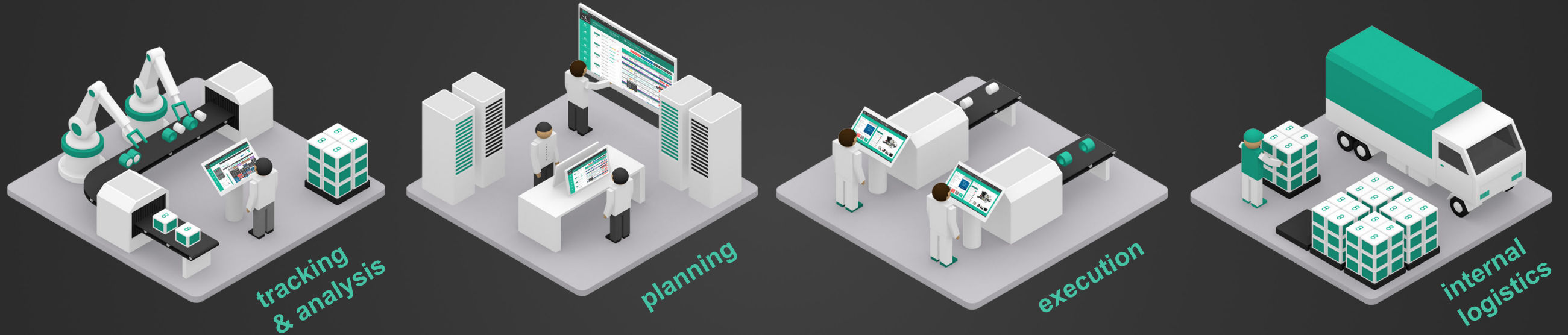


Production Digitization



Smart Factory Suite modules
for manufacturing digitization

product^{oo}®

We know the struggle. And we know you know it even better.

You're struggling with overproduction and not meeting customer demand.

You have a lot of cash tied up in inventory.

Operators lose, damage or mix up kanban cards.

Creating production plans takes a lot of time and it's not easy to process last-minute changes.

Production managers have a hard time getting up-to-date data about current performance.

Mistakes in line feeding cause delays.

Preparation of reports is time consuming.

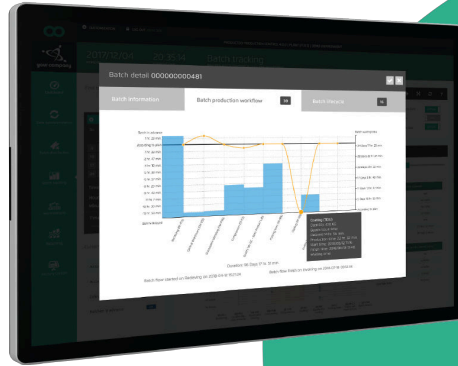
Your teams are drowning in charts and papers.

There is a better way.

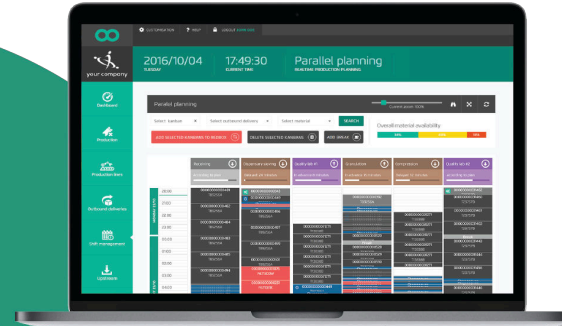


3 necessary steps towards higher **production efficiency**

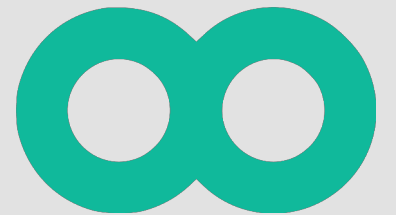
01
track & analyze



02
plan & optimize



03
efficiently execute



Key Benefits



completely paperless
production planning with
full traceability



production optimization with
improved on-time delivery
performance

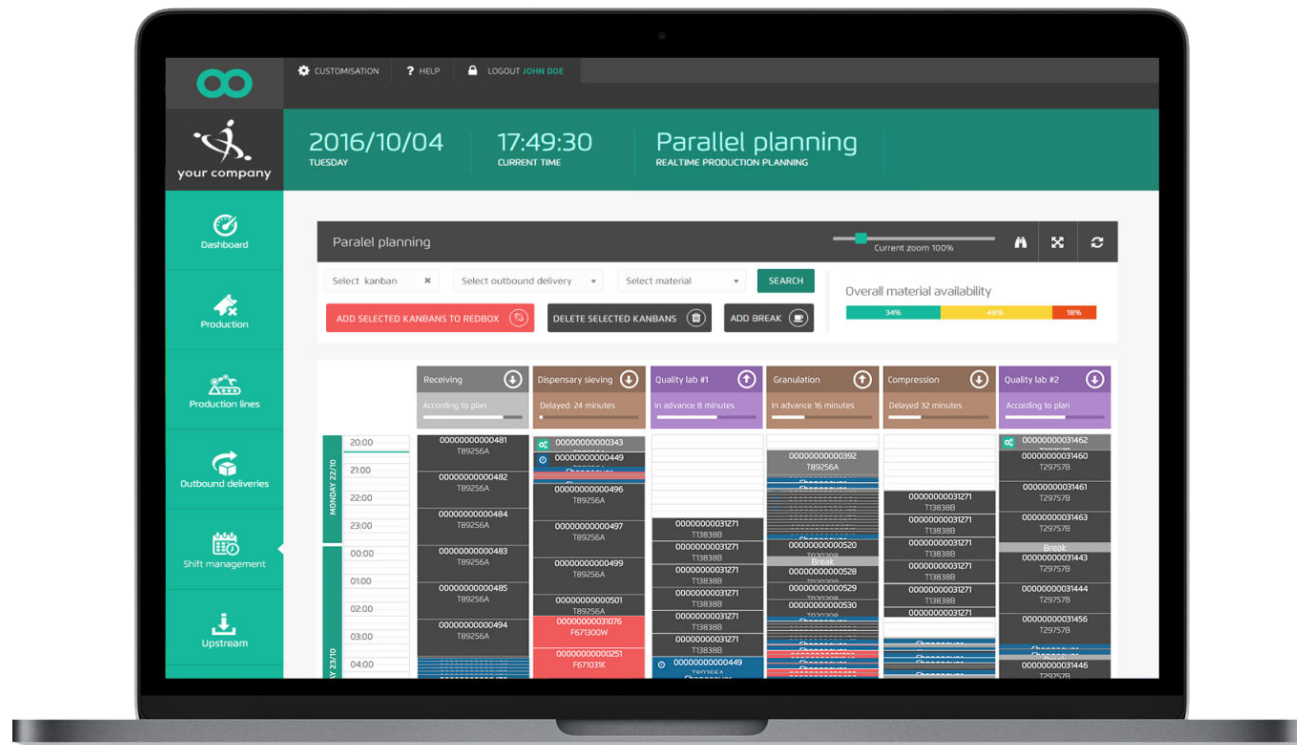


manpower savings and
shorter time-to-react



seamless ERP
integration – no double
data management

Production Digitization: Main Areas & Features



Production tracking and D2D process analysis

Realtime connection Planning <-> Shopfloor

MTO / MTS / hybrid strategies

Automatic scheduling

Finish & Semi-Finish lines management

Material coverage with predictions

Digital workstation: shopfloor interface for production and maintenance operations

