



EMC.ioT

Smart hardware for the shopfloor

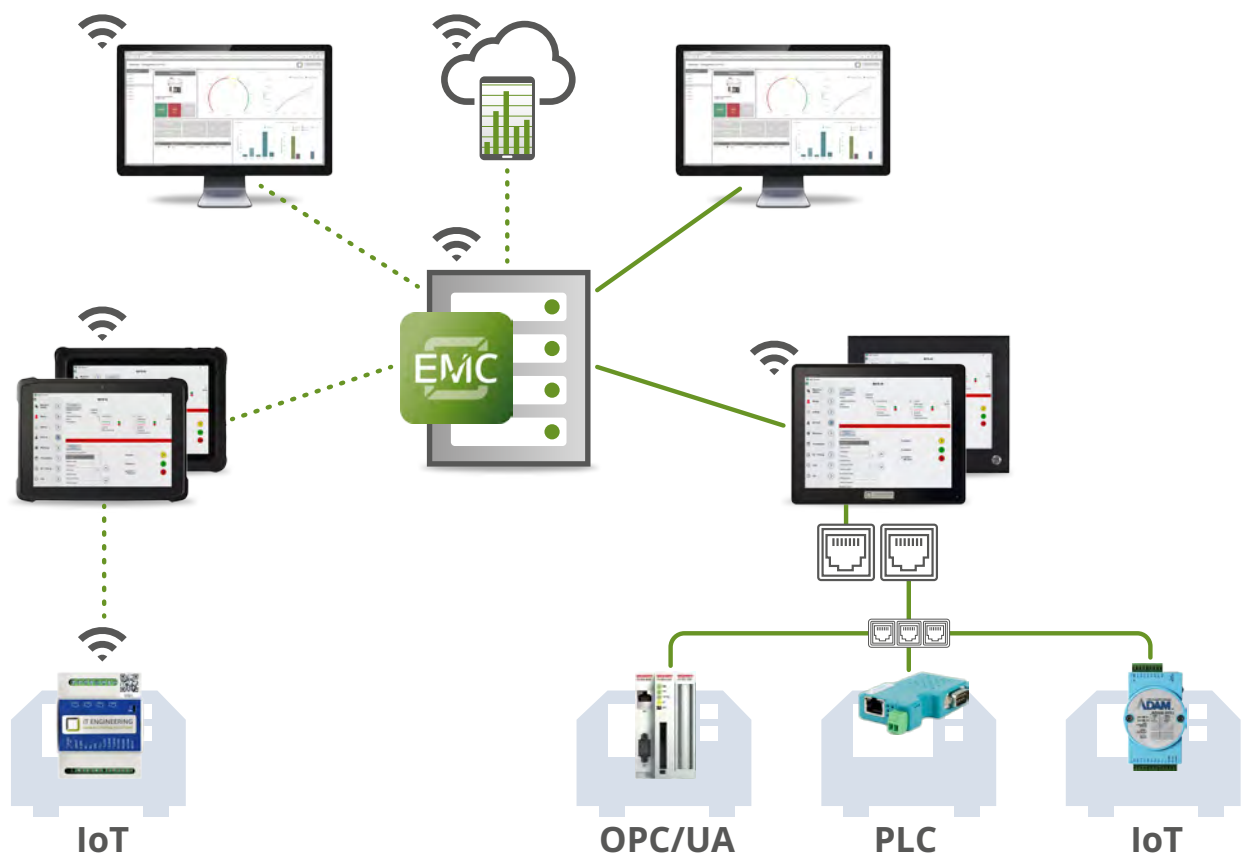
Implement digital connectivity easily with the EMC.ioT module. With our innovative, coordinated **portfolio of IoT hardware** such as IoT gateways, touch terminals or mobile devices, we enable **reliable connectivity and acquisition** through the easy exchange of data between people, software systems, machines, plants and sensors. **Future-oriented and digital services** help you integrate, process and prepare data for an **effective digital infrastructure**.

EMC.IoT

Reliable networking and standardized acquisition



The digitalization of processes on the shopfloor requires **simple data exchange between people, software systems, machines and plants**. The **perfect interaction**, whether classically via cable or via WLAN, enables **all data and processes to be reliably recorded and visualized** - directly at the machine, at production management or planning - **not only on the latest machines, but on all machines in your production**.



