



**iT ENGINEERING**  
**MANUFACTURING SOLUTIONS**

**WE**  
ENABLE  
SMART  
MANUFACTURING

# WE ARE MORE THAN PURE IT

As IT experts in the field of digitalization, we have been achieving measurable results and innovative processes for our customers in Germany, Europe and worldwide for 30 years from the data obtained on the shopfloor.

Our daily work is clearly programmed for the digitalization and efficiency of industrial production in the sense of Industry 4.0.

Because one thing is certain:

**A successful and sustainable future can only be achieved through digital transformation.**





Our commitment and services go beyond the successful installation, commissioning and go-live.

We provide you with ongoing support through training and coaching and provide answers and support for questions and problems.

Our aim is to provide you with optimum support tailored to your needs and thus relieve the pressure on your own resources.

# YOUR PARTNER FOR DIGITAL MANUFACTURING



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# OUR CORE COMPETENCE

Our focus as IT and MES experts is specifically on the field of discrete manufacturing in metal forming.

Thanks to our large network of partners and memberships in associations (including VDFI and netzwerkdraht e.V.) as well as excellent contacts with machine manufacturers, we know exactly what makes companies tick and how to access important data.

We derive digital processes from this and thus make it possible to increase efficiency, productivity and sustainability in production.



# OVER 3.500 MACHINES SUCCESSFULLY CONNECTED

Over 100 installations in Europe (worldwide installations for customer sites).



**LESJÖFORS**  
Springs & Pressings

**BAUMANN**

**KÄMPER**  
DRAHTUMFORMTECHNIK

**VOGT**

**VELLEUER**  
FEDERNFABRIK - STANZWERK

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**Kölle** GmbH  
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*Faustenhammer*  
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SPEZIALFEDERN

**VITZFEDERN**  
Stanz- und Biegetechnik

**ZILLER**  
PRÄZISIONSFEDERN



## We consult you

... according to your individual requirements using our modular MES Software EMC and the ideal hardware components (IoT hardware, MES terminal, MES tablets and OPC/UA server). We will show you how to easily record machine data for different machine types.



## The go-live

We check the entire system directly on your premises, from signal acquisition to data exchange with the ERP system. We also train your employees to ensure smooth handling and effective use.



## The kick-off

For a smooth, fast system introduction, we work with your employees to determine all the "data" for implementation, advise on how to integrate the IoT hardware into the machines and discuss bidirectional data exchange with the ERP system.



## The roll-out

Once the basis of the digital factory has been successfully implemented, it is rolled out to other machines and modules of the MES Software EMC. Of course, this is also possible at any time afterwards. Our modular EMC software can be expanded as required and adapted to your needs.



## Implementation

You receive the pre-configured IoT hardware and the MES terminals. Your IT staff integrate the hardware into the company network and the company electrician integrates the IoT hardware into the machines. We install and configure the MES Software EMC modules remotely.



## Support

Whether fine-tuning or company-specific adjustments to process flows - we will of course continue to support you during operation and are always at your side to help with questions and problems.

# OUR MISSION

„Our goal is to create the basis for your **digital factory** with our **MES Software EMC** and thus to **produce more efficiently.**“

