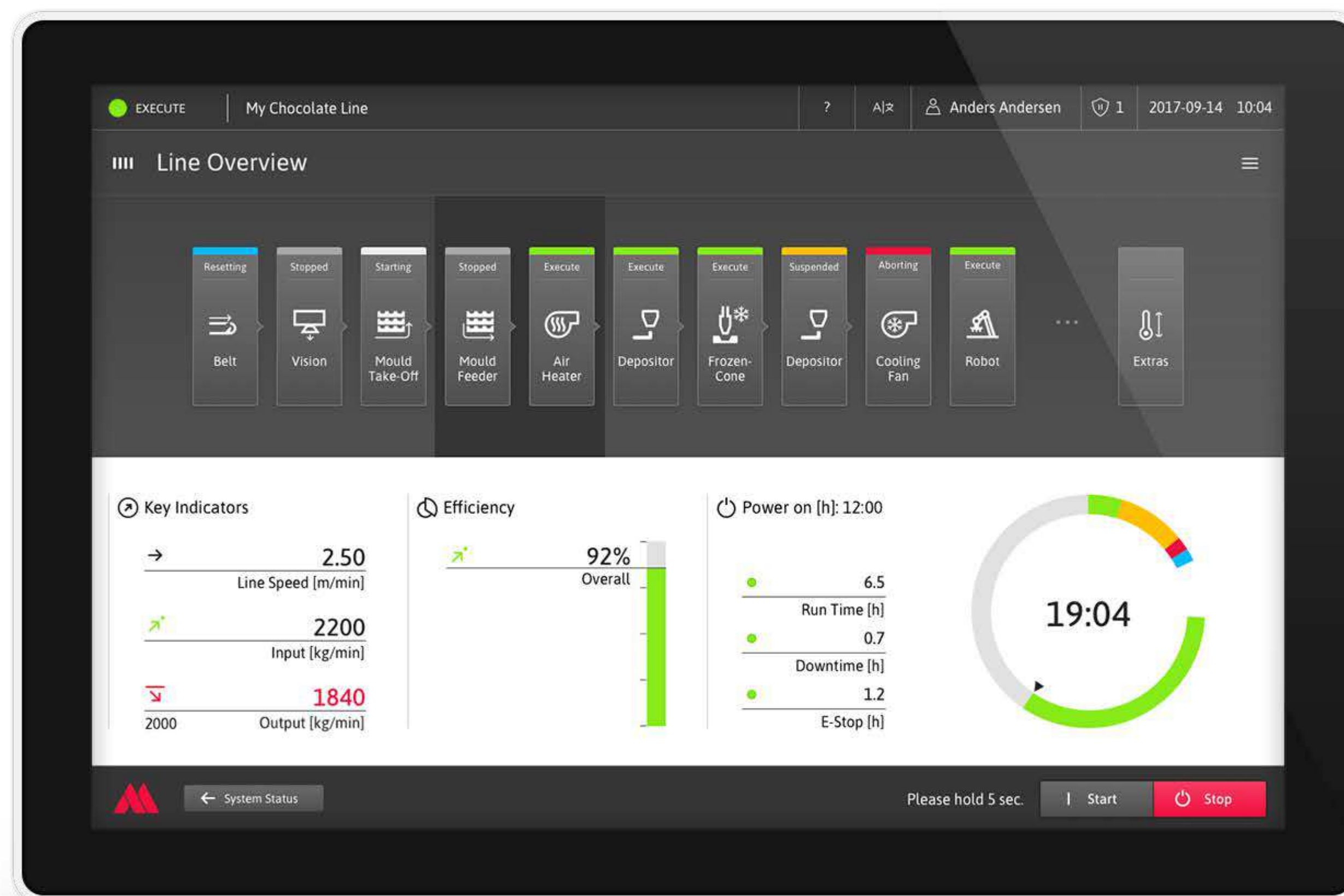


Aasted Smart Control

Intuitive User Interface for the production of chocolate, confectionery and bakery products



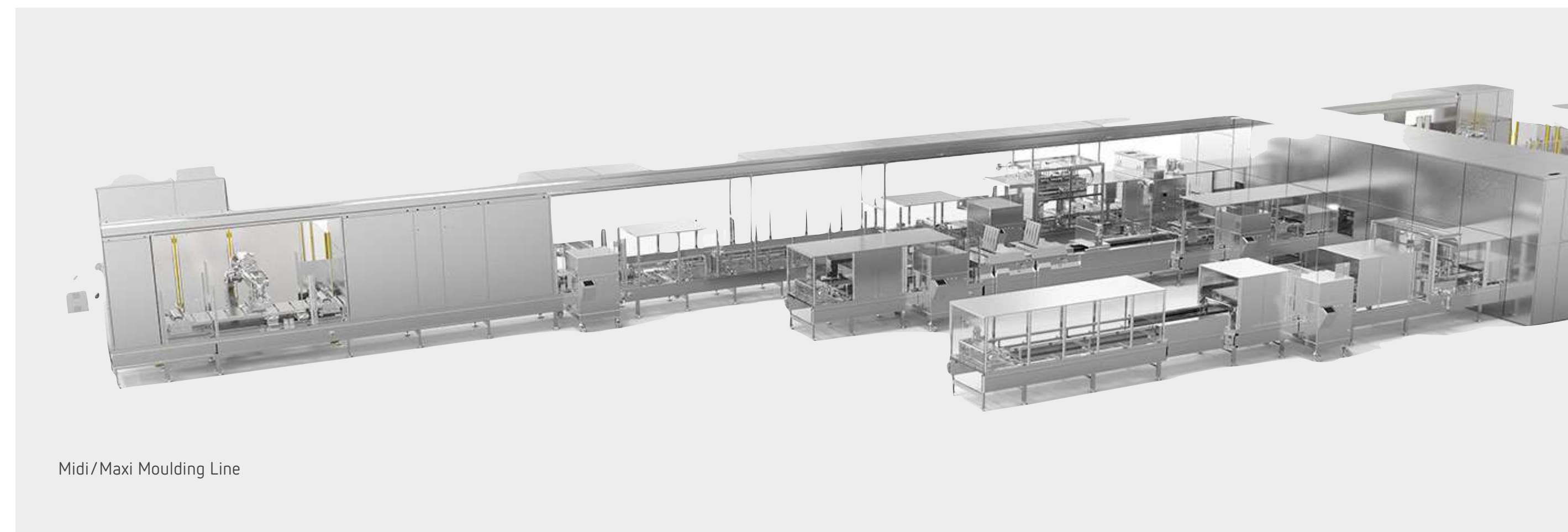
Starting Point

Context

Aasted Smart Control offers a unified operating concept suitable for a variety of applications specialized in tempering, extruding, depositing, enrobing, baking and cooling for complete processing lines as well as stand-alone machines within the chocolate, bakery, and confectionery industries.

Design Challenges

- Various machine types from small auxiliary devices to machines to combined lines up to highly customized complete moulding lines
- Should support the latest web technology as well as industrial standard hard- and software with limited possibilities
- Wide range of monitor sizes and touch-devices



User Centered Design

Principles

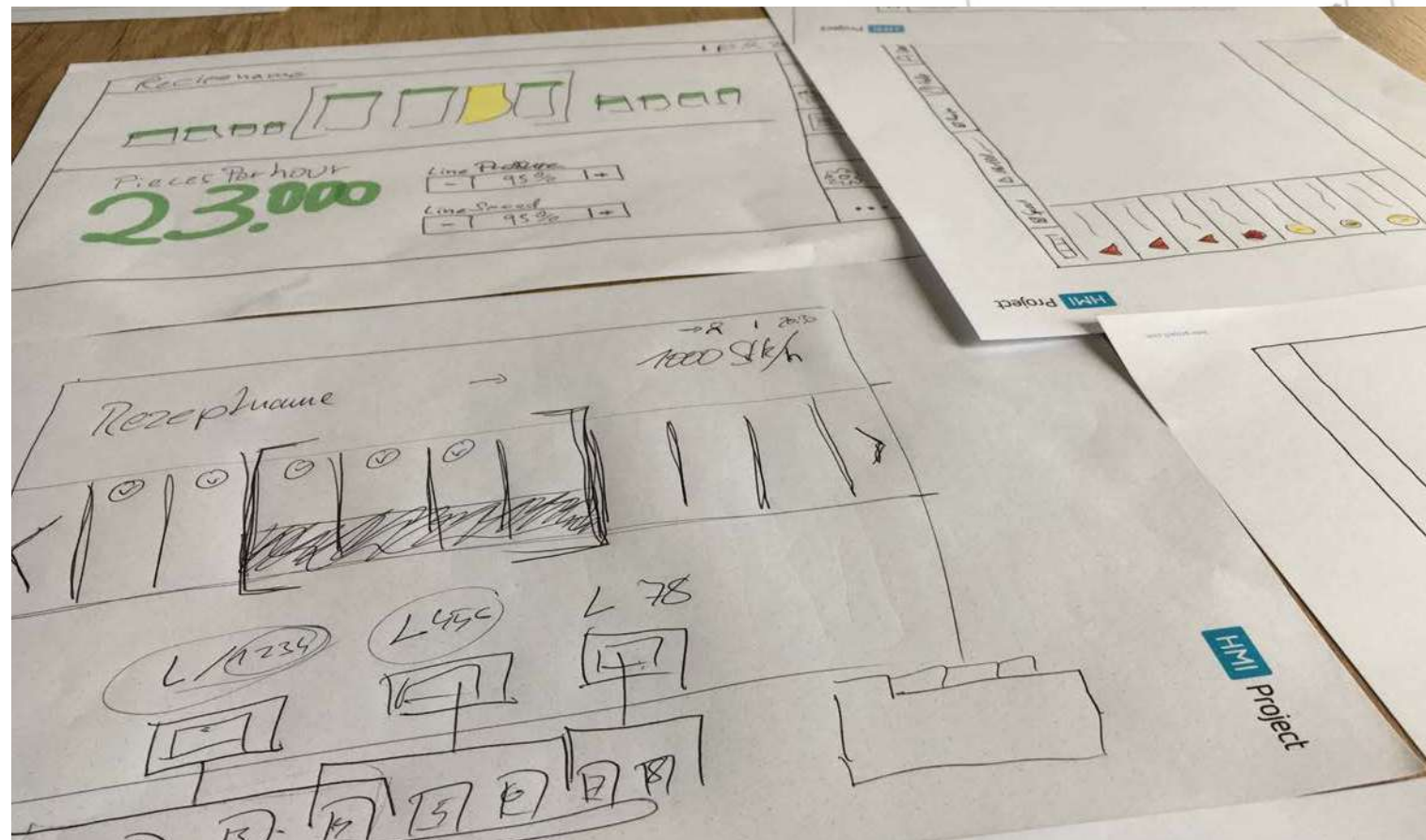
- Based on user-centered design methods and user research
- Comprehensive analysis and close coordination with operators and experts
- Detailed conception including paper prototypes and wireframes
- Usability tests at the customer's site



