

Your next tool: The production tachometer.

MMR: Machine Monitoring & Reporting

Software for analyzing your machine data



Your next tool: The changeover gap finder.



MMR – an overview of production with just one click.

Anyone who invests in modern machine technology today wants to unlock the full potential of their production environment. Manufacturers of furniture, components and prefabricated houses often face the same questions: Am I making full use of my production capacity? Which machines have the potential to be even more efficient? What measures can be taken to do this?

To place your machines in the production sequence in the optimum way, the performance and efficient operation of each individual machine is crucial. This is where MMR (Machine Monitoring & Reporting) in the form of an app and software provides an essential overview. Parts, cycles, changeover gaps and much more – MMR gives you real data, for easy analysis of your production and for real improvements. The best thing about this is that MMR connects your entire plant. Clear case: MMR is a tool that is essential to any business.

YOUR SOLUTION

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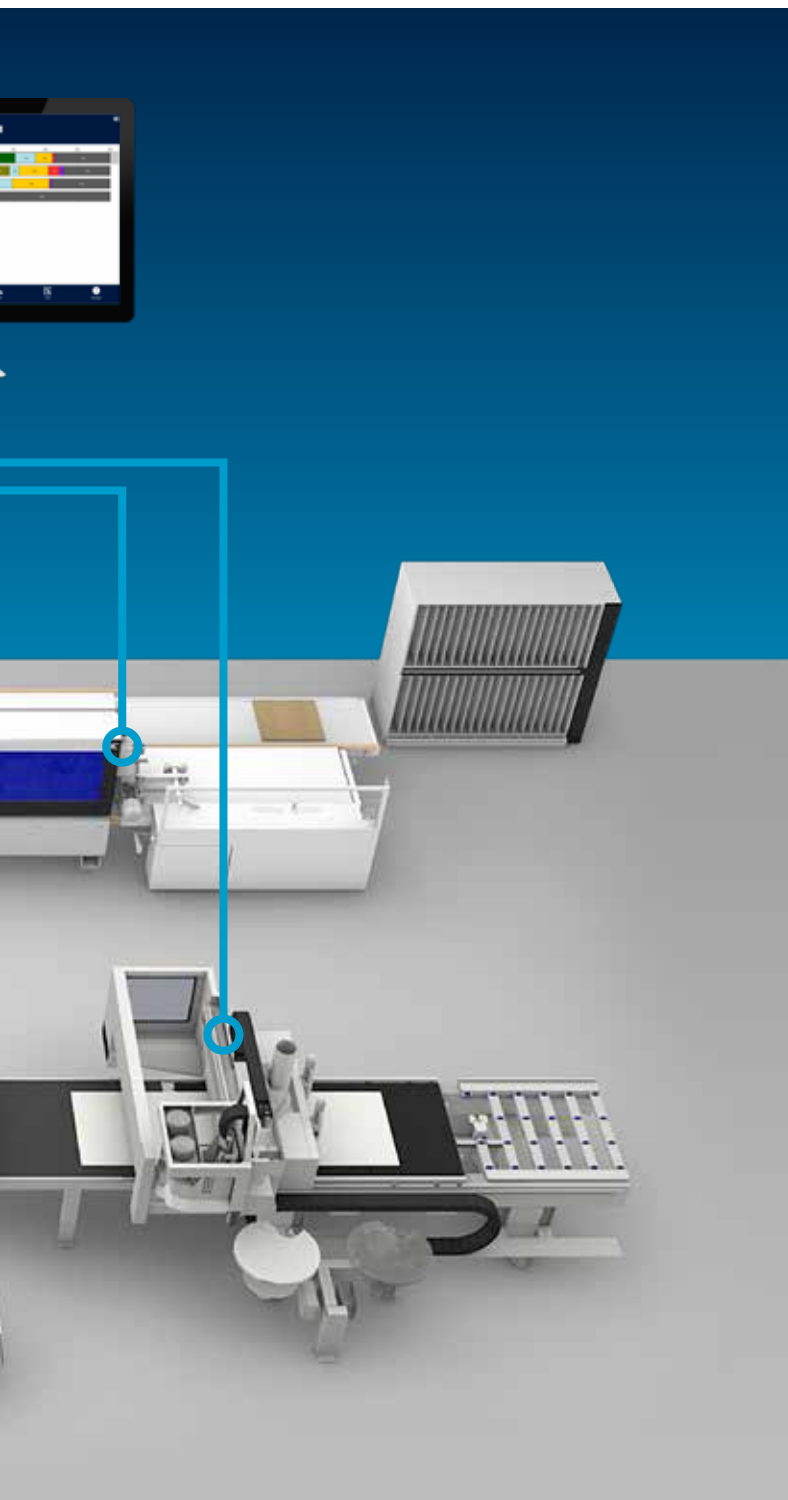
Your next tool: The machine data reporter.

At a time in which delivery deadlines, optimally defined processes and sustainable production are becoming increasingly important in companies, detailed machine data is an important tool. With the right data as a basis, you can analyze your production quickly and easily, make informed decisions and ensure an efficient production standard for the future.



MMR software...

