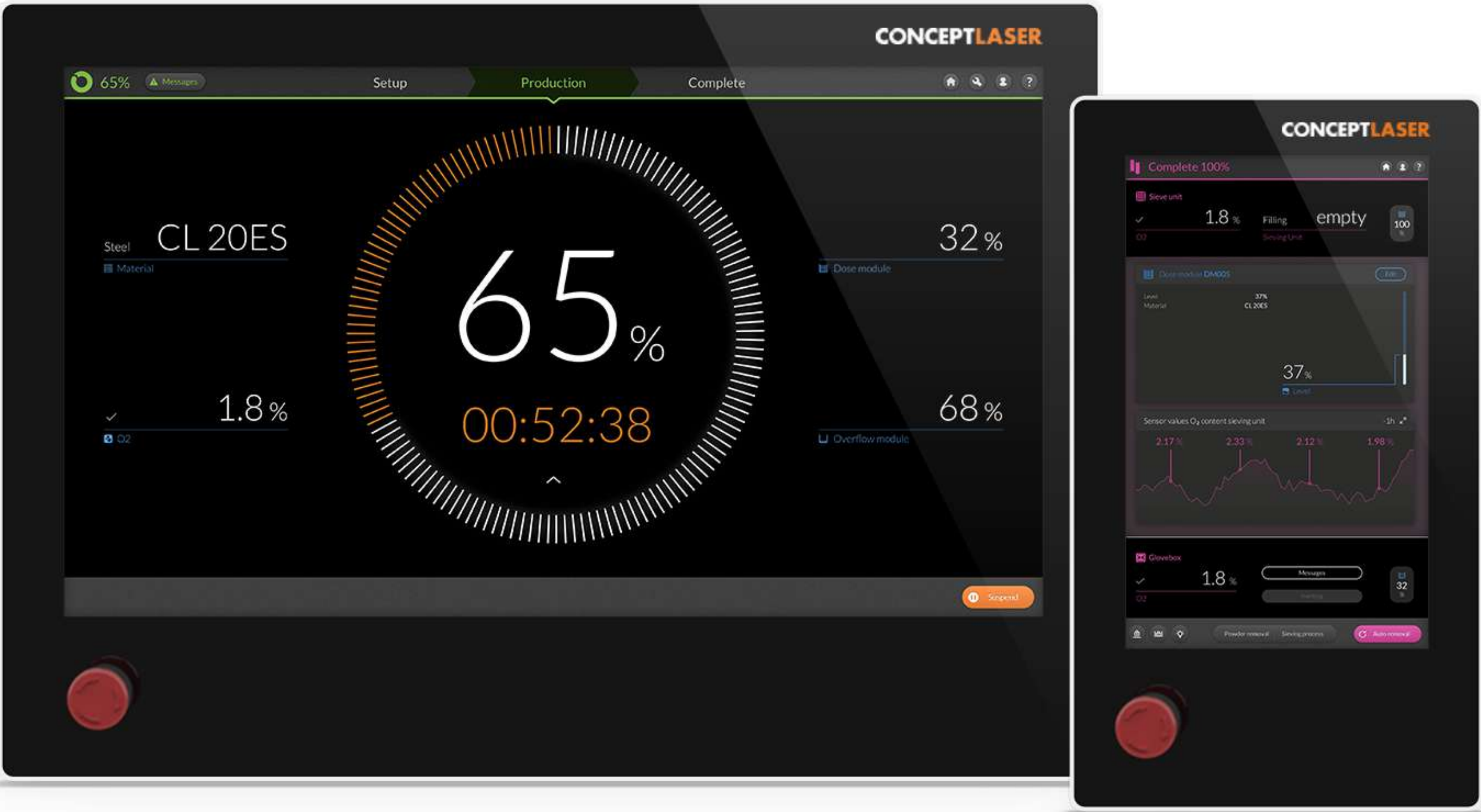
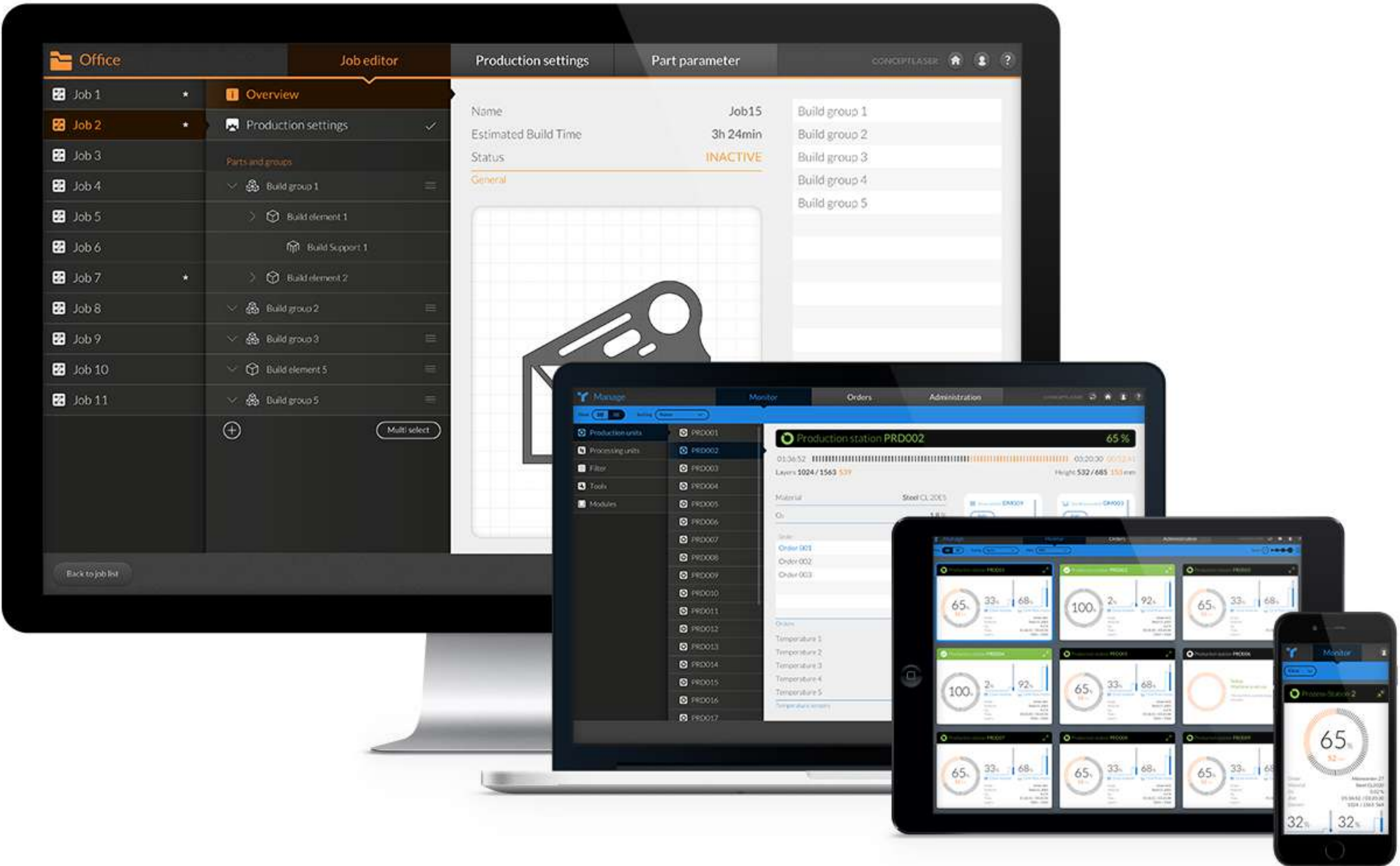