Complete control over material flow from warehouse to line feeding, picking and shipment

Easily customizable reports

Smart Production Tracking and Analysis

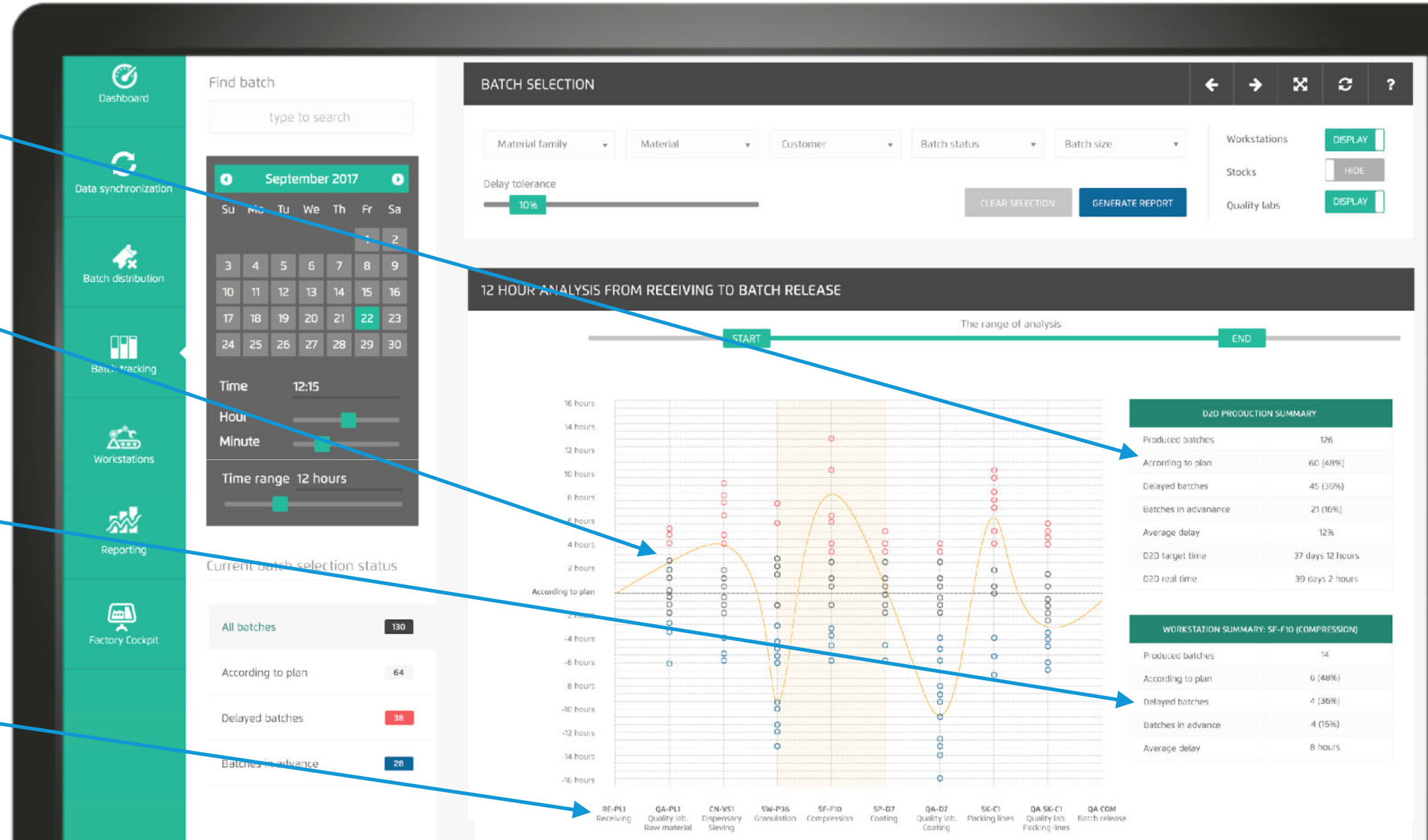
Knowing the details of your D2D process is the first step towards a more efficient production. Our production tracking tool allows you to **monitor all production (and non-production) stages** in real-time and in history and **see where your bottlenecks are**. This is crucial information to take into account when preparing a production plan.

The whole D2D process in a single chart

D2D process visualised: red work orders are late, blue ones are in advance

Data related to a single workcenter

Stages / workcenters



Material Workflow: One-Click Overview

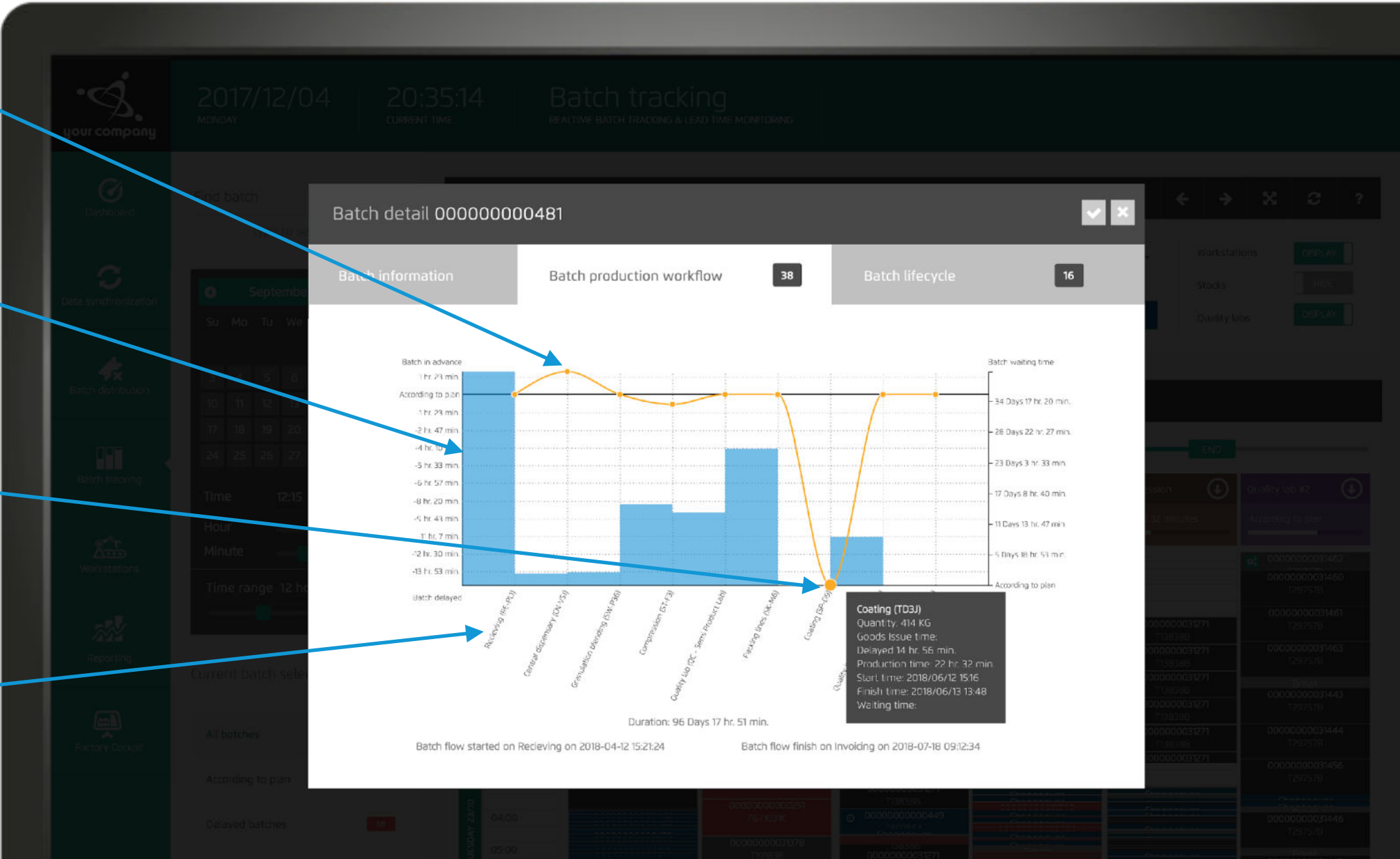
Track a material through all the stages and sub-stages of the production process. Display details in **charts and graphs**, identify bottlenecks and **set future targets** based on the provided data.

