

Perfectly matched digital services

Individually coordinated service packages for added productivity, improved availability, and optimized overall equipment effectiveness.

With clear-cut objectives:

- Recognize and tap into potential for greater added value
- Continuously monitor and optimize processes
- Reduce operating costs and improve performance
- Individual and innovative on-the-job instruction at all times
- Minimize unplanned downtimes
- Reduce maintenance costs sustainably
- Improve packaging quality

HMI operating panel

The basis of all KOCH digital services is the innovative HMI "easyControl" operating panel of the packaging machines. The panel is very easy to use with straightforward, intuitive operation and navigation during the entire process. 3D machine animations with a zoom-in function provide additional visual support.



USABILITY PACK

- User interface customizable
 - Step and cycle sequence for stations; integration of additional operating modes for accelerated error diagnosis and faster machine setup
 - WLAN access point including mobile device for site-independent visualization of machine functions
- ▶ Up to 50% faster error diagnosis
 - ▶ Up to 10% faster machine setup



PREDICTIVE PACK

- Predictive maintenance for relevant wearing parts
 - Continuous performance monitoring of the individual machine parts by visualizing station performance
 - Reading and monitoring of pressure, flow, utilities, and overall energy consumption
- ▶ Machine downtimes avoided
 - ▶ Early recognition of optimization potential
 - ▶ Overview of all production figures
 - ▶ Improved packaging quality



CONNECTIVITY PACK

- Highly secure SSL/TLS connection between KOCH Smart Analytics System (cloud system) and customer to acquire machine wear and condition data
 - Connectivity via local area network, WiFi, or mobile network
 - OPC UA server as universal interface to access data on process variables
- ▶ Fast, targeted remote diagnosis
 - ▶ Easy, monitored data access
 - ▶ Link to higher ranking systems



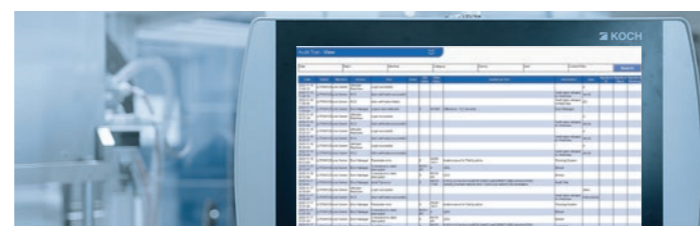
OEE PACK

- KOCH Smart Analytics Dashboard
 - Web-based system with secure access
 - Transparency regarding availability, performance, and quality
 - Analysis of stop causes, downtimes, and performance
 - Helpful production trends, time and counter readings at a glance
- Additionally required:** Connectivity Pack and Predictive Pack
- ▶ Maximization of machine potential
 - ▶ Overview of the entire production process
 - ▶ Diverse analysis and visualization options



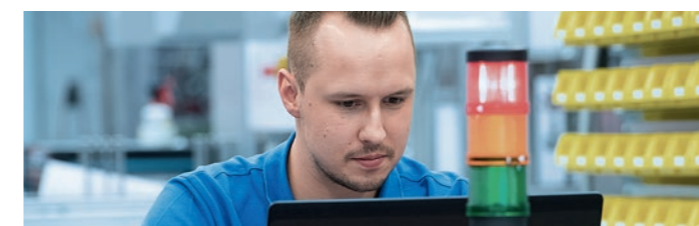
ECO PACK

- Display of electric and pneumatic energy consumption on the user interface
 - Time switch and energy-saving functions for production breaks and shift changeovers
- Required hardware:** Current measuring clamps, flow measurement, ETA IO link
- ▶ Up to 20% lower energy costs
 - ▶ Monitoring of consumption figures



AUDIT TRAIL PACK

- Machine monitoring in compliance with GMP and 21 CFR Part 11 requirements
 - Logging of all process-relevant parameters and values, as well as all machine conditions and error reports
 - Data security and system protection against manipulation: restricted access with extended user authentication
- Additionally required:** Usability Pack
- ▶ Compliance with statutory regulations governing medical devices



PRODUCTION PACK

- Batch management and reporting: full planning of production lots and batches in the higher ranking system as well as batch report after completion of a batch
 - Central formula management: central retention of format and production data, OPC UA server license
- ▶ Central planning of the production batches
 - ▶ Optimum machine capacity utilization



INSTRUCTION PACK

- Digital, location-independent instruction for new operators
 - Short, easy-to-grasp units
 - Straightforward, clear animations and video snapshots for operator guidance and training purposes
 - Fast, individual access to operating instructions, spare parts management, and circuit diagram via the user interface
- ▶ Straightforward and customized training package 4.0