CL WRX 3.0

Software Suite for Systems for
3D Printing of Metal Components



Starting Point



Production process, dismantling and final product

LaserCUSING® Process

- powder-bed-based-laser melting of metals
- tool-free, economic fabrication of highly complex parts in fairly small batch sizes
- many different industry sectors: medical and dental technology, aerospace industry, toolmaking and mold construction, automotive industry, watch and jewelry industry
- powder materials: stainless steel, hot-work steels, aluminum and titanium alloys and precious metals like gold or silver

AM Factory of Tomorrow

- new machine concept
- decentralized "Industry 4.0" approach
- increasing productivity in series production
- digital networking of systems integrated into the production environment
- high automation of processes and future oriented design
- separation of machine loading, setup and dismantling procedures
- highly efficient and flexible solution, scalable from prototyping to large-scale productions



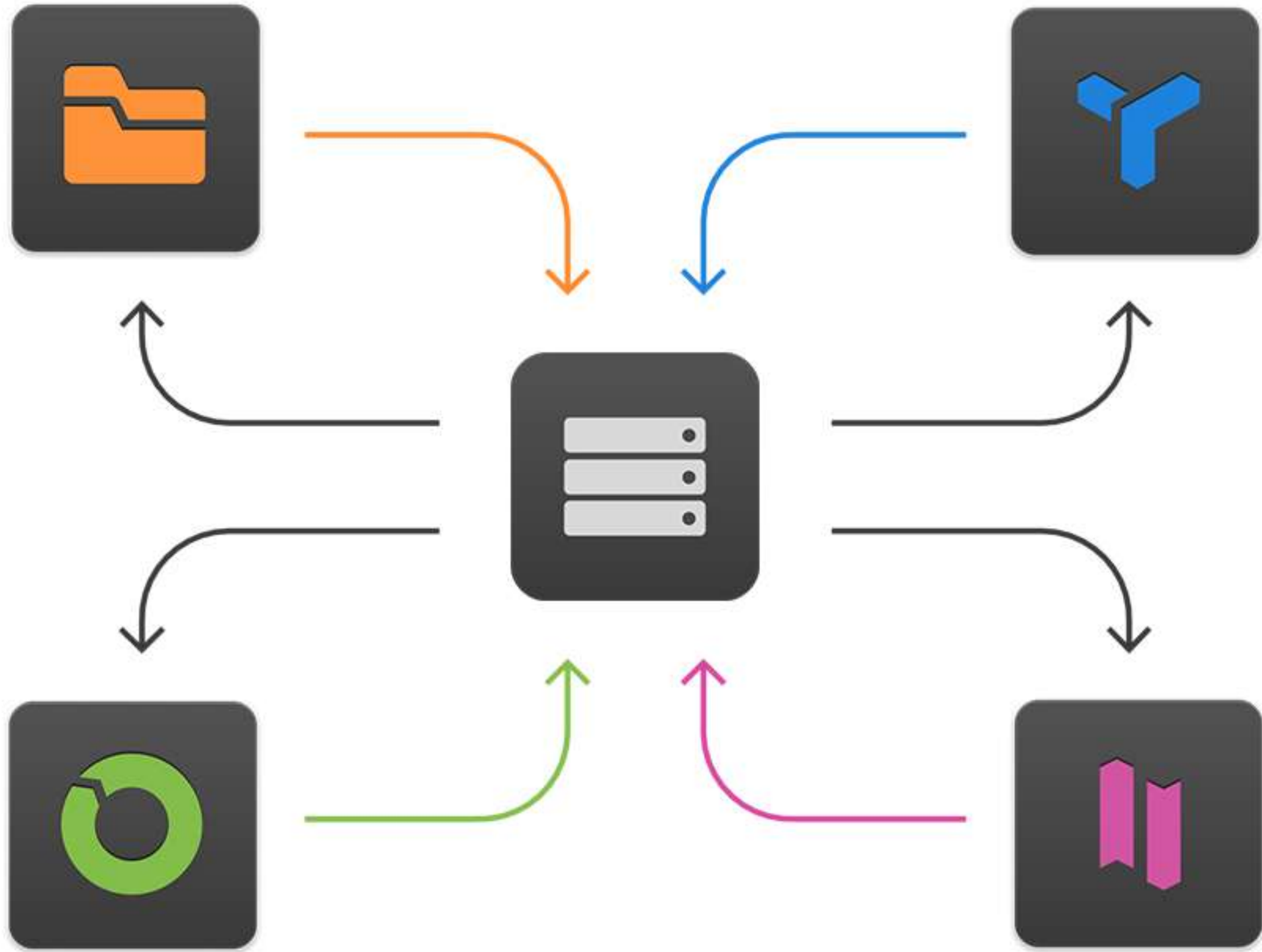
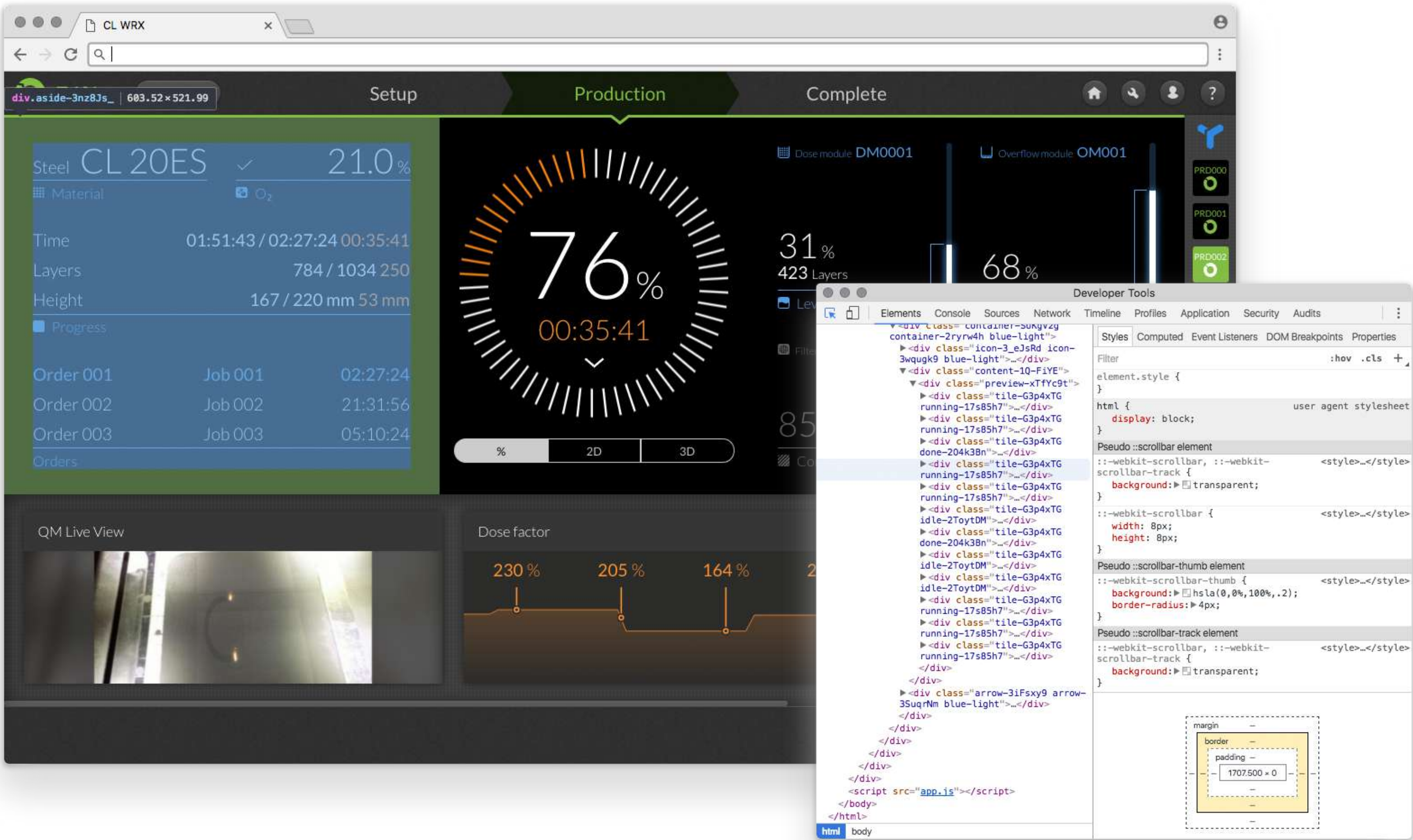
Machine combination of two production stations and one processing station