Production item workflow

Waiting times between stages

Delay - bottleneck

Stages of D2D process



One-Minute Production Plan

Production orders are received from the ERP system or created manually here - and distributed to production lines **within seconds**. The availability of the production line is checked automatically - **no mistakes can be made** during the assignment. The system then breaks down the finish good based on BOM and creates the plan for all the lines involved in the upstream process. Not a single paper needs to be printed and carried anywhere. **Did you ever think creating a production plan could be this easy?**

The screenshot displays a software interface titled "Planning wizard" with the subtitle "5 SIMPLE STEPS TO SCHEDULE YOUR PRODUCTION EFFICIENTLY". The interface is divided into a sidebar on the left and a main content area. The sidebar includes a logo "your company" and a date "2017/ THURSDAY". Below the date, there are several menu items: "Dashboard", "Distribution", "Production lines", "Outbound deliveries", and "Redbox". The main content area features a progress bar at the top with five steps: 1. CUSTOMER SELECTION, 2. OUTBOUND DELIVERIES, 3. MATERIAL SELECTION (currently active), 4. LINE ASSIGNMENT, and 5. SEQUENCING SCENARIO. Below the progress bar, there is a "SEARCH MATERIALS" input field. The "CURRENT SELECTION" section on the left lists the following details: Customer: X1RWE0194, Outbound delivery: 0082771684, 0082771711, 0082771788. The "Material selection" section in the center lists three materials: F671400P (CORE CORKED.TD445.MERIVA), F671399K (CORE CORKED.TD421.X52.MI), and F671482S (CORE CORKED.TD446.MERIVA). To the right of the material list is a "Quantity" slider ranging from 1 to 240, with a value of 110 selected. Below the slider, it states "110 kanbans selected" and "TOTAL QUANTITY 8.800 PIECES". At the bottom of the main content area, there are three buttons: "SELECT ALL", "UNSELECT ALL", and "NEXT STEP". On the right side of the interface, there is a list of production lines with their respective queue times and delayed times. The list includes: FC09 - Finishing (Queue: 7 hr. 39 min., Delayed 7 Days 5 hr.), FC10 - Finishing (Queue: 13 hr. 43 min., Delayed 13 Days 5 hr.), FC11 - Finishing (Queue: 2 hr. 51 min., Delayed 75 Days 5 hr.), and FC12 - Finishing.

your company

2017/ THURSDAY

Planning wizard
5 SIMPLE STEPS TO SCHEDULE YOUR PRODUCTION EFFICIENTLY

SEARCH MATERIALS

1 CUSTOMER SELECTION 2 OUTBOUND DELIVERIES 3 MATERIAL SELECTION 4 LINE ASSIGNMENT 5 SEQUENCING SCENARIO

CURRENT SELECTION

Customer
X1RWE0194

Outbound delivery
0082771684
0082771711
0082771788

Material selection

F671400P
CORE CORKED.TD445.MERIVA

F671399K
CORE CORKED.TD421.X52.MI

F671482S
CORE CORKED.TD446.MERIVA

Quantity

1 240

110 kanbans selected
TOTAL QUANTITY 8.800 PIECES

SELECT ALL UNSELECT ALL NEXT STEP

Place selected items to

End of production line queue

FC09 - Finishing
Queue: 7 hr. 39 min.
Delayed 7 Days 5 hr.

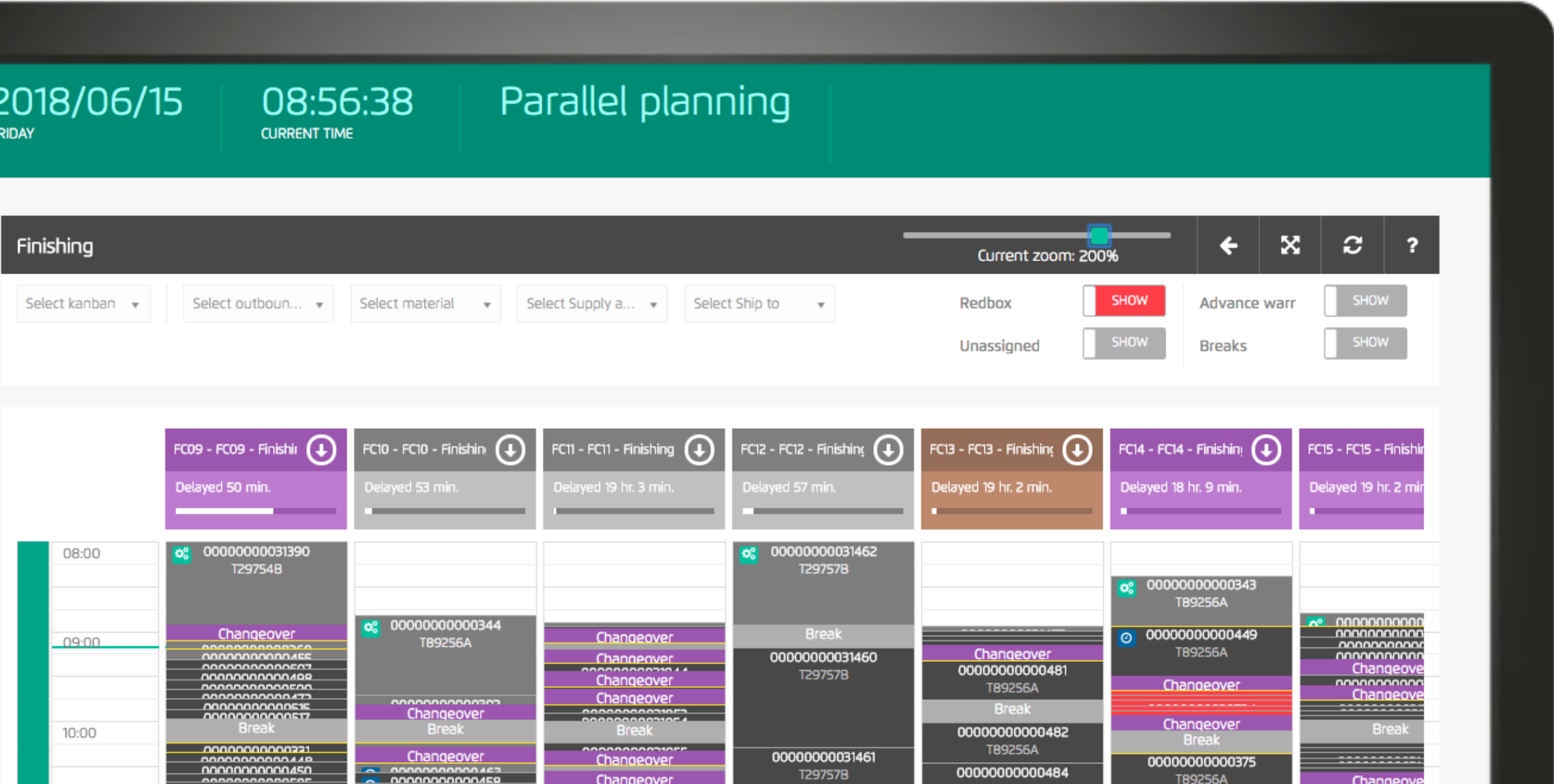
FC10 - Finishing
Queue: 13 hr. 43 min.
Delayed 13 Days 5 hr.

