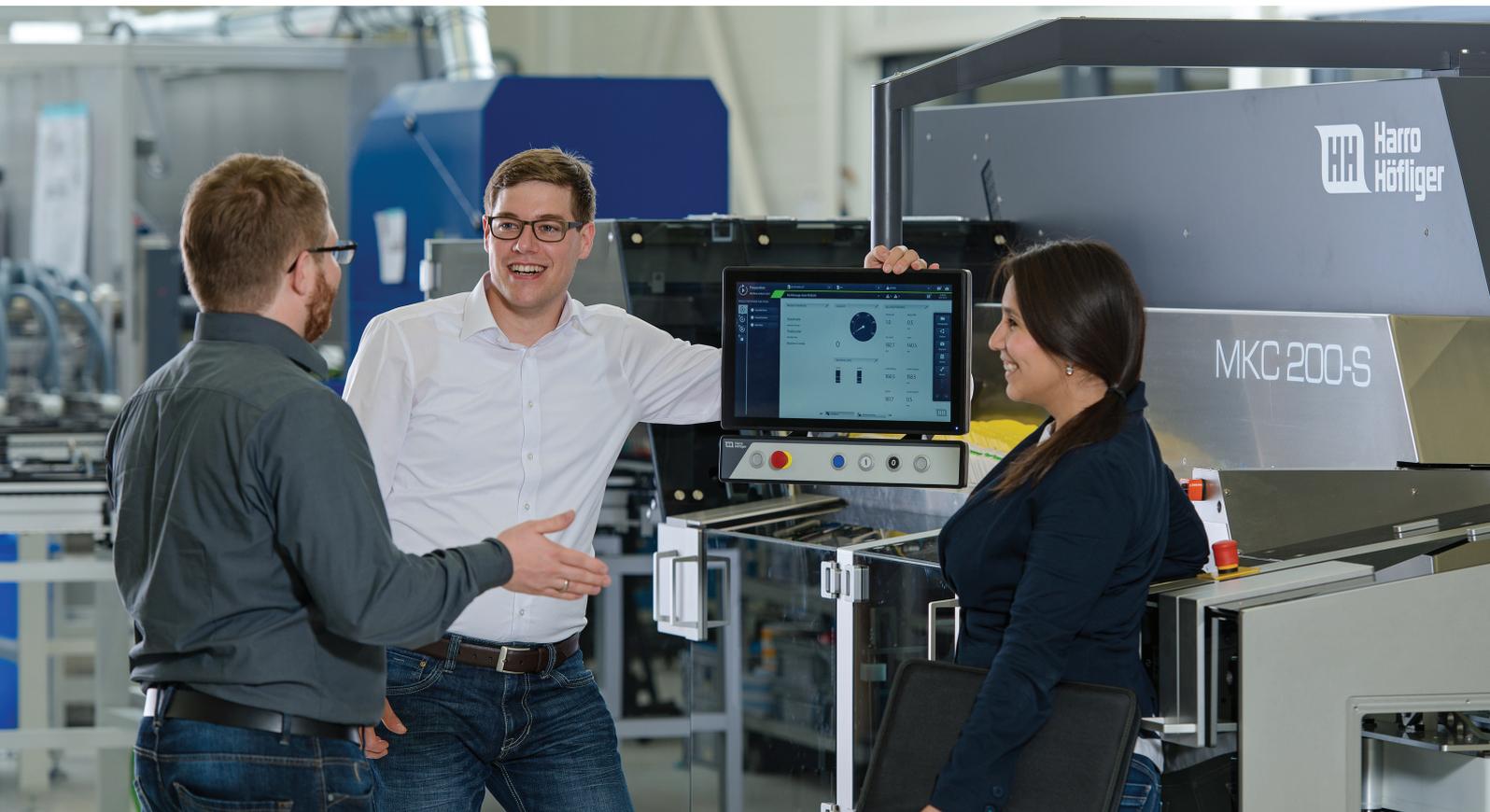


Harro Höfliger invests in user-friendliness

# Visibly better

What does a human-machine interface need to do in order for operators, service staff and maintenance staff to be able to work efficiently and productively? Harro Höfliger has created a modern user interface for all types of machines on the basis of zenon from COPA-DATA. It is characterized by intuitive design which allows for quick learning and by functional operation, thanks to familiar Multi-Touch gestures.



Capsules, tablets, inhalation products, liquid products, aseptic products, diagnosis products, batteries, machines for product assembly and packaging – Harro Höfliger Verpackungsmaschinen GmbH, a company founded in 1975, now offers a broad range of machine types for the production and packaging of pharmaceutical goods, medicine, consumer goods, cosmetics and chemical technology. The large number of machines means that complexity also increases – the complexity of machines and thus also the complexity of operation. “A station, i.e. a functional component of a machine,

previously only had a few parameters. Now, individual stations have up to twenty screens, each with 20 parameters that can be set”, explains Fabian Elsässer, HMI/SCADA Systems Group Leader at Harro Höfliger Verpackungsmaschinen GmbH. “Only ergonomically-designed user interfaces allow the user to overcome this complexity.”

## USABILITY IN FOCUS

In order to cater to the greater scope of functions and performance of the machines, and to guarantee target-

“zenon is an HMI/SCADA solution that offers an extremely large range of functions out of the box, and also has the flexibility, thanks to the programming interface, to design the application in such a precise way that a company’s complete customer requirements can be fully met.”

