

MoldControl

User Interface for Injection Molding Applications

MoldControl is an innovative operating concept where all important parameters and functions are displayed clearly and quickly accessible. This fundamentally revised software makes the latest servomold product generation an intuitive addition to any injection molding application.

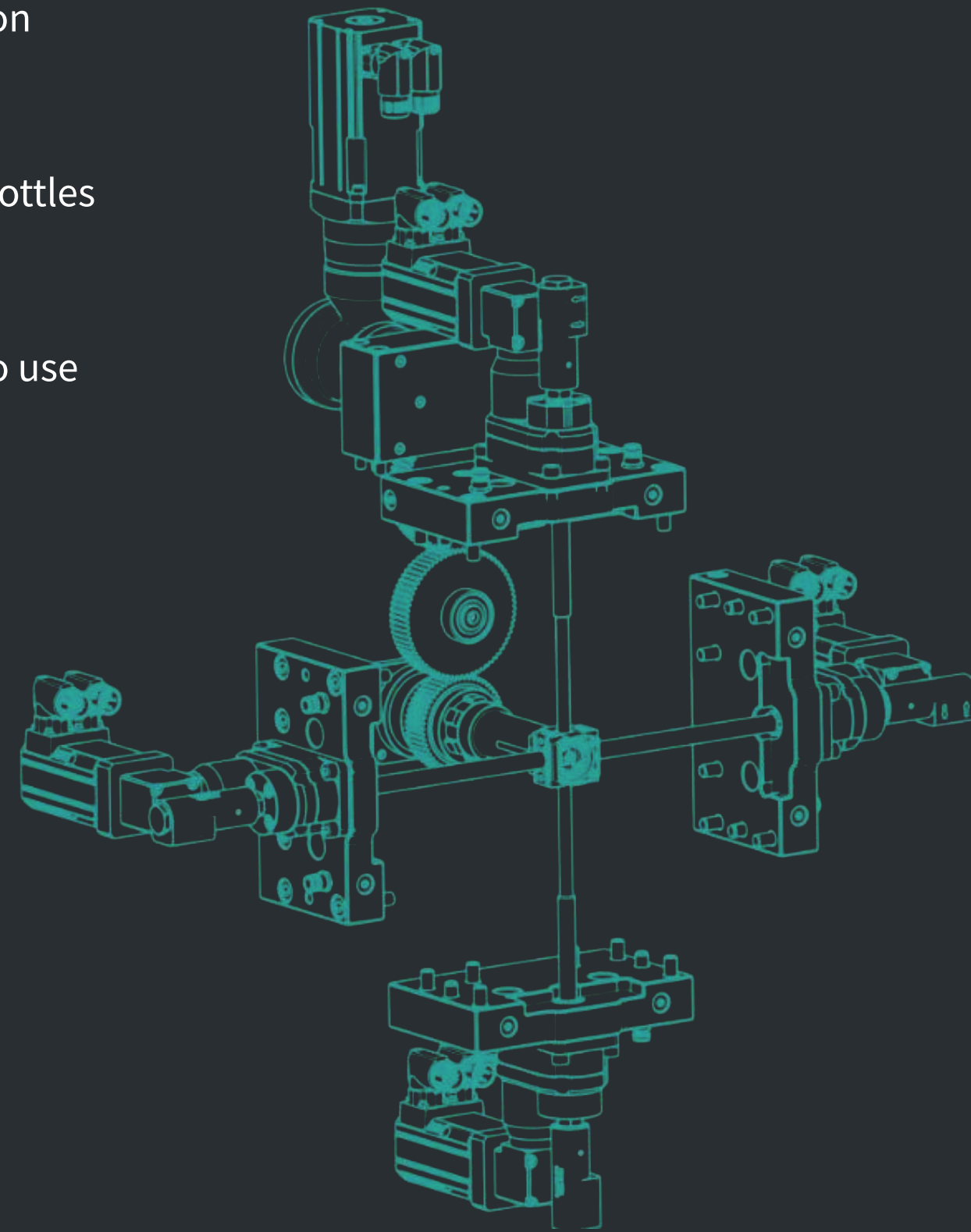
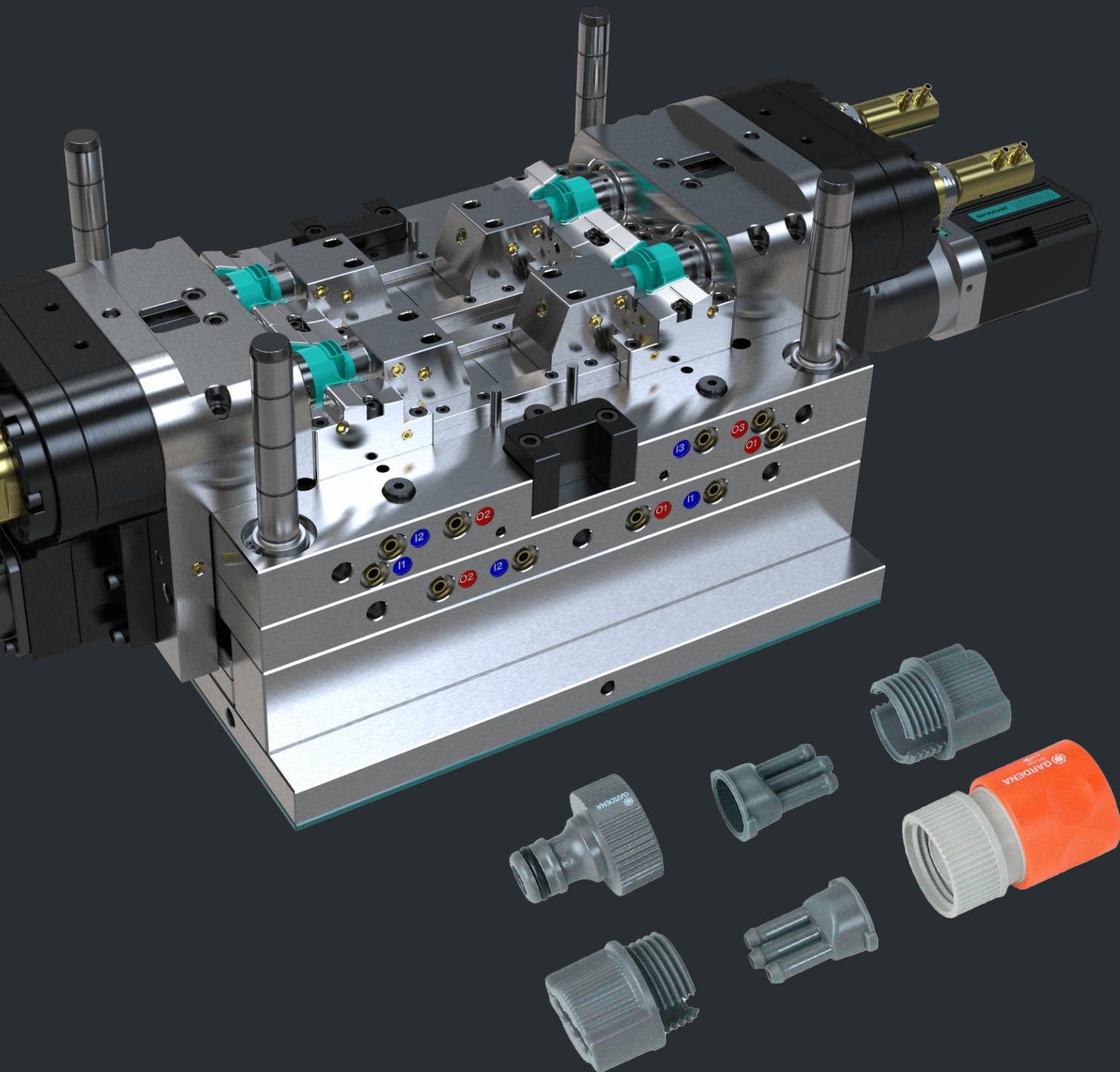


