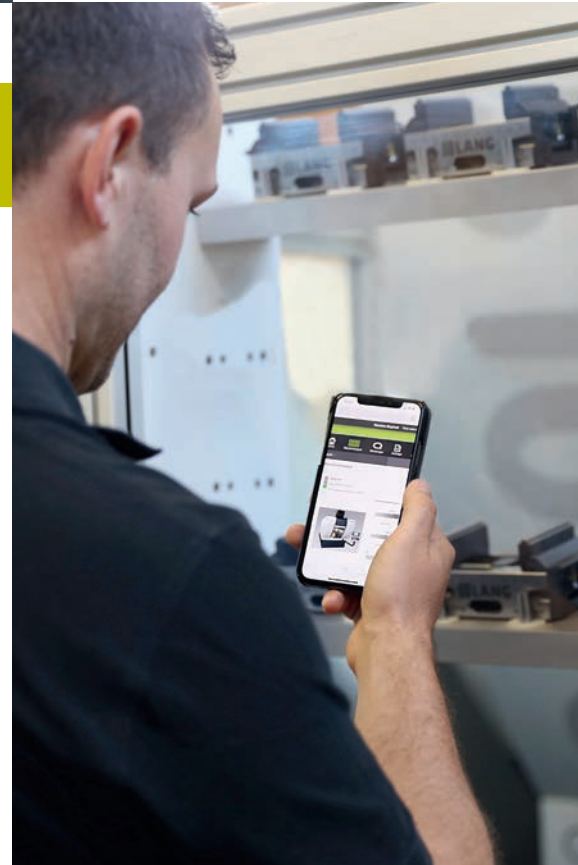
## MaintenanceManager



MaintenanceManager allows you to define maintenance events based on a variety of maintenance intervals, thus avoiding the cost of premature or overdue maintenance. For this purpose, you can also bundle maintenance intervals based on a combination of the following conditions:

- A certain number of calendar days
- Productive and online machine hours
- Specific machine messages

In addition to scheduling and documenting maintenance events, MaintenanceManager also lets you record malfunctions and notify the appropriate staff member. This shortens reaction times and minimizes downtime.



### Messenger functions

- Send messages when a program is finished or aborted.
- Issue predefined notifications from the program via an NC command (FN 38).
- Notify the responsible servicing staff member about specific errors, malfunctions, or pending maintenance events.

## JobTerminal



The JobTerminal feature supports you in the collection and post-calculation of job times. On TNC controls these functions can also be output via special NC commands under program control. Thus, even if the individual pallets of your automated machining centers hold different workpieces, your job times are always assigned to the correct job.



## Analyses



You can display the key metrics of the connected machines for intervals of days, weeks, or months. At the push of a button, you can view utilization and availability analyses, as well as comparisons between machines. You can also analyze the machining program down to its proportions of feed-rate and rapid-traverse movements. Other users can be added for sharing these analyses.

The recorded machine data can also be simultaneously forwarded to an external SQL database, for entry in your MES or ERP system as well.

### An overview of the JobTerminal functions

- Create and assign jobs or work steps.
- Manually or automatically enter setup and production times.
- Save additional job data, such as production quantities.





## HEIDENHAIN Automation Solution

Hardware | Software | Services



### Industrial PC with display

IPC 8420 with a 15.6-inch touchscreen for displaying the operating interface

The PNC 610 software forms the basis of the modular system package underlying the HEIDENHAIN Automation Solution.



