



MOMENTUM



Discover the Momentum Modules and their features

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One software, many solutions

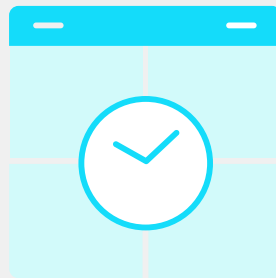
Gain and sustain manufacturing momentum with Momentum's MOM

1 base, 4 additional modules

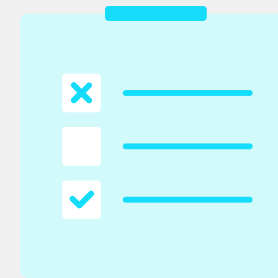
Capturing and empowering the entire value chain in manufacturing



Manufacturing Execution System



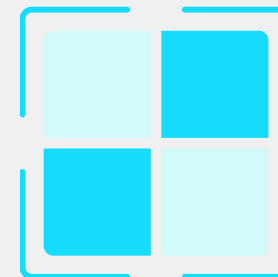
Advanced Production Scheduling



Quality Management System



Batching Management System



Warehouse Management System



MES, the basis of Momentum

MES Module in Momentum

Contains all your master data of products, resources and processes

Overall Equipment Effectiveness

Knowledge

Execution

Reporting & Dashboards

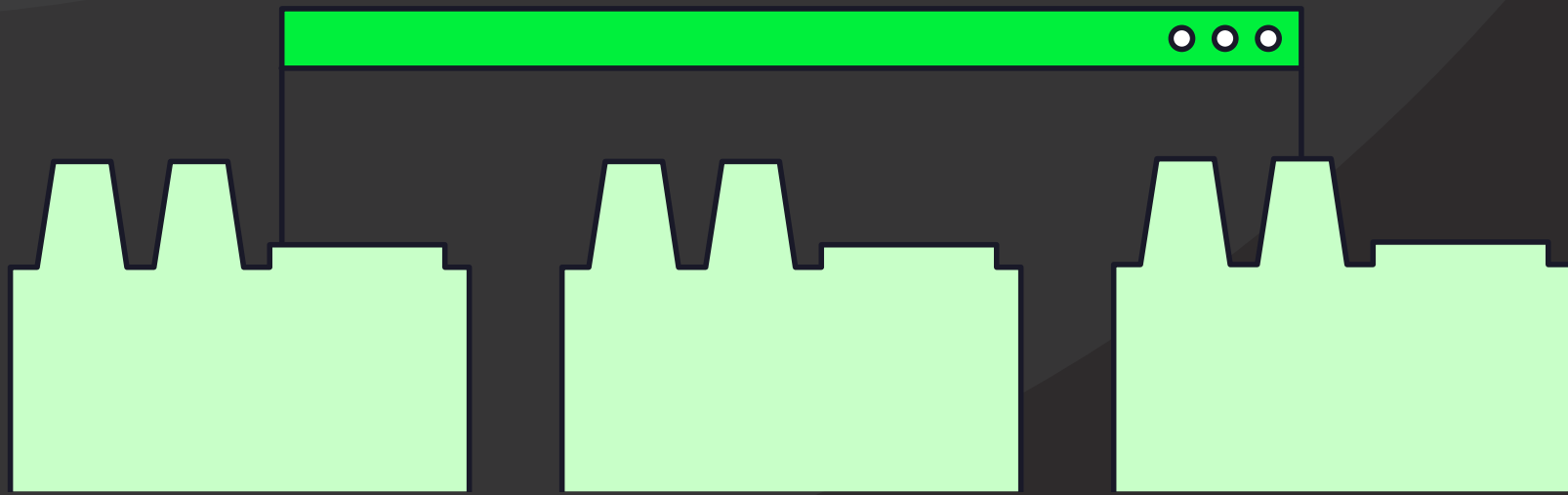
Historian

Labeling



1. Execution

Manage, schedule, monitor, and synchronise the automated execution of real-time, physical manufacturing processes and connect to enterprise software, machinery, production equipment and resources.



2. Knowledge

Centralisation and consultation of information about products, processes, procedures, etc. and work instructions and best practices for operators.