Context & Usage

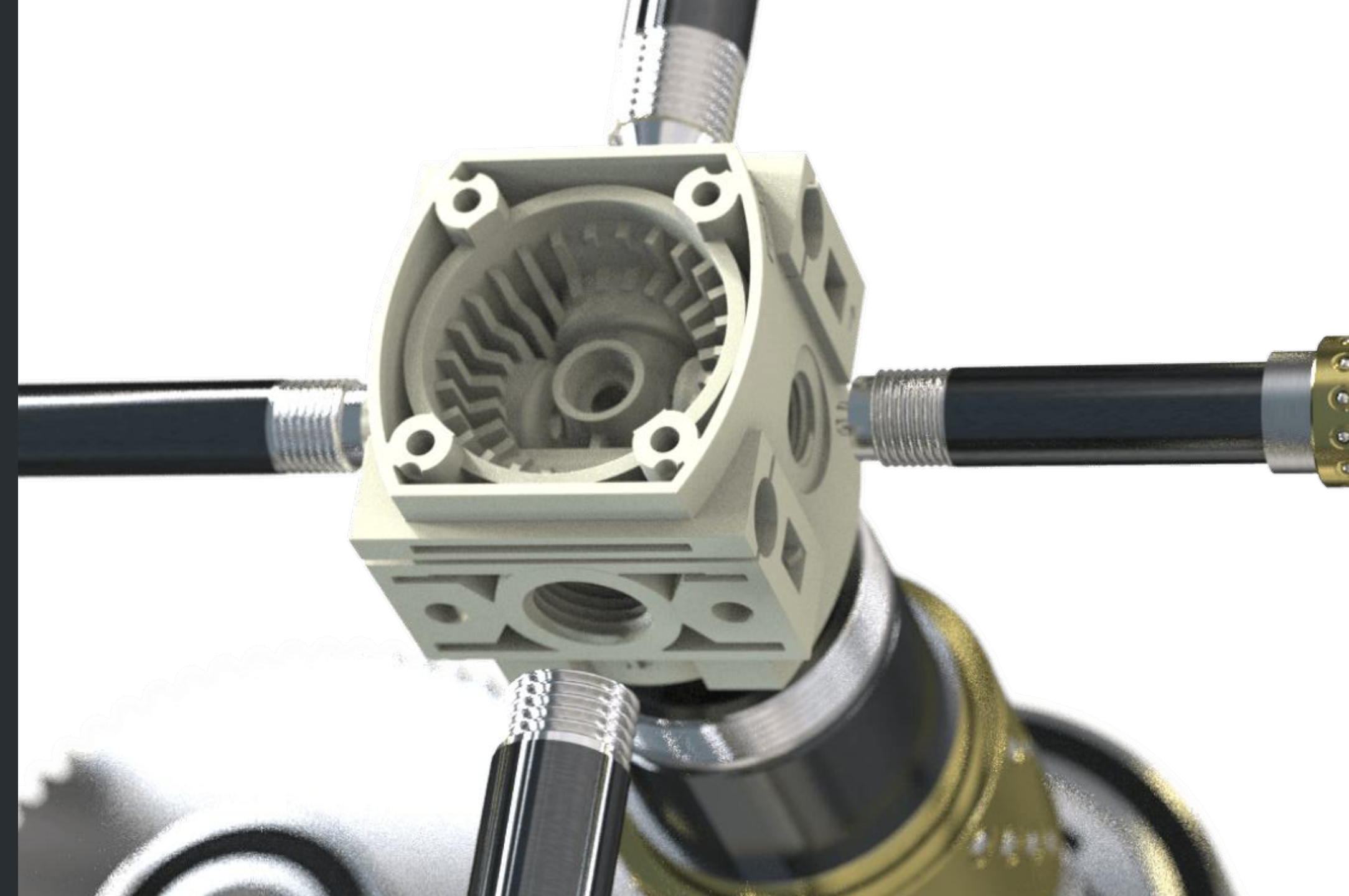
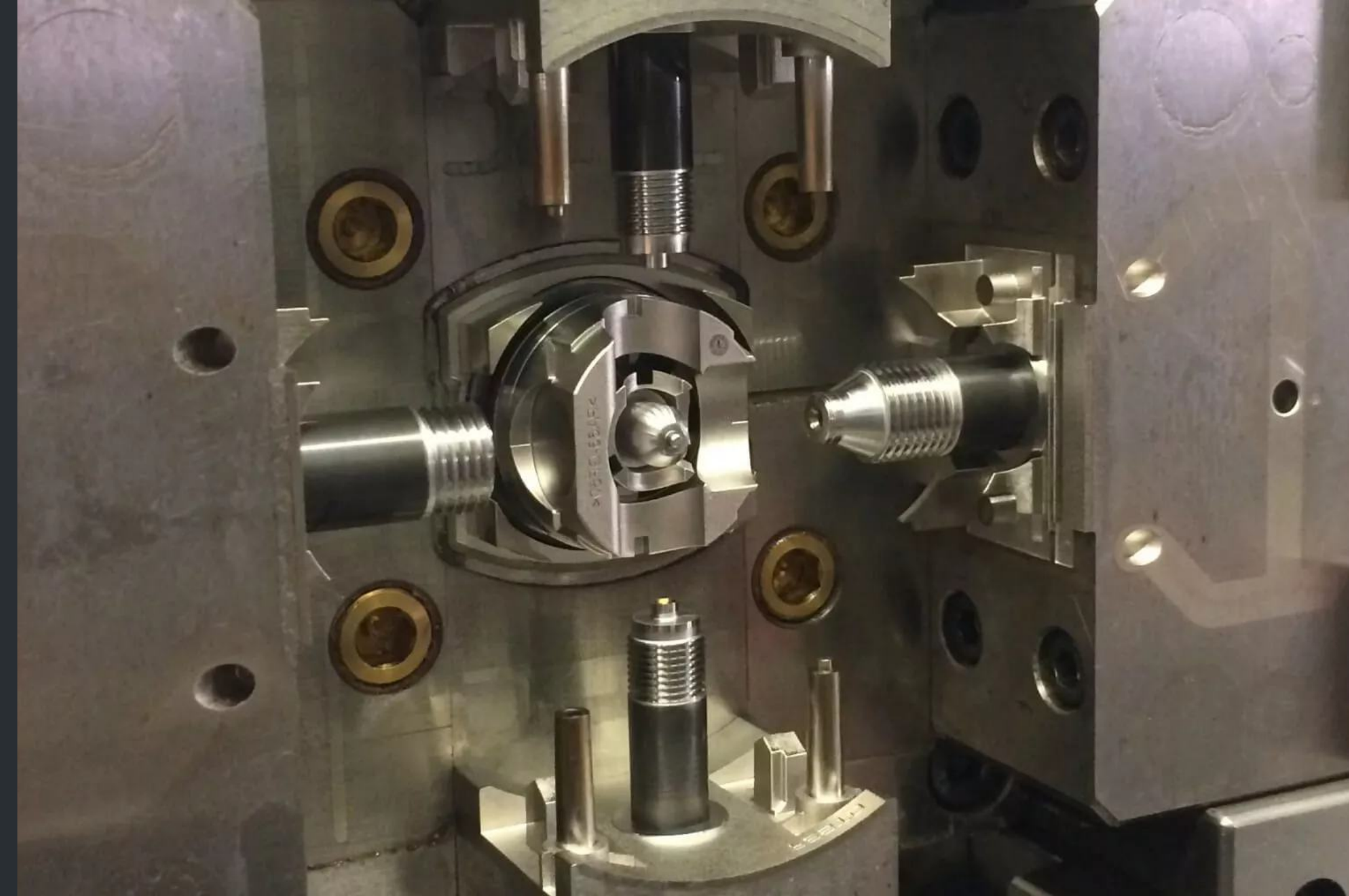
Solutions for industrial injection molding