Web Technology



Client Server Architecture

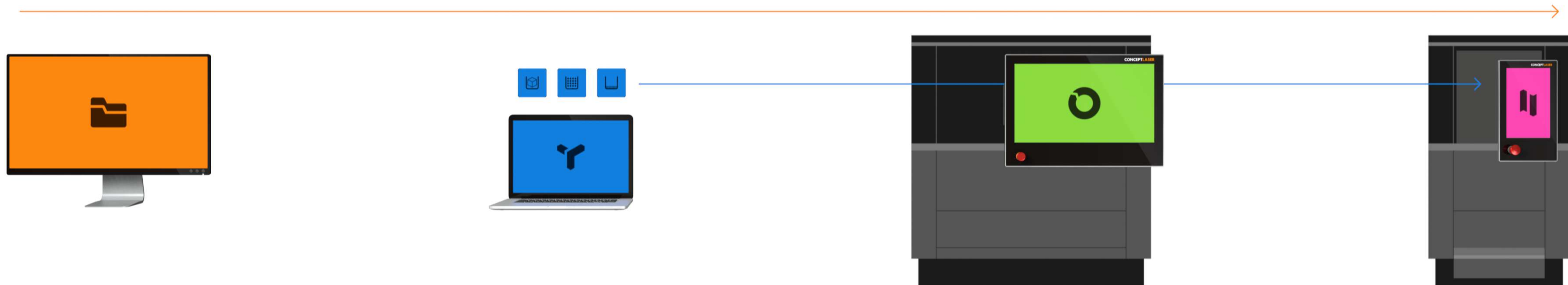
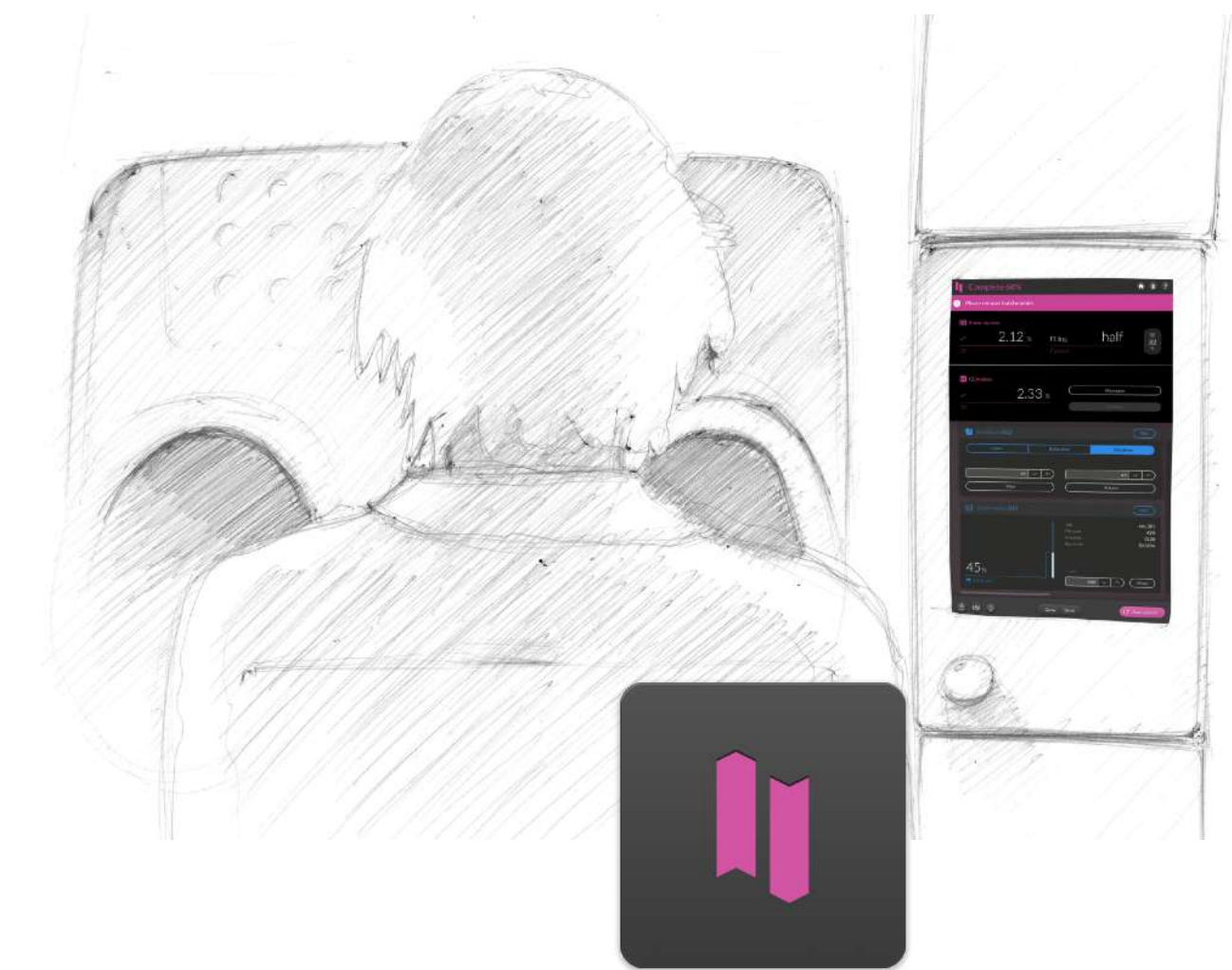
- latest HTML5 and CSS3 technology
- independent frontend and backend development
- scalable, responsive layouts
- consistent browser based display
- independent from platform or operating systems
- support of desktop and mobile devices
- one application for various usage contexts
- modular, reusable componente architecture
- integration of a wide range of data sources