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MANUFACTURING**

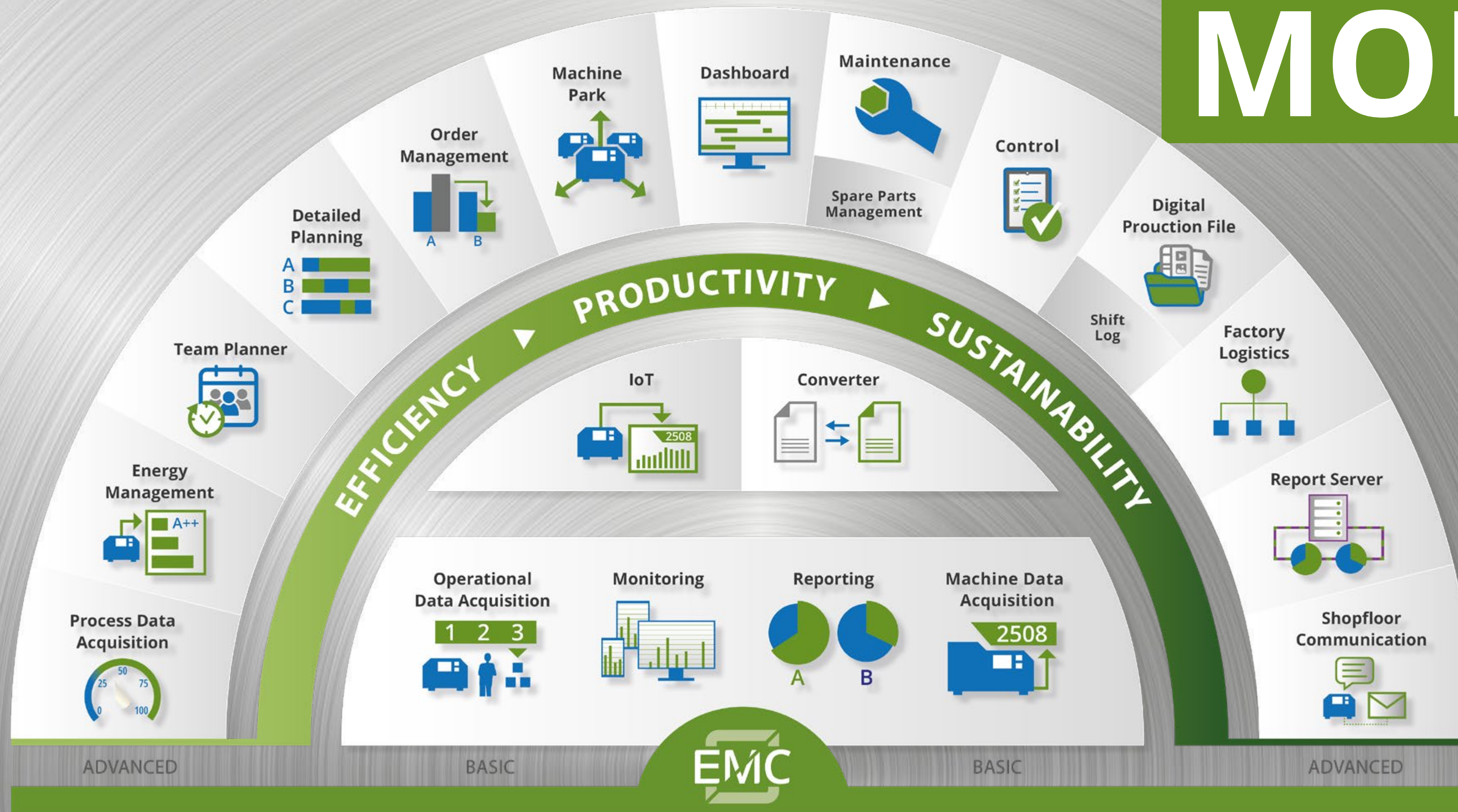
# SUCCESSFULLY IMPLEMENTING DIGITAL MANUFACTURING

With our smart MES Software EMC, we support you in the digitalization of production and its processes on your shopfloor. It is your guarantee for greater efficiency and productivity. You monitor, control and optimize your systems and processes in real time.



# EASY. INTUITIVE.

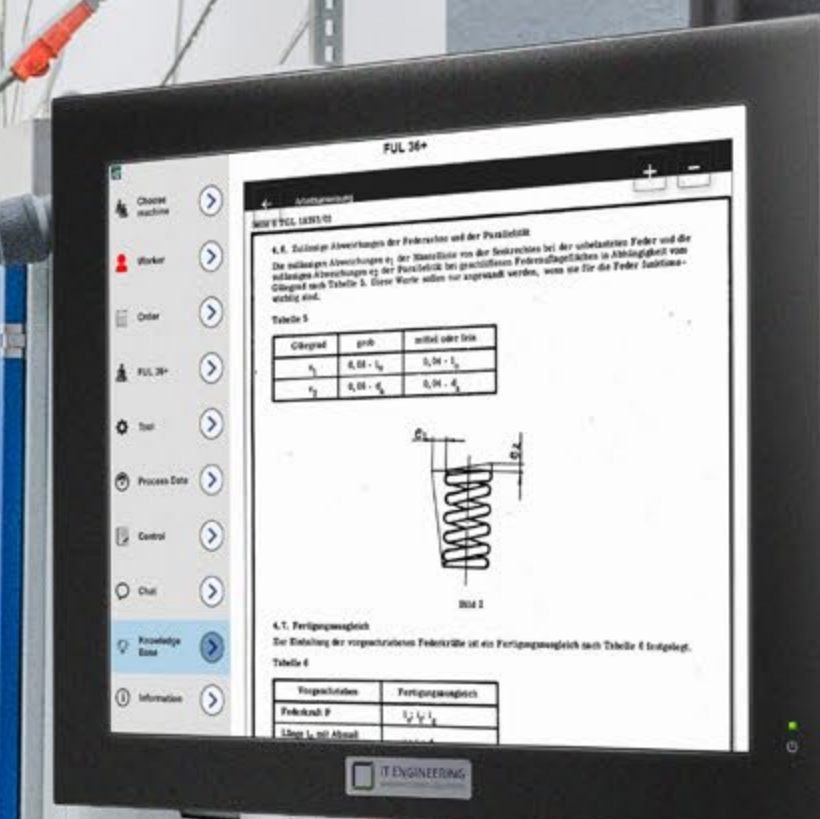
# MODULAR.