- ...can count parts, cycles, storage movements, cuts, panels and much more.
- ...knows the optimal cycle time for each part (e.g. for throughfeed machines).
- ...knows necessary handling times in the machine process (e.g. for saws).
- ...can record automatic setup processes (e.g. for batch size 1).
- ...saves error messages with text.
- ...can provide the data from the MMR database via an interface.



Why MMR?

Two examples that show that MMR can do more.

With MMR you have absolute transparency:

How many parts are produced on which machine?

How busy are the machines and what is the proportion of waiting or malfunction times? This information can be very useful for effective optimization of your production.

EXAMPLE 1: LONG WAITING TIMES

If the MMR data shows long idle times for a machine, you can...

- ...analyze the causes (e.g. in a Gantt chart). The machine may be waiting for material for long periods or the machine may not be being fed quickly enough.
- ...optimize the provision of the material or use feed and destacking aids (e.g. lifting tables at the saw or another employee).

EXAMPLE 2: FREQUENT MALFUNCTIONS

If the machine data indicates frequent malfunctions, you can...

- ...investigate the frequency and duration of common malfunctions in the malfunction analysis.
- ...initiate maintenance measures for these malfunctions or conduct operator training sessions.

The right tool for every job: MMR grows with you.



MMR Basic – standard on every HOMAG machine

- Captures the machine data directly on the machine.
- Displays some selected key figures (e.g. number of parts processed).
- Automatically supplied with the machine.



MMR Professional – the machine data recorder

- Graphical evaluations of the machine states and counters in the form of various diagrams directly on the machine.
- Allows the machine operator to add possible causes of malfunction to the machine.



MMR Mobile – the production tachometer

- With the smartphone app, you always have your machine pool in your pocket. A glance is enough to show what the machines have achieved over specific periods.
- The app displays selected key figures in fixed analysis periods.
- The app can be used free of charge for any new HOMAG machine equipped with powerTouch (Windows).

RECORDING

EVALUATION

MMR offers transparency: Only those who know the cause can take the right measures.



MMR Office Lite: The machine data supplier

- Connects to the database of the machine.
- Makes the analyses provided by MMR Office available in the office as well.
- No separate database is required.



MMR Office: The efficiency driver

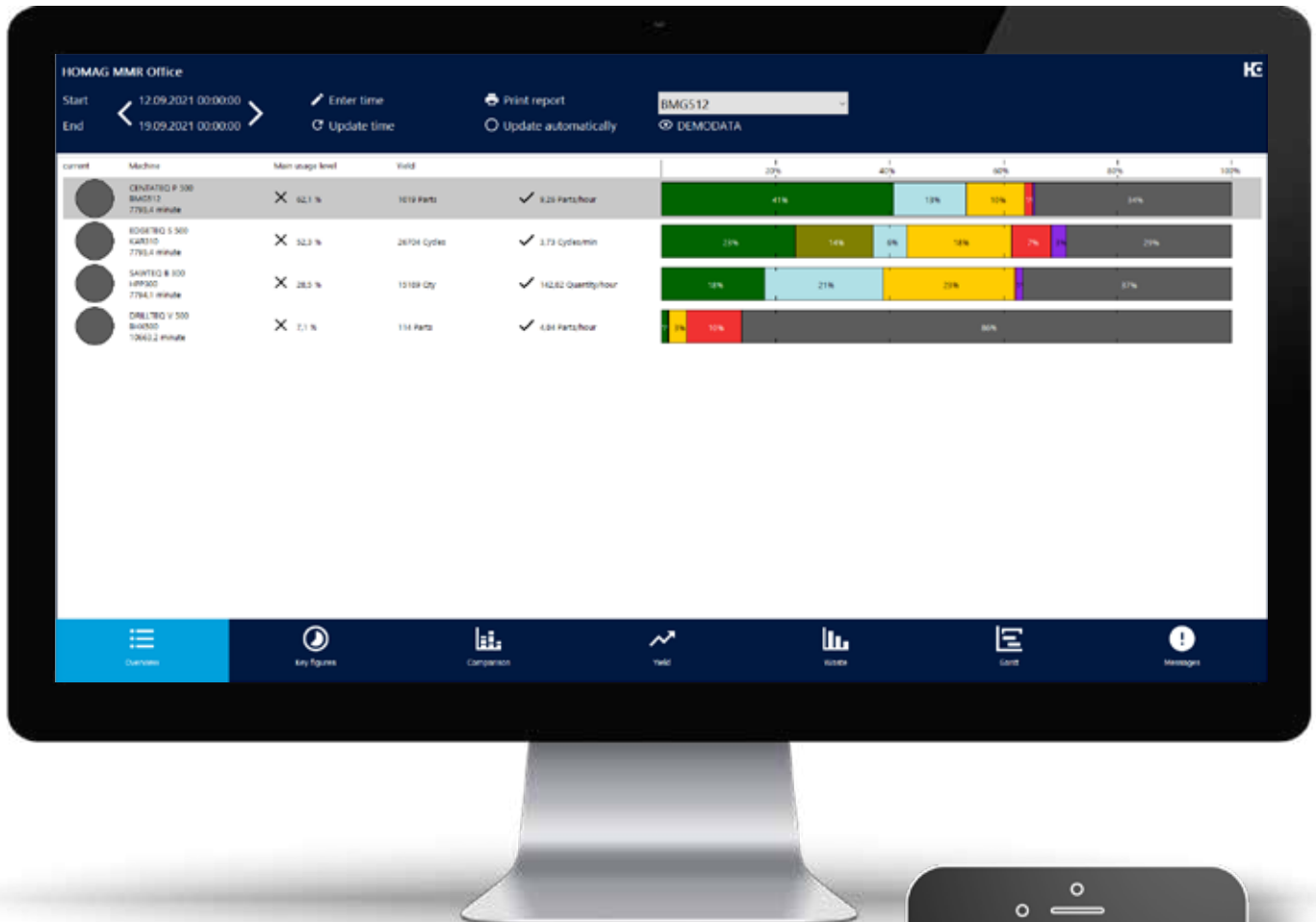
- Copies the data from multiple machines to a separate database in the office.
- Can also connect machines from other manufacturers.
- The data in MMR Office can be made available for further analysis.

