

KOENIG & BAUER

# Predictive Maintenance & Services



we're on it.



## Predict malfunctions and utilise potentials

Machine breakdowns usually occur unplanned and can also cause considerable costs in a short time. This is because material and personnel may have to be procured at short notice.

A solution that enables condition-oriented and predictive maintenance service can reduce costs or even avoid them altogether. It predicts necessary operations, makes them plannable and continuously monitors the condition of components.

**Looking 28 days into the future**

With Predictive Maintenance & Services (PdMS) Koenig & Bauer has developed a product that takes precisely this approach. The basis for PdMS is condition data from machines and processes, the processing of which enables forecasts to be made about expected malfunctions and damage. The measurement data is recorded by means of the sensor technology already present in the plant. Algorithms are then used to analyse this data and detect developing failures and predict them up to 28 days in advance. In this way, it becomes possible to identify and eliminate potential sources of error - long before the failure actually occurs. This, in turn, makes it much easier to plan and carry out any service intervention that may be necessary, and production downtimes are avoided.

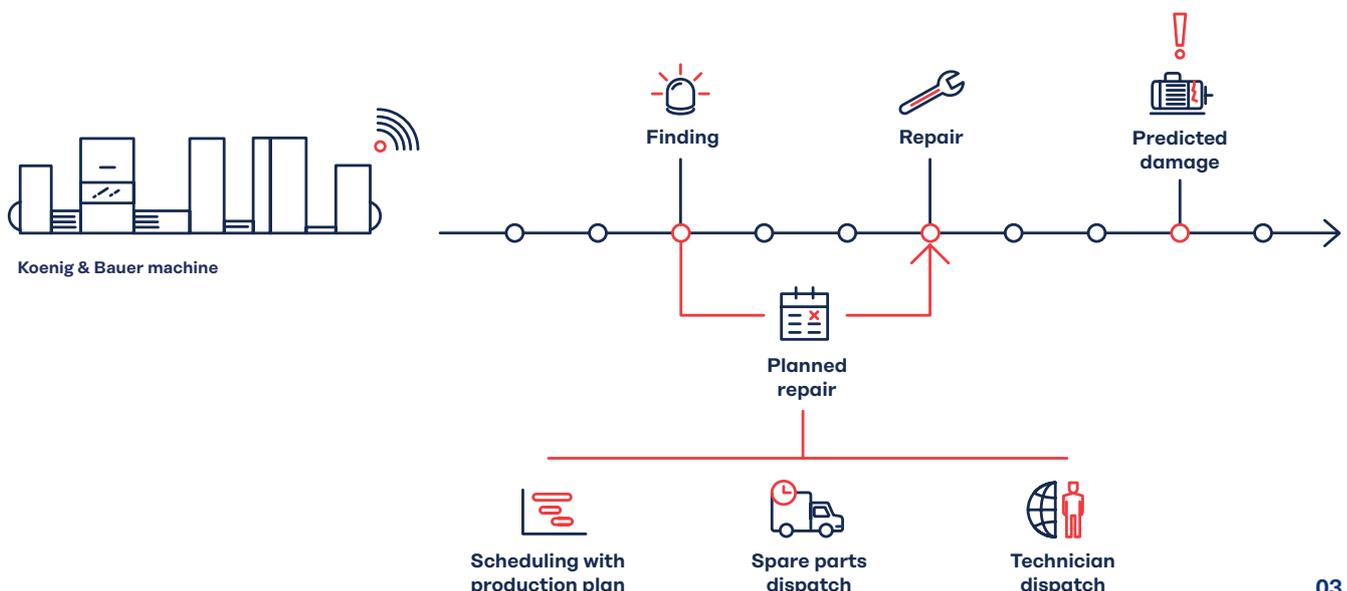
**Optimise costs and availability**

PdMS is thus the innovative answer to the demands of managing your operation with a state-of-the-art and complex press. Here PdMS supports you as a tool for achieving consistently high quality and productivity:

- PdMS increases press availability by avoiding unplanned downtime,
- PdMS ensures that deviations from optimised settings, impending defects or wear on parts etc. are detected at an early stage and action can be taken during production-free periods.
- PdMS creates transparency by providing information in the form of key performance indicators, which support you in the planning, control and continuous optimisation of your production process.
- PdMS provides well-founded evaluations that enable you to deploy your technical staff more efficiently.

**In summary, this means for you: PdMS ensures a higher uptime of your plant and further optimisation of your production costs.**

**Thanks to PdMS, a possible service call can be planned in good time:**



# PdMS

## step by step

From fault detection to the elimination of the potential source of the fault: in future, a large part of the process steps will be carried out completely automatically through the use of PdMS.

### Data acquisition

First of all, the machine sensor system records the current status of the equipment and components on the basis of data such as revolutions, accelerations, speeds or temperatures. In addition, environmental parameters, e.g. spatial conditions or error messages from log files, can also be recorded.