3. Overall Equipment Effectiveness

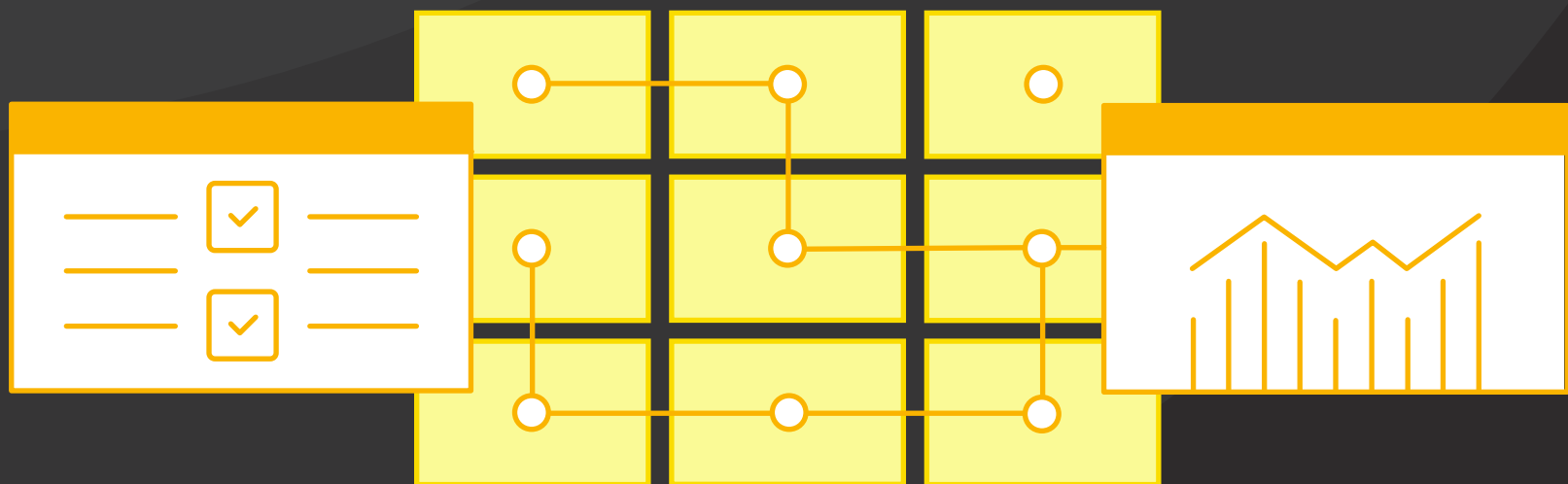
Automatically calculate the OEE, allow operators to manually adjust and complement incomplete data, display real-time OEE results and use these as an operational management tool.

4. Labeling

Automatically send correct data for dynamic or real time inline label printing and manage the appearance of complex product labels and EAN and SSCC codes.

5. Historian

Connect multiple data sources to create a history of real-time manufacturing operations metrics in an open information model.



6. Reporting & Dashboards

Create, configure and display different reports (in all possible formats to print and export) and dashboards from different sources on one (mobile) operator webpage.

One software, many solutions

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Manufacturing Execution System



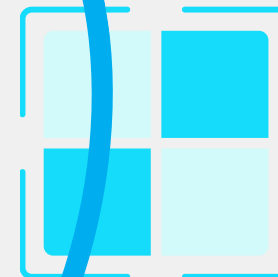
Advanced Production Scheduling



Batching Management System



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Warehouse Management System

APS, Advanced Production Scheduling

APS Module in Momentum

Optimal scheduling of customer orders with automatic planning and adjustments based on changing conditions & real-time data on potential bottlenecks.

Reporting &
Dashboards

Shopfloor
HR

Constraints
Configuration



Scheduling
Board

Virtual
Twin

Automated
Optimization

1. Reporting & Dashboards



Compare real-time operations with scheduled ones, automatically adjust scheduling, get real-time data regarding potential bottlenecks and set alerts and other triggers to be able to quickly respond to unexpected events.

2. Constraints Configuration

Link master data to the scheduling engine, add additional real-time or interfaced parameters, set relative weights for every optimisation criterium and analyse feasibility testing results.

3. Scheduling Board

Split each scheduled order into relevant operations and automatically link them to relevant work centres and make adaptations in a smart (semi-)manual way.

4. Shopfloor HR

Define how many and what types of employees are needed to carry out operations. Take individual employees' work skills into account while scheduling and assigning tasks.



5. Virtual Twin

Analyse impact, identify early-stage constraints, plan customer orders long-term and optimise production based on 'virtual twin' simulations before (real-life) production starts.

6. Automated Optimization

Direct and coordinate the manufacturing execution, include set-up times and maintenance into scheduling, trigger just-in-time logistic movements and create semi-autonomous (lights out) plants.