Important to know:

Older machines or machines that are not provided by HOMAG can be connected to MMR Office via the OPC UA and REST interfaces.

In brief:

The functions of MMR Mobile and MMR Office.



OVERVIEW

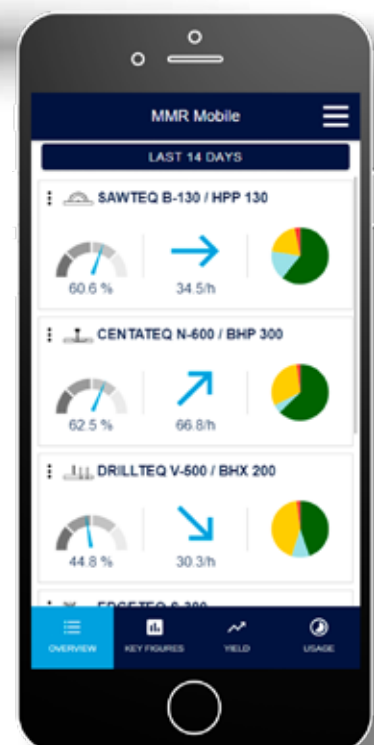
Each row shows a machine with its most important key figures.

MMR Office:

- Current status of the machine, main usage level in %, number of parts in the evaluation period, parts/hour
- Percentage distribution of statuses (main usage, secondary usage, waiting position, malfunction, maintenance)

MMR Mobile:

- Main usage level, parts/hour
- Percentage distribution of statuses (main usage, secondary usage, waiting position, malfunction, maintenance)
- Display can be selected for 8 hours, 14 days, 3 months, 1 year



KEY FIGURES

The view with the key figures provides a good overview of the machine usage, including an informative diagram.

MMR Office:

- Display of the machine statuses for the corresponding evaluation period – in % and in minutes.
- Key figures: OEE, main usage level, performance level, (technical) availability, output (according to the machine type, e.g. parts, cycles, number of panels, running meters, m², m³, etc.)

MMR Mobile:

- This view is not available in the app.



COMPARISON

In this overview, you can compare shifts or working days with one another.

MMR Office:

- Shift name and period
- Main usage level, performance level, output in parts
- Distribution of statuses in %

MMR Mobile:

- This view is not available in the app.



OUTPUT

This view provides graphical information about the output of the machine in parts/hour.

MMR Office:

- OEE (overall equipment effectiveness)
- Output in parts/hour
- You can zoom in on the graphic as desired



MMR Mobile:

- Output in parts/hour
- Display can be selected for 8 hours, 14 days, 3 months, 1 year

WASTE

In the event of any loss in performance of the machine, this is shown in full in a Pareto chart.

MMR Office:

- The machine operator can enter possible reasons for certain faults directly on the machine (prerequisite: MMR Professional on the machine). In this case, you can now analyze the main causes of the stoppages.

MMR Mobile:

- This image is not available in the app.

