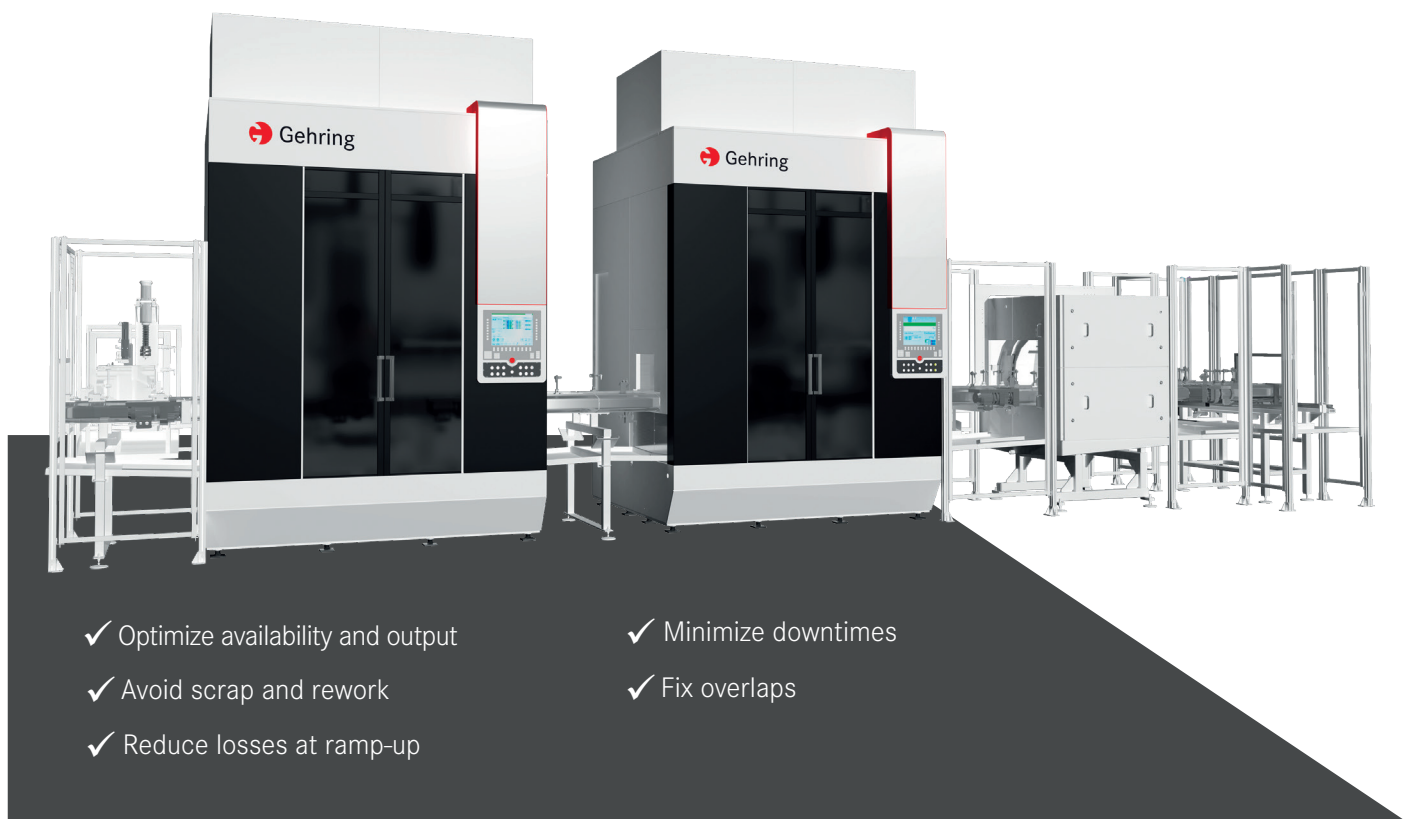


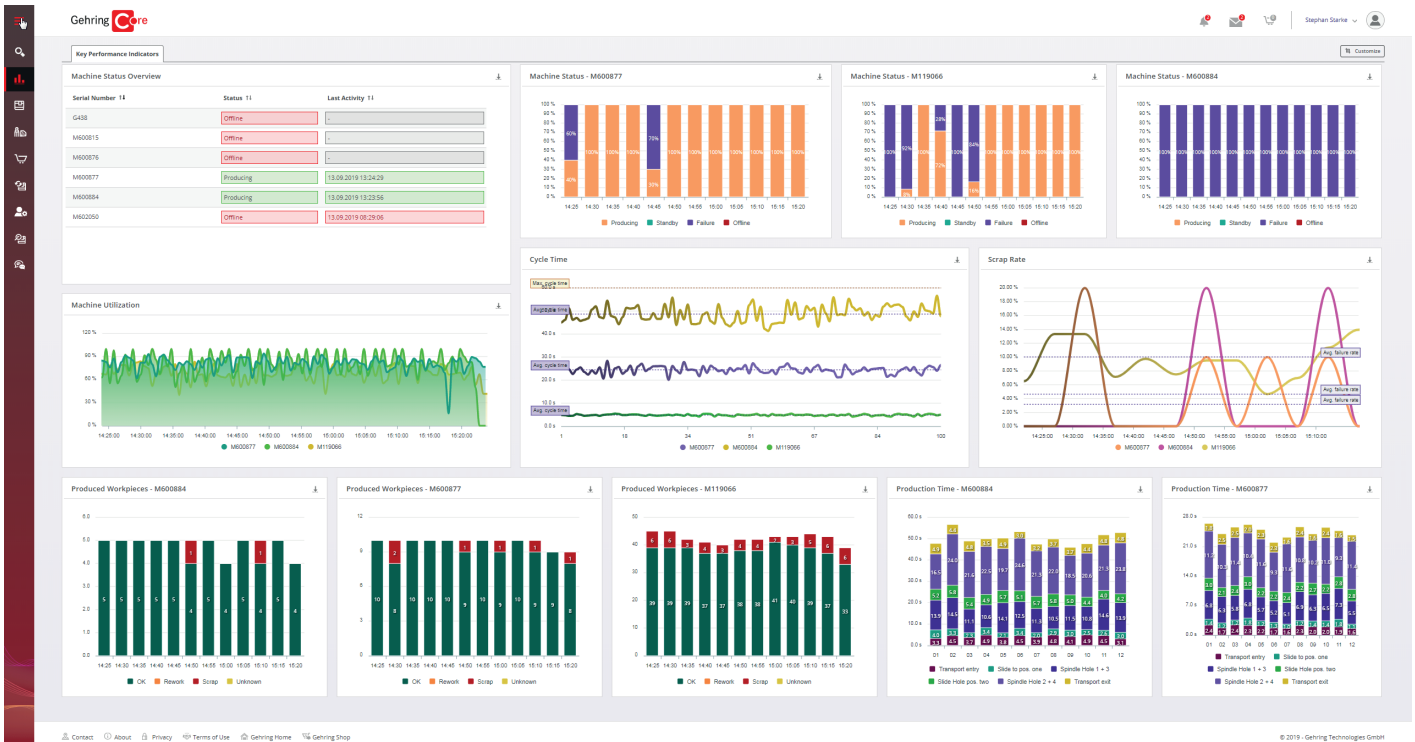
## Optimize your OEE (overall equipment effectiveness) with CORE

Many operators currently do not use the potential to optimize their production equipment and facilities sufficiently. There are numerous possible ways to improve output and availability and to increase overall operational performance and profitability. Balancing the process chains, ideal work flows as well as a deep understanding of the reasons and causes for downtimes offer good starting points. But how do you get the necessary data and evaluations? The cloud-based Gehring platform "CORE", which runs on the Microsoft Azure