



DIGITAL SERVICES FOR OPTIMAL MACHINE USE





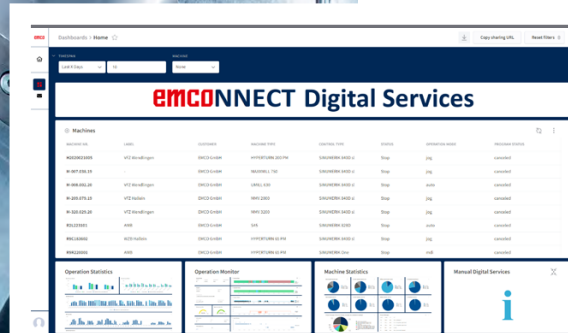
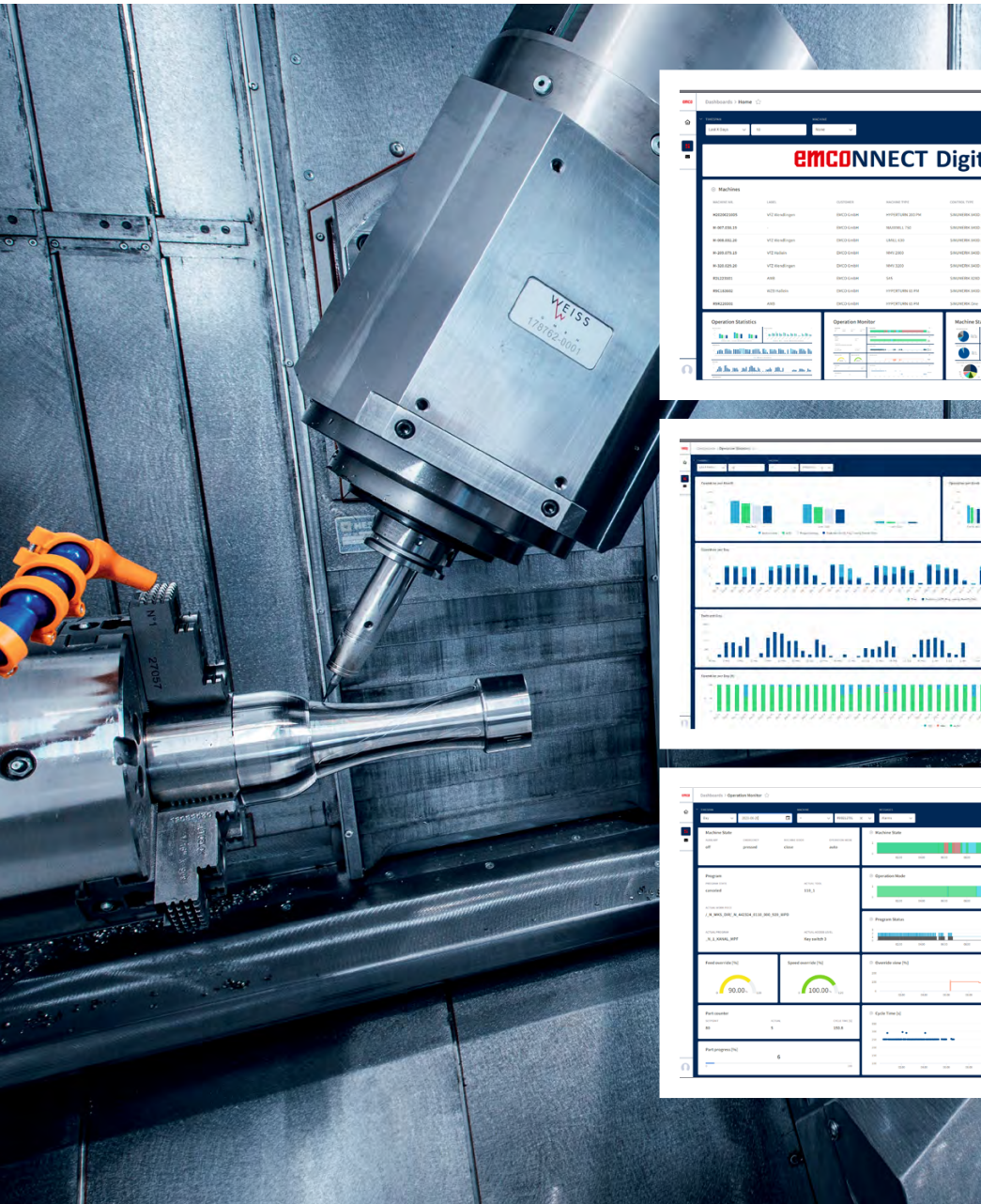
/ ONLINE SERVICES: KEEP AN EYE ON THE MACHINE STATUS ANYWHERE AND AT ANY TIME

The EMCONNECT Digital Services form the basis for a wide range of online control systems for optimised operation and maintenance of the machine. The user has an overview of the status of the machine at all times and in all places. The automatic notification of the responsible employees in the event of malfunctions or machine standstill, as well as the extended possibilities for remote maintenance, reduces downtimes to a minimum.