Servomold is a full-range supplier of individualized automation solutions for injection molding. The products are used in the medical technology and pharmaceutical industries. But even supposedly simple, everyday objects such as screw caps on bottles are produced using Servomold's precise mould technology.

Goal in this project was to create an outstanding but simple to use new HMI for a precise, clean and efficient production that guarantees a high process reliability.



5-fold unscrewing housing (PA 6.6 – GF50)
for Festo Polymer GmbH

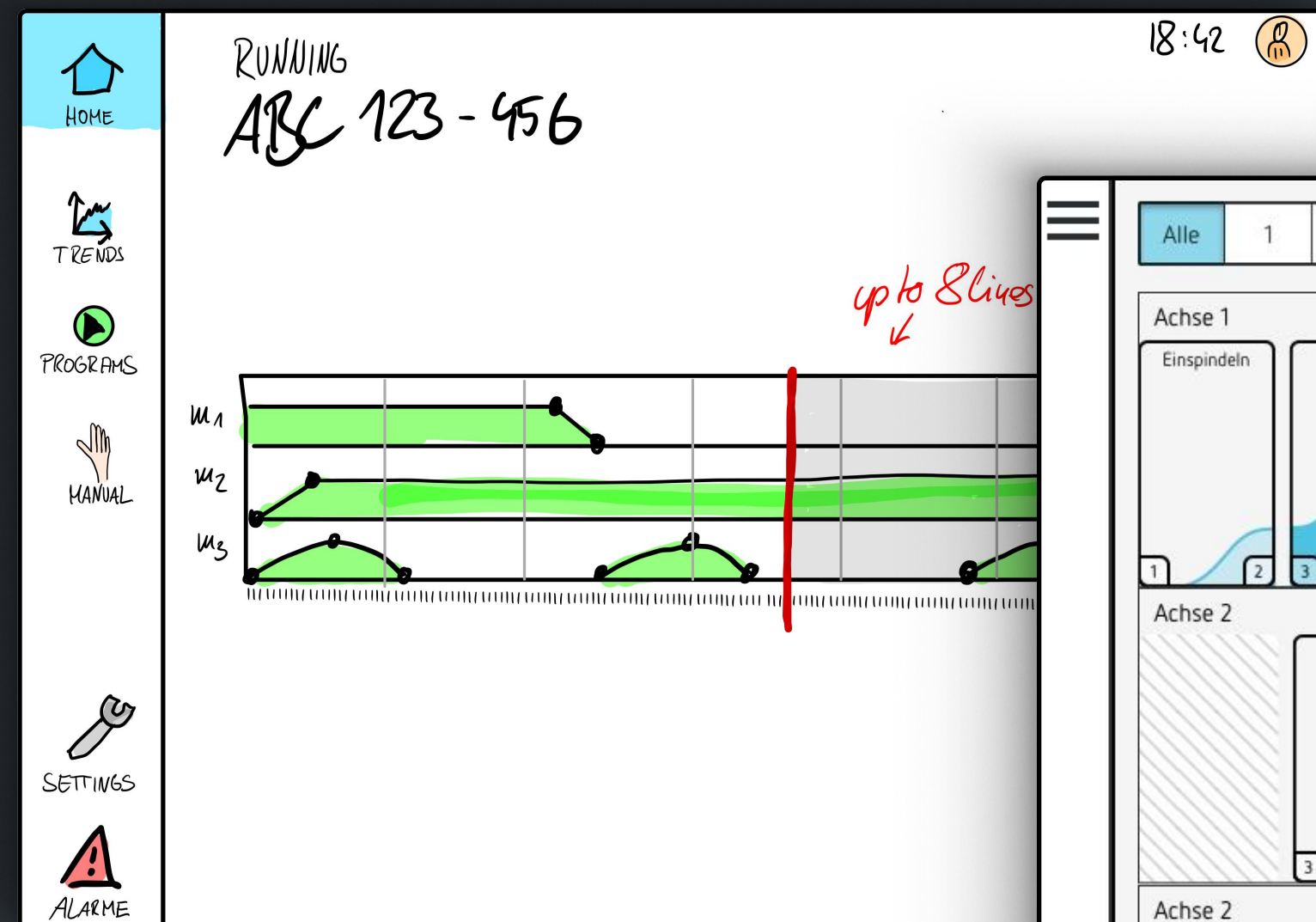


User-Centered Design

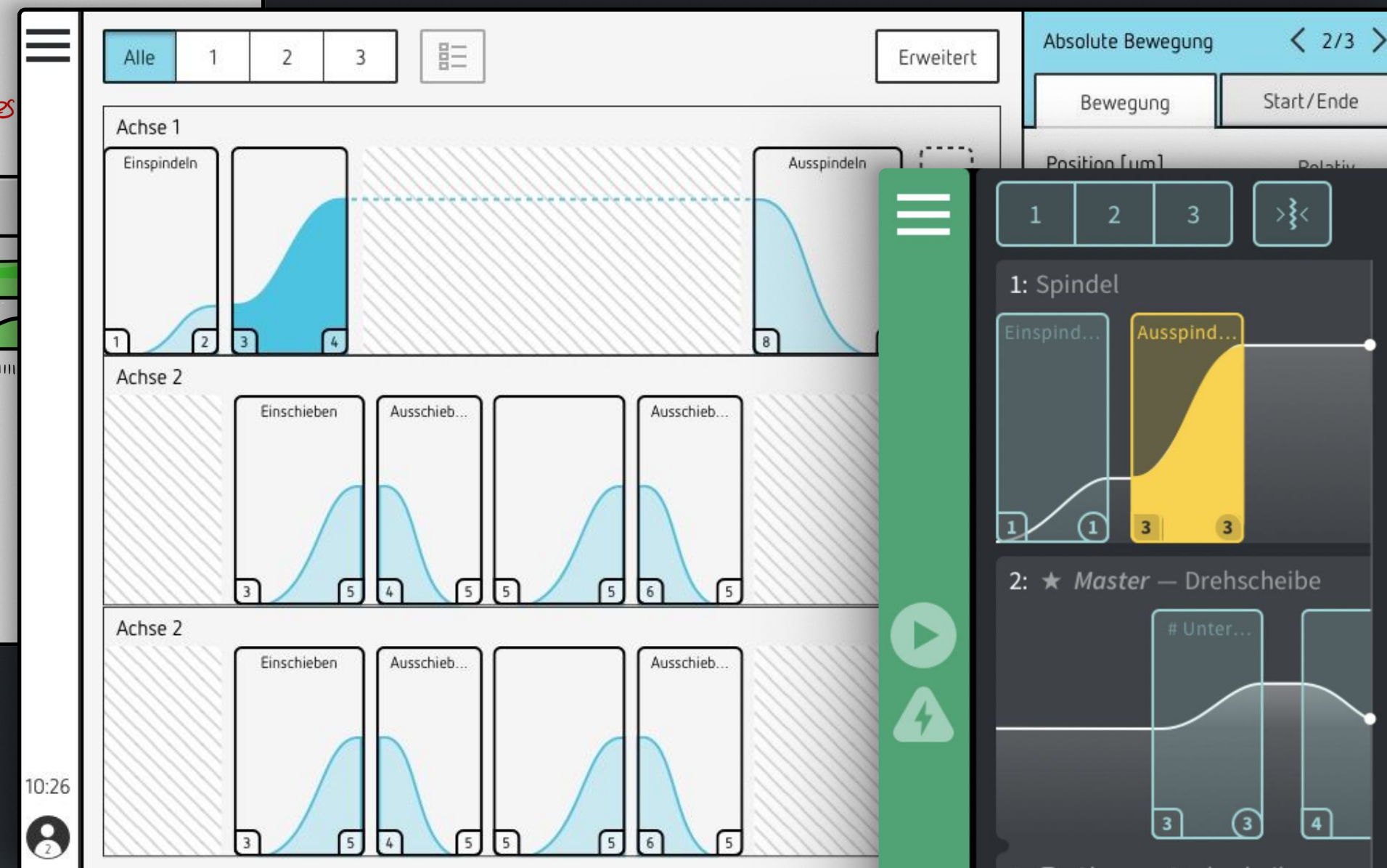
Making complex processes accessible

The user was put at the center of all project phases: In a comprehensive analysis with interviews, discussions, and deep dives, all user requirements were recorded. The derived concept in form of scribbles, wireframes, and prototypes, was tested in extensive usability tests with the end users.

It was then further developed and optimized iteratively based on the test results. And finally, of course, a design was added. Perfectly tailored to the product and the brand. It offers the user an incomparable user experience, without sacrificing any comfort, features, or security.