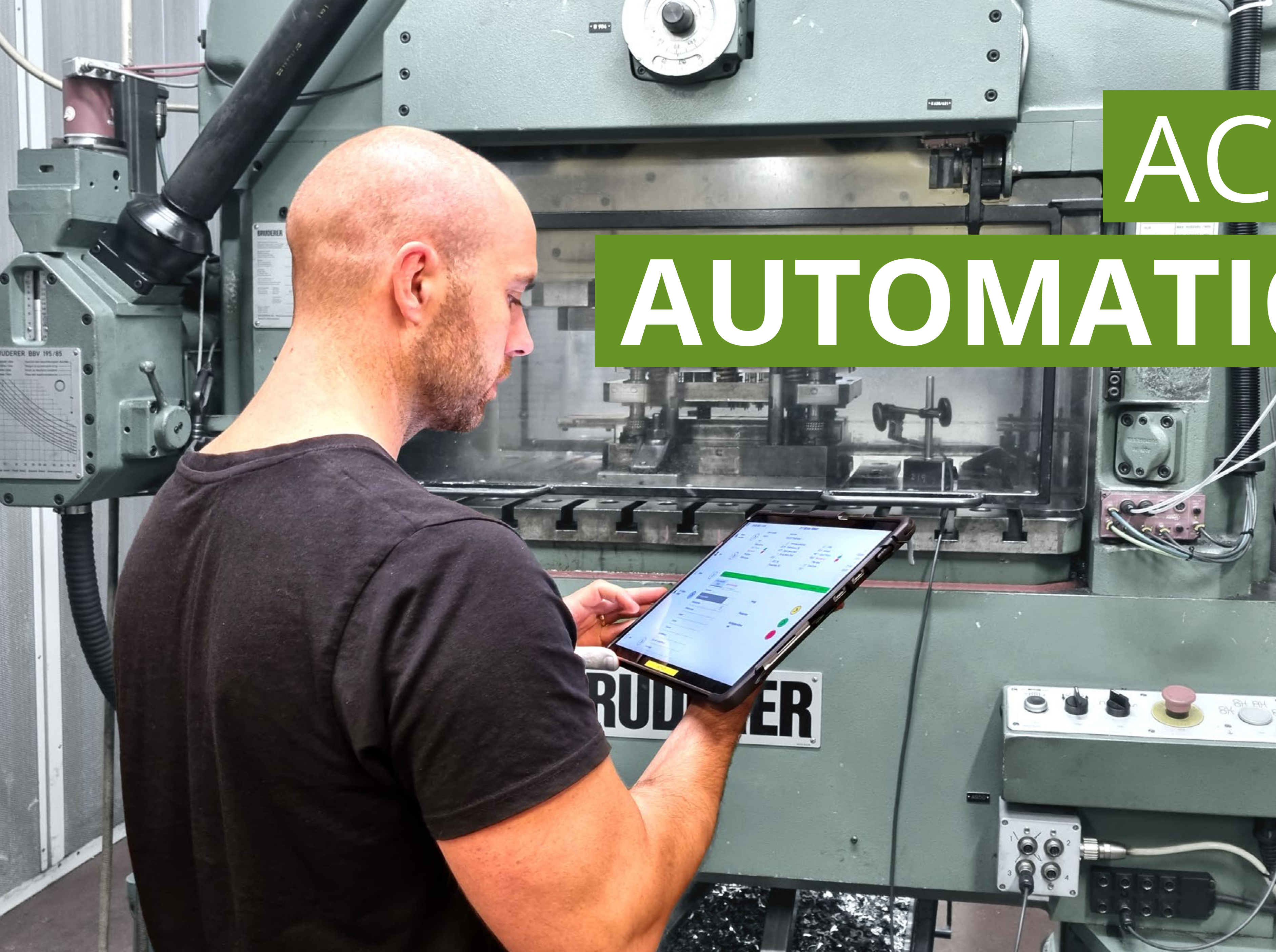
The modular architecture of the MES Software EMC offers you the important freedom and flexibility when implementing your future-oriented digital factory - step by step or holistically - individual modules or as a complete system.