One software, many solutions

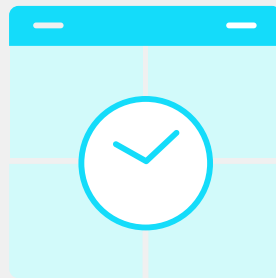
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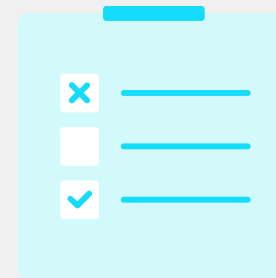
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Manufacturing Execution System



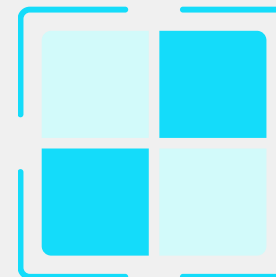
Advanced Production Scheduling



Quality Management System



Batching Management System



Warehouse Management System

BMS, Batching Management System

BMS Module in Momentum

Momentum's Batching module ensures the integrity of product formulas and provides real-time control and recording of all batch processing steps.

Batching
Execution

Advanced
Integration

Batch
Technology
Configuration



Silo & Tank
Configuration

Real-time
Feedback

Batching
Operator
Guidance

1. Batching Execution



Monitor the control and recording of all batch processing steps in real-time and combine automatic and manual procedures.

2. Advanced Integration

Integrated with QMS and APS

Handle capacity constraint and optimisation criteria in APS and configure complex Track and Trace functionalities based on Alpha-Beta distribution per product, type of tank and track and trace exercise.

3. Batch Technology Configuration

Easily define new technology template, ensure the integrity of product formulas and control integrated recipe definitions, processes and procedures.

4. Silo & Tank Configuration

Define tank and silo parks, including routing constraints and dynamic routing control and monitor and manage the capacity levels in real-time.



5. Real-time Feedback

Set automated triggers & alerts, manage pro-active demand of manual procedures according to batching progress status and manage automated and/or manual manipulations of batch process parameters according to real-time quality results.

6. Batching Operator Guidance

Momentum Operator- dedicated user interface for a step-by-step batching processes guidance & real-time progress follow-up in Momentum Supervisor.

One software, many solutions

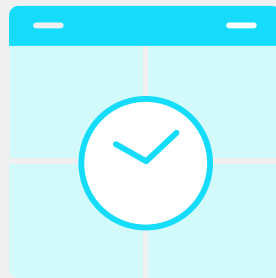
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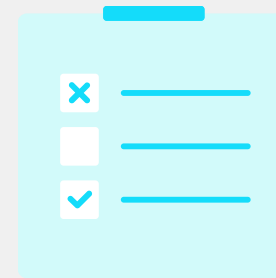
Manufacturing Execution System



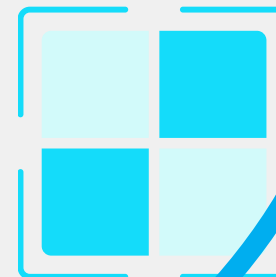
Advanced Production Scheduling



Batching Management System



Quality Management System



Warehouse Management System

QMS, Quality Management System

QMS Module in Momentum

With the Quality Control Module you can define the specifications or features of a product that will be tested for quality and the process and timing of quality tests.

It records the results of quality tests and passes the results from one operation to the next. The test results determine the further processing course of the lot, and indirectly, the final quality of the finished product.

**Quality Test
Execution**

**Track &
Trace**

**Statistic
Process Control**



**Digital
Signature**

**Audit
Trail**

**Quality
Reaction Plans**

1. Quality Test Execution

Manage, direct and monitor the execution of quality test planning, push (un)scheduled quality tests to the shop floor and adopt further processing course in real-time.

2. Track & Trace

Record materials consumption and trace the origin of materials and ensure lifecycle information for all production.



3. Statistical Process Control (SPC)

Determine process parameter targets for measurements, allow manipulations within preconfigured margins to meet expected results and generate detailed reporting for root cause analysis and Total Quality Management (TQM).

4. Digital Signature

Designate operations that require additional validation and push them to shop floor applications for swift certified validation acts.

Complementary with personnel competences (shop floor HR in APS) and rules and roles.

5. Audit Trail

Ensure full traceability of materials and manufacturing processes and generate detailed reports.

Compliant with regulatory requirements.



6. Quality (Reaction) Plans

Define test specification, configure the process and timing, record the results, pass the results from one operation to the next and trigger alerts or automated manipulations depending on the test results.