Analysis of machine functionality and production processes



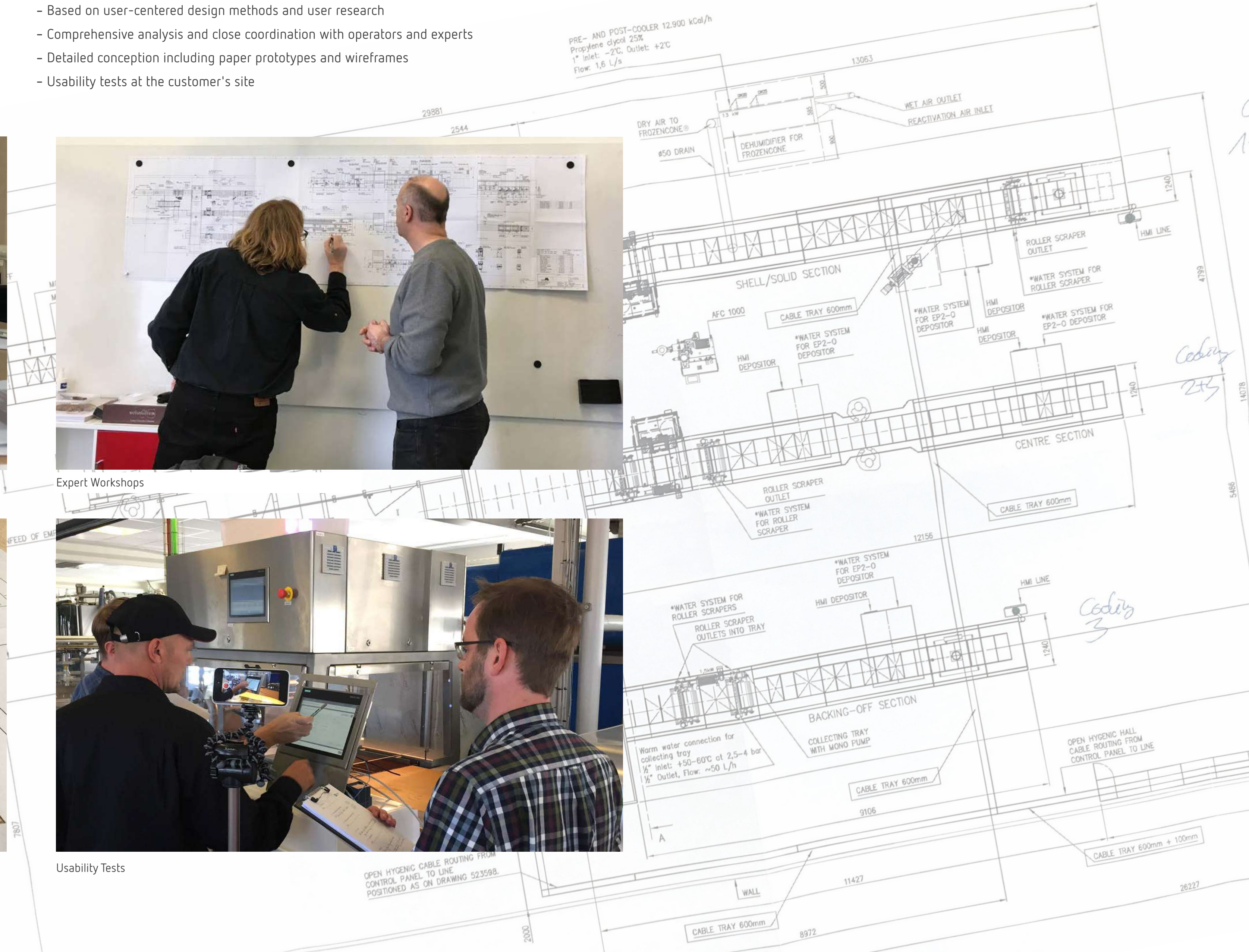
Expert Workshops



Paper Prototypes



Usability Tests

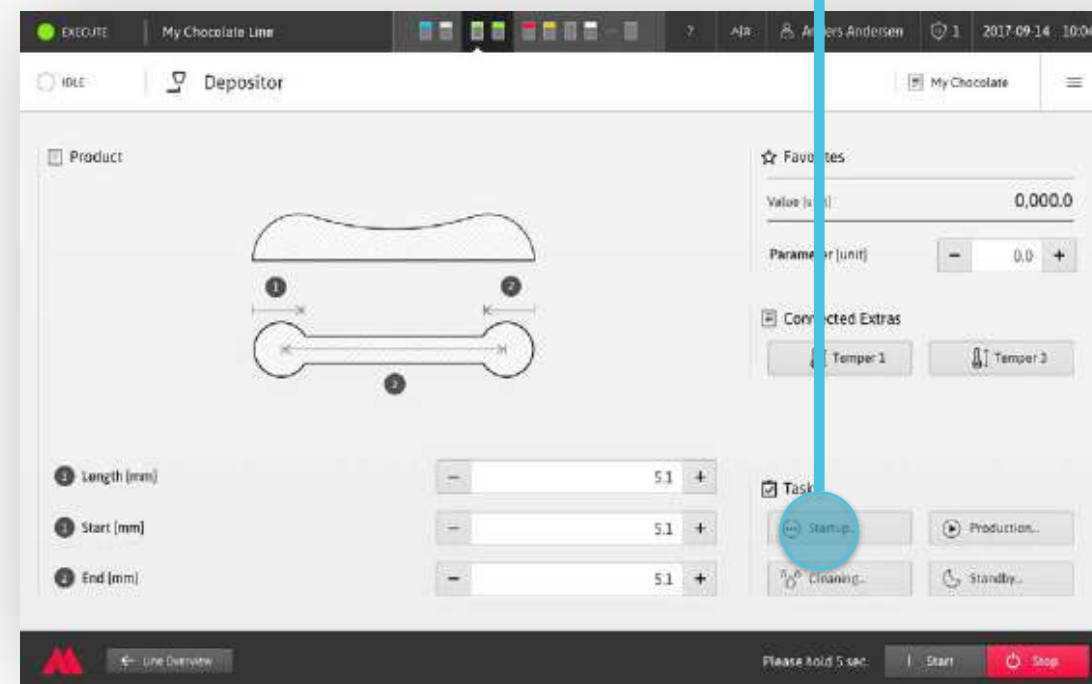
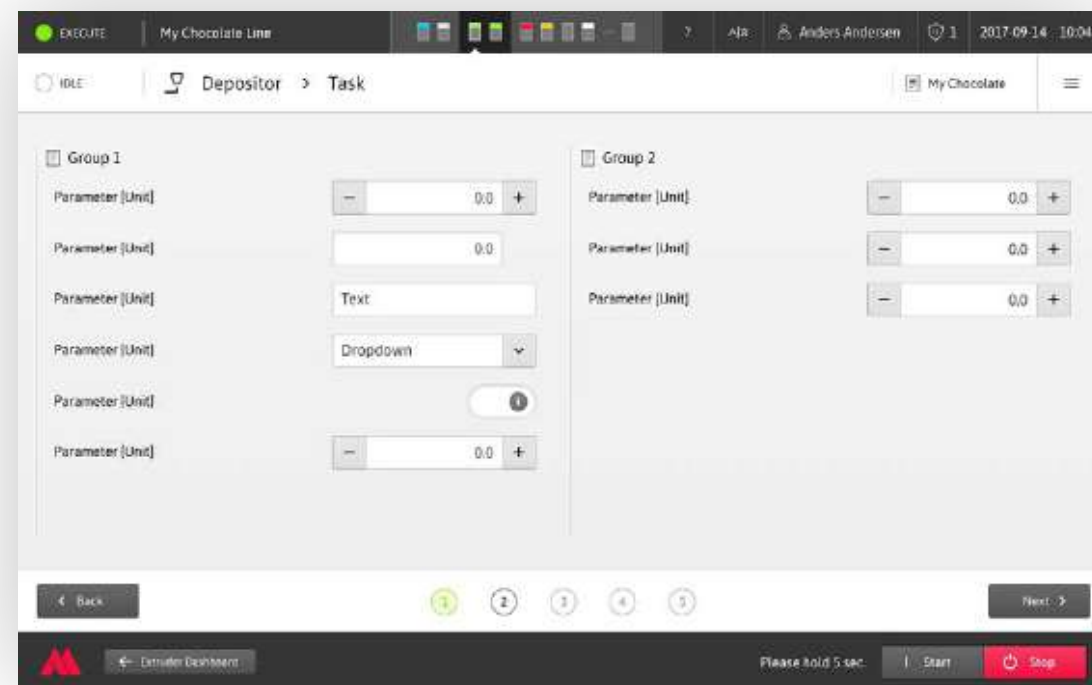