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





# THE DIGITAL FACTORY



# ACQUIRE AUTOMATICALLY

Data from all machines is recorded reliably and automatically in real time. In addition to the status of the machines, error information, necessary operator interventions and the status of maintenance are also recorded. Malfunctions as well as production and downtimes can be detected immediately.

Record the status of production orders, automatically in combination with machine data acquisition or by having your employees enter data directly at the terminal on the shopfloor. At the same time, you can monitor your orders and the individual work processes.

All relevant order, article and personal data is recorded seamlessly in real time and reported back to the ERP system.





Digital shopfloor monitoring always keeps you informed about the current status of production. Whether on the production monitor, PC or mobile device. The recorded and bundled production data is visualized in real time for specific target groups.

Dashboards on large-screen monitors directly on the shopfloor display exactly the information that is relevant for the respective work area.

This allows machine downtimes, reduced speed, quality losses and system malfunctions to be identified at a glance, enabling timely intervention in the event of problems.



# REACT IMMEDIATELY



# RECOGNIZE POTENTIAL FASTER



The collected production data and key process figures are made clearly available for the operational short-term area for the immediate safeguarding of production.

This also includes analyses for the strategic long-term area to evaluate the effectiveness of decisions made. Risks and potentials are quickly identified with important analyses such as OEE of systems, setup levels, system downtimes, planned/actual time analysis of articles or productivity indicators.





iled planning

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GS2 400

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600

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62 - 2

- 2

50 - 1



Create realistic production planning for machine allocation. The roughly planned orders are received by the ERP and supplemented and adjusted in short-term planning with the data collected in real time on the shopfloor (machine occupancy, tool allocation, employees or downtime reasons). The work processes for the orders are then planned for the individual resources (machines, workstations).

The navigation function automatically adapts your planning to the current order progress of the machine and visualizes the planned order sequence digitally on the machines.

# PLAN MORE EFFICIENTLY WITH NAVIGATION

# MANAGE CLEARLY

With EMC.OrderManagement, you can easily manage all orders in real time, monitor them cleanly and, if necessary, simply reschedule them to avoid overcapacity.

EMC.OrderManagement offers you the important flexibility during ongoing production to react quickly to disruptions, for example, and then simply make changes. In contrast to separately managed lists, digital networking gives you the security and advantage that the worker is always reliably shown the correct order sequence on the terminal.

The result is better utilization of machines and departments and less idle time.





With the EMC.TeamPlanner module, you have your employee capacities under control.

Create your employee scheduling for the coming weeks easily and completely digitally. You can distribute your employees to the respective machines in the department according to their predefined skills.

The innovative module also shows you directly on which machines and in which departments an employee can be deployed.

Based on the calendar display in your staff deployment plan, you can immediately see where additional capacity needs to be scheduled.

# PLAN EMPLOYEES INNOVATIVELY

# WORK

# PAPERLESS

The simple and digital provision of relevant information and documents for each order has a decisive impact on the efficiency of production.

All documents and information relating to the production of the order are made available for this purpose. Digitally and at the touch of a button, directly on the MES terminal in production or on a mobile tablet.

The employee adds their experience and information directly on site. This means that the collected knowledge is available anytime and anywhere. In addition, this not only saves every employee a lot of time that would otherwise be spent searching for, finding or printing out the necessary files, drawings or instructions. It also enables virtually paperless production.





# SAVE VALUABLE ENERGY

Quickly identify energy-intensive processes on the shopfloor. Solutions for optimization are easy to derive, enabling you to increase energy efficiency in production.

