



EMC.FactoryLogistics

Complete traceability of products and containers

The **EMC.FactoryLogistics** module enables **reliable traceability in production** and replaces the countless printed and manually filled out goods and container labels. As a building block of the digital, paperless factory, the module offers more convenient and, above all, **more reliable options for labeling containers and traceability in production** - automated, as a **digital goods or container label**. In addition, the **seamless traceability of products, batches and processes** enables predictive quality inspection and quality assurance.

Status Quo

Where are the right parts?



EMC.FactoryLogistics

At the right time at the right place



With the **EMC.FactoryLogistics** module, you optimize and streamline **workflows and processes of material identification and transport organization**. Digital information transfer is very significant for process optimization.

With **EMC.FactoryLogistics** you **digitalize the goods accompanying card** and the quantity distribution to the containers. It creates a **transparent tracking of the containers and supports your in-house transport organization**.

With **seamlessly documented container management**, **EMC.FactoryLogistics** ensures transparency, fast turnaround times, and the provision of meaningful information on products and batches, **in real time**.

At any time, it can be quickly and easily determined on which machine where and when under which production conditions the product was manufactured and where it was ultimately delivered.



EMC.FactoryLogistics

Container label 4.0: The cornerstone of paperless production



Directly at the MES terminal on the shopfloor, the EMC.FactoryLogistics module allows the respective **container specifications** such as container and order number, quantity, operation, location, etc. can be entered and defined as well as automatically generated.



Another order Partial quantity log off

Order quantity log off

Options	Production lots	Planned orders	Order counter	Material label
Production lot	202006230007			
Current quantity		Container quantity	0	
Reject		Over-production	No	
	202006230007	23.06. 17:53	0	0
	202006230006	23.06. 17:53	0	0
	202006230005	23.06. 17:51	10	0