Cloud, collects all relevant system data and displays them in real time according to your specifications. The system is protected by state-of-the-art security mechanisms. This creates immediate opportunities for action and a fundament for sustainable improvements.



## Manufacturing Management with CORE - Transparency and Insight

In addition to conventional production control systems, the CORE provides insights for advanced manufacturing management. Transparent technology data and process parameters allow for real root cause analyses and sustainable optimization of productivity and quality.

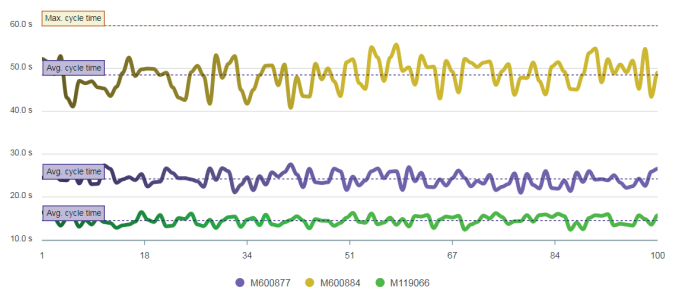
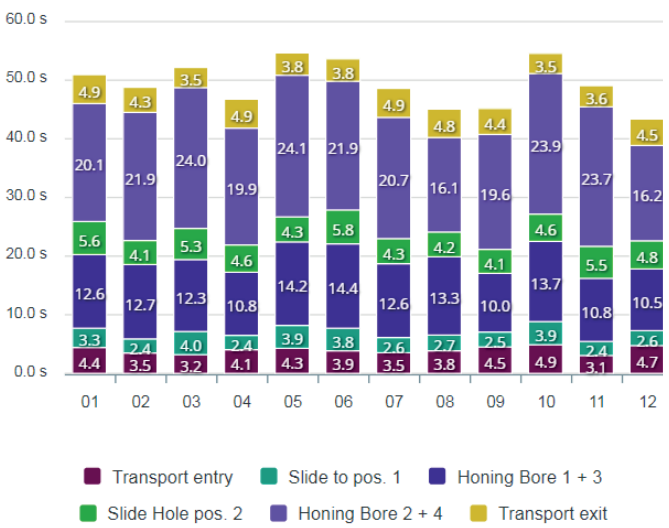