First Sketches



Wireframes & Prototypes



Final Design

Design System

Customized UI Elements

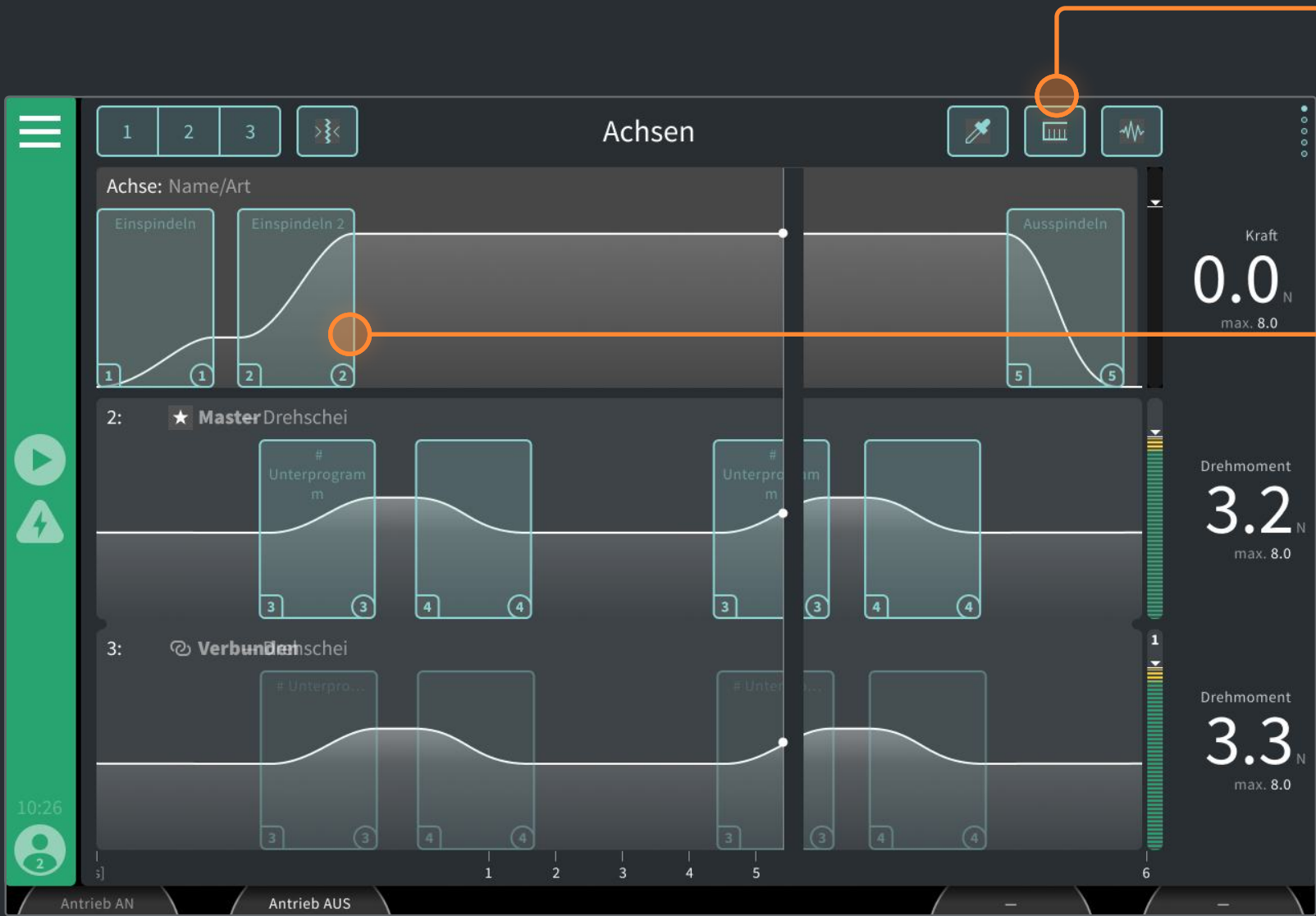
The design system developed for MoldControl is based on the striking brand presence of Servomold. Typography and color scheme are directly derived from the CI and were expanded by a uniform icon set. Additionally the new interface design and the industrial design of the machine were precisely coordinated. This way it was possible to offer the users an uniform and coherent holistic experience.



Operating & Analysing

Process Optimization

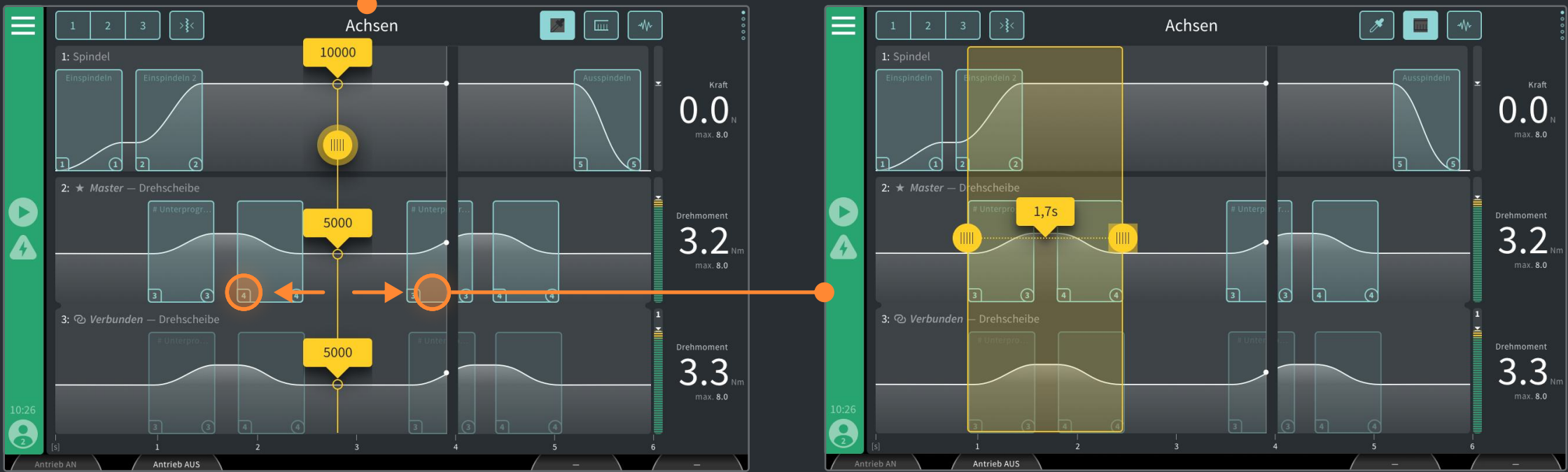
The user interface was designed ergonomically and enables intuitive but precise control of the production process, resulting in improved product quality. It provides real-time feedback and enables immediate adjustments for product optimization. The representation of the processes on a time axis makes it very easy to recognize correlations graphically. All of these factors contribute to enhanced usability and an efficient operation.