Usage Context

Software Suite

- distributed attendance of the production process with the use of specialized apps
- flexible and modular software architecture
- optimized distribution of functionality for perfect collaboration
- simultaneously operation for higher efficiency
- seamless transition of operation and monitoring tasks



Office Application

- job preparation
- production settings

Manager Application

- order management
- module logistics
- device monitoring
- administration

Production Application

- production setup
- production monitoring
- quality documentation

Processing Application

- sieving
- setup and dismantling

User Experience

Usability

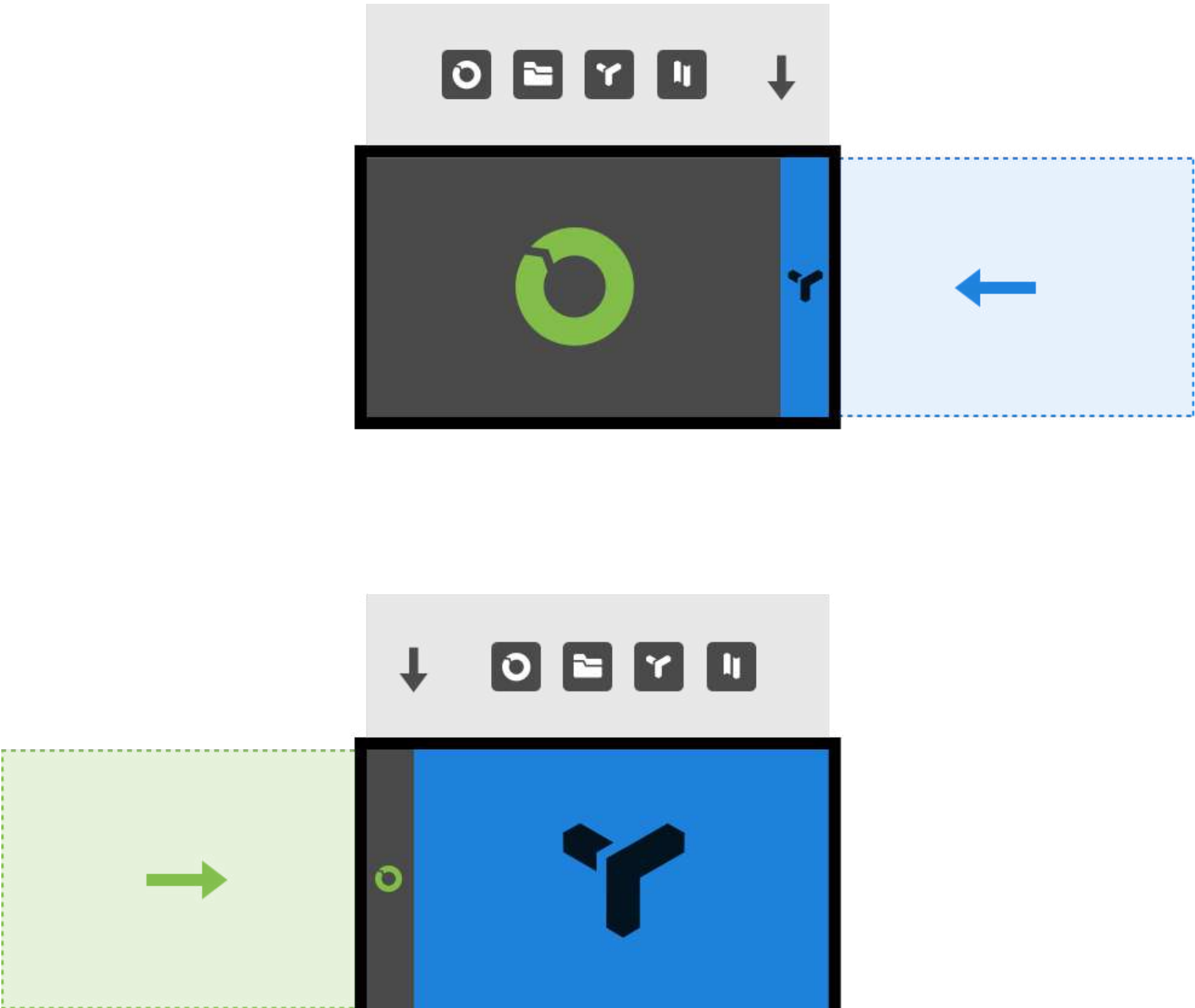
- user centered approach
- workflow oriented navigation
- intuitive interaction concept
- clear visibility of system status
- consistent navigation principles
- standardized operation concept for all apps
- error prevention by automated or assisted steps
- seamless integration in industrial design
- high quality over all impression
- customizable widget concept
- flexible extendability for large production plants
- user roll dependent scope of functionality
- functional animations
- comfort operation by swipe & multi-touch gestures