User Experience

Principles

- User-centered approach, optimized for individual skill level
- Quick access to machine or line components
- Task-based organization of functionality
- Guided workflows

- Continuous monitoring and controlling of all components of the production process
- Intuitive execution of interactions with complex settings for machine motions
- Uniform messaging system and recipe handling
- Graphic charts and trends to visualize performance and efficiency



Line Overview

- Help
- Language
- User
- Efficiency
- Settings
- Safety Mode

Key Indicators

- Line Speed [m/min]: 2.50
- Input [kg/min]: 2200
- Output [kg/min]: 1840

Efficiency

- Overall: 92%

Power on [h]: 12:00

- Run Time [h]: 6.5
- Downtime [h]: 0.7
- E-Stop [h]: 1.2

19:04

User Profile: Anders Andersen, Operator, logged in since 09:40

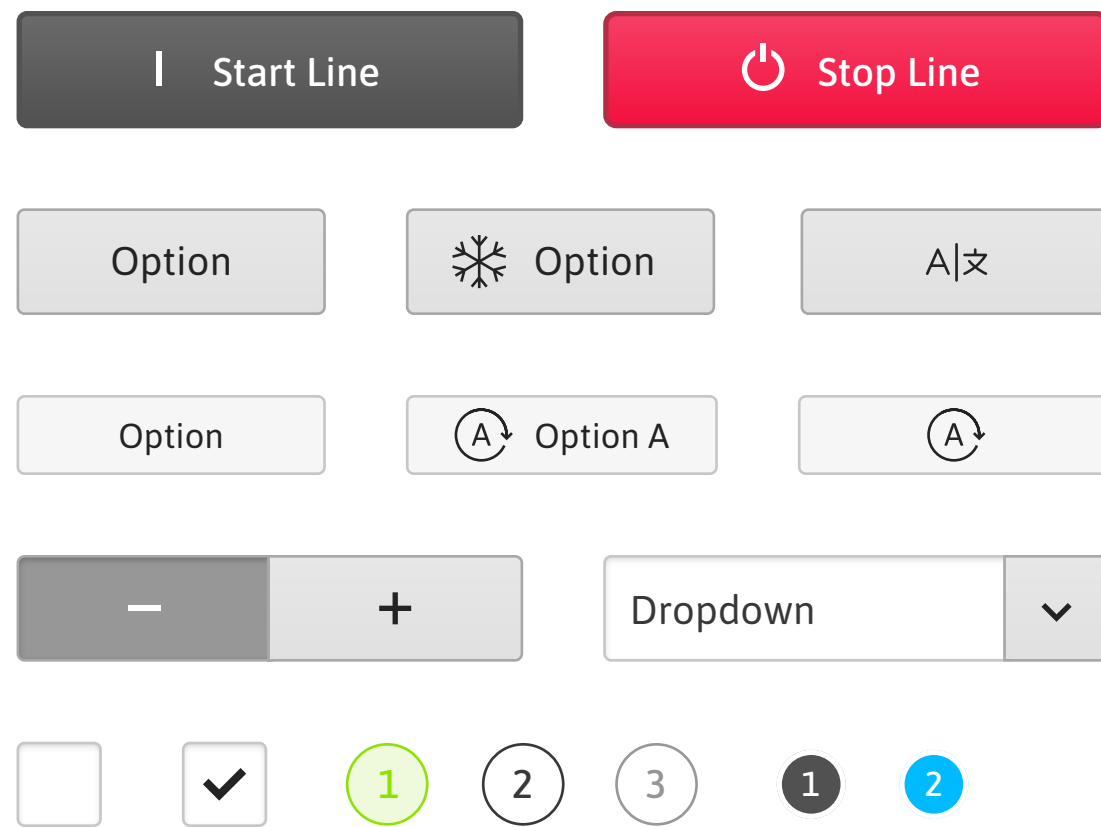
Example of interaction methods

Design System

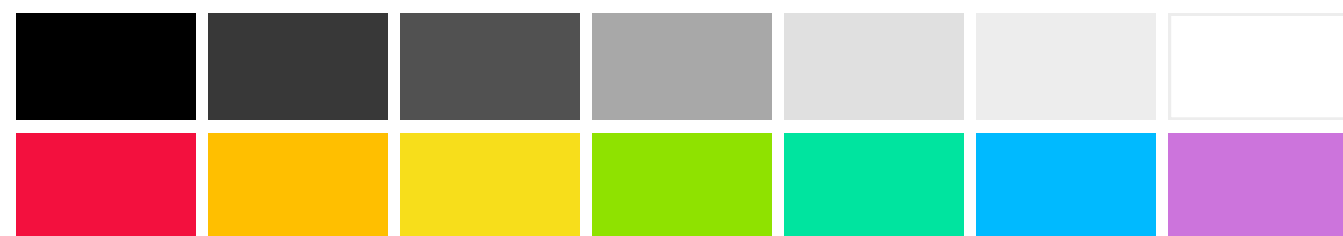
Client Logo



Buttons & Selections



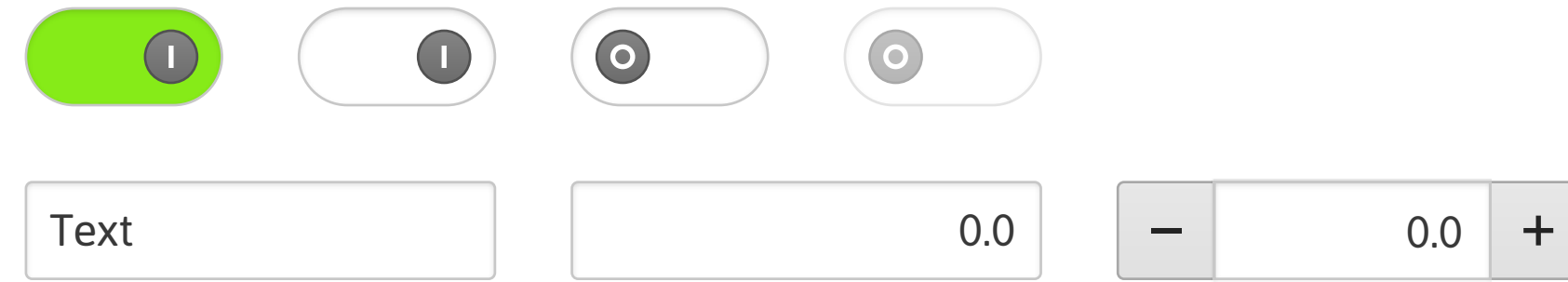
Color Palette



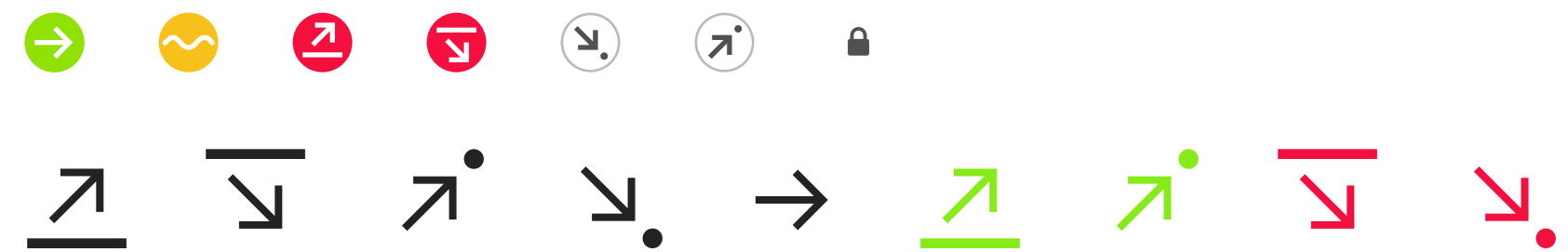
Principles

- Aesthetic and reduced graphic style to illustrate product and machine settings
- Self descriptive displays and controls
- Clearly arranged structures
- Consistent color concept
- Coherent illustration and icon style
- Clear system status display
- Extensive icon and control library