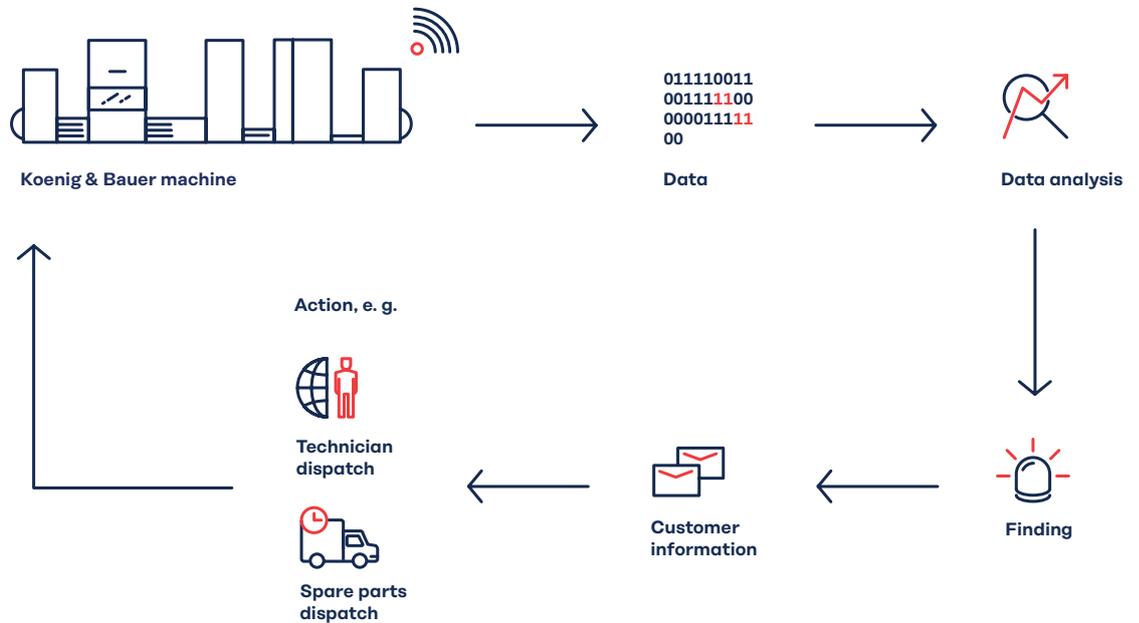
### Data storage and transmission

Afterwards, the recorded data is stored in a central system for data management and, if necessary, transferred externally for further evaluation.



Thanks to PdMS, the required spare parts can be ordered with sufficient lead time - saving any additional courier costs.

**Schematic representation of a PdMS workflow:**



**Data analysis and evaluation**

During analysis and evaluation, patterns are to be detected with the help of statistical models. Algorithms help to identify potential disturbances and transform concepts for the prediction of future state developments.

**Action and solution**

Finally, the interpreted results can be used to derive necessary maintenance measures. The type and timing of the measures as well as any spare parts can thus be organised in a target-oriented manner before the malfunction actually occurs.

**Your advantages at a glance:**

- Automatic checking of machine data
- Identification of potential sources of faults
- Proactive service for more availability
- Cost reduction (courier, emergency service flat rates, etc.)
- More transparency through standardised KPIs
- Support for your in-house technicians



Our experts advise you on  
the best possible solution  
for your application

## PdMS as modules in the **service contract**

The services of Predictive Maintenance & Services can be booked within the framework of a service contract. You can choose between two modules that can be individually adapted to your needs

**Module I: Predictive Maintenance Basic**

This module contains our Bot<sup>1</sup> basic package and is a prerequisite for the use of Predictive Maintenance at your plant. Module I includes six different bots as standard.

**Module II: Predictive Maintenance Advanced**

This module is an extension of the standard package and can only be booked in combination with Predictive Maintenance Basic. With Predictive Maintenance Advanced, Predictive Maintenance Basic can be individually extended with additional bots.

**Advantages of the service contract**

Calculation of the scope of services by means of an annual lump sum means: full cost control. In addition, the contract period can be adapted to your individual needs.

## Examples of currently available PdMS bots

Bot name	Commercial	Newspaper	RotaJET	CorruJET	CorruCUT
Plate change	●	●			
Reelstand monitoring	●	●	●		
Automatic roller locks	●	●			
Drive monitoring	●	●	●	●	●
Network analysis	●	●	●	●	●
Hydraulic pump		●			
Lubrication systems & folder hydraulics	●	●	●	●	●
Productivity	●	●	●	●	●
Wear to belts and brushes in the quarterfolder	●				
Lifecycle Management	●	●	●	●	●
Folder monitoring	●	●			
Web break monitoring	●	●	●	●	●
Connection monitoring	●	●	●	●	●
Key Performance Indicators (KPI)	●	●	●	●	●

<sup>1</sup> Bots are software systems that automatically search machine data according to predefined analysis conditions.

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10/2021-E  
Printed in Germany