Benefits

- functionality conform to user expectations
- higher efficiency
- reduction of training times
- better acceptance
- reduction of improper operation
- differentiation from the competition
- joy of use



Intuitive access of app navigation and deeper information levels



App combination and navigation metaphor

Interface Design

Characteristics

- precise display of production progress
- clear system status (even on long distance)
- self descriptive displays and controls
- aesthetic and minimalist design



Production dashboard information layers

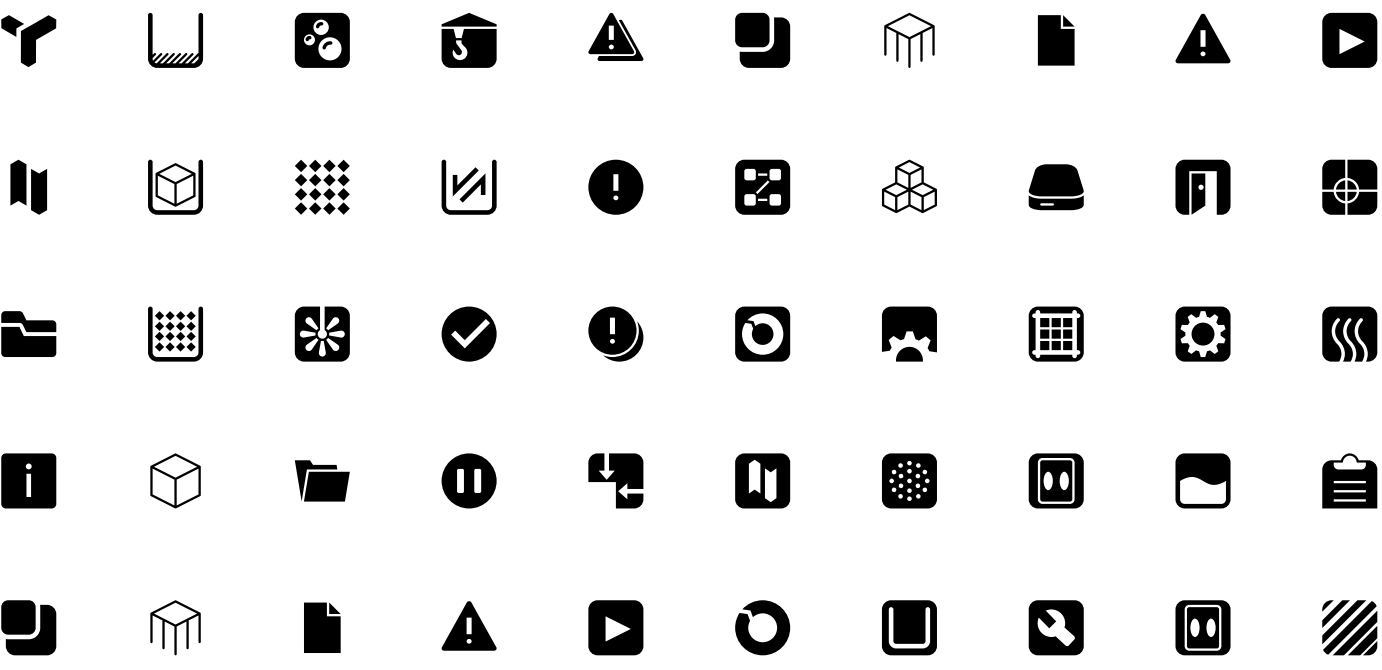
- coded color concept for better orientation
- simple optical translation of complex processes
- responsive and adaptives component behavior