### Compact inverter

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



### Industrial PC

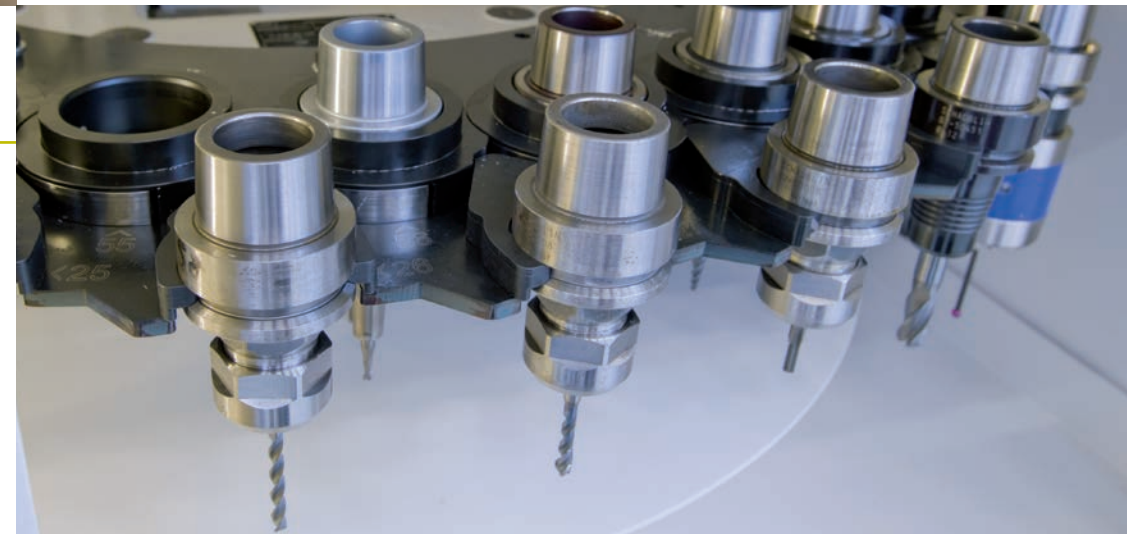
IPC 6490 for installation in the electrical cabinet

## HEIDENHAIN Automation Solution

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

Machine system operators benefit from an intuitive operational design. 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.

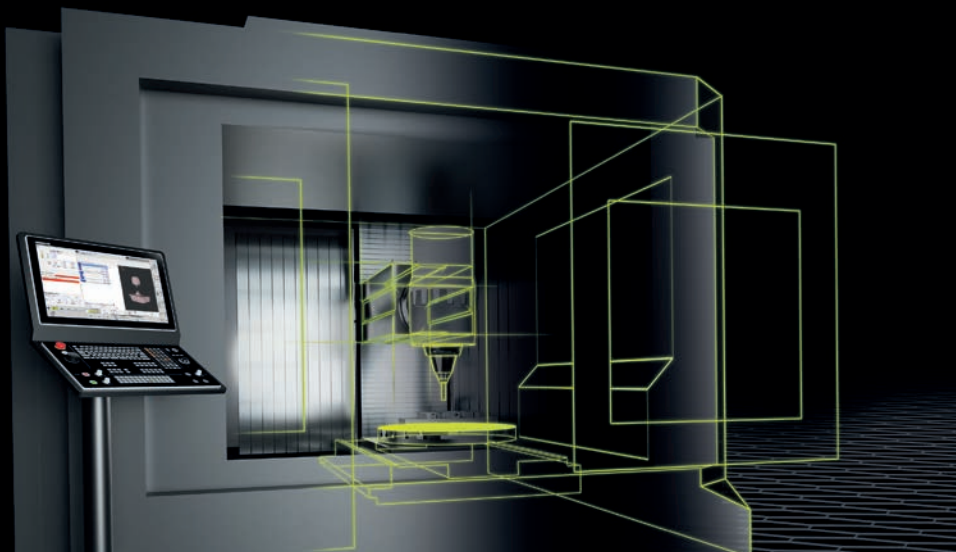


### The most important benefits at a glance

- Intuitive, easy-to-operate user interface
- Universal interfaces for all common machine tool controls
- Avoidance of improper operation through integrated user administration

## Digital Twin

Another HEIDENHAIN offering is the Digital Twin. It is a realistic model of the machine on the programming station. With it, the machine's real kinematic behavior, parameters, and functions become available in the office. Its machining simulation can therefore run just like the real machine. This ensures that NC programs created with CAM systems or on a programming station will be executed correctly by the machine control. Time savings are realized for setup, simulation, and shopfloor debugging, thereby increasing process reliability and manufacturing productivity.



### The fast and reliable route to a finished part

- Realistic simulations on the programming station
- Reduced setup and testing times
- Verified NC program for greater productivity

## Services

Bring the experts to you: having them set up your HEIDENHAIN software either remotely or on-site not only saves you time but also ensures smooth implementation and flawless operation.

Would you like to know whether you can implement the software from a technical standpoint? A proof of concept, in which HEIDENHAIN visits your site to determine the feasibility of connecting your machines, provides the answer.

In addition, HEIDENHAIN offers numerous online services such as webinars on control-related topics, in addition to the HEIDENHAIN Interactive Training (HIT) learning system for NC programming.