The CORE Dashboard with individually configurable widgets

# THE FUNCTIONS OF THE CORE

## 1. Your KPIs

The modular dashboards, flexibly configurable via widgets, are used to clearly display data from the machine. Status displays and evaluations according to predefined key figures (KPIs) can be combined and adapted to different purposes as required by the user.



Cycle times with upper and lower limits reflect the process efficiency and indicate trends at an early stage.

The production times can be broken down into subprocesses like part feed, spindle positioning and honing, allowing for a detailed analysis of the overall cycle.

## 2. Maintenance and service, comparison of machines

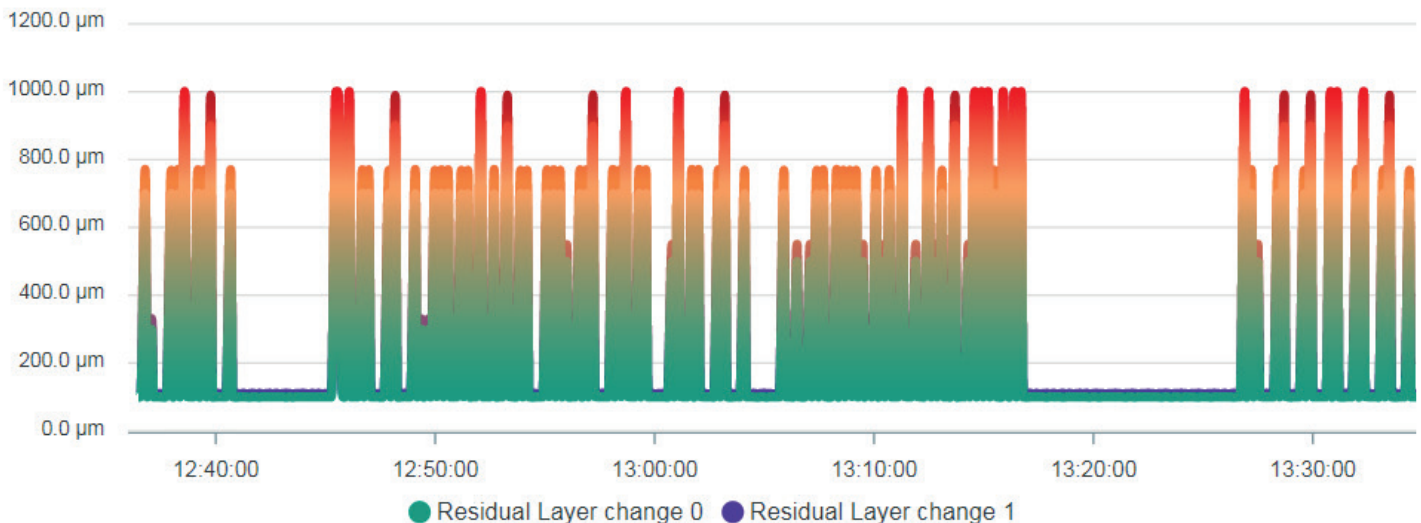
For overall equipment effectiveness, tools like predictive maintenance, data-driven productivity optimization and troubleshooting play a significant role. With comprehensive machine data, events and reports from individual machines, users achieve significant improvements in effectiveness. The ability to compare the productivity of multiple machines in the plant opens up further optimization potential.

## 3. Shop-function and machine documentation

The functionality of the CORE also includes the documentation of the machines, including current technical files and parts lists. The connection to Gehring's company systems enables direct, fast order of the suitable wear and spare parts.

## 4. Tool monitoring

In combination with Gehring's own tool sensors, CORE offers the opportunity to document the use of tools and the condition of the abrasives. This way, you can transition from a periodic to a condition-based tool inspection with the related utilization optimization and risk minimization.



Tool wear per operation

### Consistent security through system structure and state of the art SSL encryption

- ✓ Data transfer, data processing and visualization with certified security mechanisms
- ✓ Data transfer from the machine to the cloud via SSL
- ✓ SSL encryption of data processing in the cloud (Microsoft standard)
- ✓ No possibility to change data on the machine from the outside. The corresponding functions are not available. Communication with the Microsoft Azure Cloud is triggered by the machine as a push operation.