In addition to the energy consumption of machines or peripherals, the energy consumption of the production quantities down to the individual item produced is also recorded.

The product-specific CO2 footprint (product carbon footprint), for example, can be reliably determined from this by reliably recording and documenting the energy output per product and work step.



Schedule maintenance, repairs and servicing, including all components and spare parts used, both manually and according to individually predefined maintenance cycles.

The complete, digital documentation of maintenance and repairs enables high technical availability and reliable maintenance of machines and systems as well as tools and peripherals.

# SIMPLIFY

# MAINTENANCE



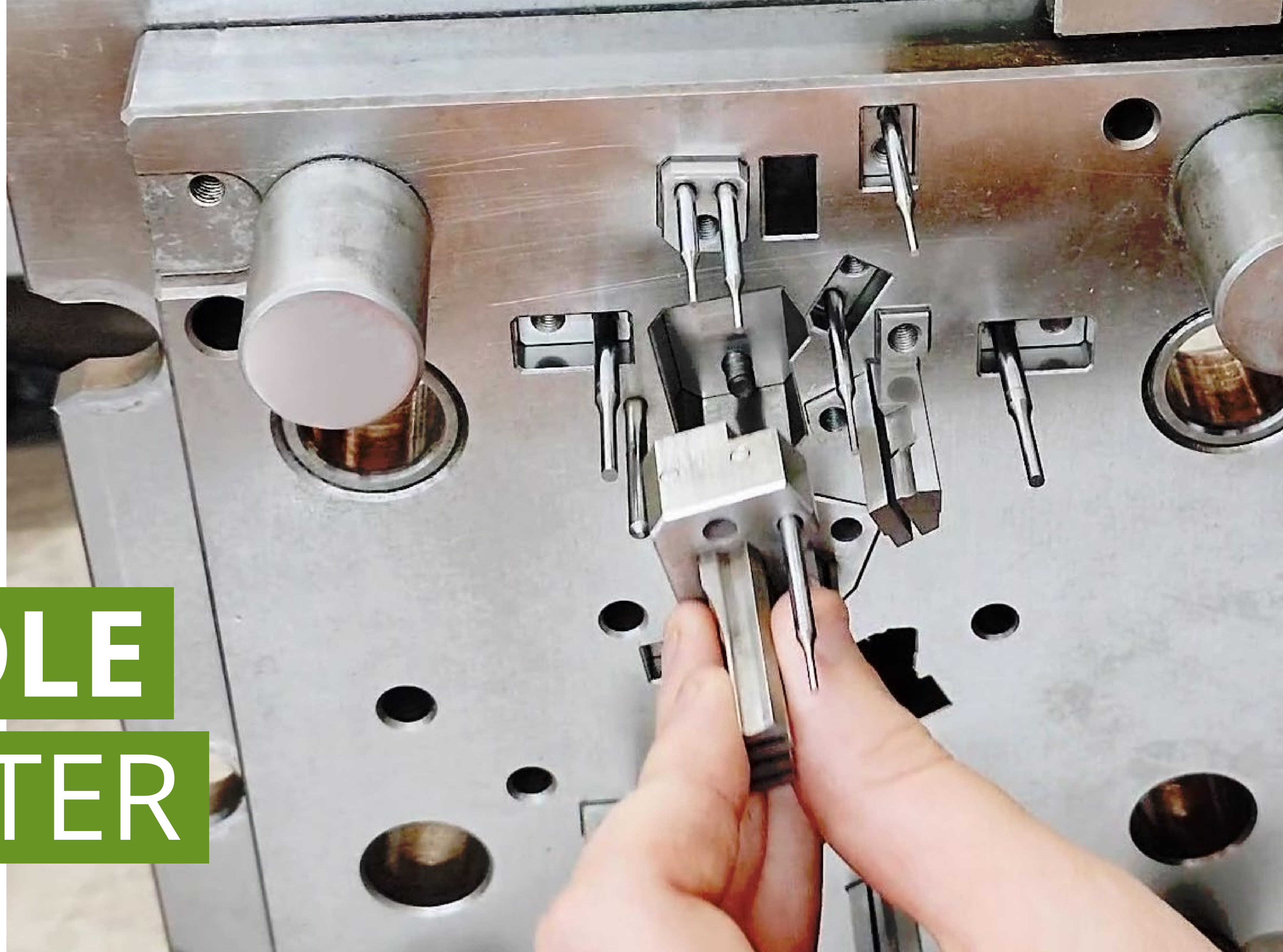


You now have a complete overview of all spare parts used at all times. Regardless of whether purchased or in-house spare parts manufactured in the tool shop - all parts are clearly stored in the digital spare parts management system.