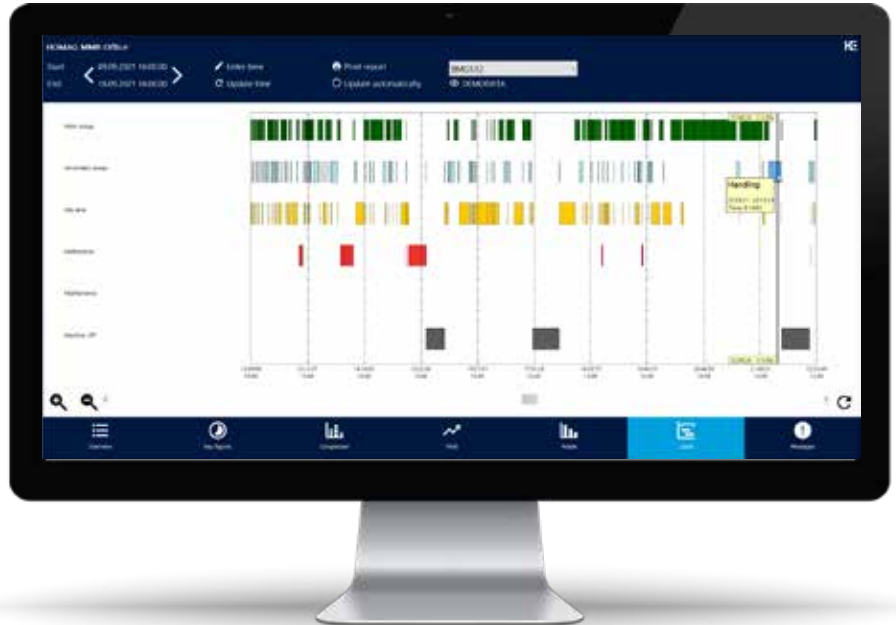


USAGE/GANTT

The overview shows details of the use of the machine in a clear presentation.

MMR Office:

- Main and secondary usage, standby mode, malfunction, maintenance, machine switched off
- Very detailed evaluations: you can zoom in on the graphic as desired – down to the level of individual processing minutes



MMR Mobile:

- Targeted overview through a summary of the percentage distribution of the statuses
- Display can be selected for 8 hours, 14 days, 3 months, 1 year

MESSAGES

This tab shows the error messages for the machines in various views.

MMR Office:

- Totaled list
- List of single messages
- Graphical chronological order of the messages

MMR Mobile:

- These messages are not available in the app.





MMR understands every machine – regardless of age or manufacturer.

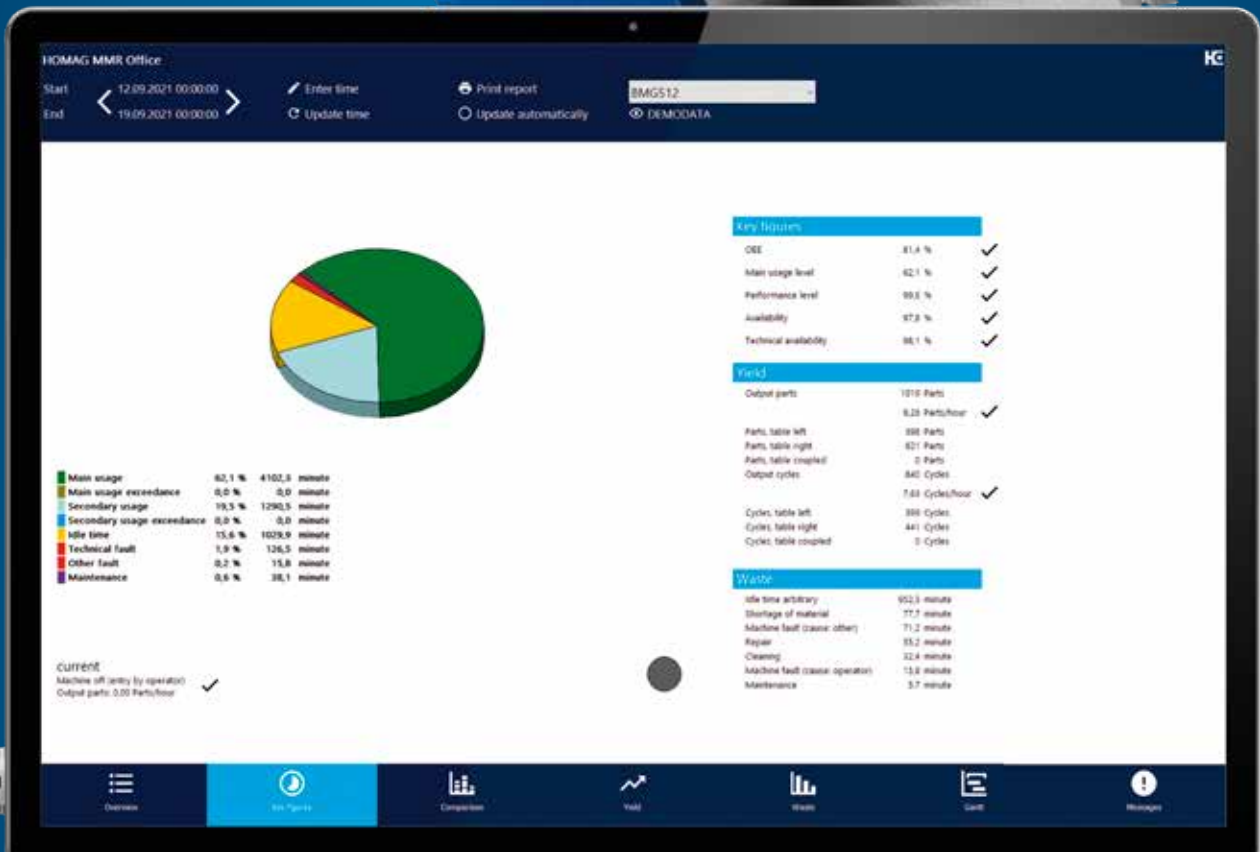
Machines from different manufacturers are used in most factories – there are also machines from HOMAG that have been around for many years. With MMR, we have now created a possibility to display the required data from these machines in the MMR Office software.

