MES Software EMC

The carbon footprint
– simple and comprehensible

- ☑ Easy **support in determining the Product Carbon Footprint (PCF)** of your machines

- ☑ **Reliable recording and documentation** of the energy performance per product and operation

- ☑ **Quick and easy evaluation of the energy consumption** via meaningful reports and analyses

- ☑ **Optimal condition for the ISO 14067** quantification

How much energy and power is consumed per part & operation?

Easy determination of the product-specific carbon footprint with EMC

The topics of **climate neutrality and CO₂ management** are already very present in many medium-sized companies. **The pressure,** not only from the climate goals of politics, but also from banks, auditors and other players, for example, is steadily increasing and is already clearly noticeable in many places. **By 2024 at the latest, the carbon footprint report will be mandatory for a large part of the economy.**

So it makes perfect sense to **lay the foundation today for easily and reliably determining** your product-specific carbon footprint and thus **effectively monitoring and optimizing energy consumption in production.**

As a manufacturer and developer of an innovative MES solution, **we support you in determining the Product Carbon Footprint (PCF).** With our MES Software EMC, we lay the foundation for **reliably recording energy data, evaluating it, and thus enabling decisions to be made to reduce energy requirements.**

By **recording the energy performance per product and operation** in real time, the responsible employees in production can **make the right decisions promptly** and counteract energy wastage. This not only protects the environment, but also enables you to **produce more cost-effectively in the long term.**

Reliable support in recording the PCF of your machines

The innovative MES Software EMC offers you **optimal support in recording the product-specific carbon footprint** of your machines. It does not matter how new or old your machines are.

Thanks to the existing MES, the **basic infrastructure is already in place.** This makes it possible to determine how long each operation has been on the machine and how many parts have been produced or machined during this time based on the order logon and logoff. We assign the kWh consumed to this data.
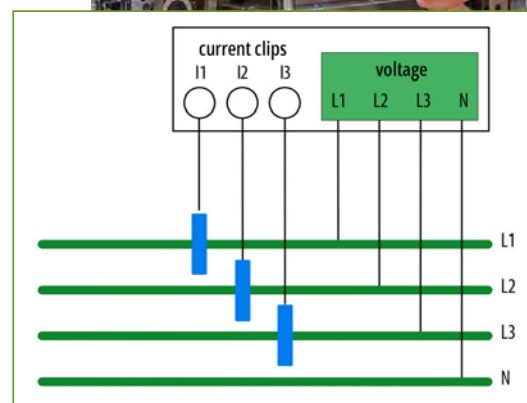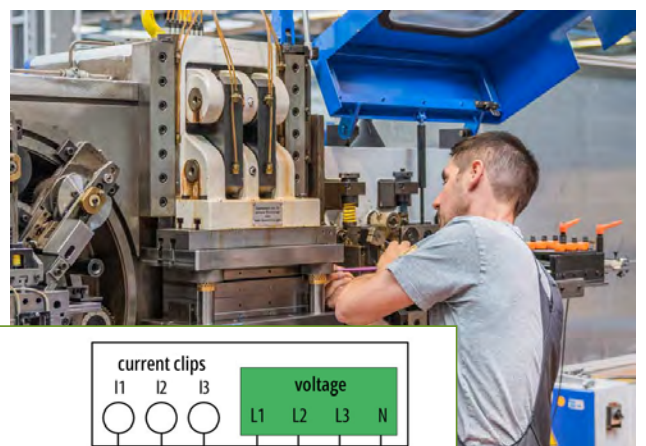

Machines with OPC/UA

For **machines with OPC/UA interface,** the acquisition of energy consumption is possible **without additional acquisition hardware.** The power consumption is read **directly from the control system.**

Machines without OPC/UA

For existing machines without OPC/UA interface, the **EMC.IIoT Smart Meter hardware** is used, which reliably **measures the energy consumption and reports it back** to the MES Software EMC.

The measurement of the **three-phase current** and the 3 phases L1, L2, L3 takes place **contact-free via current clips,** which can measure all important data such as currents and voltages via several inputs.

Acquisition, documentation and evaluation

The **processing and documentation of current and voltage** with our MES Software EMC enables a **holistic use of the recorded energy values,** from the recording directly at the inventory machines, to the evaluation of the consumption and the visualization online.