Axis Overview



Oscilloscope



Time Period Analysis



Parameter Input

User Interface Elements

Ergonomics & Functionality

Burger Menu

Access to setup programs, editors and analysis tools

Status Bar

Shows operating states, operating mode and user level

Functional Field

Selected information for optimized performance

Dynamic Hardkey Labels

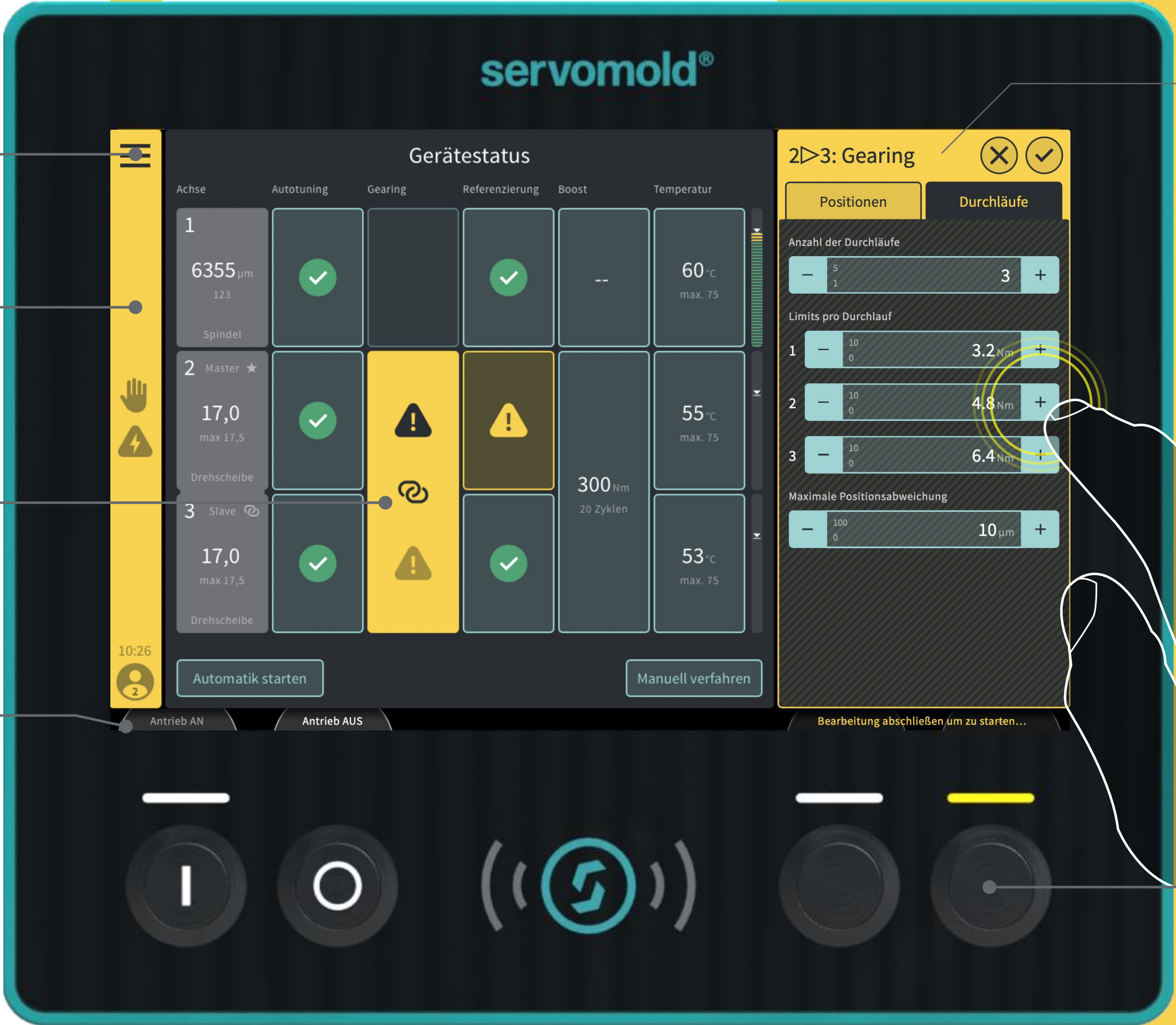
Process-dependent contextual labeling

Parameter Panel

Contextual side window for parameter editing

Hardkeys

with contextual function, colordesign and labeling



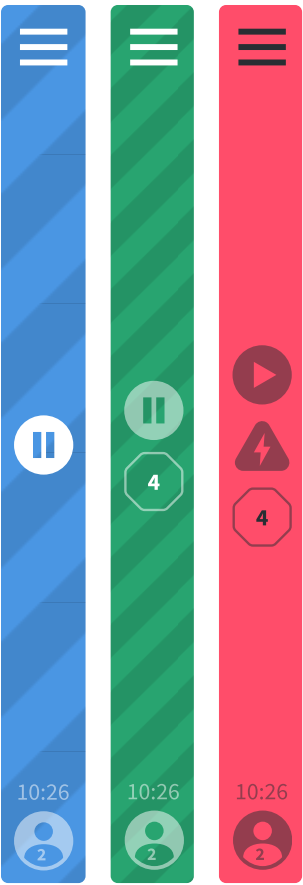
Navigation, Help & User Guidance

Always informed, safe and fast

Well-designed helping systems in servomold control are essential for ensuring smooth and efficient operations. These systems provide real-time monitoring and control over the molding process, allowing operators to make precise

adjustments as needed. By leveraging these advanced systems, manufacturers can significantly improve product quality, reduce waste, and increase overall operational efficiency.