One software, many solutions

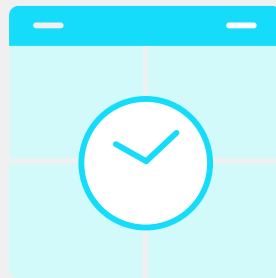
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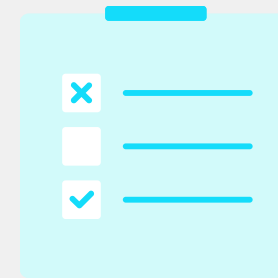
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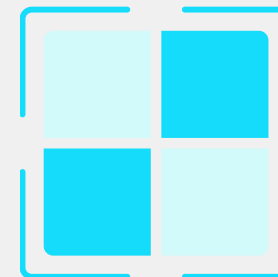
Advanced Production Scheduling



Quality Management System



Batching Management System



Warehouse Management System

WMS, Warehouse Management System

1. Inbound Logistics



Scan and test the quality of the received goods, interface with ERP, create reception tasks for unannounced or deviating receptions and provide validation and feedback to ERP of actual received goods.

2. Warehousing

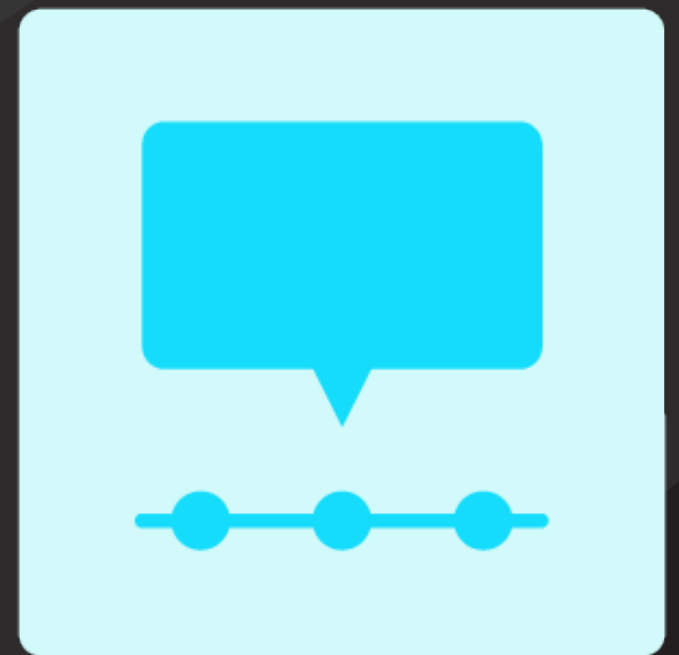
Allocate storage space, manage reservations of storage spaces, apply optimisation heuristics for optimal usage of available storage spaces and manage automated or ad hoc warehousing reshuffle.

3. Outbound Logistics

Prepare shipments via the ERP interface, manage optimal selection of goods, meet all necessary requirements and define and allocate shipments to designated shipment zones.

4. Warehouse Execution

Create warehouse tasks for warehouse operators or automated equipment, send instructions to Momentum Operator, set triggers for logistic movements and tasks and follow up on status of executions and work in progress.



5. Logistics Flow

Configure logistic flows and movement on the production floor, link logistic movements to the production process and productology, pull or push the production from the supply chain and ensure lifecycle information for all production lot.

6. Real-Time Inventory

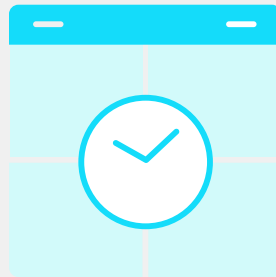
Record materials consumption and trace the origin, get detailed inventory overview dashboards and graphical interfaces with warehouse overview, configure grid views for deep understanding of product and material 'whereabouts', track stock levels of half-produced goods and work in progress and set pro-active triggers and alerts for possible inventory issues, in sync with the APS module.

1 base, 4 additional modules

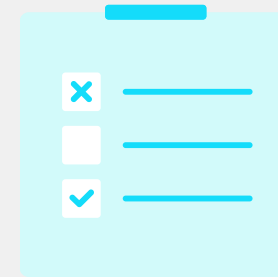
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Manufacturing Execution System



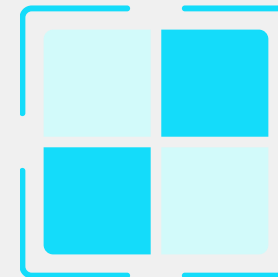
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More information?

Schedule a call with one of our
Momentum experts today