Smart Production Monitoring Plant efficiency

VBASE
Smart Production Systems

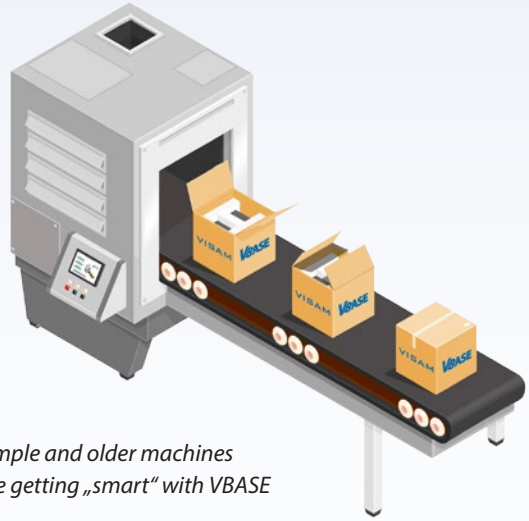
VISAM
Smart Solutions

Industrie 4.0 for existing plants

From primitive machines to digital production with VBASE Smart Production Systems

With VBASE new but also outdated machines and plants are being updated and fit for digital production. Thanks to a variety of integrated MES functions, any plant or machine gets „smart“ due to the integration of a VBASE-based system.

Important production data are determined directly at the machine, displayed to the operator on-site and transferred to higher-level systems (e.g., ERP, VBASE MES). Optionally, production plans, part lists or recipes (for example, from the work preparation) can be referred to the machine.



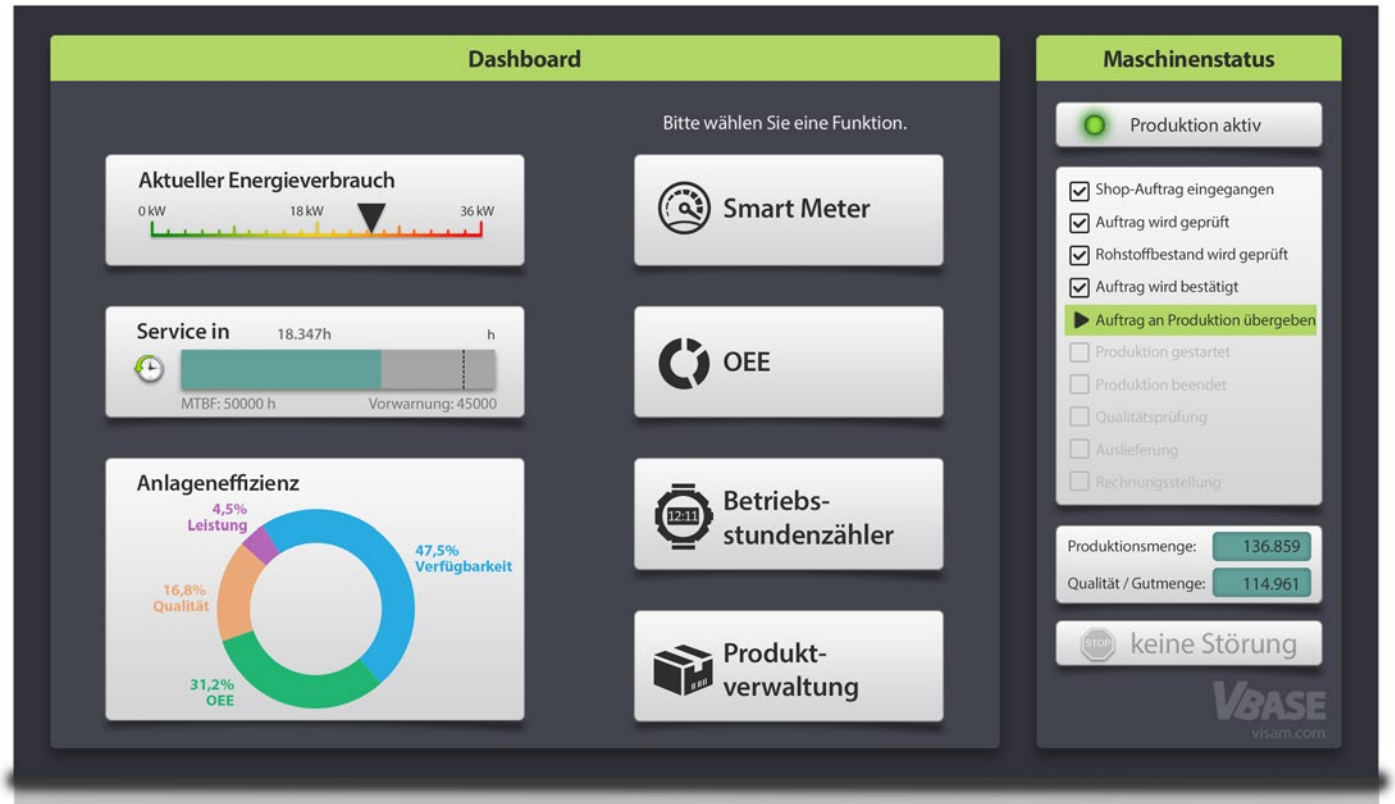
Simple and older machines are getting „smart“ with VBASE