This enables more efficient, cost-saving and error-free management of all spare parts.

The perfect complement to maintenance: in conjunction with the EMC.Maintenance module, you can easily select and add the spare parts you need for maintenance and servicing.

# HANDLE SMARTER





Many workflows and processes are interconnected in the digital factory. This interaction makes it possible to simplify and optimize processes sustainably in many areas.

For example, if the machine stops due to tool damage, the fault is displayed directly on the dashboard in the tool shop. This allows maintenance to react immediately and rectify the damage.

# Dashboard toolmaking

Machine 7

Tool 1



Next orders

| Article | Start  | Tool                 |
|---------|--------|----------------------|
| 0035    | 20.04. | Tool 3<br>In storage |
| 0350    | 21.04. | Tool 1<br>In storage |
| 0065    | 22.04. | Tool 6<br>Repair     |

Status: Repair is active

Machine 9

Tool 3



Next orders

| Article | Start  | Tool                  |
|---------|--------|-----------------------|
| 0230    | 20.04. | Tool 4<br>Repair      |
| 0420    | 21.04. | Tool 3<br>In storage  |
| 0085    | 22.04. | Tool 7<br>Maintenance |

Status: Maintenance active since 19.04.

Machine 8

Tool 2



Next orders

| Article | Start  | Tool                 |
|---------|--------|----------------------|
| 0023    | 20.04. | Tool 1<br>In storage |
| 0125    | 21.04. | Tool 2<br>In storage |
| 0048    | 22.04. | Tool 5<br>In storage |

Status: Maintenance active since 17.04.

Machine 10

Tool 4



Next orders

| Article | Start  | Tool                  |
|---------|--------|-----------------------|
| 0130    | 20.04. | Tool 5<br>In storage  |
| 0042    | 21.04. | Tool 4<br>Repair      |
| 0090    | 22.04. | Tool 8<br>Maintenance |

Status: Repair is active

# OPTIMIZE PROCESSES

# ENSURING TRACEABILITY

The information generated within a process, such as temperature, pressure, energy, etc. ... are made usable. Visualize and document the deviations in the process. Evaluate the process parameters for the order or article over longer periods of time.

The linking of process values with machine and order data and the consideration of process sequences create the necessary conditions for transparent traceability and holistic analysis and process monitoring of production.



## Lifecycle card W-00007

| Row   | Date           | Status     | Quantity produced | Label | Maintenance name | Description                             | Target time Maintena. |
|-------|----------------|------------|-------------------|-------|------------------|-----------------------------------------|-----------------------|
| 1     | 22.11.19:42:26 | free       | 413.154           |       |                  |                                         |                       |
| 2     | 06.04.07:29:41 | in action  | 450.793           |       | W 7984           | Routine maintenance 1                   |                       |
| 3     | 07.04.09:08:23 | in action  |                   |       | Measure          | Check the drawing punch and drawing die | 122.235 [Clocks]      |
| 3.1   |                |            |                   |       | Spare part       | Maintenance all 300.000 strokes...      |                       |
| 3.1.1 |                |            |                   |       | Spare part       | All drawing punches + drawing dies...   |                       |
| 3.1.2 |                |            |                   |       | Spare part       |                                         |                       |
| 3.1.3 |                |            |                   |       | Spare part       |                                         |                       |
| 3.2   |                |            |                   |       | Measure          | Grind complete cut                      |                       |
| 3.3   |                |            |                   |       | Measure          | Checking the cam embosser               |                       |
| 4     | 07.04.12:53:25 | in action  | 532.885           |       | R 7987           | Tool repair                             | 07.04.12:54:26        |
| 5     | 07.04.12:54:28 | repair     | 533.030           |       | R 7988           | Tool repair                             | 07.04.13:06:15        |
| 6     | 07.04.13:04:07 | In action  | 533.030           |       |                  |                                         |                       |
| 7     | 07.04.13:06:17 | Repair     | 541.097           |       |                  |                                         |                       |
| 8     | 07.04.13:07:43 | In action  | 589.862           |       | W 7993           | Maintenance before storage              |                       |
| 9     | 19.04.08:20:31 | In storage | 589.862           |       | W 7986           | General tool maintenance                |                       |
| 10    | 20.02.16:10:13 | In storage |                   |       | W 8014           | Drawing punch                           |                       |
|       | 21.04.14:45:13 | In storage |                   |       | R 8020           | Repair bender                           |                       |
|       | 18.08.12:25    |            |                   |       |                  | Maintenance before production           |                       |