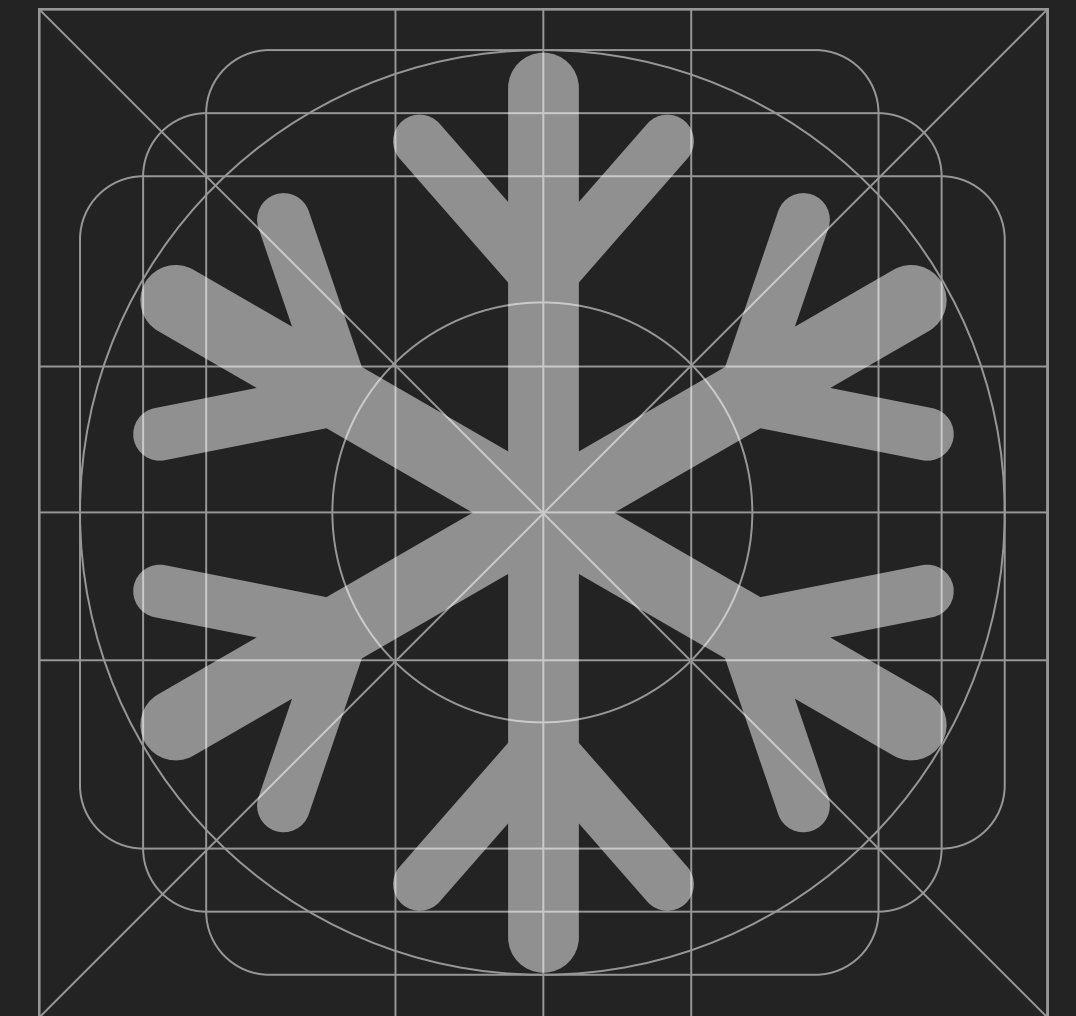
Controls



Stati & Trends



Menu & Parameter Icon Style



Process Icon Style



User Interface Design

Information Graphics

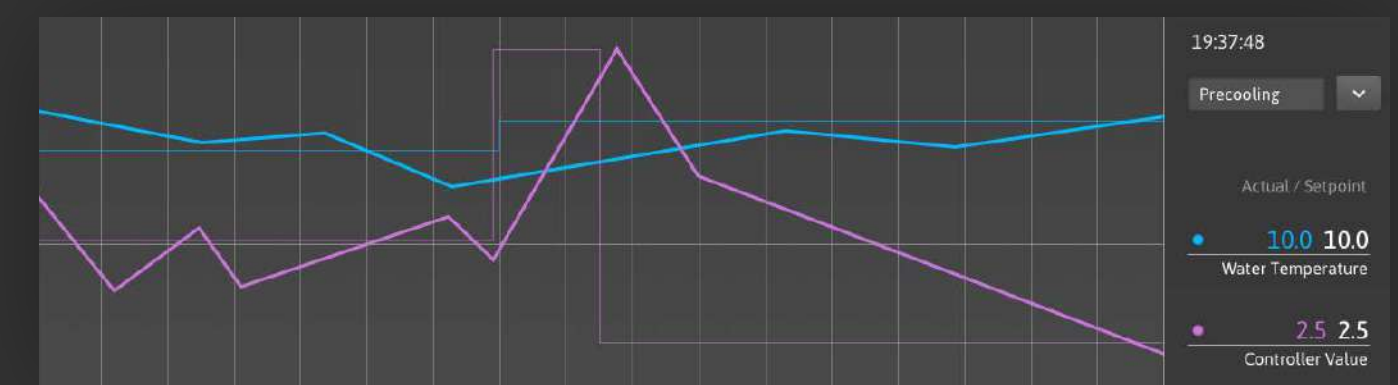
- Graphic charts and trends to visualize performance and efficiency
- Simple visual translation of complex data and status

Data Visualisation

- Easy to read graphical visualization of technical information
- Drill down principle to analyze historic data of machine motion



Visualisation of axis movement

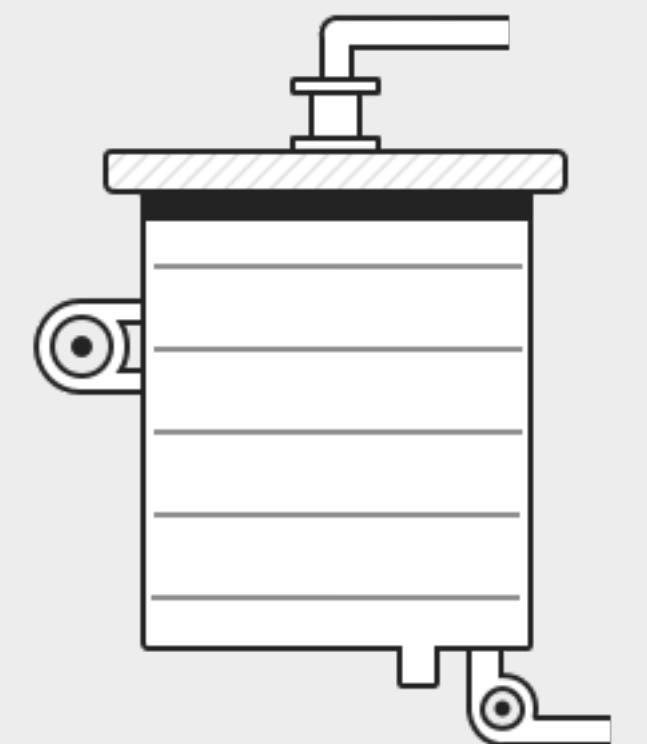
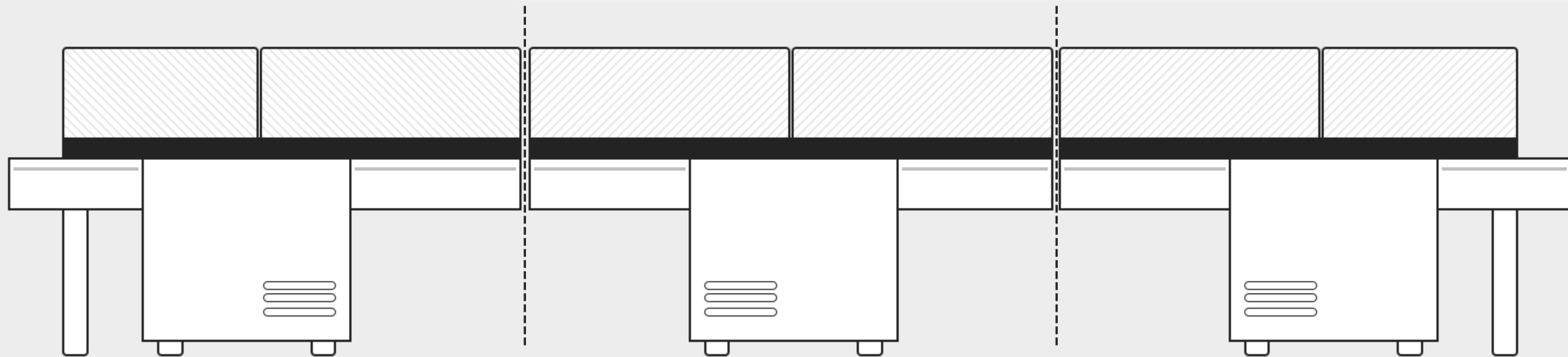
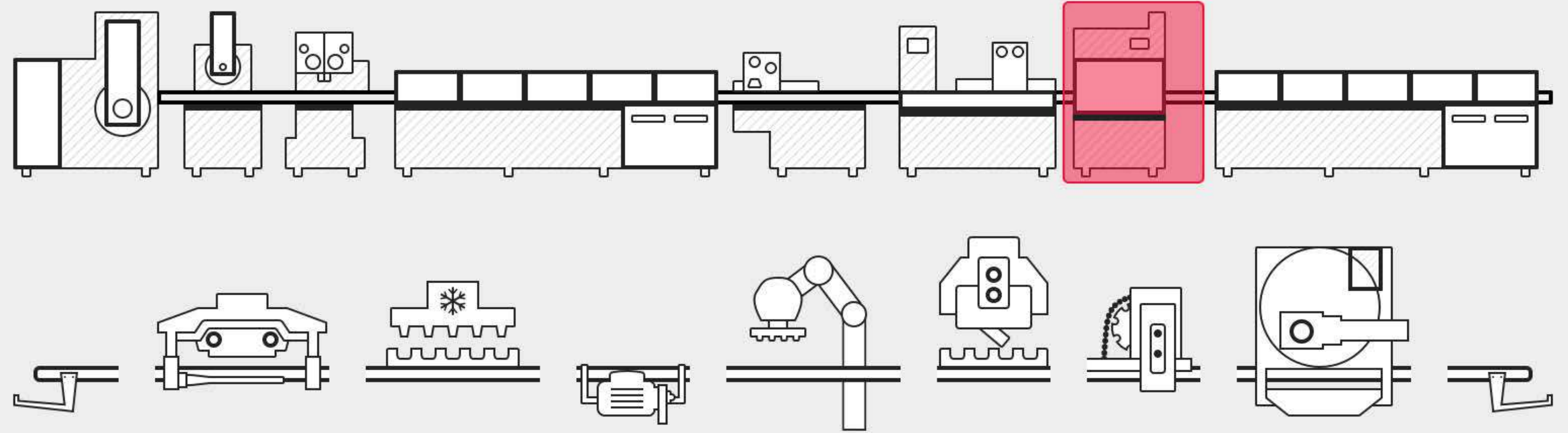