For networking new plants, we rely on **innovative standards such as OPC/UA**. For existing machines, for example, **PLC controllers** or **easily programmable IoT gateways** to the machine controller, to the control cabinet or to the sensor are the solution.

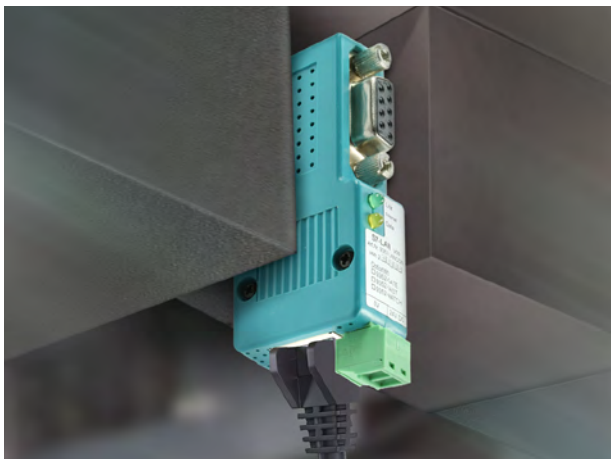
OPC/UA



The **most modern type of networking** takes place via the OPC/UA interface. It ensures a **secure exchange of standardized information** from the sensor in the machine controller to the server or the cloud.

OPC/UA offers the advantage that it **can be used independently of the machine** and thus ensures a **seamless flow of information between devices from different manufacturers** (e.g. Wafios, Bruderer, Nidec, Simplex, OMD, ...). This contributes to a considerable simplification in the area of maintenance and administration.

Thanks to **continuous further development and refinement**, an **overarching standard** can be achieved via OPC/UA **on already established legacy systems**. This is achieved through **open interface standards** (Companion Specifications) between machines, devices and software based on OPC/UA and is an **important milestone on the way to the digital factory of the future**.



PLC controllers

With **PLC controllers** or **LAN adapters** such as SIMATEC S7, for example, machines can be **networked quickly and easily** without an Ethernet CP and without changing the hardware and software configuration. Unpack. Plug on. Connect.

Plugged onto the PPI, MPI bus or PROFIBUS, it becomes an **Ethernet port for the Industrial IoT**. At the same time, the bus becomes a **"multi-port"** for all supported protocols via the integrated multiplexer.

IoT modules

For older existing machines, **easily configurable IoT gateways** to the machine controller, control cabinet or sensor are the solution..

The machine signals such as cycle, quantity signals or standstill cause are read as **24 volt signals directly from the control cabinet or from a sensor**. These are **interpreted intelligently and output as states**.

Messages such as order number, batch and employee messages and reason for standstill are output to the **MES terminal**.





Powerful MES terminals for input and display

Use of MES terminals with touch function or mobile devices to enter, for example, the order number, the display of drawings and co. as well as information about the **current performance data of the machine**.

For this purpose, we provide Windows-based individual or group terminals that are **directly connected to the server of the MES Software EMC via the company network**. Several automats/machines can be recorded via one MES terminal.

The MES terminals **directly at the machines or the mobile devices** (with or without wall mount) **facilitate the working method for the worker**. They provide information about current orders, the current machine performance and are easy to operate **thanks to a self-explanatory user interface with touch screen function**.



Overview and features



MES-Terminal „Classic“: The allrounder

- 15" touch monitor, resolution 1024x768
- Touch screen: resistive
- Processor: Intel Celeron N3350 DualCore
- RAM: 4 GB
- Drive SSD 128 GB
- 2 x LAN, WiFi
- Case: Aluminium
- WIN 10 Enterprise 2019 LTSC installed and tested



MES-Terminal „Classic Plus“: with capacitive 10 finger touch

- 15" touch monitor, resolution 1024x768
- Touch screen: capacitive
- Prozessor: Intel Celeron N3350 DualCore
- RAM: 4 GB
- Drive SSD 128 GB
- 2 x LAN, WiFi
- Case: Aluminium
- WIN 10 Enterprise 2019 LTSC installed and tested



MES-Terminal „Protected“: For rugged use in dusty environments

- 12" touch monitor, Intel HD-Graphic 500
- Touch screen: resistive
- Prozessor: Intel Apollo Lake J3455 CPU (4x1,83GHz | 2,30GHz Burst)
- RAM: 4 GB (max. 8 GB possible)
- Drive SSD 120 GB
- 2 x LAN
- Case: Aluminium, IP 65
- WIN 10, all drivers installed and tested