There are various technical options:

- **OPC UA interface (Open Platform Communication Unified Architecture):**
Machines from other manufacturers are connected to the MMR software via an OPC UA interface. For this purpose, HOMAG provides support with a document that the manufacturer of the corresponding machine can use to configure the signals appropriately.
- **REST interface (Representational State Transfer):**
Machines from other manufacturers are connected to the MMR software via the standardized REST interface. For this purpose, HOMAG provides support with a document that the manufacturer of the corresponding machine can use to configure the signals appropriately.
- **Older HOMAG interfaces:**
Older machines from HOMAG (e.g. running Schuler MDE) can be easily connected to the MMR software. The required compatibility is given.
- **The machine is generally unable to provide data:**
Nevertheless, there is a way to connect these machines: retrofitting sensors, e.g. by third parties. These sensors then send signals to the OPC UA or REST interface. If necessary, HOMAG can recommend suitable service providers for connecting these sensors.



Your next tool: The machine data reporter.



In short: Cloud or local database?

MMR Mobile

MMR Mobile uses data from the cloud – as an app for the smartphone.

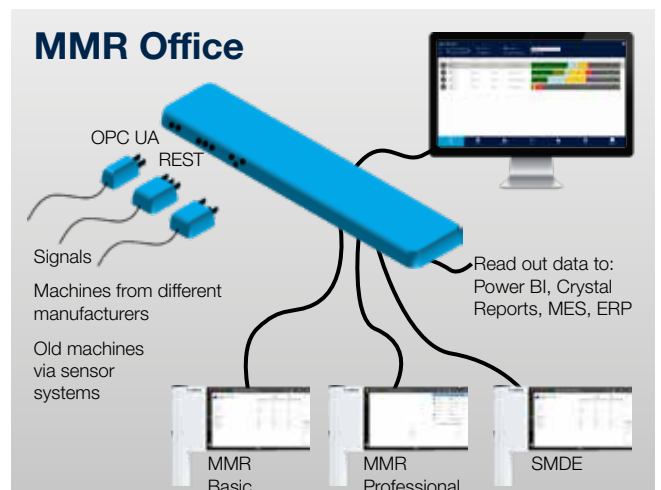
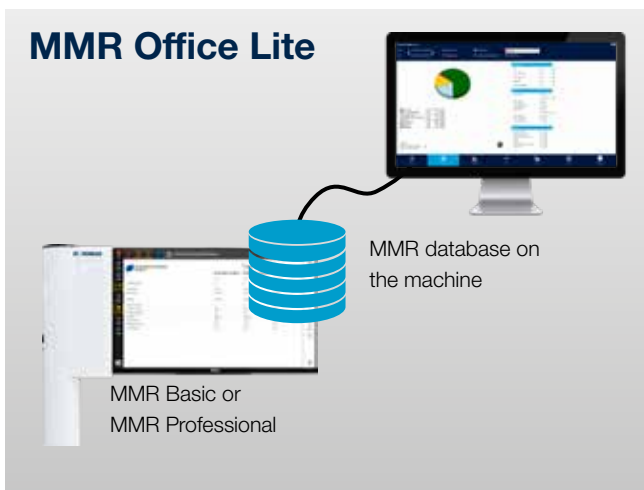
- The data is sent from the machine to the cloud. This is only possible with newer machines.
- New machines can be connected very easily via the registration with tapio.
- Due to the volume of data, the data is compressed in order to provide a clearer representation.
- It is possible to access the data of the last year.



MMR Office

MMR Office reads the data from a database installed at the customer's site. This makes it possible to connect older machines or machines from different manufacturers. MMR Office Lite, on the other hand, is very quick and easy to install because a separate database is not required and the machine is accessed directly.