Trend analysis

Illustration Style

Principles

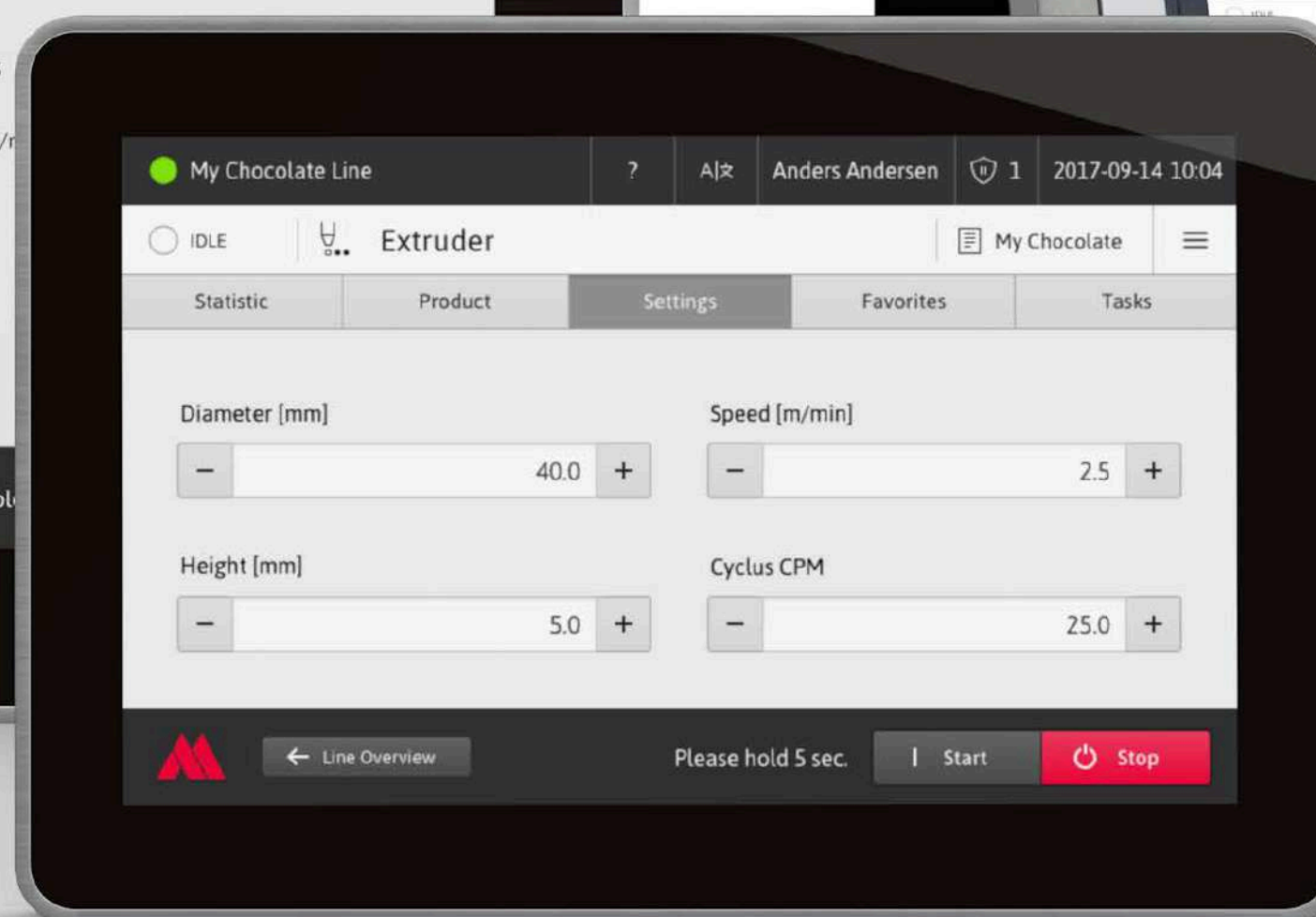
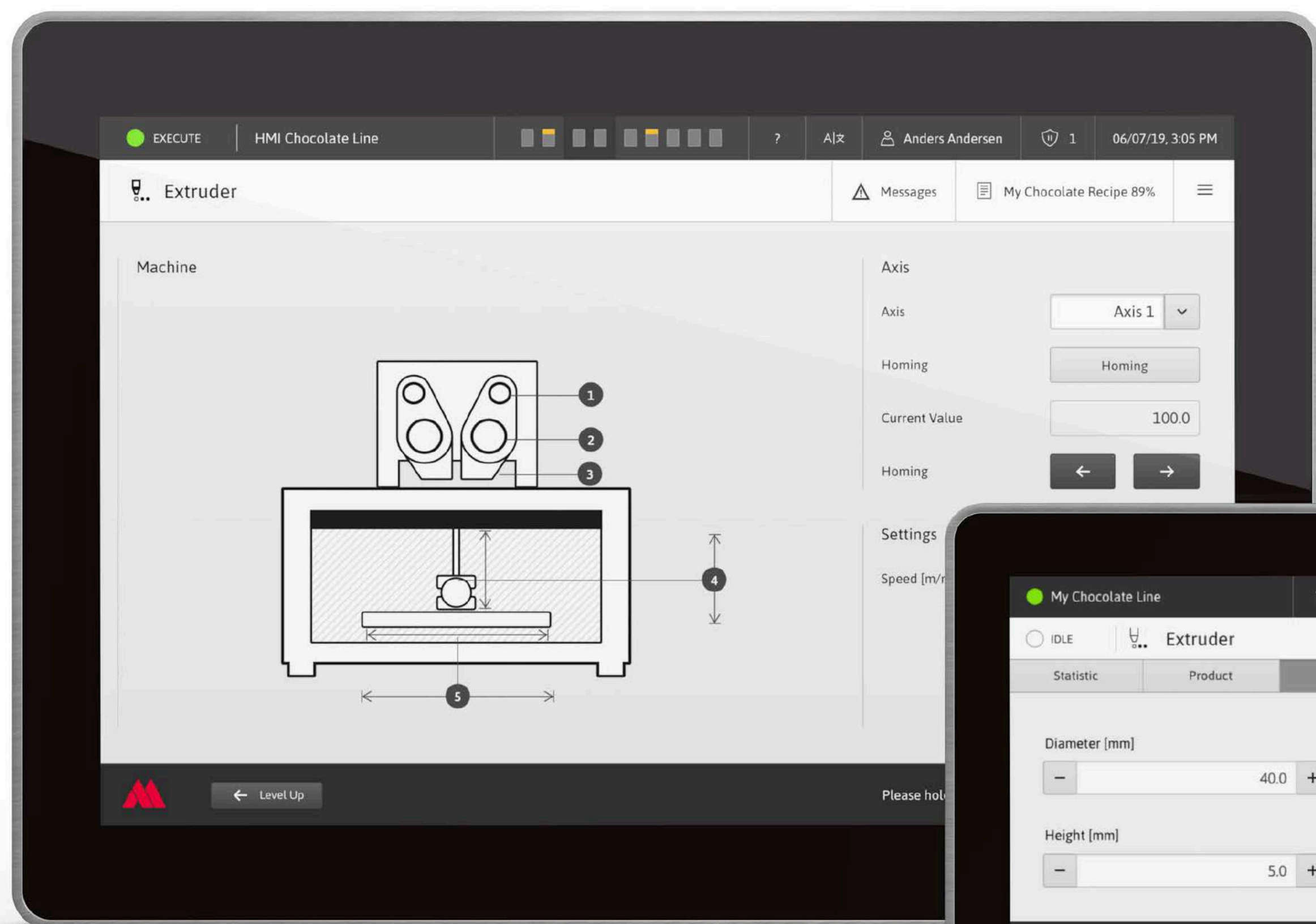
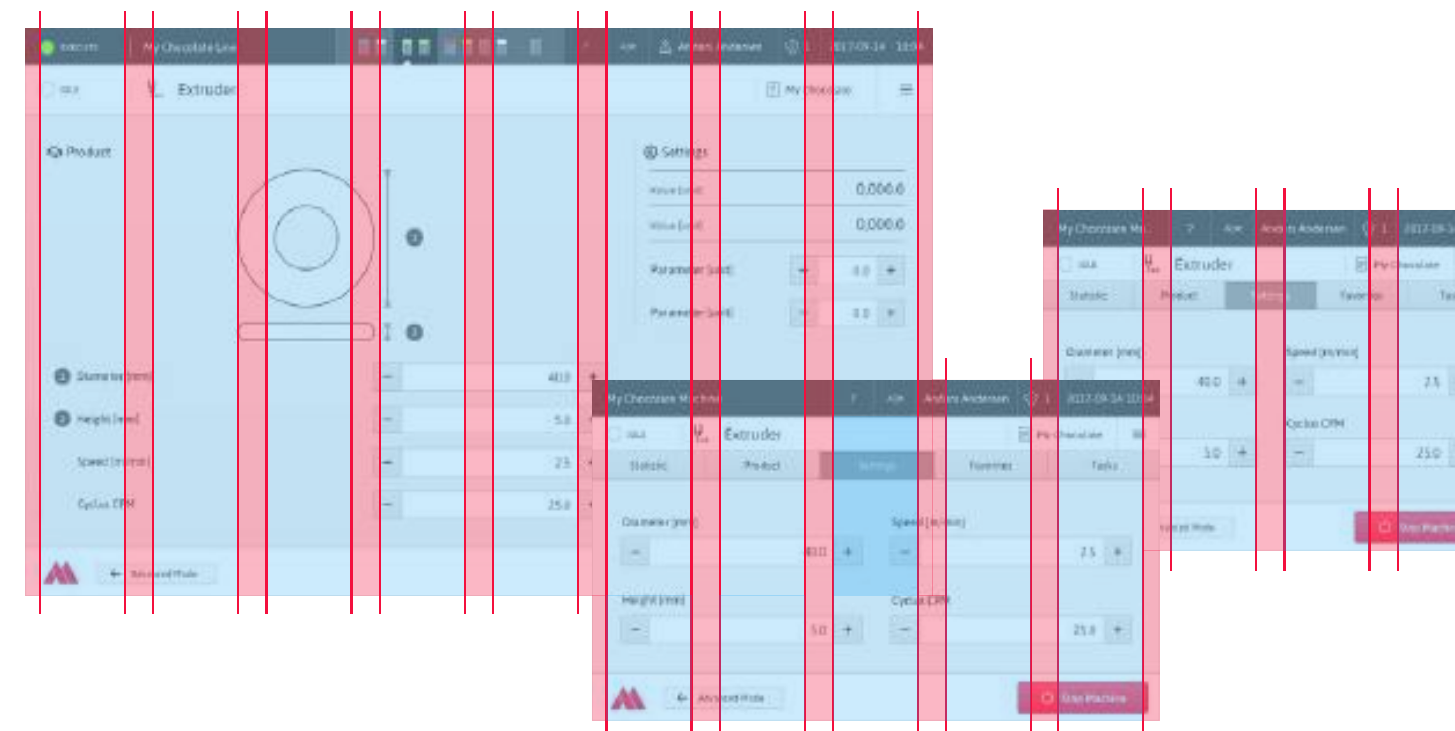
- Graphic / Illustration library of modular machine components
- Individual illustrations for small auxiliary devices to machines up to (complex) combined lines
- Simple and clearly graphic adaption
- Possible integration of interactive controls (e.g. axis selection) into the illustration
- Different variations in size and functions of individual machines
- Graphic highlighting of alarms caused by faulty machine parts