FC11 - Finishing
Queue: 2 hr. 51 min.
Delayed 75 Days 5 hr.

FC12 - Finishing

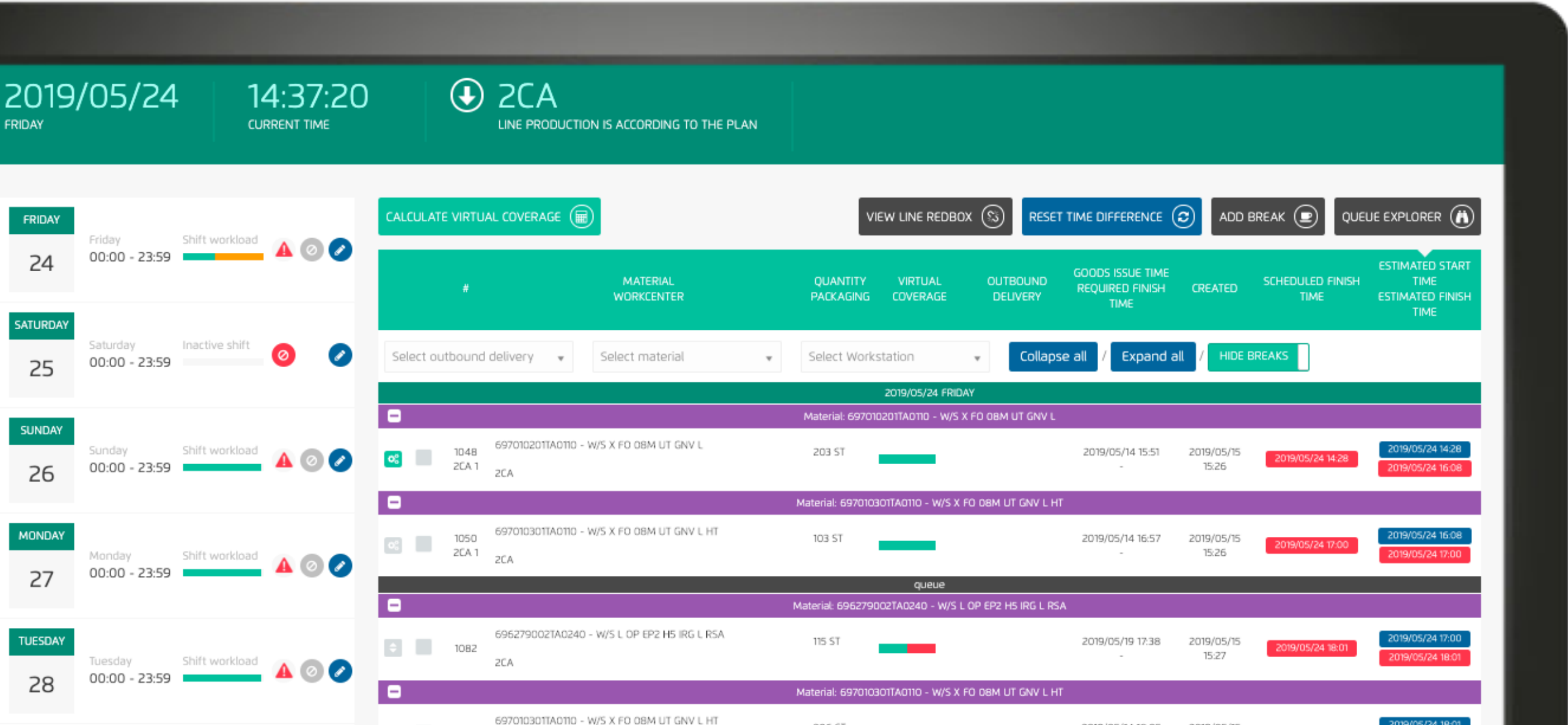
Change of Plans? All It Takes Is a Few Clicks

Any **changes** in the production plan can be done **within a few seconds** - just by moving the work orders from one line to another by drag & drop. Operators are notified instantly on their Digital Workstation.



It's All About the Details: Fine-tune Your Daily Schedule

Adjust the plan for each line either **manually** or **automatically**. Just grab selected item(s) and place them anywhere you'd like in the queue. The system informs you about input **material coverage** - so you always know if you have enough materials to produce the unit. **Red color** indicates an issue (delay, material shortage etc.) The system gives you this information in real time, so you can **act immediately**. No time is wasted!



Artificial Planner: Let your AI colleague do the work for you!

Do you want to do the detailed scheduling manually? Go for it! But if you could use a little help, **the artificial planner is at your service**. You can choose from **several automatic and semi-automatic planning scenarios**. Each of them takes the required finish time into account, so you will have the goods **ready on time**. The feature can be used for all production lines or just a few of them - it's completely up to you. Set it up easily with one click in the customization.

05/24/2019
FRIDAY

12:31:10
CURRENT TIME

FC09 - Final
LINE PRODUCTION IS DELAYED 6 HR. 30 MIN.