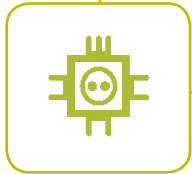


# Interfaces

Flexible connectivity of all shopfloor machines is attained with the HEIDENHAIN DNC, OPC UA, MTConnect, and ModbusTCP protocols. There is a native connection for Siemens and Fanuc controls. Mapping tables help you quickly and easily configure the given interface yourself. All of the recorded machine data can also be used in software systems such as Enterprise Resource Planning (ERP) and Machine Execution System (MES) solutions. Connection to such systems is established over a database interface to a PostgreSQL server or Microsoft SQL server.

## Connecting ERP and MES systems

- PostgreSQL
- Microsoft SQL

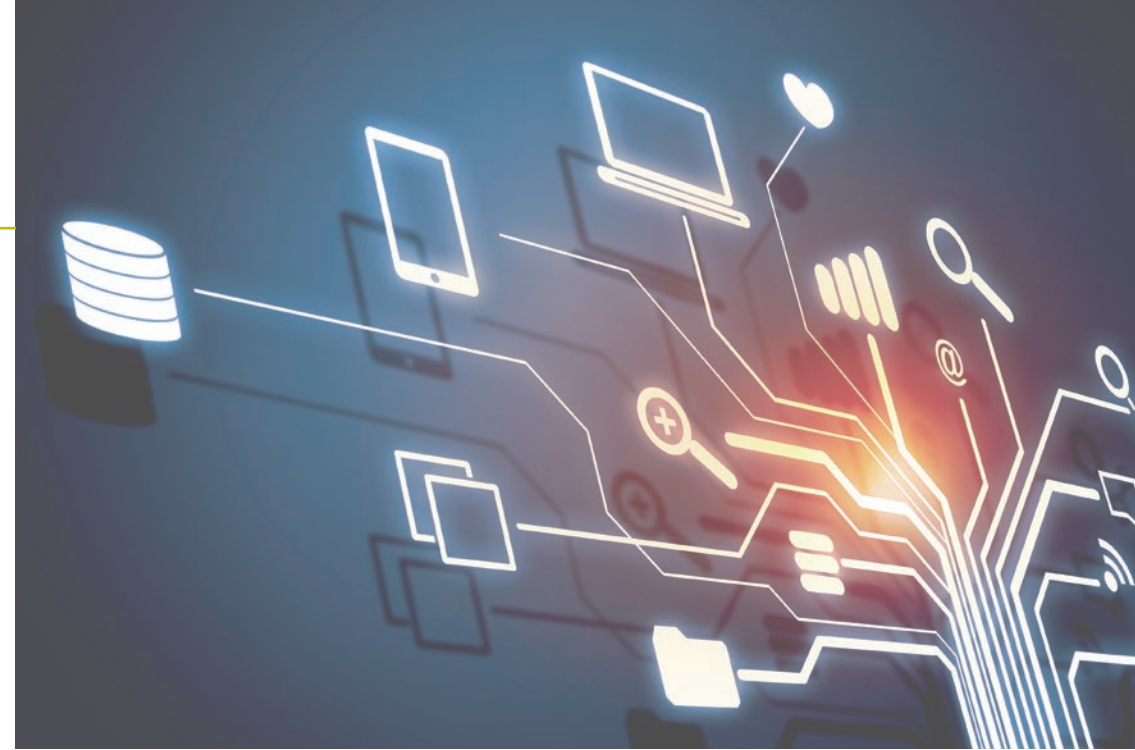


## Connecting machines

- HEIDENHAIN DNC
- OPC UA
- MTConnect
- ModbusTCP
- Fanuc and Siemens (native connection)

## Interface services

- Retrofit of additional hardware for connecting machines that lack an interface
- Interface programming for the connection of additional protocols or SQL database servers



# License models for software solutions

For all of the software solutions, you can choose between a license model with software maintenance or a rental model, depending on your requirements.