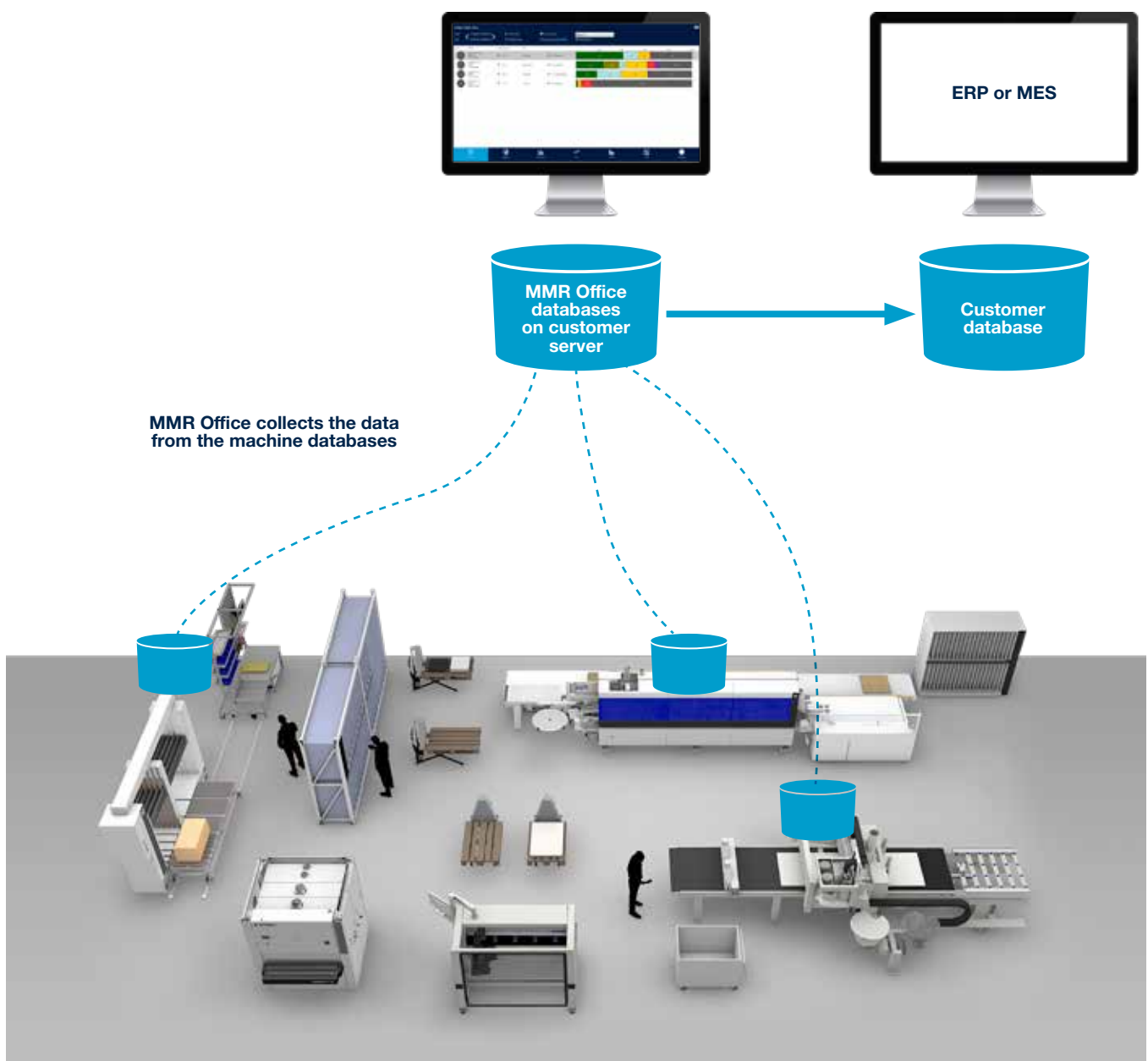
- MMR Office Lite accesses the database of the machine directly. Therefore, the machine must be switched on when the data is evaluated. Due to the size of the database, the data is stored there for (only) 30 days.
- MMR Office has its own database into which MMR data can be imported via the "multi-plug connector." This means that machines from different manufacturers can also be connected here. The machines do not have to be switched on for the data to be evaluated. Full access to detailed data from the last two years is possible.



MMR Office – forwarding the data

MMR Office allows data to be passed on to third-party systems (optional).

- In addition to the standard evaluations in MMR Office, the software can also provide data for third-party systems from the database so that this data can be processed further there (e.g. Power BI, Crystal Reports, MES and ERP systems). This makes sense in order to also evaluate the machine data in connection with job data, for example.
- Machine data can therefore also be provided from older systems (e.g. older MMR versions or SMDE) centrally.
- The option "Read out MMR Office data" provides a description of the interface and a short training.