FABIAN ELSÄSSER, GROUP LEADER OF HMI/SCADA SYSTEMS,  
HARRO HÖFLIGER VERPACKUNGSMASCHINEN GMBH

orientated, efficient and error-free work, Harro Höfliger decided to implement a new human-machine interface (HMI) on the basis of zenon. The company has already been using the HMI/SCADA solution from COPA-DATA for more than ten years. Harro Höfliger conceived and developed the new HMI together with CaderaDesign. The company specializes in industry and user interface design, usability and user experience. CaderaDesign provides support for the complete process of developing HMIs and user interfaces – from the idea through to user interface programming and implementation. Complete operating concepts, software ergonomics and clear navigation structures, screen/control and icon design are the building blocks that the company offers.

#### A COMPREHENSIVE ANALYSIS AS A BASIS

Before Harro Höfliger took the step of introducing a new, comprehensive user interface, Fabian Elsässer and CaderaDesign collected customer feedback during the analysis phase and analysis workshops, compiled the requests and wishes of the users and also spoke to employees at the company. The people involved in the project then evaluated the tasks of the users, took a close look at the different types of machines and evaluated the functionality and its benefits, together with specialists from the company. The next thing was to sketch out the ideas and to develop and evaluate layout concepts. “We were quick to develop first wireframes, that means simple,

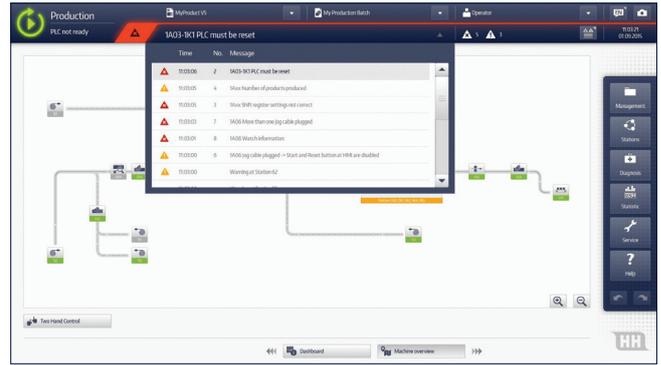
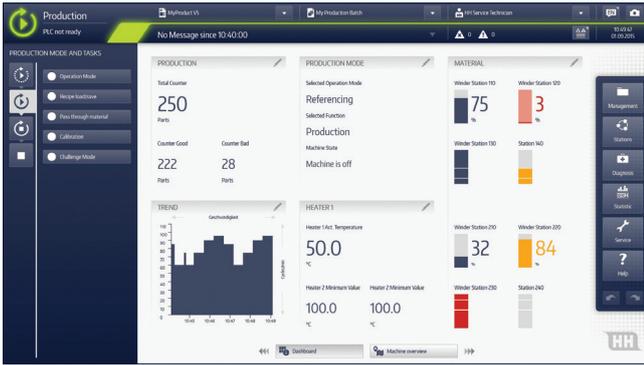
structural representations of the user interface, and gradually defined the structures in various workshops”, explained Florian Fuchs, Qualified Designer and Certified Usability Engineer at CaderaDesign.

#### OBJECTIVE: A FUTURE-ORIENTATED CONCEPT FOR ALL MACHINES

The new HMI should be based on a future-orientated concept, covering both touch and Multi-Touch applications and can be implemented with existing components of the HMI/SCADA solution zenon from COPA-DATA. Furthermore, it should have a design that is both individual and timeless. Due to the complexity of the machines, Harro Höfliger and CaderaDesign decided to have a clear task orientation as principles for the user and interaction in the new HMI.

Thanks to the task orientation in the HMI, the user is now clearly shown which tasks they must fulfill and how the operation process works, such as setting up a machine or loading a recipe. The user gets these tasks depending on the production mode (prepare for production, production, end production) and depending on their user role. Who triggers which action and allocation of machine functions that employees may use are saved in the user profiles – and thus in the user administration.

A clear information concept guarantees that the user gets only the information needed during production. Here, information and figures, such as the speed of the machine, for



Ergonomic solutions reduce complexity, create an optimum overview, show potential for improvement clearly and offer comprehensive support for decision-making processes and actions.

In industrial automation, ergonomics means optimally adapting machines and working processes to people. This concerns the user at the machine, as well as the project engineer and the employer.

example, are shown in widgets on the main screen. A widget is a component or an operating element of a graphic user interface. Harro Höfliger has created a standard library of widgets for the different machines. The widgets perform certain functions or display certain parameters and data (such as counter values for example). Users can create their individual home screen from the widgets that are relevant to their task.

A smartly-created, abstract and modular machine display makes it possible for the user to navigate using the centrally-placed machine screen and to change parameter settings or make corrections at the individual stations of the machine. In doing so, the machine screen is shown in an abstract form with the individual stations as navigation elements. A machine can consist of up to 100 stations. To be able to keep an overview, the users can use the Worldview control in the station overview. This zoom and navigation tool allows a clear display of large and complex process screens – regardless of the display size. Users can focus on individual stations, zoom and navigate in these.

**CLEVER MENU STRUCTURE FOR EFFICIENT AND SECURE WORK**

The main menu now consists of six menu items: Management, Stations, Diagnosis, Statistics, Service and Help. Recipe administration, lot and batch management, audit trails and

alarm administration are under the “Management” item. The user administration is also integrated there, so that users only execute the tasks and operate the functions that are saved in their user profile. In the “Stations” menu item, the user can select, set parameters for, and configure individual stations of a machine. “Diagnosis” delivers error messages from the controllers, and provides assistance with troubleshooting and error detection. The “Statistics” menu item provides counter screens, lists, production counters, error counters, extended trends, production statistics etc. In order to be able to work with ease, the user can state whether they are left handed or right handed and position the menu bars on the left-hand side or right-hand side as they need. Thanks to the online language switching integrated into zenon, the country-specific language selection is very easy.