New production lot

Change reject quantity

Print 202006230007 copies

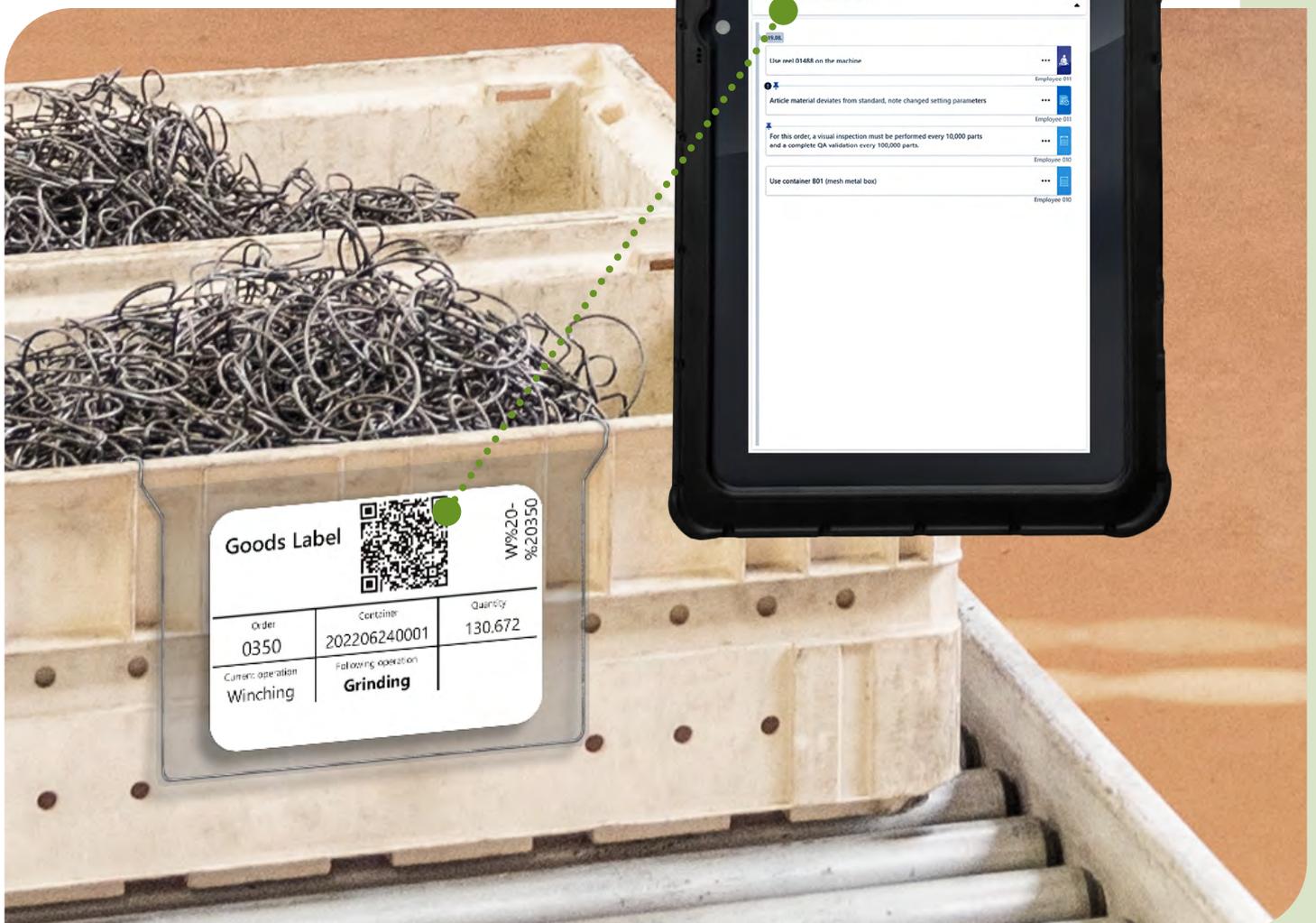


Paperless and digitally identifiable

In the digital factory, in combination with the **EMC.KnowledgeBase module**, additional **stored information can travel with each container** in addition to the unique label.

The goods label created and printed at the MES terminal can be **individually configured** in terms of content and thus, **in addition to the order and container number**, also contain the number of pieces, the current as well as the next work sequence and further information relevant for your production, such as the location.

By scanning the QR code, you receive the same data, information and documents as at the terminal at any time. This guarantees **maximum transparency, efficiency and traceability**.

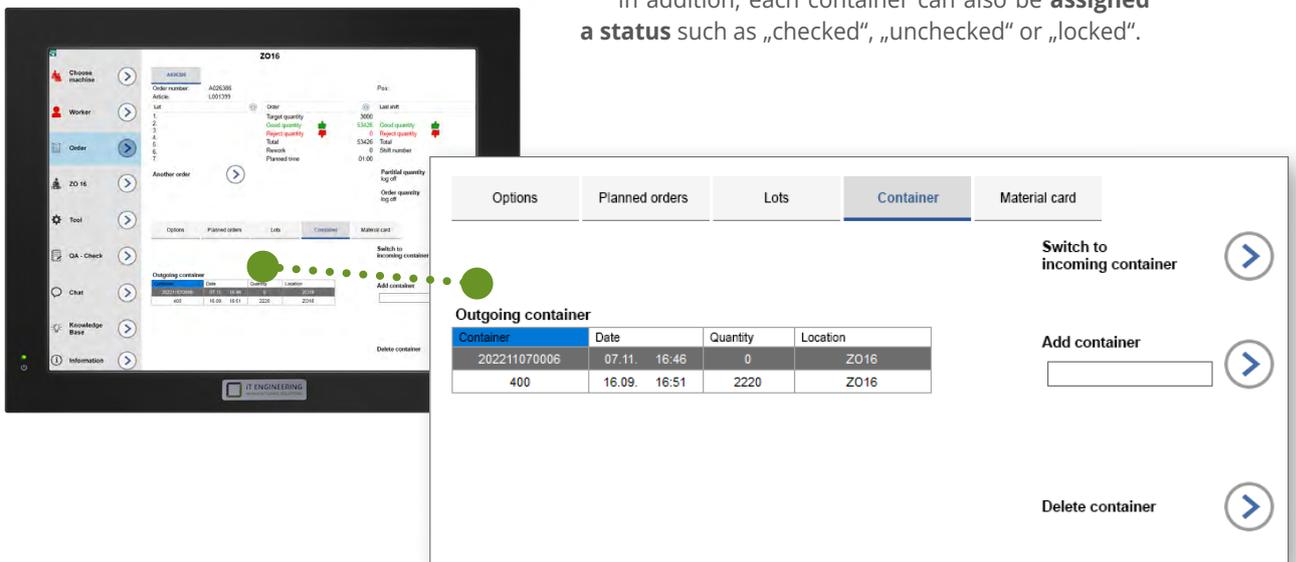


The container number is the basis for localization

In **EMC.FactoryLogistics**, each container is assigned a **unique container number**, either specified by the ERP or generated directly at the MES terminal on an order-related basis. After completion of the order, the container is emptied and assigned a different identification for the next order.