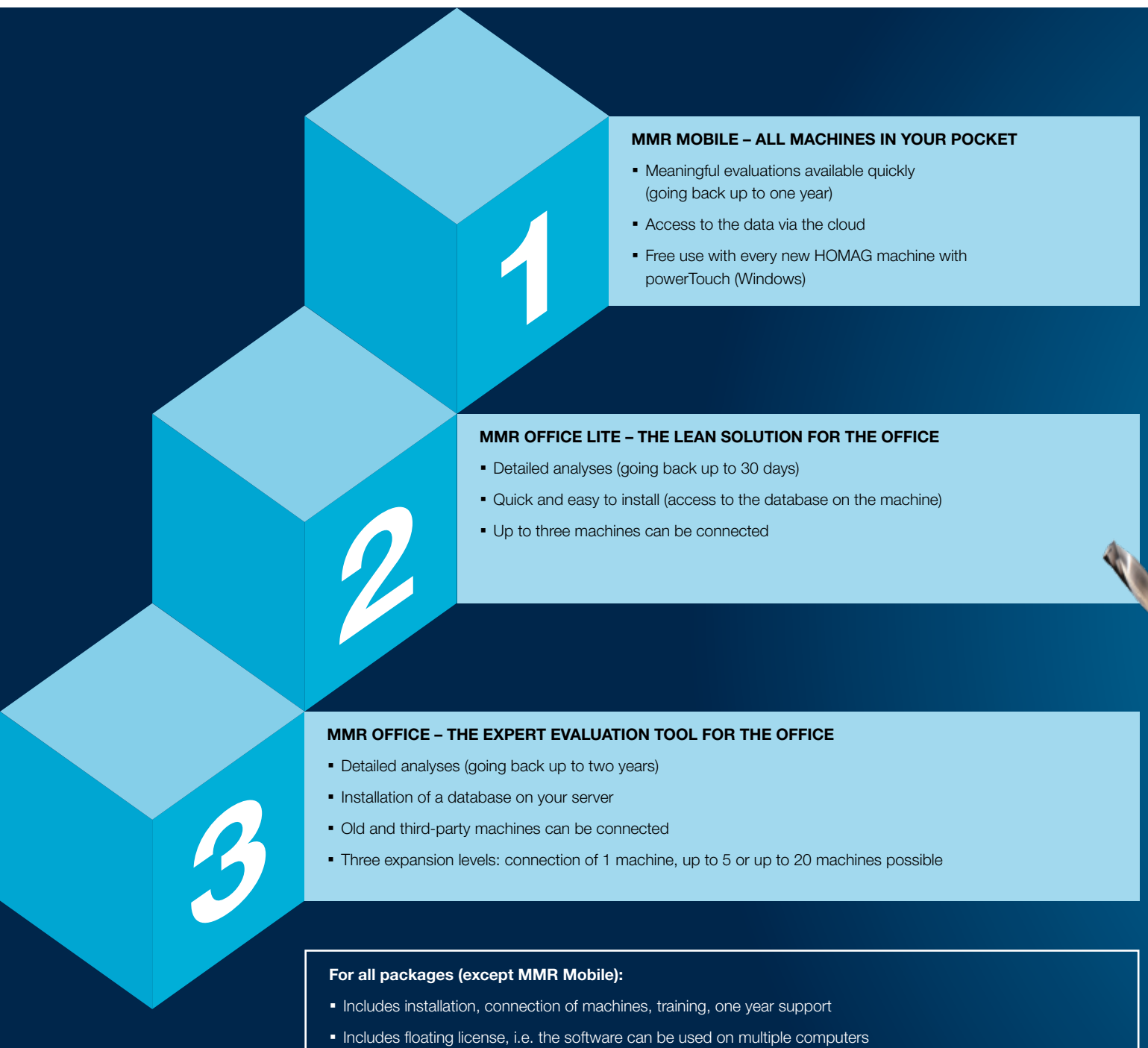


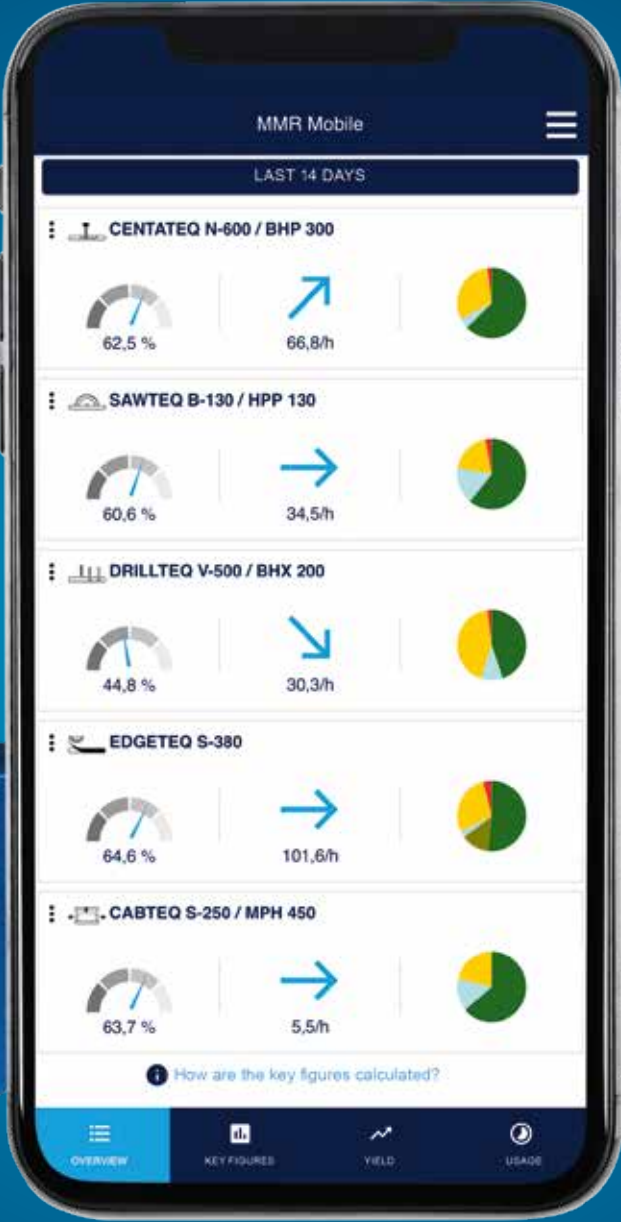
Various MMR packages:

The production tachometer in different expansion levels.

Want to start with a free version of MMR and discover the possibilities for yourself? Or do you already know what data is important for optimizing your production?