## License with software maintenance

- One-time license fee for a specific product version (e.g., StateMonitor Version 1.3) with an unlimited right-of-use period
- Regular costs for software maintenance, upgrades, and updates to new product versions
- Software runs on your own infrastructure

## Rental software

- Limited right-of-use period
- Regular rental costs, with software maintenance included
- Software runs on your own infrastructure



## Get the advice you need

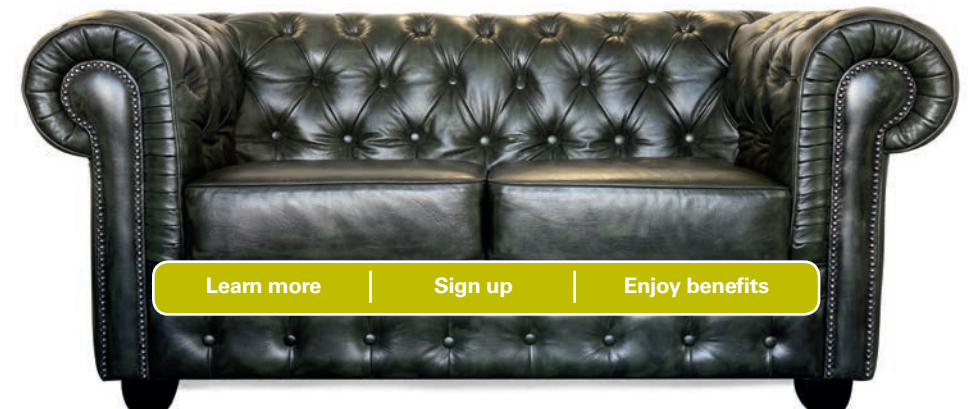
HEIDENHAIN supports you when it comes to process optimization and the analysis of your production environment. Would you like to expand the functionality of your HEIDENHAIN control or test various software options? If so, a competent team of specialists is at your disposal:

- Controls experts for determining static and dynamic motional deviations, as well as compensating for them
- NC and PLC programmers for integrating new cycles and expanding M functions
- Application engineers for testing and enabling new software options for your control
- Process analysts for optimizing your production and business processes

## TNC Club

At the TNC Club, CNC experts find support and solution-oriented answers to any and all questions surrounding TNC controls from HEIDENHAIN. Not only will you find exclusive offers that help you improve your knowledge of TNC controls, but you can also engage in direct conversation with HEIDENHAIN, telling us what is important to you, and thus have the chance to shape the future of TNC controls. Enjoy the benefits of membership in the TNC Club:

- Get detailed product information
- Receive fast support in service matters
- Personal application consultation (Premium membership\*)
- Exclusive regional user training courses (Premium membership\*)

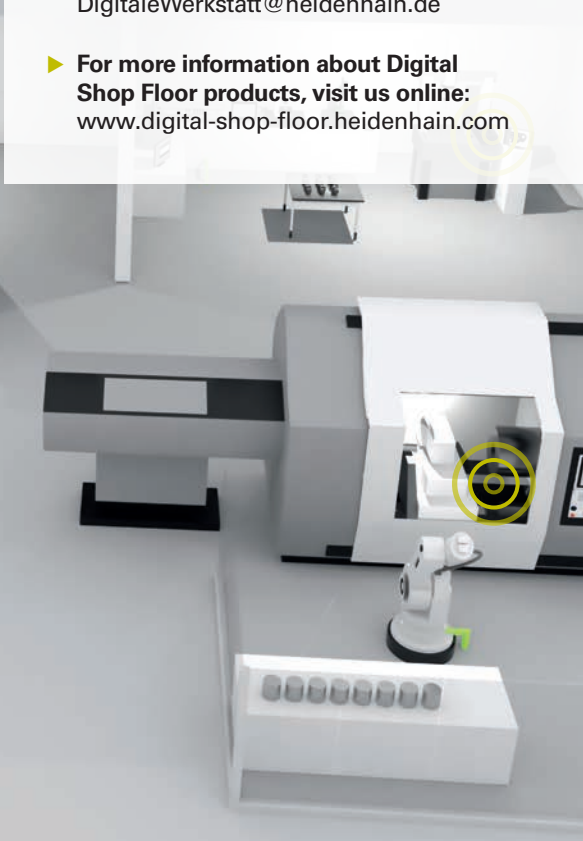


\* The current prices and all participation conditions can be found at:  
[www.tnc-club.de/mitgliedschaft](http://www.tnc-club.de/mitgliedschaft)



► For a consultation about all Digital Shop Floor products and services, contact us at:  
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► For more information about Digital Shop Floor products, visit us online:  
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