This makes it **easy to locate each container** (at the machine, in the intermediate storage, ...). Typically, **container identification is done via barcodes, QR codes or RFID**.

In addition, each container can also be **assigned a status** such as „checked“, „unchecked“ or „locked“.



The screenshot shows the MES terminal interface with a sidebar on the left containing navigation options like 'Choose machines', 'Worker', 'Order', 'ZO 16', 'Tool', 'QA - Check', 'Chart', 'Knowledge Base', and 'Information'. The main area displays '2016' and various order-related data. A 'Container' tab is selected, showing a table of outgoing containers and control buttons.

Container	Date	Quantity	Location
202211070006	07.11. 16:46	0	ZO16
400	16.09. 16:51	2220	ZO16

Control buttons on the right include: 'Switch to incoming container', 'Add container' (with an input field), and 'Delete container'.

Quantity distribution

EMC.FactoryLogistics covers both **digital and manual quantity distribution**.

In **digital distribution**, the load carriers are registered with their unique ID **via WLAN scanner or at the MES terminal**. From the moment of registration, **all quantities automatically recorded by the MES terminal are assigned to the container**.

In the case of **automated container changeover**, e.g. container carousel, a **signal is recorded during the container changeover** and a label is then **automatically generated for each partial container**.

In the case of **manual distribution**, the container quantity is **entered by the employee by hand** (as a quantity per container or quantity for a number of containers).

Container organization

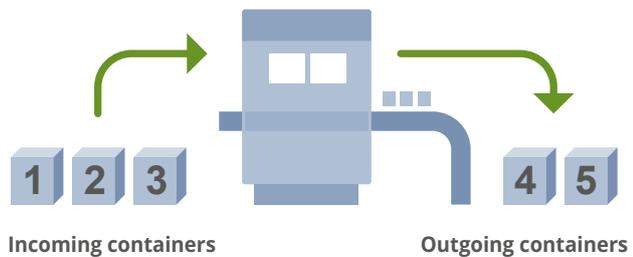
The **EMC.FactoryLogistics** module distinguishes between incoming and outgoing containers:

Outgoing containers:

Semi-finished parts leaving the machine

Incoming containers:

Half-parts that are further processed



Advantages: Different containers can be used in the course of production (keyword: decanting). When registering the container, it is checked whether it has been tested.

Transport organization

To ensure **holistic traceability of the containers and parts, different transport routes, with and without intermediate storage and any number of work steps, can be reliably recorded.**

For each work step, the containers are clearly marked and registered as incoming or outgoing containers - including the individual work steps and transport routes. This guarantees transparent and effective transport organization.

If, for example, the **container is transported to an intermediate storage facility or parked in production before the next work step, the RFID antenna localizes the location as well as the order of the container.**

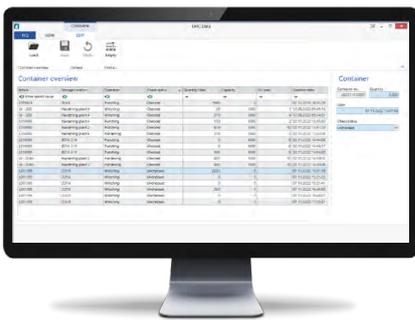


Reliable tracking of the containers

Tracking describes the possibility of **locating the containers**:

- Visualization of the **container locations**
- Management of the **containers to the operation** of an order

Production monitor informs about order status and storage location



The **information about the order status and storage location of the container** is stored and visualized via a production monitor for the respective planned order. In this way, the responsible employee in production immediately recognizes **the stage of the order as well as the location of the container**.

By making this information available, the **search for the right container comes to an end** and throughput times can be reduced enormously.

Management of containers for the operation of an order

For each work step of a production order, the input and output containers are stored and managed.



Work operation list

Zustand	Name	Call-off index
●	Provision ...	10
●	Casting	30

Operation data

Components

Number	Name	Pos.
32600-010-00-0	32600-010-00...	1

Container	Quantity	Date
100228.30.1	516	20.05.
100228.30.2	90	20.05.
100228.30.3	112	20.05.
100228.30.4	4358	20.05.
100228.30.5	3136	20.05.