The digital lifecycle card provides clarity. It allows all tool-related events, maintenance work and repairs to be analyzed and traced without gaps.

This means that the entire service life of the machine or tool is documented in the history. Installed spare parts and their number can be traced exactly.

# ANALYZE AND TRACE SEAMLESSLY



The EMC.Control module continuously monitors current production.

When a predefined event is reached, such as an inspection interval being exceeded or a fault being triggered, a message is automatically displayed on the machine terminal, prompting the worker to carry out production checks or inspections.

Similar to a checklist, the processes are supplemented by clearly scheduled checks, significantly increasing production quality.

# RELIABLY TEST AND CONTROL



# FIND CONTAINERS SMARTER



Streamline workflows and processes for material labeling and transport organization. Digitize the goods accompanying card and the quantity distribution to the containers. This enables transparent tracking of containers and supports your in-house transport organization.

With seamlessly documented container management, you ensure transparency, fast throughput times and the provision of meaningful information on products and batches in real time.

It is quick and easy to determine at any time on which machine, where, when and under what production conditions the product was manufactured and where it was ultimately delivered.





Simply exchange information on the shop-floor and thus facilitate communication and coordination.

Without having to leave the workplace, decisions made, important information or even last-minute changes can be communicated quickly and provide an enormous time advantage.

# FACILITATE

# COMMUNICATION

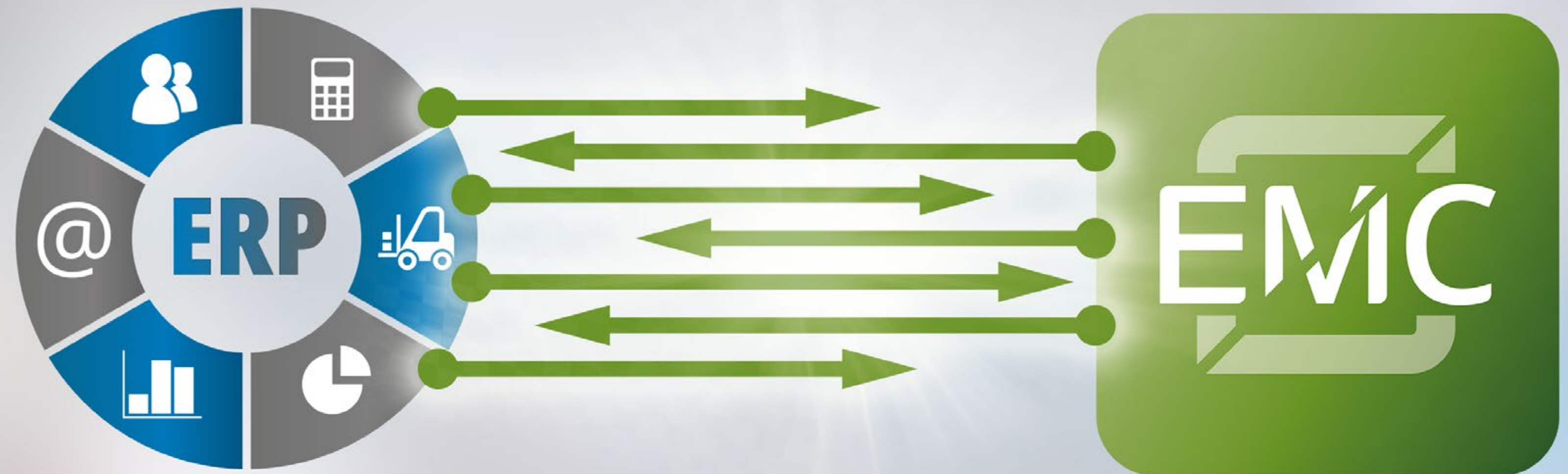




The reliable exchange of data between the shopfloor and ERP is regulated independently of the respective ERP system. The data on orders, articles, users, containers, tools, etc. stored in the ERP is thus made available on the shopfloor.