Responsive Design

Principles

- Designed for various sizes of industrial touch panels and mobile devices
- Grid-based application adjusts to device types and screen resolutions
- Flexible design grid with 4-9 columns
- Scalable, responsive behavior



Interface applied to different screen sizes and device types

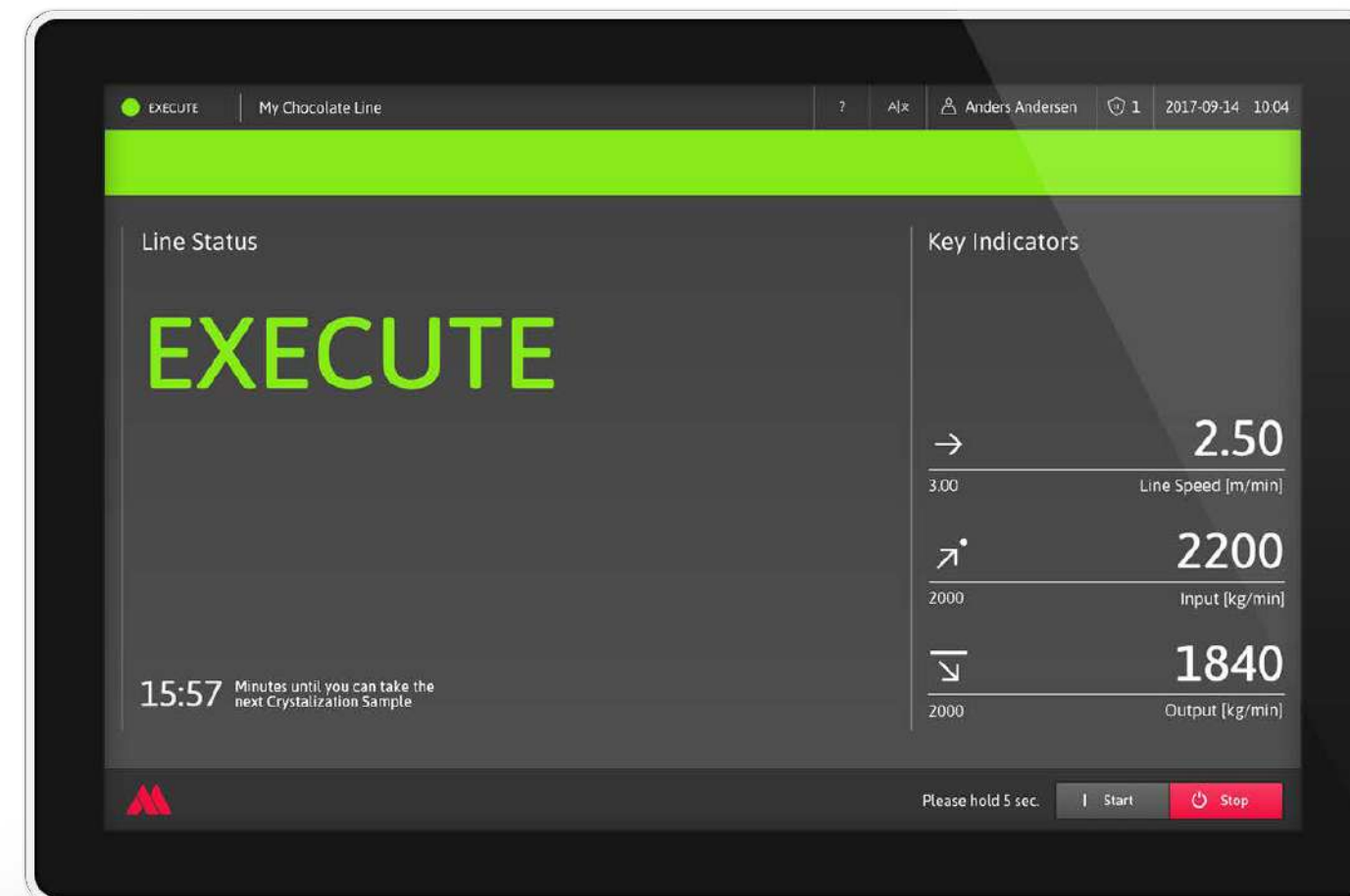
Features

Features

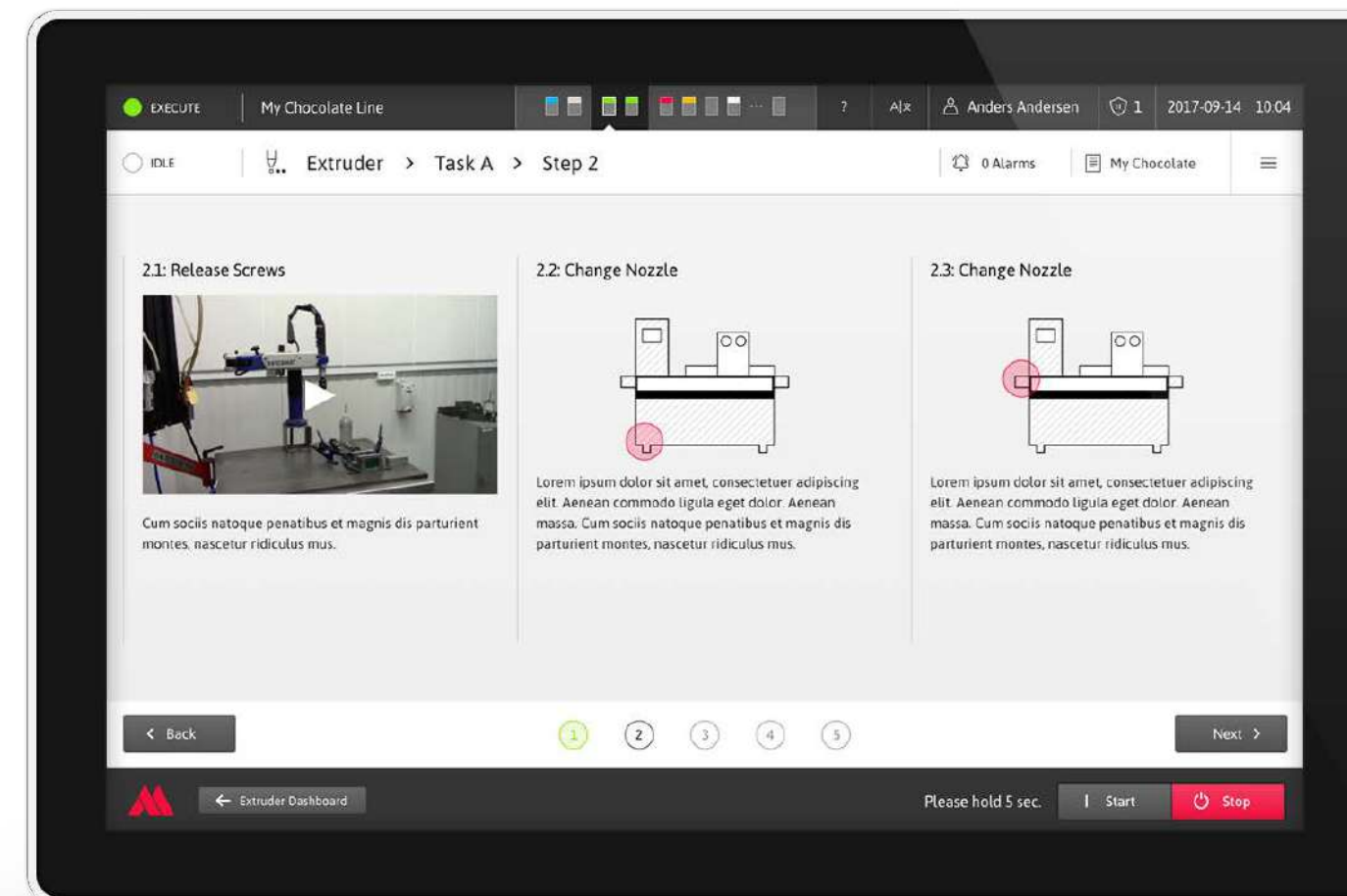
- Clear system status displays