Incoming containers

Container	Quantity	Date
100228.20.1	44	20.05.
100228.20.2	82	20.05.

Container

Container no.	Quantity
<input type="text"/>	<input type="text" value="44"/>

Date

<input type="text" value="20.05."/>	<input type="text" value="09:57:45"/>
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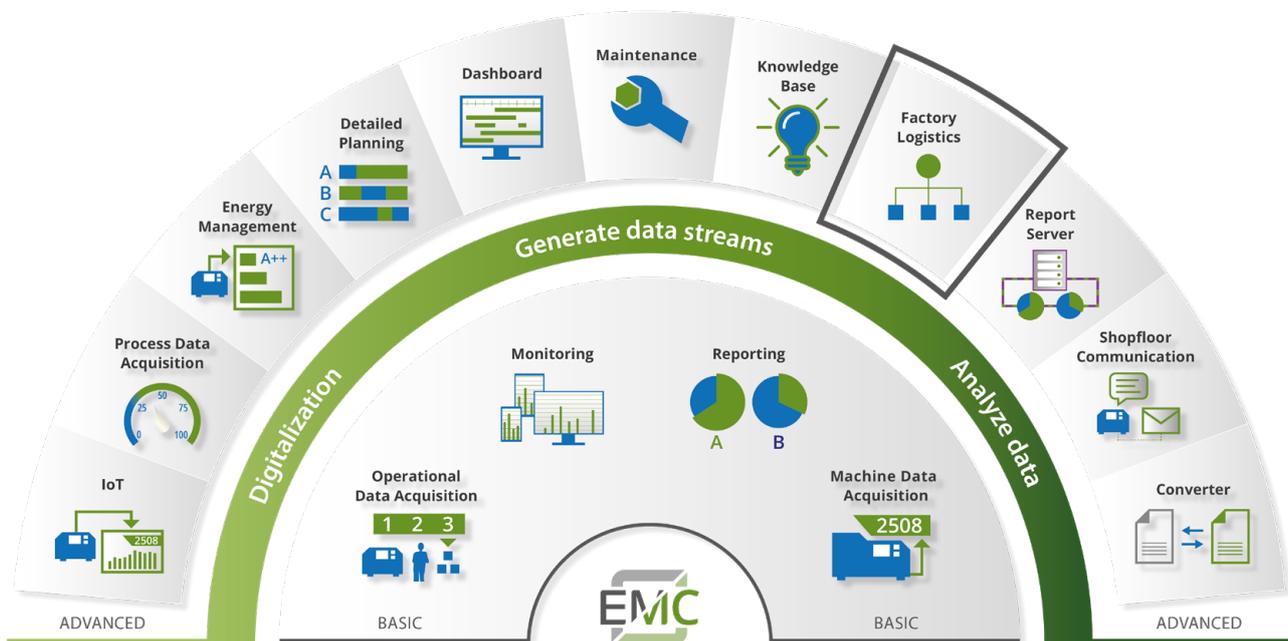
Check status

MES-Software EMC

The solution for your smart networked manufacturing

Our user-friendly MES Software EMC controls all digital processes on the shopfloor **from planning, implementation, maintenance to traceability, shipping, production orders and a sustainable evaluation.**

It adapts completely to your needs, integrates into your existing IT landscape and brings together the data streams from ERP and the shopfloor.



The modular architecture of the MES Software EMC offers you the important **freedom and flexibility** in the implementation of your future-oriented production. Together with the **central MES database**, it is the basis for a **customer-oriented implementation - step-by-step or holistically - individual modules or as a complete system.**

No matter which solution you choose, with EMC you are always one step ahead and have the **best possible transparency** in production. All with the aim of **increasing your efficiency.**



iT Engineering Manufacturing Solutions GmbH is your provider of a well-developed Manufacturing Execution System in production management.

As an IT and MES expert in the metal forming industry and thanks to our large network of partners and memberships in associations (including VDFI and netzwerkdraht e.V.), as well as the best contacts with machine manufacturers, we know exactly how to obtain the important data and how to use it to digitalize processes and thus increase efficiency and productivity in manufacturing.

Our MES Software EMC acts as a central information hub and, by integrating the production data, ensures integration of production data for transparent production processes, flexibility and cost efficiency.

With a high level of technical and industry competence as well as many years of experience and expertise, we accompany you personally and step by step in transforming your production into a digital factory.

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