Conversely, all data recorded in production is also reliably reported back to the ERP. The data exchange is freely configurable.

The bidirectional exchange enables every department to work reliably on the basis of the same data and information.



# FROM THE ERP TO THE SHOPFLOOR AND BACK

# THE RELIABLE FUNDAMENT

You want to learn more  
about our modules?  
**Simply click  
on the symbols.**

## MES Software EMC



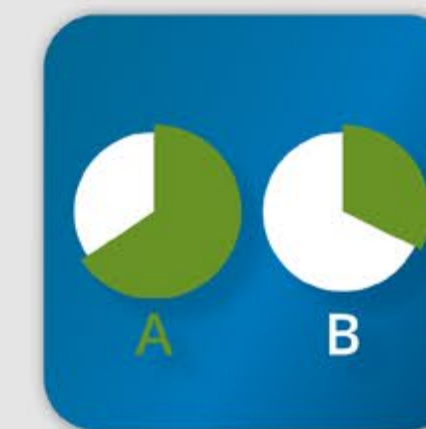
Machine Data  
Acquisition



Operational Data  
Acquisition



Monitoring



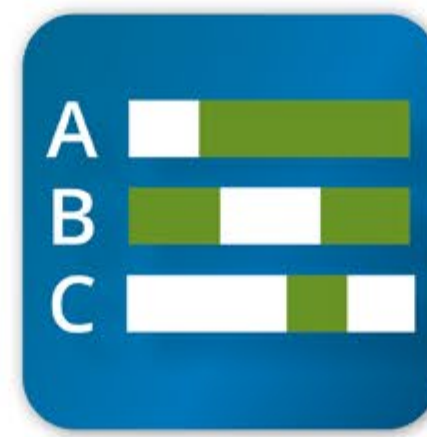
Reporting



Dashboard



Team Planner



Detailed Planning



Order Management



Maintenance



Spare Parts Management



Digital Production File



Process Data Acquisition



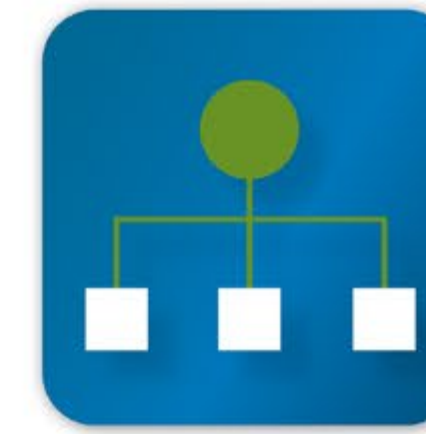
Control



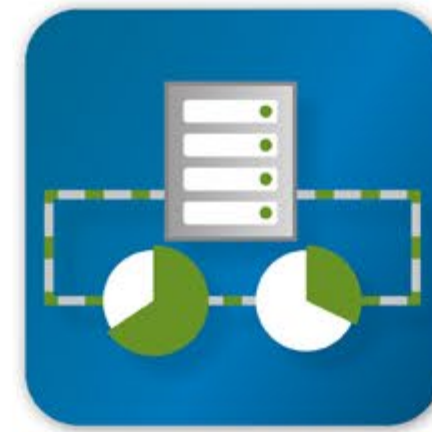
Energy Management



IoT



Factory Logistics



Report Server



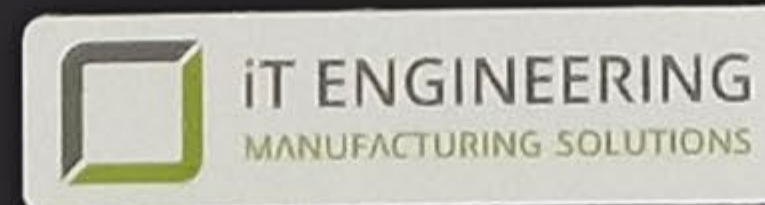
Chat



Message



Converter



...AND MORE

# EFFICIENCY

# PRODUCTIVITY

# SUSTAINABILITY



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# iT ENGINEERING

## MANUFACTURING SOLUTIONS

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[ite-ms.de/en/](http://ite-ms.de/en/)