Statusbar information at a glance



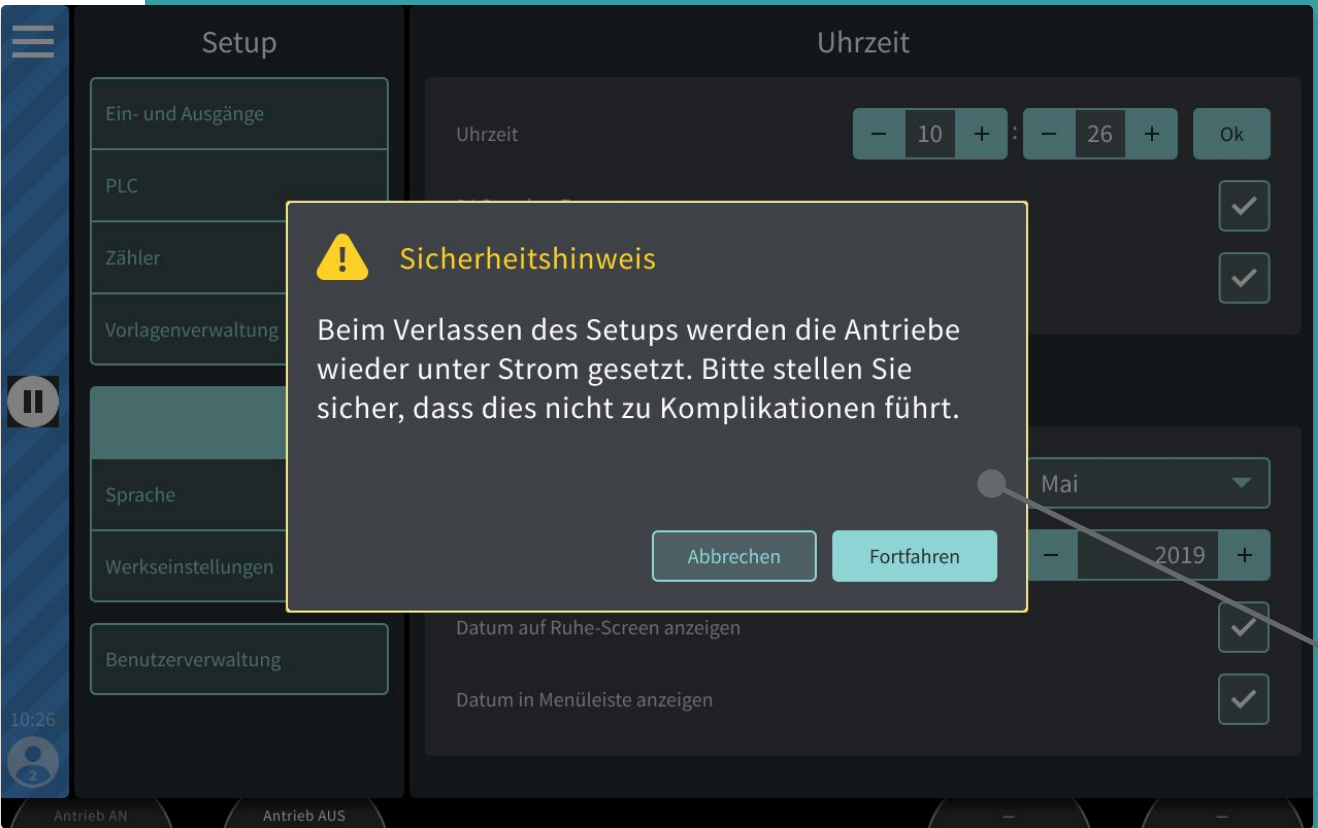
Workflows Simple step-by-step instructions guide the user through complex processes



Production Cycle In the screensaver, the cycle is translated into an eye-catching, round infographic that visualises all axis changes as well as the status

Pop Up Important messages, notes and settings can be easily managed via temporary pop-ups

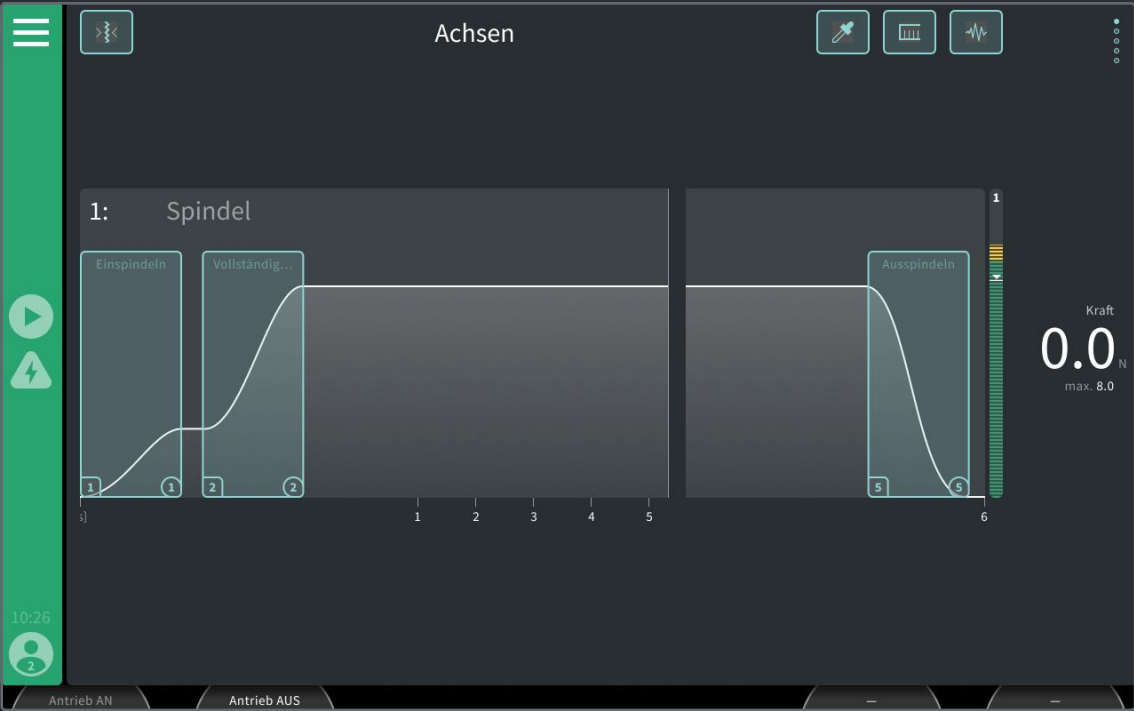
Menu Global and always quickly accessible pages and tools



Flexibility

... by responsive design patterns

The MoldControl interface has been designed with responsiveness in mind to enable optimal viewing and interaction in a wide variety of applications. Dynamic resizing, panning and scrolling makes the interface user-friendly and accessible.



one axis



two axes



three axes



eight axes and more...