Dashboard

Batch building

Distribution

Production lines

FRIDAY

24

fri. morning
06:00 - 14:00

Shift workload

fri. afternoon
14:00 - 22:00

Shift workload

sat. night
22:00 - 10:00

Shift workload

SATURDAY

25

sat. morning
10:00 - 22:00

Shift workload

SUNDAY

26

sun. morning
10:00 - 22:00

Shift workload

mon. night
22:00 - 06:00

Shift workload

MONDAY

27

tue. night
22:00 - 06:00

Shift workload

tue. morning
06:00 - 14:00

Shift workload

VIEW LINE REDBOX

RESET TIME DIFFERENCE

ADD BREAK

QUEUE EXPLORER

Artificial planner

Planning scenario

Changeovers optimization

Run sequencing now

Last run

2019/05/06 11:51

Scheduled kanbans

61

Triggered by

Jan Oulehla

Delayed kanbans

55

Last scenario

Changeovers optimization

#

MATERIAL
WORKCENTER

QUANTITY
PACKAGING

OUTBOUND
DELIVERY

GOODS ISSUE
TIME

CREATED
REQUIRED FINISH
TIME

SCHEDULED FINISH
TIME

ESTIMATED FINISH
TIME

Select outbound delivery

Select material

Select Workstation

Collapse all

Expand all

05/24/2019 FRI. MORNING

Material: T89256A | Rest quantity to next changeover: 1/20 | EST: 2019/05/24 12:33 | Packaging: plast 20 ks - 4 beden (1/20) | SCH: 2019/05/24 06:03

501
FC9WC2

T89256A
FG
FC09

20 ST
plast 20 ks - 4 beden

0082404214

2020/02/03
10:46

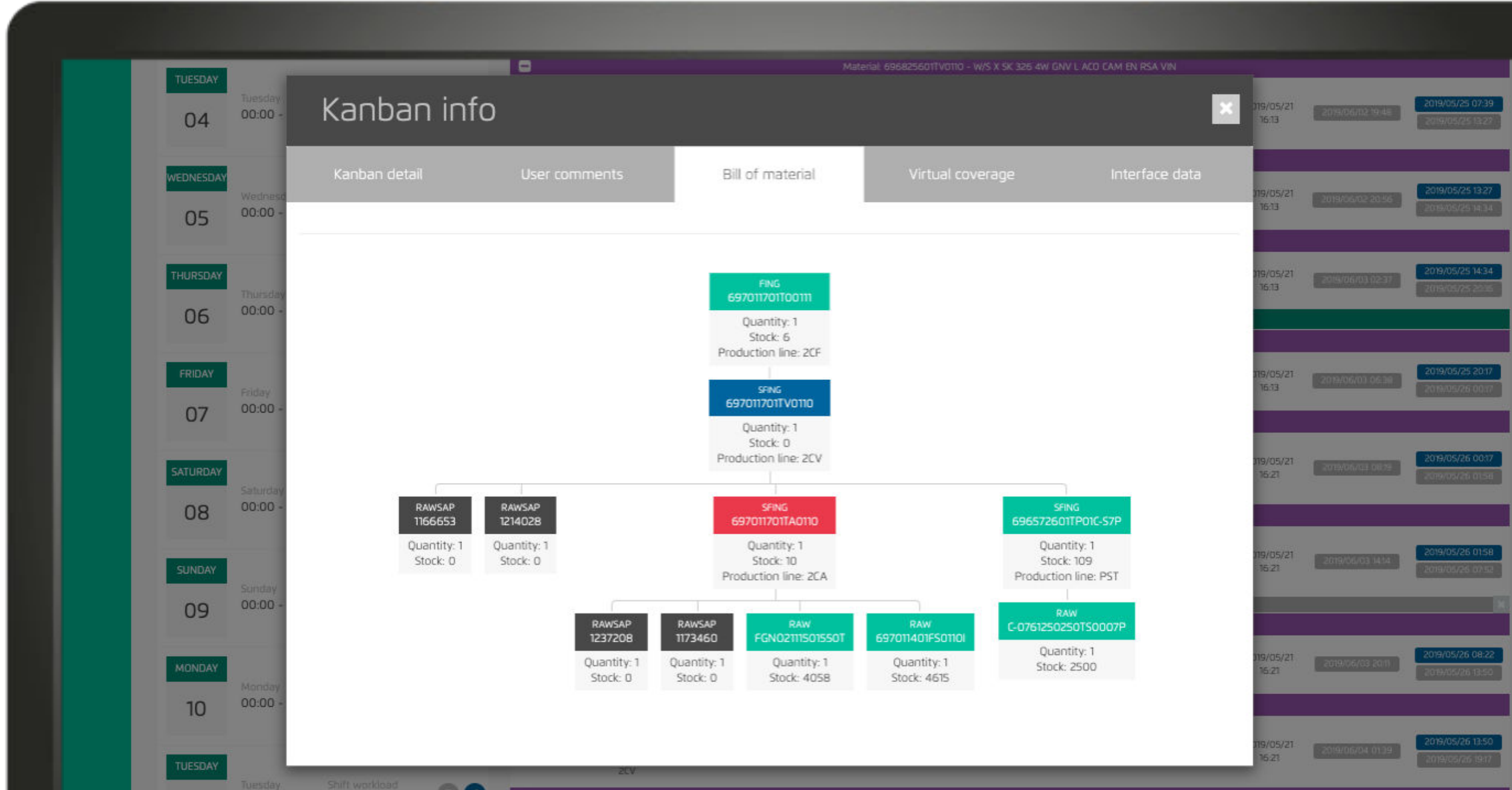
2016/06/01 16:35

2019/05/24 06:03

2019/05/24 12:33

Bill of material (BOM) / Production Routing

Check **materials** and their **current stock levels** in the digital BOM - in a **nice, visual form**.



Virtual Coverage: No more material shortage

Future consumption of material inputs is available at one click. The system gives you **alerts** in case of current or future estimated material shortage so you can **prevent unnecessary production stoppages**.



Digital Workstation: All-in-one Shopfloor Interface

Intuitive shopfloor interface for operators and technicians - **one place for all production and maintenance operations**. Display incoming work orders (distributed from the planning module in real time), documentation, declare production... all using **one screen!**

The screenshot displays the 'your company' digital workstation interface. The top header bar includes the company logo, date (2017/11/23 THURSDAY), time (15:30:57 CURRENT TIME), and workstation name (FC09 - Finishing). A status bar indicates 'LINE PRODUCTION IS DELAYED 7 MIN'. Navigation icons for OFFLINE, DASHBOARD, REFRESH, and LOGOUT are on the right. The main content area is divided into three sections: 'Ongoing production' (left), 'Production history' (top right), and 'Workstation detail' (bottom right). The 'Ongoing production' section shows production order details (00000000000360), material (T89256A), packaging (KLT customer palette), customer (T22ROFF1001), and outbound delivery (0082404213). A large blue box displays '75%' completion and 'PRODUCING 15 / 20'. The 'Workstation detail' section lists various tasks with counts: Production queue (246), Redbox (2), Quality check (6), Visual check (4), Documentation (3), Maintenance calendar (12), Operators (9), and Notifications (1). A large image of a mechanical component is shown on the right. At the bottom, four buttons are visible: 'WORKING INSTRUCTIONS', 'SEND TO REDBOX', 'DISPLAY BOM', and 'DECLARE PRODUCTION'. Callouts from the left explain: 'Offline mode' points to the OFFLINE icon; 'Production queue, visual check...' points to the 75% progress indicator; 'Manual / automatic declaration' points to the DECLARE PRODUCTION button; and 'Andon-based alerts' points to the SEND TO REDBOX button.

Offline mode

Production queue, visual check...