- Active support through step-by-step instructions
- Illustrations of complex machine functions
- Context-sensitive help available in all situations
- Clear color codes for alarms and visual error localization
- Online help with FAQs
- Graphic charts and trends to visualize performance and efficiency

Product Video

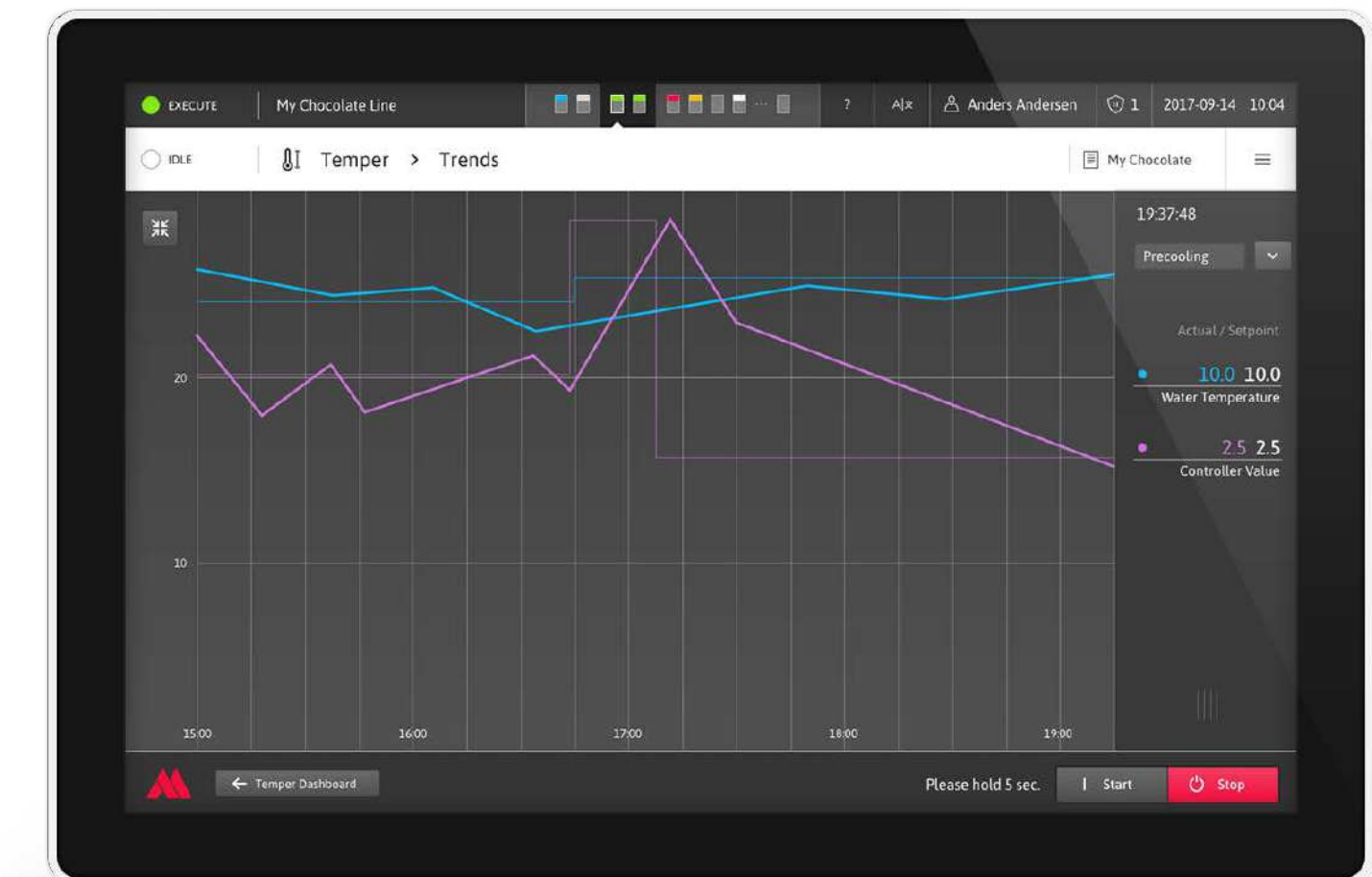
<https://vimeo.com/343169379>



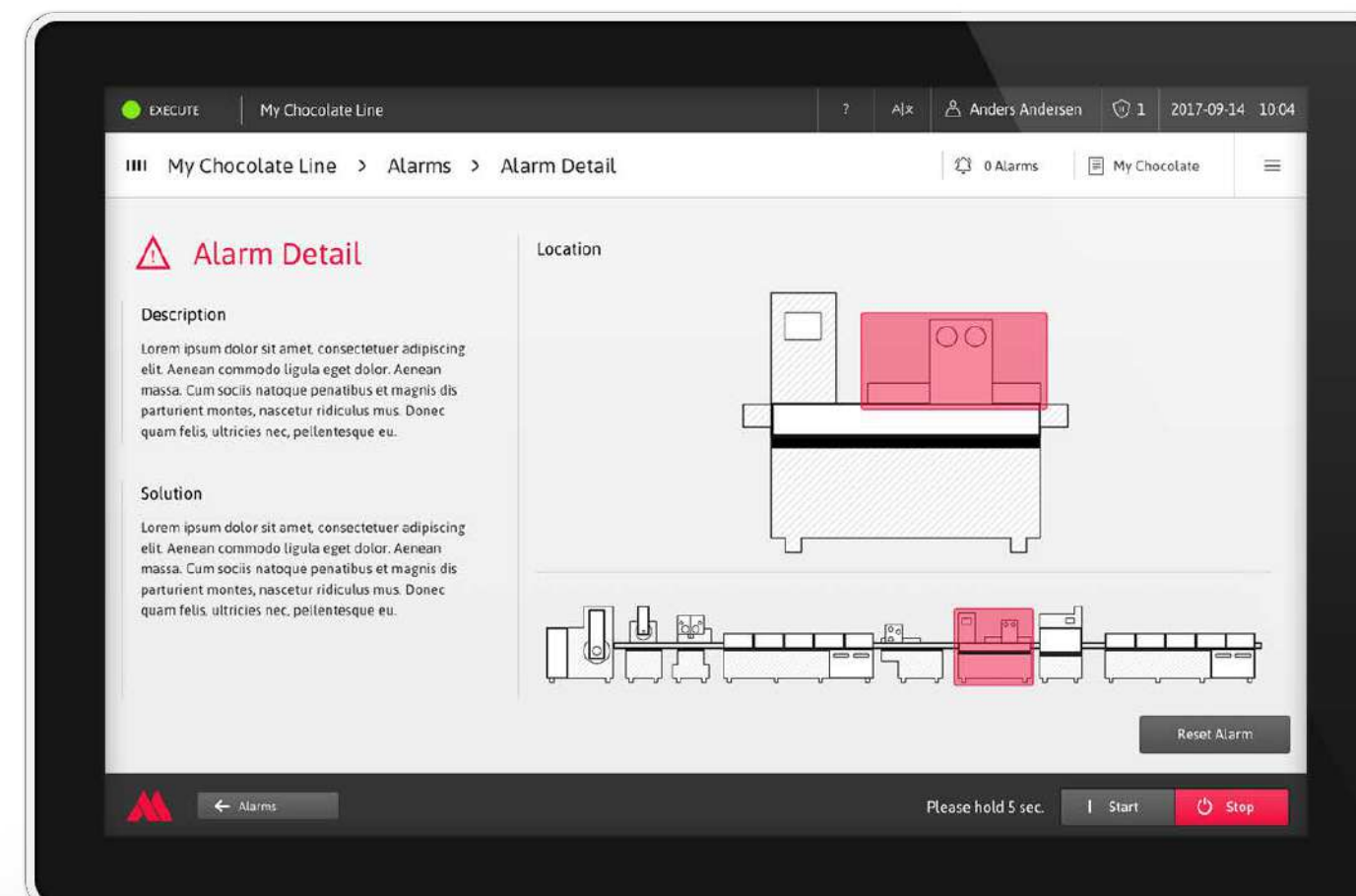
Screensaver with system status and production information