Fusion of Hard- & Software

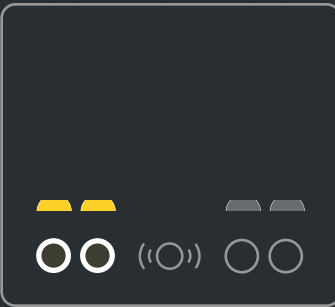
Extra hardkey operation for maximum control

The hardkey navigation at ServoMold is directly tied with the user interface, providing a seamless interaction experience. It facilitates precise control over complex technical processes, such as servo motor control for the injection molding process.

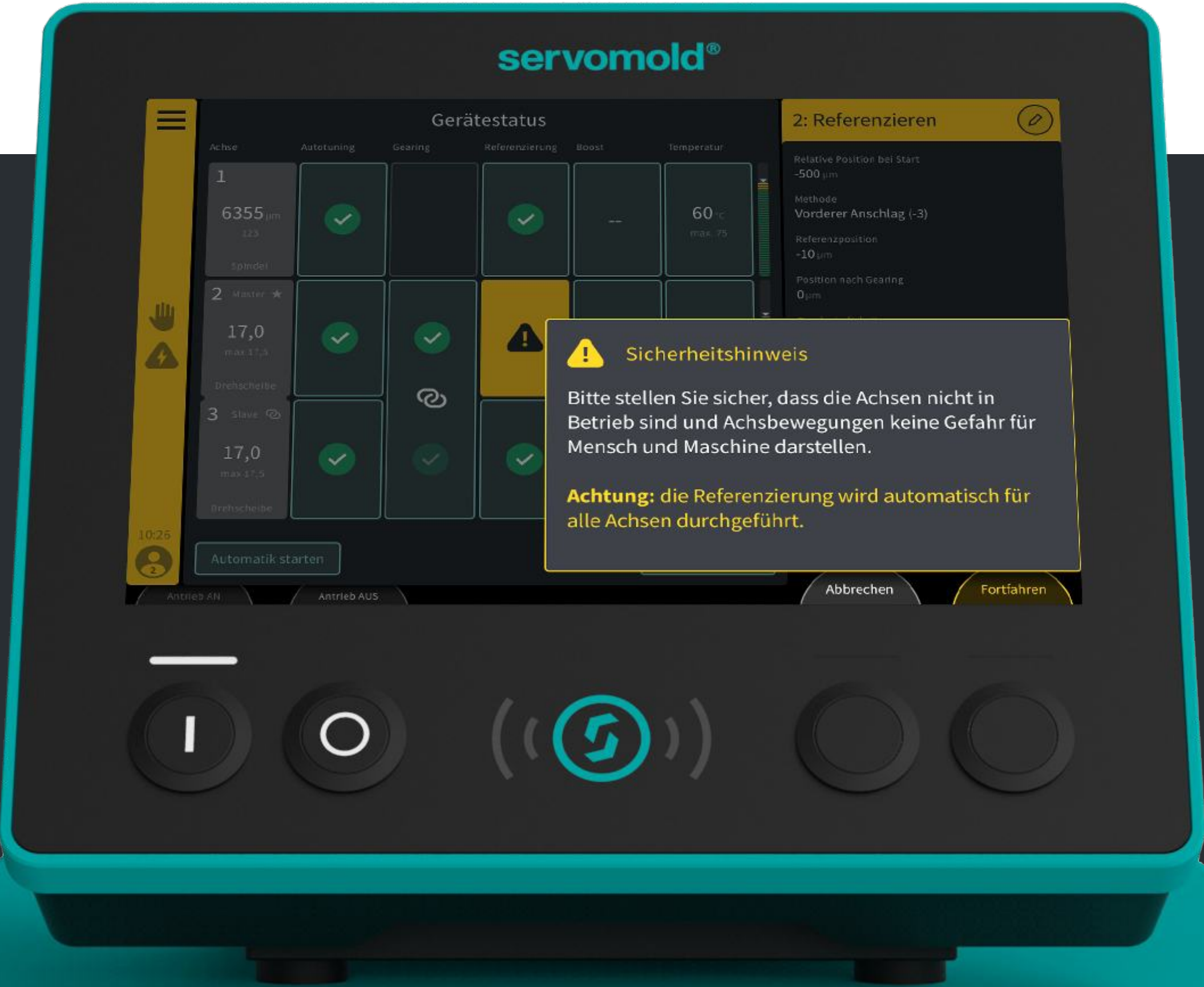
The hardkey navigation is an essential piece of the user centered puzzle and makes all technical operations more tangible and manageable for the user.



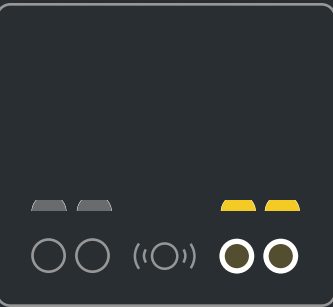
Hardkeys Label
Text above the hardkeys give user orientation, commands are displayed here



Activate the Drives
Safety first with a startup routine



RFID Reader
Secured login with personal RFID Chip



Servomotor Control
Start drive engine quick and easy with two main buttons on the right side

Video Documentation

MoldControl on the Move



Find our video documentation of the MoldControl project on Vimeo.



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