Manual / automatic declaration

Andon-based alerts

your company

2017/11/23 THURSDAY

15:30:57 CURRENT TIME

FC09 - Finishing

LINE PRODUCTION IS DELAYED 7 MIN

OFFLINE

DASHBOARD

REFRESH

LOGOUT

Ongoing production

Production history

Workstation detail

Type to search

SEARCH

Production queue 246

Redbox 2

Quality check 6

Visual check 4

Documentation 3

Maintenance calendar 12

Operators 9

Notifications 1

Production order 00000000000360

Initkey TT89256A 21304577869700360

Material T89256A

Packaging KLT customer palette

Customer T22ROFF1001

Outbound delivery 0082404213

Truck image 12

Goods issue time 2017/11/23 22:00

Scheduled time 2017/11/23 15:42

Estimated finish time 2017/11/23 15:49

75%

PRODUCING 15 / 20

Alternative packaging available. Customer label already printed.

WORKING INSTRUCTIONS

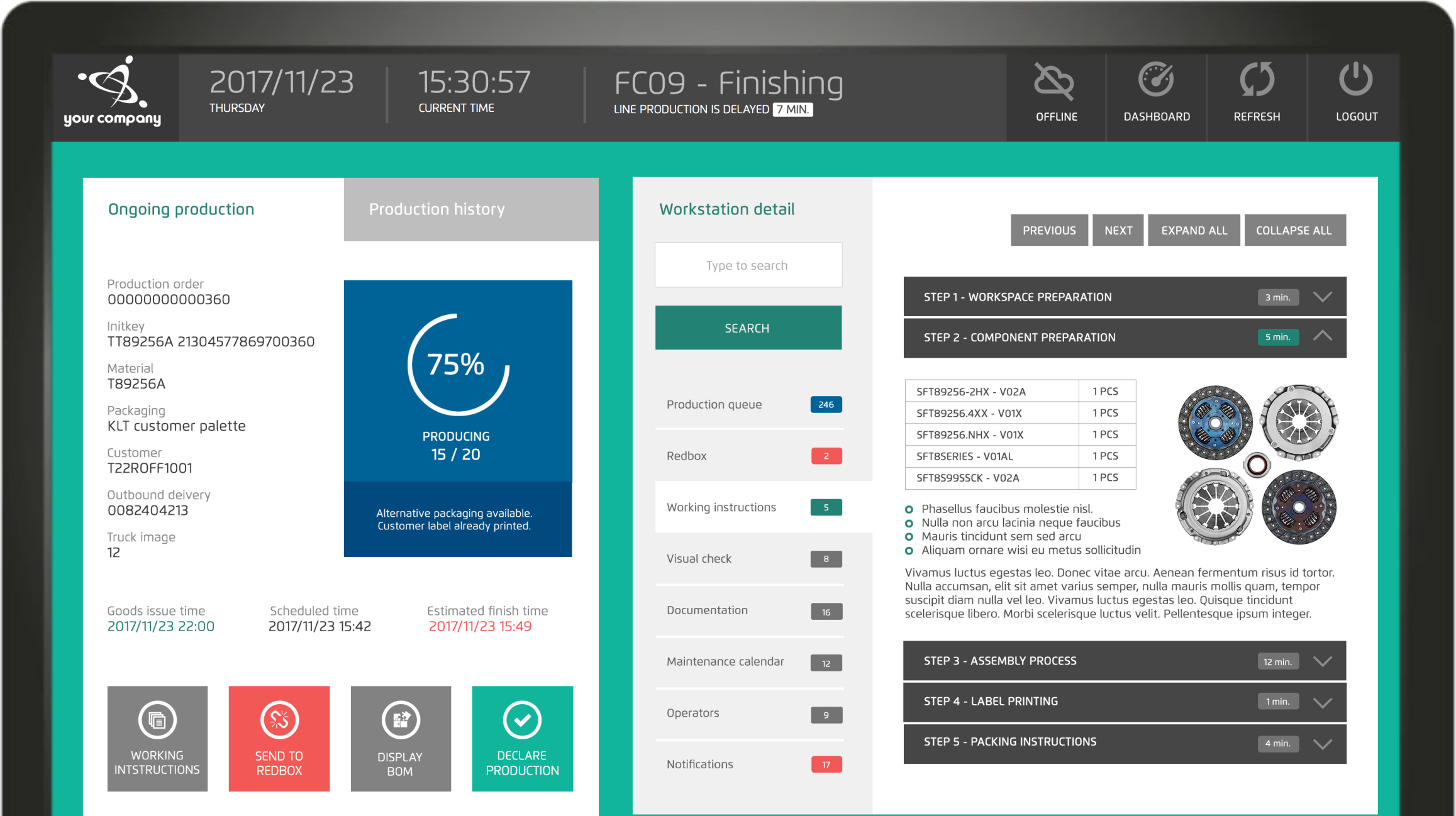
SEND TO REDBOX

DISPLAY BOM

DECLARE PRODUCTION

Digital Workstation: All-in-one Shopfloor Interface

Step-by-step **working instructions** are displayed based automatically for currently produced material. No more paper manuals!



Keep your Line Feeders on Track

Making sure there's **enough material** prepared at all stages of the manufacturing process is key to a **smooth and efficient flow**. Line feeders have access to the production plan, see how much material need to be brought to production lines. A checklist is available for a clear overview of what's left to prepare. All is optimized for tablets so your team can stay **mobile and updated on the go**. **No more missing parts, no more stoppages!**

your company 05/25/2019 SATURDAY 08:55:59 CURRENT TIME FC13 - Final

Current production Production queue **72** Production line redbox **3** Incomplete palette

FC09 - Final
Delayed 2 min.
Queue: **24 min.**

Current production
Kanban number 000000000000359
Material T89256A
WIPER.TD389.PL7
Quantity / Packaging 20 / plast 20 ks - 4 beden
Customer T18ROD1001
AUTOMOTIVE KLIMASYSTEME GMBH
Outbound delivery 0082404213
Goods issue time 2020/02/03 10:46
Scheduled finish time 2019/05/21 09:07
Estimated finish time 2019/05/25 08:52

Estimated -%

Production queue
Redbox
Incomplete palette

EXPLORE PRODUCTION

Expand all Collapse all

#	MATERIAL WORKCENTER	QUANTITY PACKAGING	OUTBOUND DELIVERY	GOODS ISSUE TIME	ESTIMATED FINISH TIME
376	T89256A FG	20 ST plast 20 ks - 4 beden	0082404213	GIT: 2020/02/03 10:46	EST: 2019/05/25 09:19
514	T89256A FG	20 ST plast 20 ks - 4 beden	0082404214	GIT: 2020/02/03 10:46	EST: 2019/05/25 09:45

Required materials

F671300W (40) T19183B (200) T67528B (100)

Kanban number 000000000000359
Material T89256A
WIPER.TD389.PL7
Quantity / Packaging 20 / plast 20 ks - 4 beden
Customer T18ROD1001
AUTOMOTIVE KLIMASYSTEME GMBH
Outbound delivery 0082404213
Goods issue time 2020/02/03 10:46
Scheduled finish time 2019/05/21 09:07
Estimated finish time 2019/05/25 08:52