MES-Tablet „Classic“: Perfect price performance ratio

- 10,1" industr. tablet
- Intel® Atom Z8350
- 4GB RAM memory, 64GB eMMC storage
- Windows 10 IoT Enterprise 2019 LTSC Entry
- Full IP65 water and dust protection
- Display: 1280x800, 450 cd/m²



MES-Tablet „Classic Plus“: Powerful & glove operable

- 10,1" industr. tablet
- Intel® Atom x7-A3950
- 4GB RAM memory, 64GB eMMC storage
- Windows 10 IoT Enterprise 2019 LTSC Entry
- Full IP65 water and dust protection
- Display: 2560x1600, 800 cd/m² / 600 cd/m²

More hardware solutions for the digital factory

Depending on the degree of networking, **other smart hardware solutions** come into focus in the digital factory, for example in **container management** or in the **unique identification of containers** in production.

Reliable traceability

Using mobile readers, **complete traceability of products, components and batches can be ensured in real time.** The order data, including the container number, is written to an RFID directly at the MES terminal.

Scanned with the mobile reader, the **current location and status is immediately displayed, location and status is immediately displayed.**



Unique identification



Mobile label printers not only allow containers and batches to be **clearly identified**, but also offer the additional option of **having important information travel with each container.**

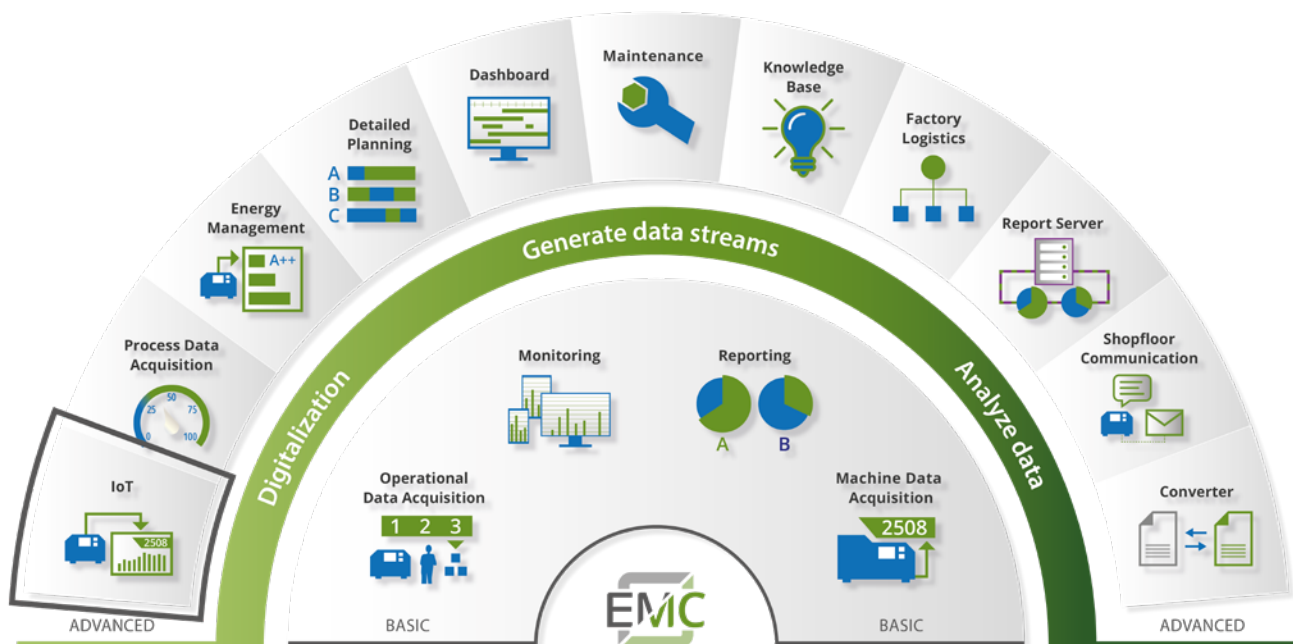
The label, which is printed directly from the system, can be individually configured to include not only the order and container numbers, but also the number of pieces, the current and next work sequence, and other information relevant to production, such as the location. And all of this is **paperless and without the use of a goods receipt/issue slip.**

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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