HIGHLIGHTS

- / Online services for condition monitoring and optimized machine operation
- / Machine status and evaluations always and everywhere in view
- / E-mail notification in the event of faults and limit values being exceeded
- / Remote maintenance with extended diagnostic options to reduce unplanned downtimes
- / Maintenance management to support use-dependent predictive maintenance
- / Future-proof equipment through continuous further development of online services

TYPICAL EVALUATIONS AND VIEWS



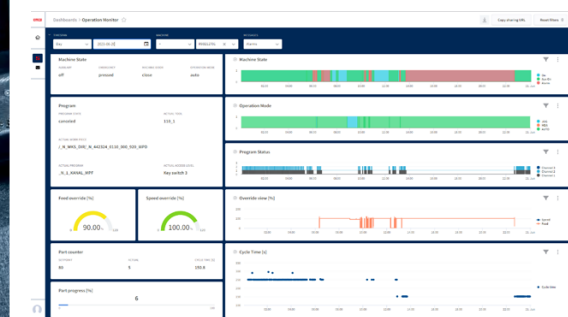
Machine overview

with current operating status of the machines as access to the specific dashboards with detailed views and evaluations



Operation Statistics

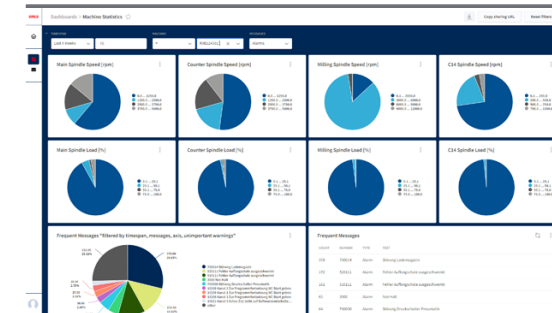
with an evaluation of availability, productive operation and produced quantities of the machine



Operation Monitor

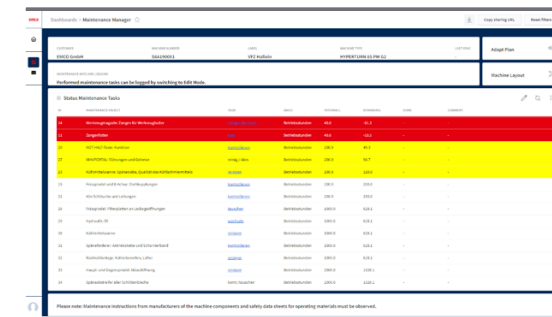
with current machine status and all important information about the operation of the machine as well as production progress

- / Machine and programme status incl. chronological progression
- / Piece counts and cycle times
- / Alarm history



Machine Statistics

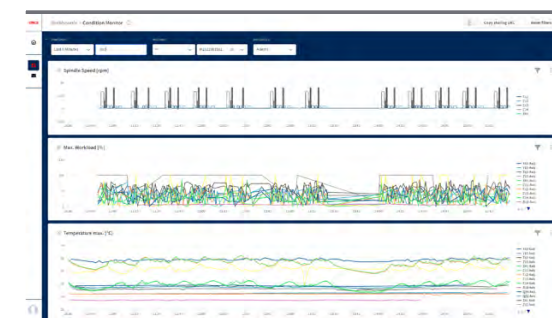
Spindle running times with speed and load profiles allow for evaluations about the use of the machine and form an important basis for predictive maintenance



Maintenance Manager

supports use-dependent predictive maintenance of the machine:

- / Display of upcoming maintenance activities incl. remaining running times
- / Log book with all maintenance activities carried out
- / Information for all affected users as well as the operator directly on the control system



Condition Monitor

with the chronological progression of speeds, loads and temperatures of the drives as well as the history of the alarm messages – optionally a detailed view of the status of the machine

/ MACHINE EQUIPMENT AND DATA PROVISION

To support the extended online services and access to the data required for them, the machine is equipped with appropriate hardware and software for a secure connection setup, independent of the company network.

Machine equipment:

- / Hardware and software that automatically generates and stores unprocessed machine-internal information and data about the operation of the machine (machine data).
- / Mobile modem incl. SIM card for secure connection of Digital Services independent of the company network.

Data provision:

The Digital Services are based exclusively on machine-internal status and diagnostic data depending on the machine and control type. This includes, for example, operating mode/times, speeds, loads, current consumption, temperatures, axis travels, alarms, messages, states, and machine and control parameters. There is explicitly no recording and transmission of sensitive personal, customer or order data or NC programs.



/ SECURE CONNECTION THROUGH A MULTI-LAYER SECURITY CONCEPT

A multi-layer security concept ensures a secure connection of the online services as well as effective protection against unauthorized access to data and machine.

- / The connection of the machine for the provision of the online services takes place via a mobile radio modem permanently installed in the machine, completely independent of the connection of the machine to the customer's company network.
- / Ongoing cellular charges are included in the package with online services and are covered by EMCO.
- / At the level of the cellular connection, it is already ensured that the connection to the machine is completely separated from the public Internet and thus cannot be reached by unauthorized access.
- / In addition, a firewall guarantees the highest security standards to reliably protect machine and company network
- / The use of the online services is only possible for registered users of the Customer and authorized employees of EMCO.
- / The online services are operated in the data center of MICROSOFT Azure Germany and thus meet the highest standards of data protection. Microsoft Azure Germany meets the international certification standard for information security management systems (ISO 27001) and the protection of personal data in public clouds (ISO 27018)
cf. <https://news.microsoft.com/de-de/microsoft-azure-deutschland-iso-zertifizierungenx>

System requirements:

- / Machine control: Sinumerik One/828/840D sl, Heidenhain TNC 640 and Fanuc 31i in preparation
- / Access to EMCONNECT Digital Services: Current version of Google Chrome on any end device (PC, tablet, mobile).

beyond standard /

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