Save

PRODUCTION LINE QUEUE

Customizable reporting tool

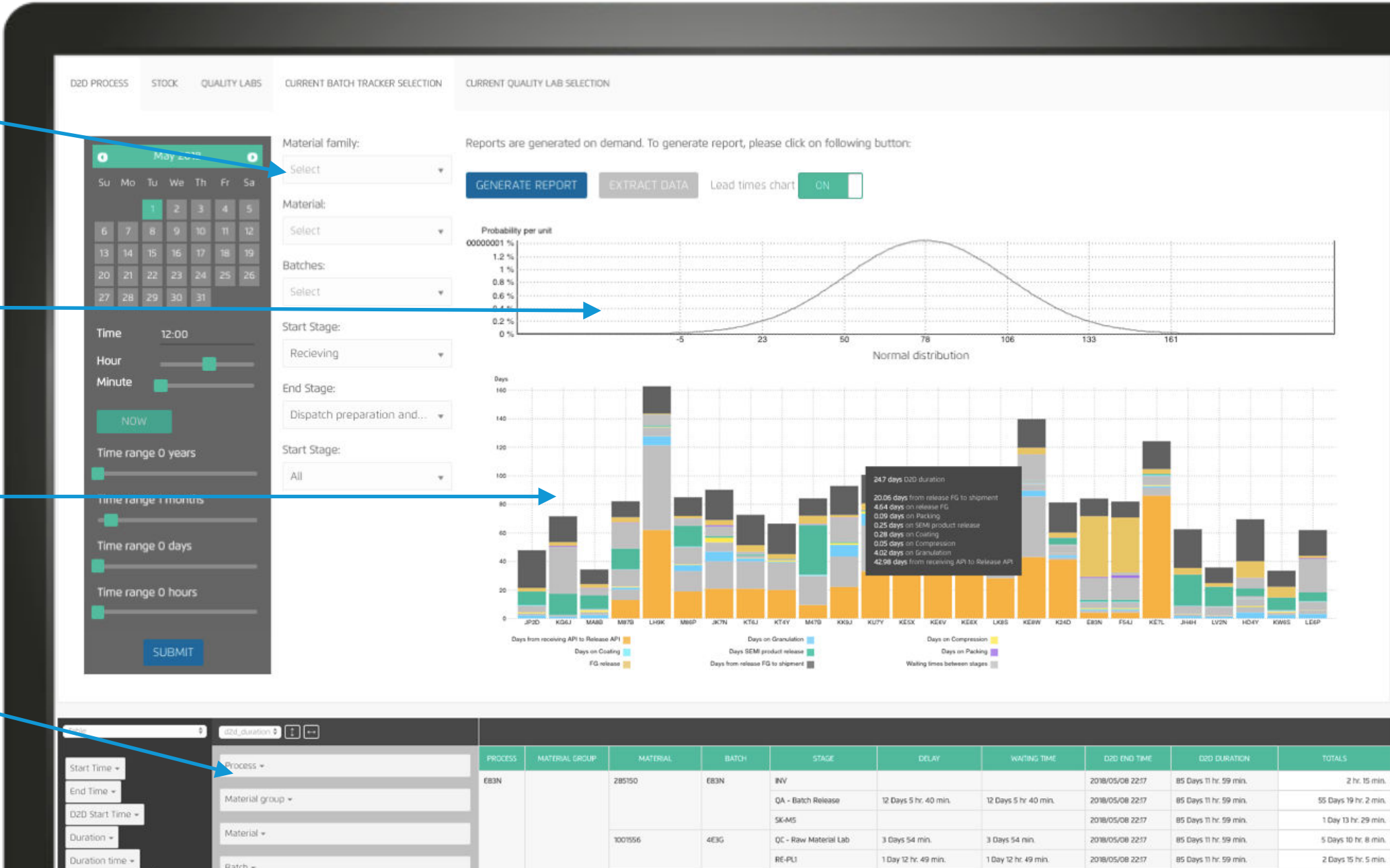
Reporting doesn't have to take hours of looking into spreadsheets, selecting the right figures and creating charts and graphs. All you have to do is select what type of report you want to generate, adjust the parameters and... download it. All in **just a few clicks**.

Select time range and data you're interested in

Various graphs and charts are available for various purposes

Overview of work orders - time spent in individual stages

Detailed text report, customizable parameters



340+ hours saved daily in over **90** plants

A global car parts manufacturer has managed to reduce the time spent daily on production planning and plan modifications from 4 hours to less than 20 minutes by digitizing the workflow with Productoo.