Recording of the energy consumption of all machines via OPC/UA or IoT extension

Easy **reporting of energy consumption** per product / operation / total of the entire plant / ...

Online visualization of energy consumption for a sustainable energy management

Effective interaction for reliable determination of energy consumption

For this purpose, our **MES Software EMC offers three smart modules.** The **perfectly coordinated interaction** of the EMC.ProcessDataAcquisition, EMC.Reporting and EMC.EnergyManagement modules guarantees you a **comprehensive overview of your Product Carbon Footprint (PCF)** at all times.
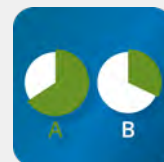
Prozess Data Acquisition

Continuous acquisition of process data such as temperatures, currents, pressures, etc. for optimal quality assessment.

Energy Management

Optimal support for the continuous collection, visualization and evaluation of energy data.

Reporting

Meaningful reporting and analysis with real-time key figures to determine appropriate optimization measures.

Optimal condition for the ISO 14067 quantification

The **DIN EN ISO 14067** standard defines the **requirements and guidelines for quantifying the carbon footprint of products.** The aim is to quantify the quantities of GHG emitted in connection with the life cycle stages of a product, starting with resource extraction and raw material procurement, through the phases of production and use, to the end of the product's life.

In addition to the process description, **data collection and use play a decisive role in this regard.** This is completely **fulfilled by energy management with our MES Software EMC.**
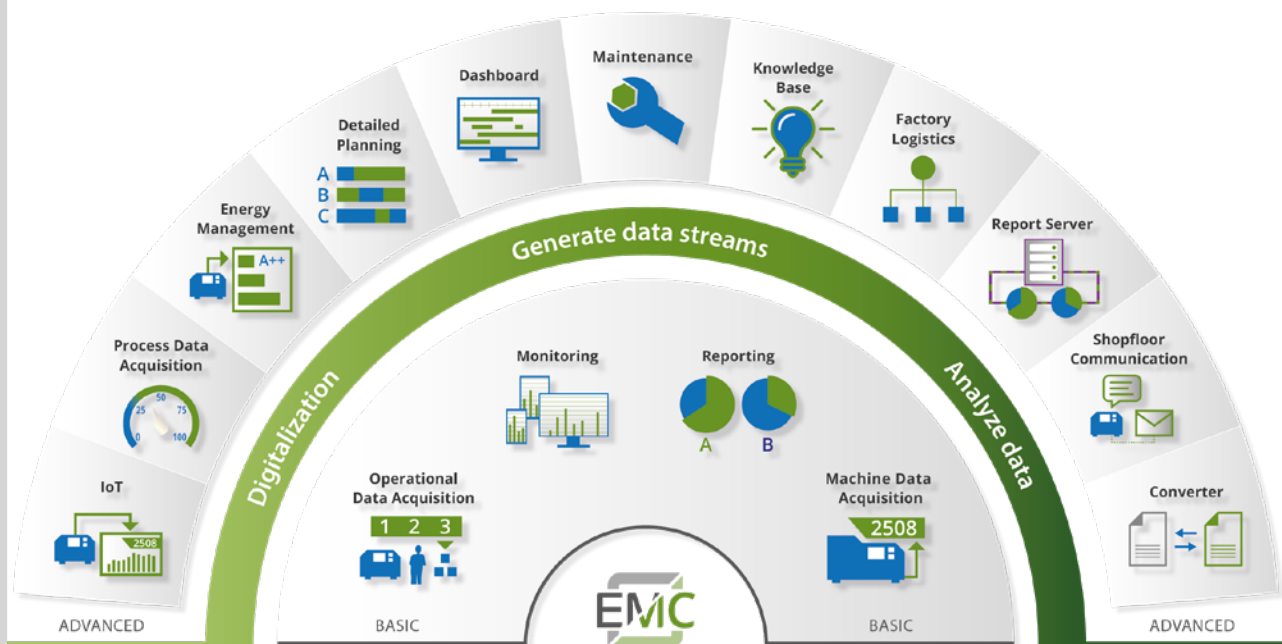
In addition to data acquisition including meaningful data sources (quantity and quality), the required time-related, geographical, technological coverage, accuracy and completeness of the data as well as representativeness, consistency and comparative precision are also covered.

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.**

MES-SOFTWARE EMC

EMC

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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