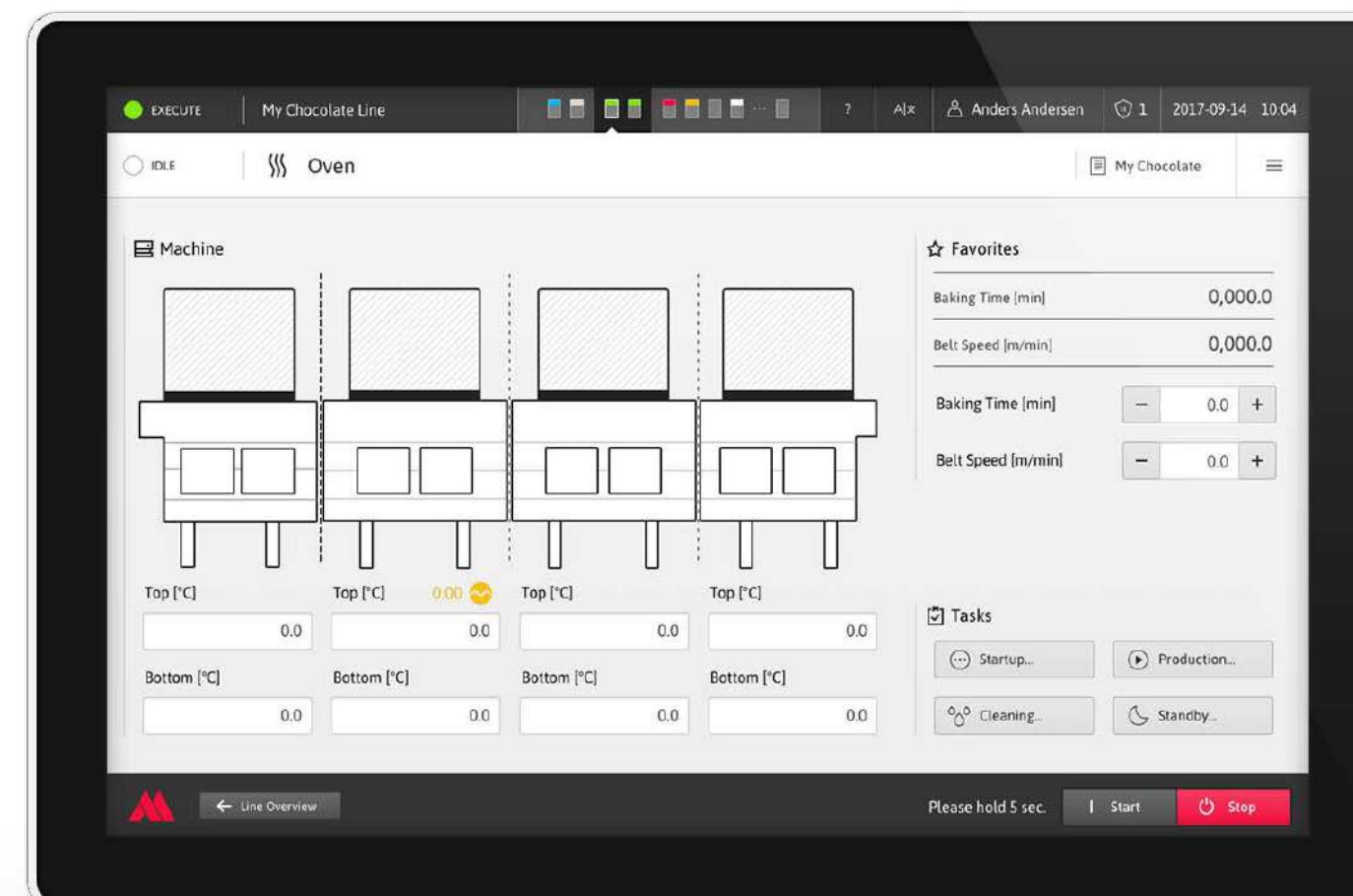
Step-by-step assisted workflows



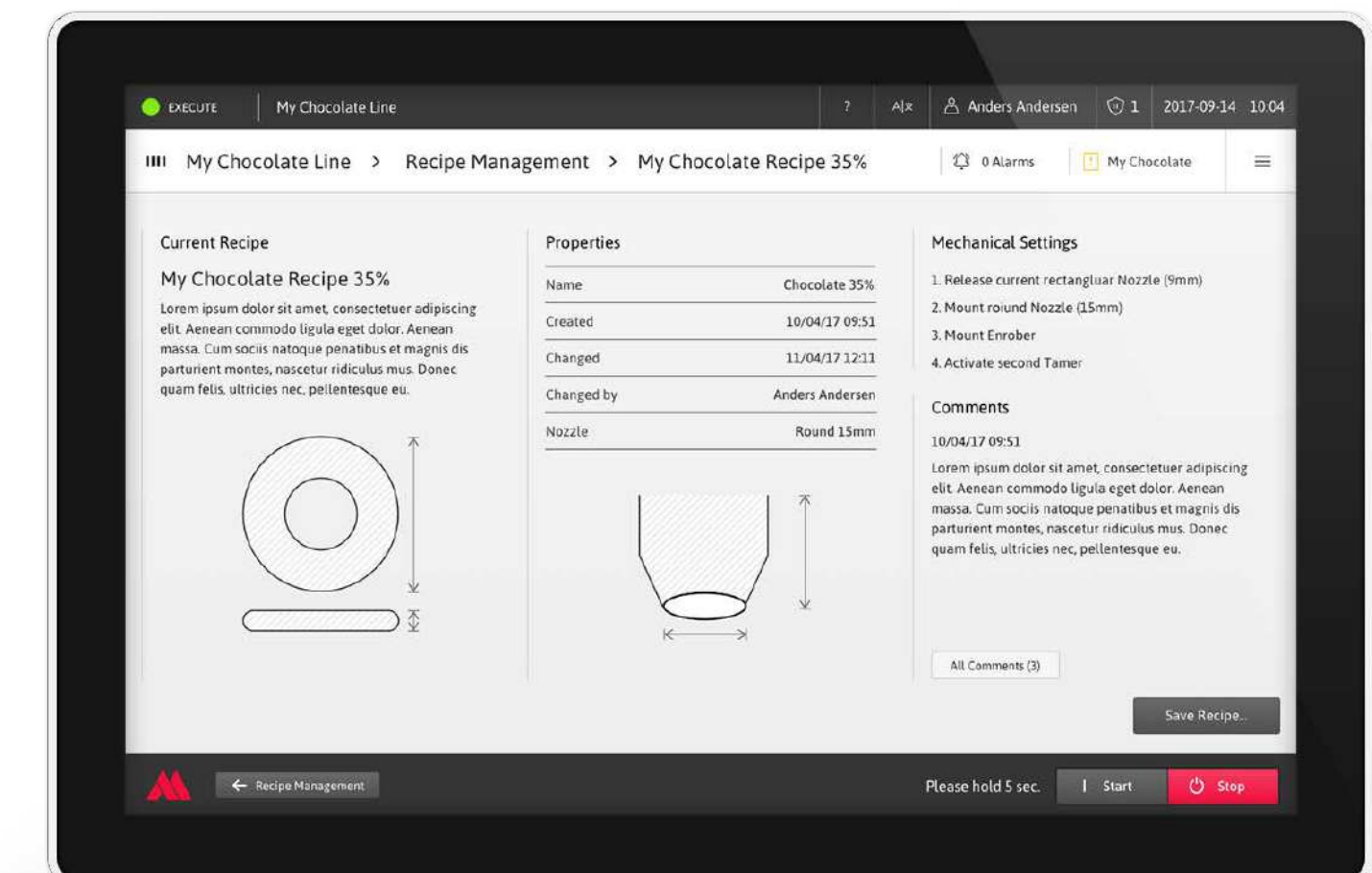
Visualization of performance and efficiency in graphic charts



Color coded alarming and messaging system



Modular machine illustrations



Structured Recipe Management

HMI Project GmbH / Frankfurter Straße 92 / 97082 Würzburg

T +49 931 453297-70 / F +49 931 453297-71