A frequently example

A simple machine that is used in mass production only provides one switch „Start / Stop“. If for example a VBASE HMI panel is used, an intelligent machine is created with the help of only a few signals and the use of the integrated software modules.

Determination of basic production data

The start / stop signal of the machine is determined and supplemented by a signal for a quantity detection (e.g. a light barrier). From these two signals and additional fixed parameters (e.g. production time and maximum possible production quantity in a fixed time) VBASE determines, in interaction with the operator and amongst others, the production quantities as well as the production and downtime periods.

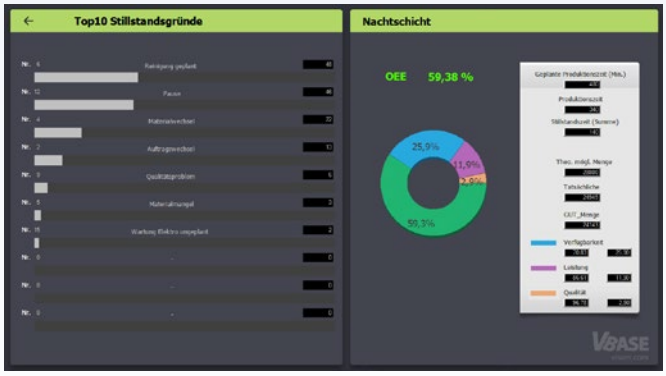


Overall Equipment Effectiveness (OEE)

The OEE indicator is a measure of the value added of a production plant. With this indicator, the productivity of a plant as well as its losses can be displayed at a glance.

If the machines status signal changes from active to stop state, the operator is asked to enter the reason. For this purpose, a machine-specific, individual selection list is available to allow a fast operation.

If a production stop occurs, VBASE automatically requests the reason for the interruption.

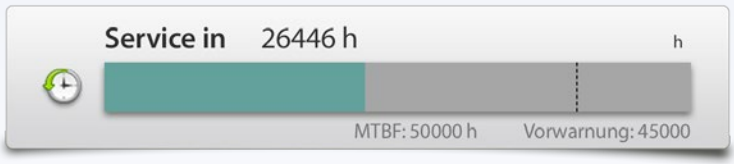


Shift-specific OEE as well as the Top10 downtimes are calculated and displayed by VBASE in real time.

With this information, on request also layer-related, VBASE generates a Top10 list of reasons for downtimes and calculates the OEE code for the machine by using additional parameters. These information are dynamically displayed on the machine and automatically recorded in the background.

Predictive Maintenance

The VBASE „Maintenance counter“ module determines the next service term from the production time and the number of status changes in relation to predetermined MTBF times and dynamically displays the duration until the next service.
In the case of more complex machines, this function can be used selectively not only for the entire machine, but also for specific units or parts of the system. Via additional integrable sensors, this functionality can be further refined.



Due to Predictive Maintenance, machines and plants can be used longer and downtimes can be reduced.

Energy and resource monitoring

Due to additional integrated signals for the detection of energy- and material quantities, the VBASE „Smart Meter“ module calculates consumed quantities and hence calculates statistical values. Therefor VBASE directly communicates with corresponding consumption counters, e.g. electronic electricity meters, which can be easily integrated.

With Smart Metering, the energy- and resource consumption is continuously recorded.
Large end-use equipments can easily be identified.

Integrated shift- and production plan

By dint of an integrated schedule, shift times can easily be set and displayed on the screen. The shift- and break times can be transferred by higher-level units or rather production planning, or can also directly be set on the machine.

Shift plans can easily be adopted in VBASE and can be integrated into the calculations.

Integration of ERP and production planning

VBASE comes with standardized interfaces to IT systems (e.g. Order preparation, ERP) and a powerful database interface. This enables the integration of the machines into a networked production environment. Order data are sent directly to the machine, displayed to the operator and, if required, processed automatically. The determined production data (consumption, quantities, production times, etc.) are automatically and immediately reported back.