CONCEPTLASER

Client logo and corporate colors



Color concept



Icon style



Control style



Graphic charts

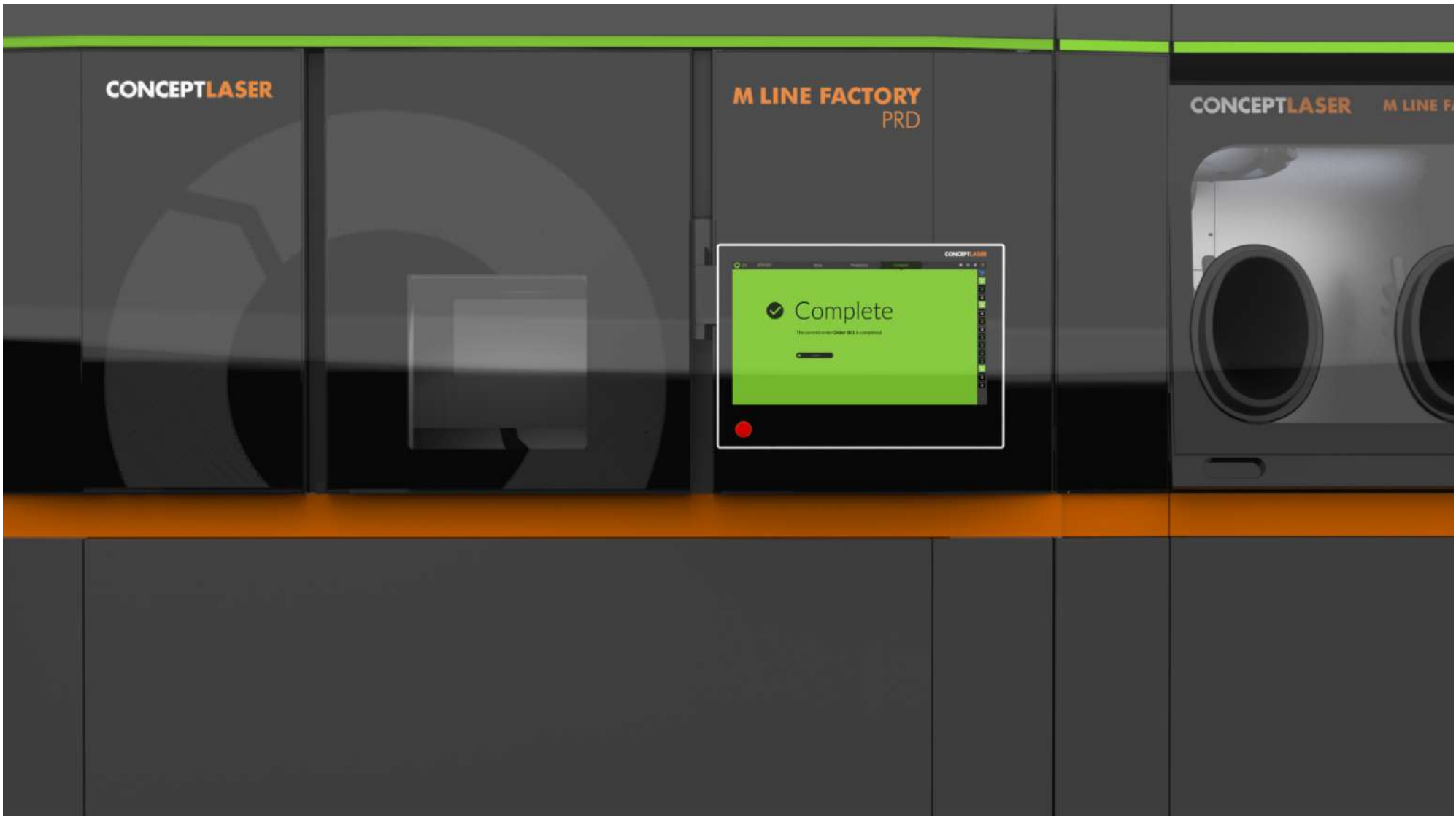
Features

Features

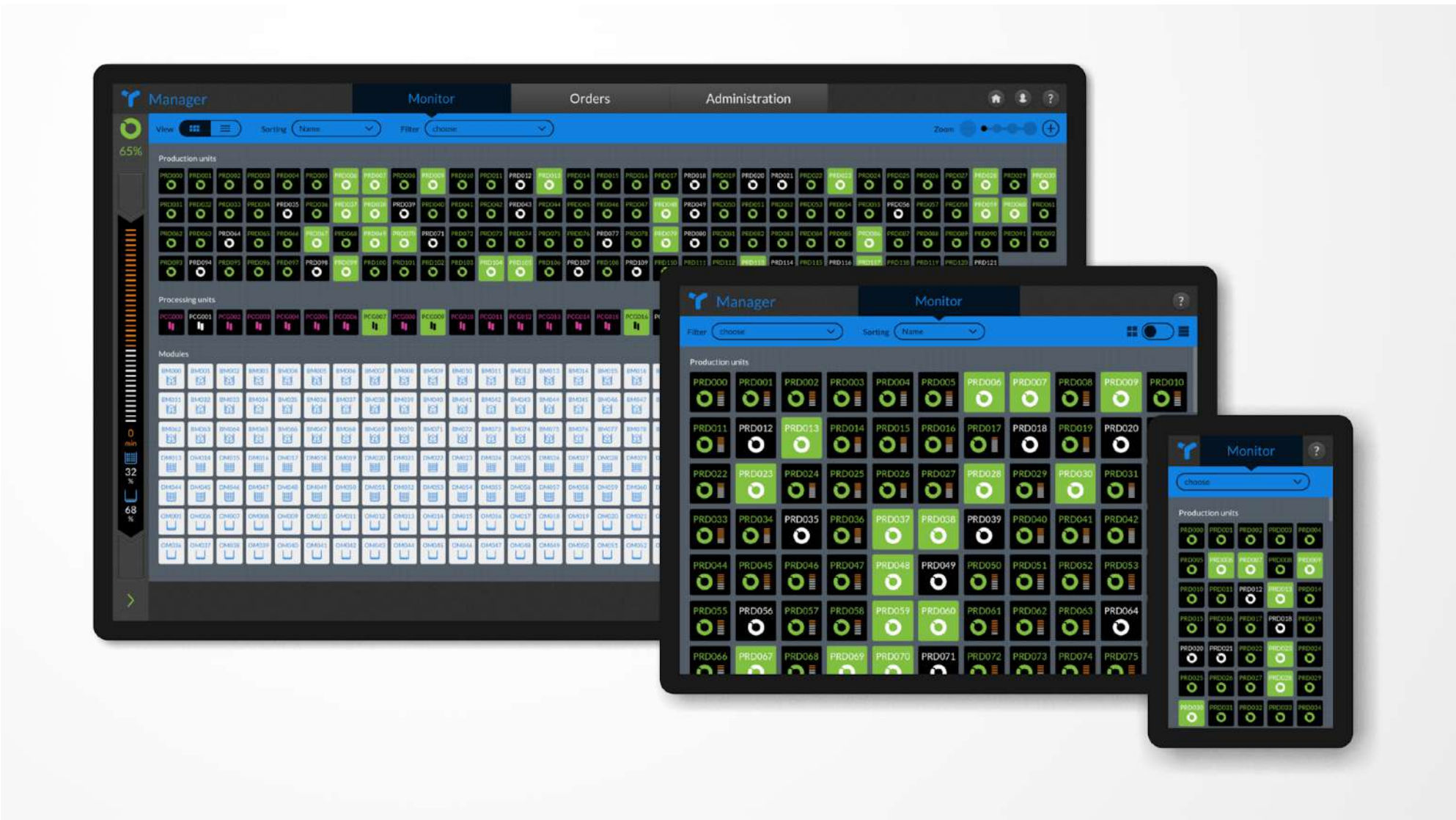
- simultaneous operation
- central data management
- responsive design
- mobile devices
- fast app switching
- modular expandability
- precise graphic charts
- clear status display
- unlimited scalability