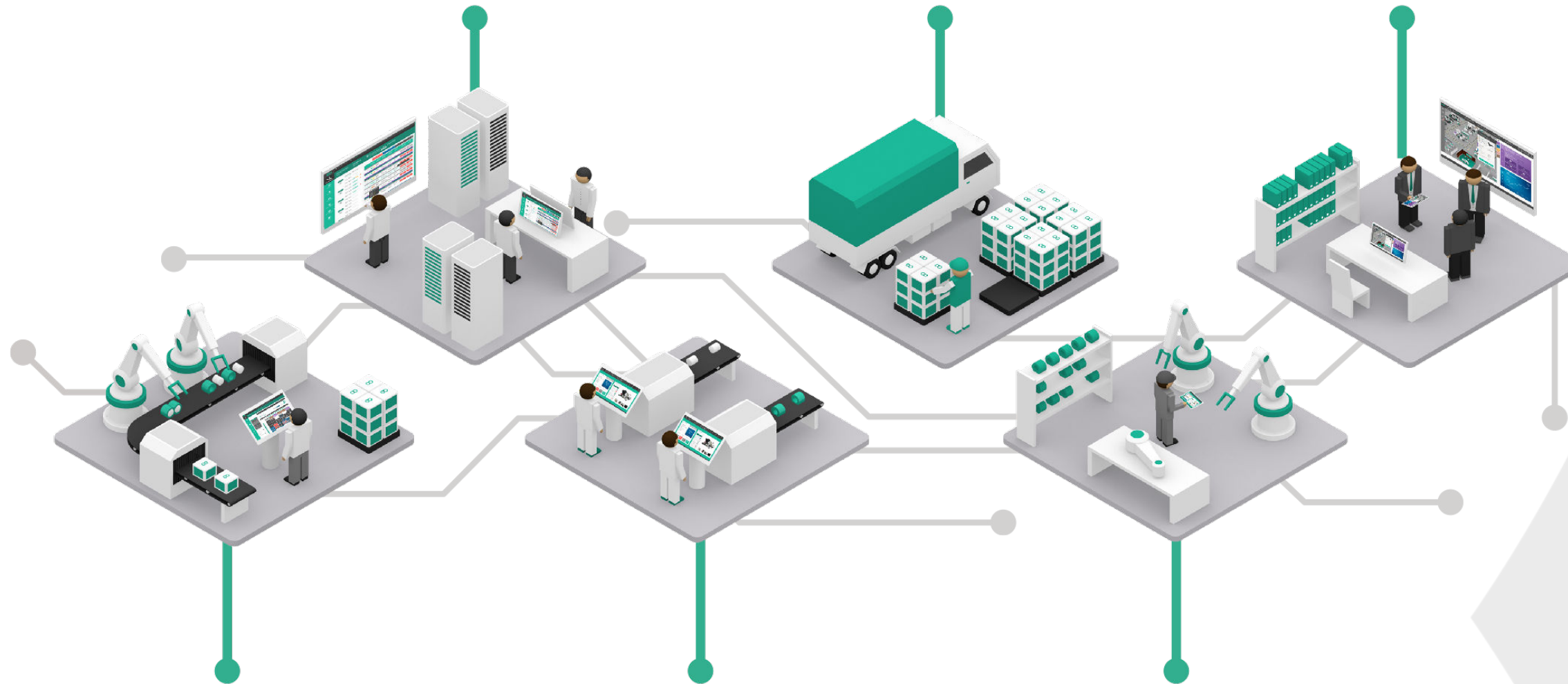


Productoo 4.0 Manufacturing Digitization Ecosystem

Production planning

Internal logistics

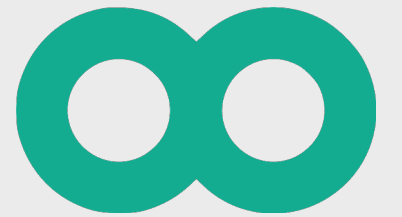
Performance
monitoring & reporting



Production tracking

Production execution

Maintenance management





PLUG & PLAY

1

Install

cloud / on premise
3rd party system
integration

2

Activate

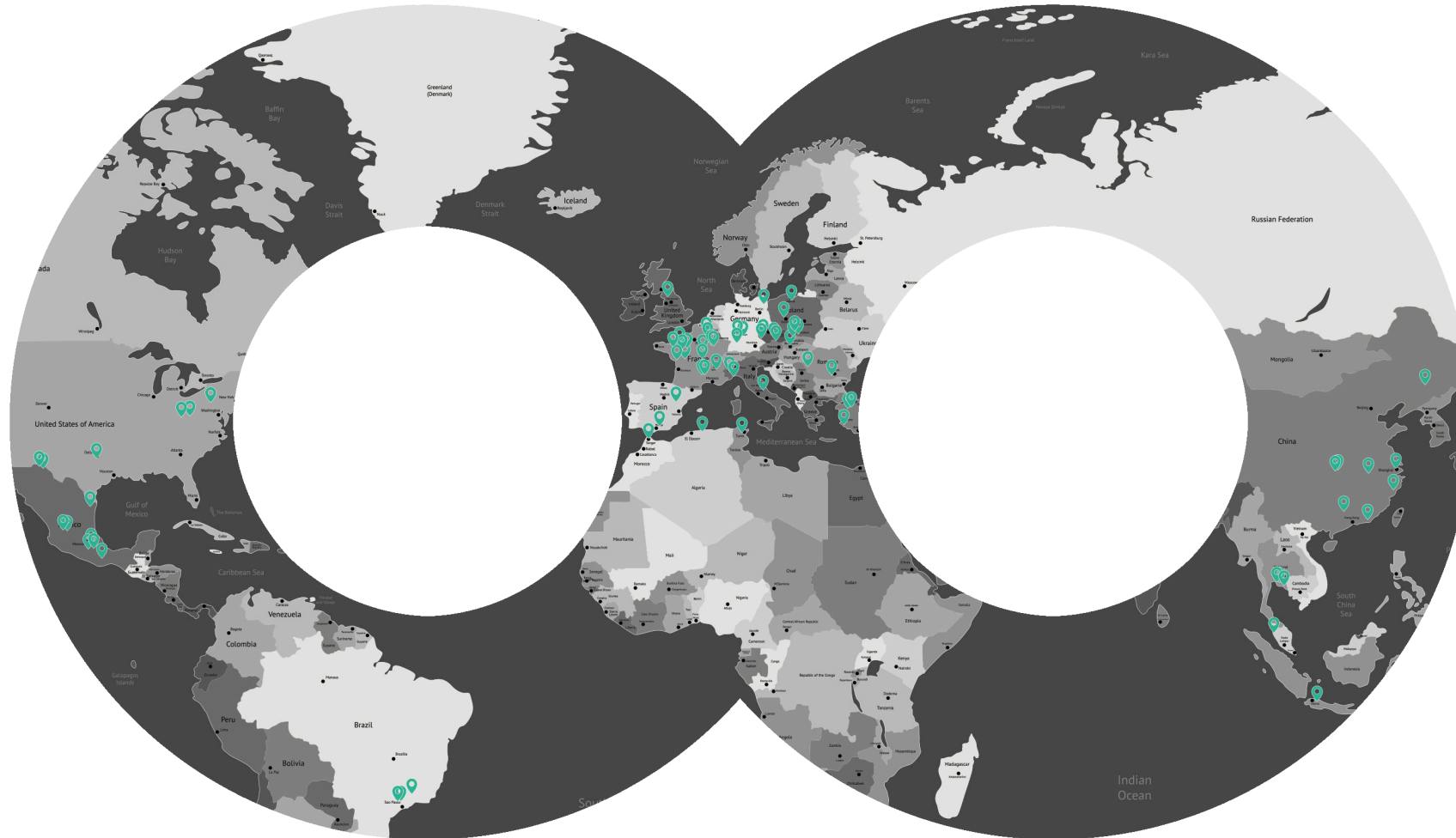
license key
configuration

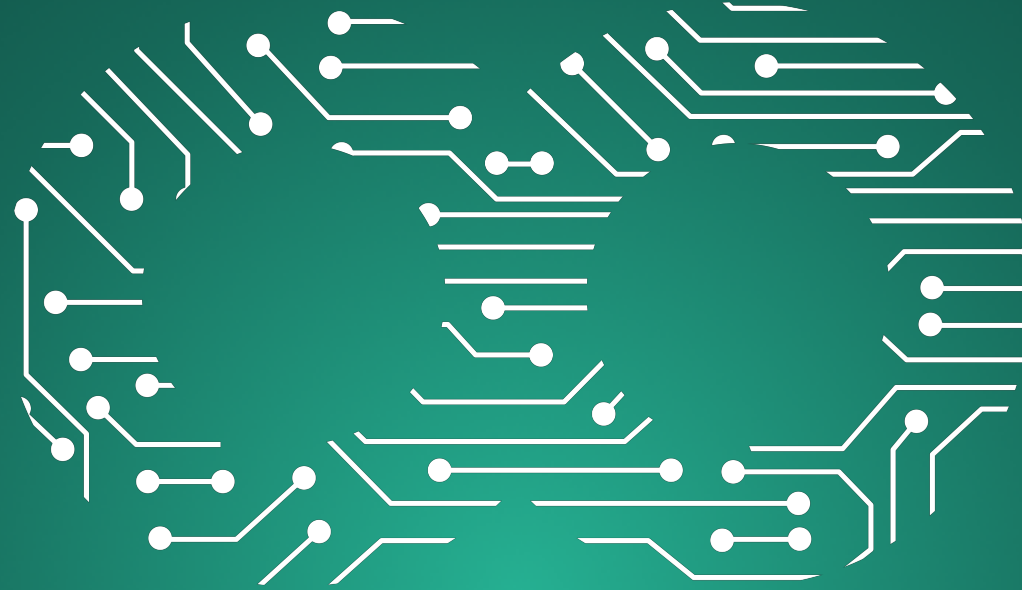
3

Evolve

unlock new modules
and features

More than **150** manufacturing companies have set out on the journey towards digital transformation with Productoo





We drive the digital evolution.

office@productoo.com

www.productoo.com