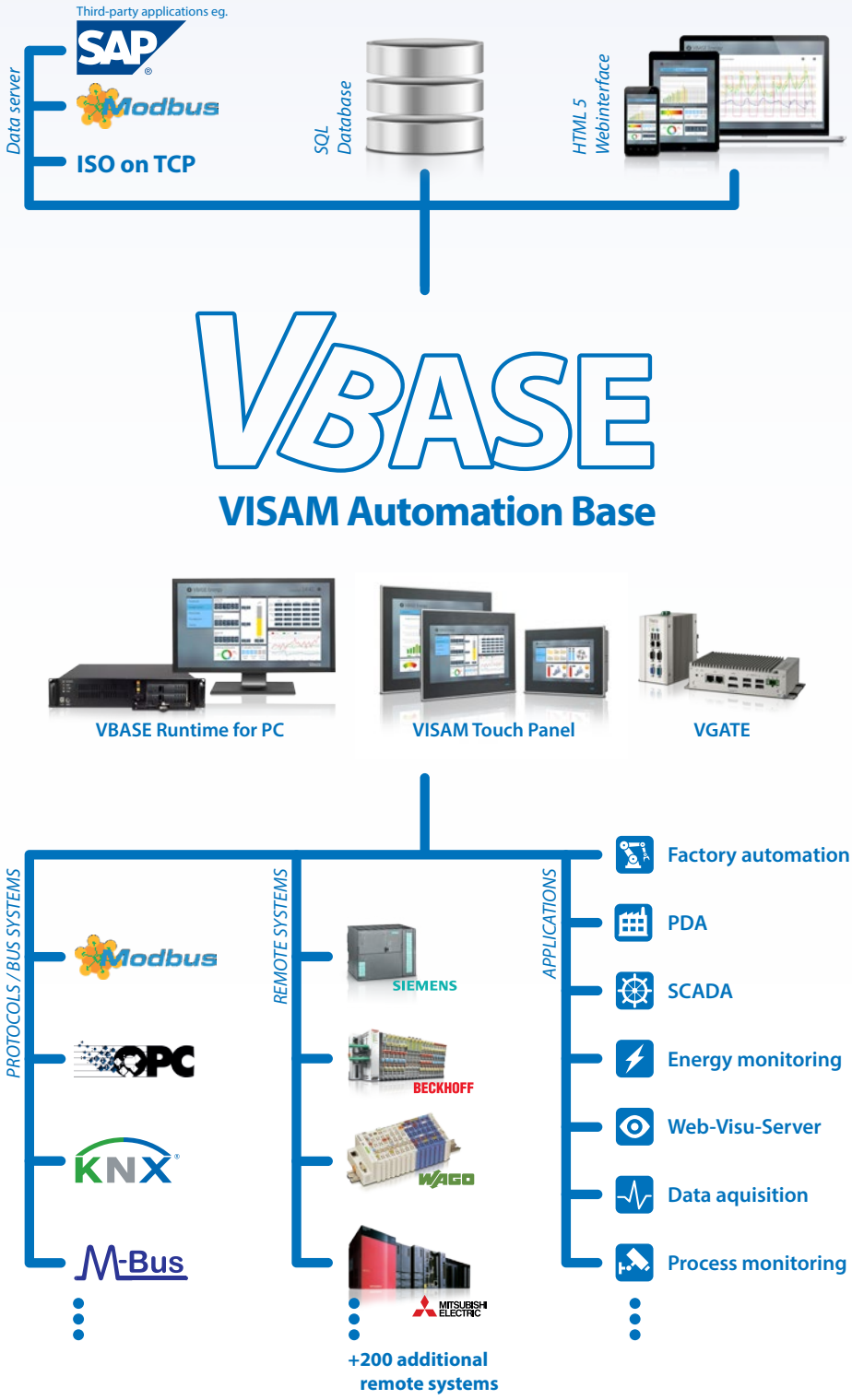
Web-Remote mobilizes your production data

Each VBASE system has an integrated HTML5-based Web interface. This means that all machine- and production data can be displayed very easily on any mobile devices (smartphones, tablets, etc.) and can be operated after approval.

Flexible at use and customizable

These are just a few selected options that are easily available on any machine by simply integrating VBASE „Smart Production“. In this way, you can integrate any existing and also future machine, plant and, if desired, technical building systems into an intelligent production. Thus, Industrial 4.0 can also be retrofitted.

All integrated modules are designed to be used for any industry. However, it is also very simple and cost-effective to integrate special or customer-specific modules.



More information: **www.vbase.net**

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