Workflows



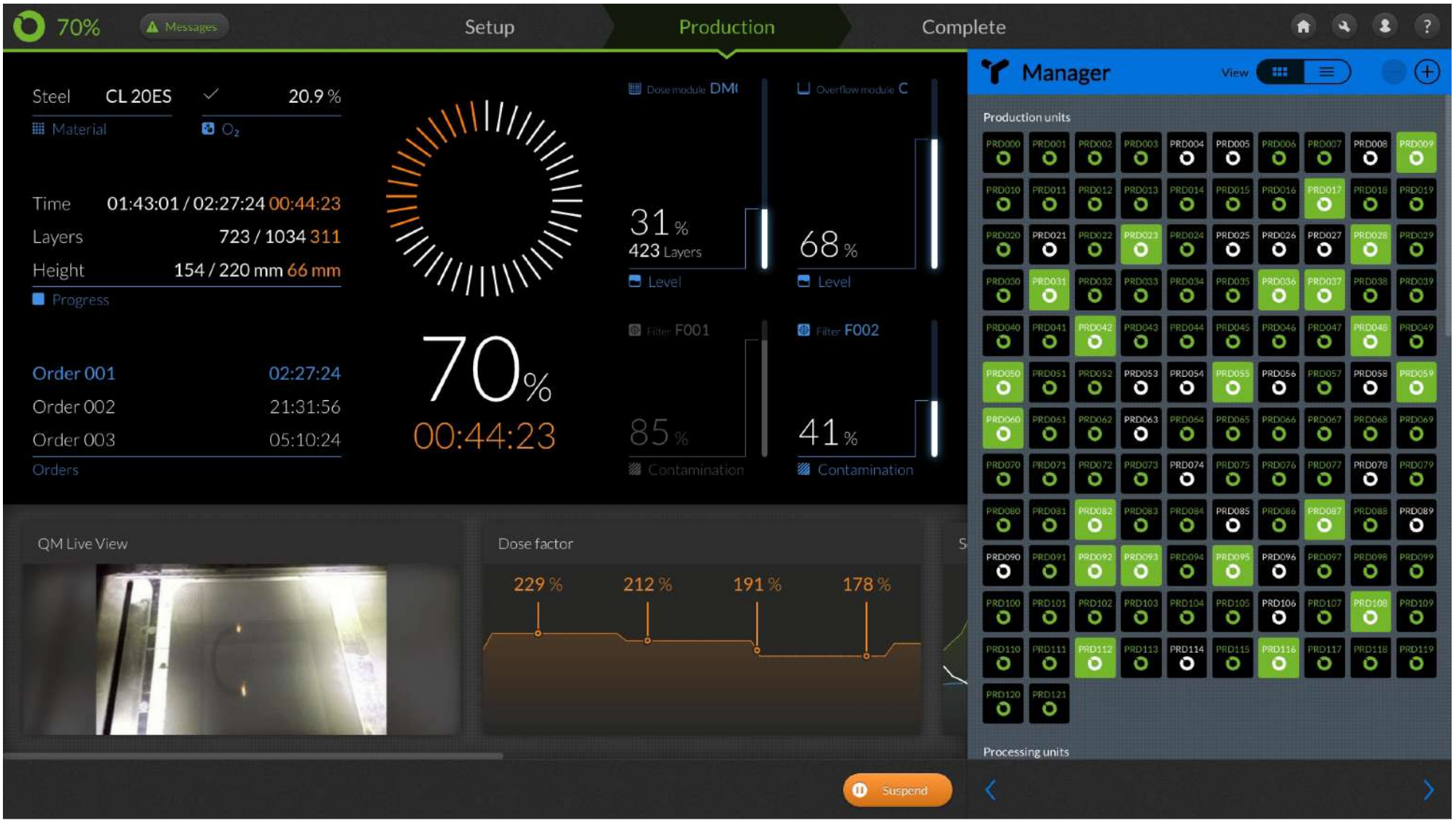
Machine status



Various device sizes



Tablet and Smart Phone



App integration



Graphic charts

HMI Project GmbH / Frankfurter Straße 92 / 97082 Würzburg

T +49 931 453297-70 / hmi-project.com