Wherever your company stands today and whatever your plans are: We have put together the right package for analyzing your machine pool. Simply choose the package from our MMR software that best fits you and your production at the moment.





Which app is the right one?

Suitable solutions for machine operators and production managers.

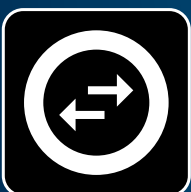
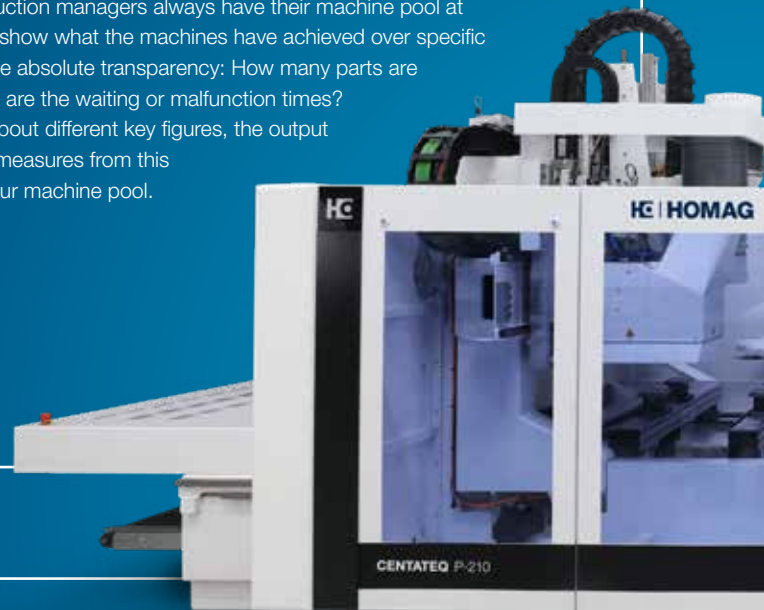
With MMR Mobile, we offer an analysis app for smartphones that allows production managers to have the machine pool with them at all times. But other apps also make the day-to-day work of the company much easier. Machine operators in particular benefit from MachineBoard and ServiceBoard, which provide excellent support in the direct handling of the machines.



Analyze production MMR Mobile

The aid for analyzing the machine pool.

With the MMR Mobile app, workshop and production managers always have their machine pool at hand. A glance at the smartphone is enough to show what the machines have achieved over specific periods. With the MMR Office software, you have absolute transparency: How many parts are produced? How busy are your machines? What are the waiting or malfunction times? Easy-to-interpret graphics provide information about different key figures, the output and the utilization of the machines. Derive your measures from this information and get higher performance from your machine pool.



Monitor the machine status MachineBoard from tapio

The app that gives you an overview of the machine status and the remaining running time.

With MachineBoard, you can see the statuses of all your machines at a glance and you always have information about the remaining running times for the machines. MachineBoard provides valuable information especially for machine operators: All machines can be monitored at a glance and setup times can be planned much more easily.





The only requirement for all these apps is tapio
The digital infrastructure with just one login.

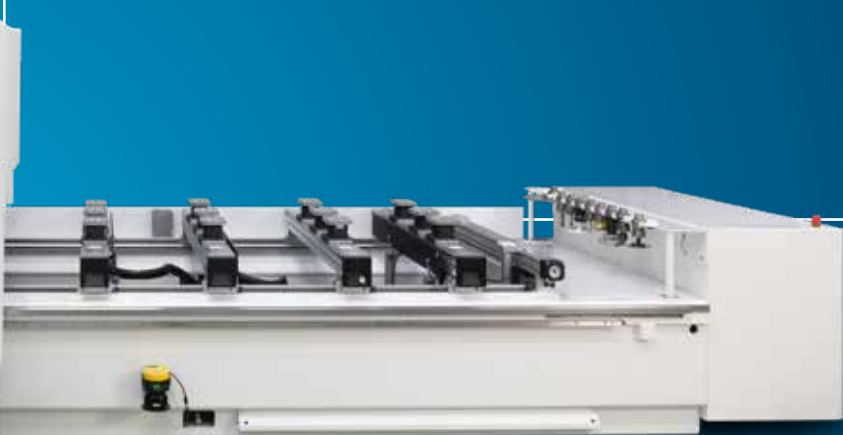
Your partner for shop systems, user administration and connecting machines.
 Learn more!



Solve service cases via video diagnosis
ServiceBoard from tapio

The service app for machine service.

Using ServiceBoard, machine operators can create a new service case, add photos and send the case to HOMAG Service digitally with just a few clicks. This means you have access to all of the information you require to help you quickly. No annoying hotline calls and no duplication of documentation – you always have access to your service tickets and the associated solutions. It's even easier when your technician contacts you via video diagnostics, allowing you to eliminate machine errors more quickly.



Find solutions on your own
serviceAssist

Digital support for all machine operators.

The serviceAssist app supports the machine operator as soon as unknown fault messages are displayed on the machine – without the direct help of a HOMAG service employee. serviceAssist makes suggestions for solutions that result from a combination of the experience of the HOMAG Service department and the (existing) machine data.



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