

# SIMERP



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## The navigation system for your production

Our manufacturing execution system (MES) does the same for your production as a navigation system does for your car. We know the state of your production and display the next steps to accomplish your objectives.

- We show the estimated time of arrival of your orders
- We show in a straight-forward manner the next steps
- We recalculate the production plan upon disturbances to show you always an optimal route



The system ensures that all employees stick to the agreed plan and have to give reasons for any deviation. The detailed production steps as well as their quality control figures are documented. With these features we implement all relevant features of an MES required in VDI norm 5600.

The solution helps your production to achieve:

- **Transparency** by meaningful reports and overviews
- **Reduced effort** by a user interface which focuses on exceptions
- **Improve your logistical KPIs** by an optimized production plan and execution

## Advanced planning system (APS)

The heart of our system plans the **production planning**. In this module the optimal **processing order and machine utilization** is calculated. We optimize **material reservations** in multiple production layers and assign employees to machines by means of a **qualification matrix**.

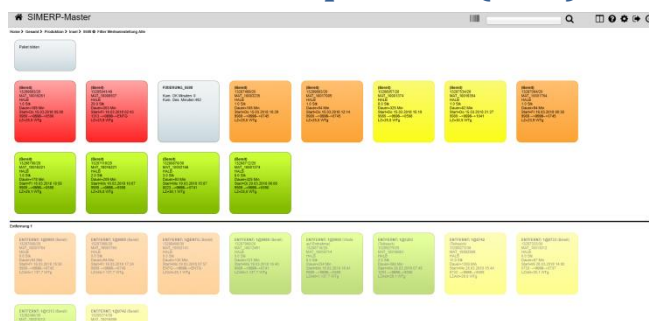
Even in large scale production environments the solution takes less than 1 minute to calculate a plan. Together with the **simulation environment** this allows “What-if” scenario analysis. The system shows the effect of measures on all customer orders.

The Optimization of the system utilizes the capacities to the best effect. Quite often the external restrictions can be changed. E.g. **overtime or expatriated delivery of suppliers** can be agreed – albeit at higher cost – or customers prioritized. Such measures however require a communication with people internal and external. Therefore the system cannot make such decisions on its own but requires professionals. However, our system provides easy to use reports for these specific measures and provides an easy way to assess the impact and cost of such a decision. Most important is in this case that the system allows filtering for the exception rather than looking through all the standard cases where no action is needed.



One of our customers could improve its delivery performance from an already high level by another 10%-points. The most significant effect was the user interface. In the old SAP-ERP system the analysis of a single late customer order could take up to 10 minutes. This meant that only the most urgent orders were regularly controlled. With our streamlined user-interface the production control department can check on 10-20 times as many orders in the same time. This is achieved by a better report which does not need drill-down with its many clicks and the focus on exceptional items while leaving the bulk to the systems planning ability.

## Production data acquisition (PDA)

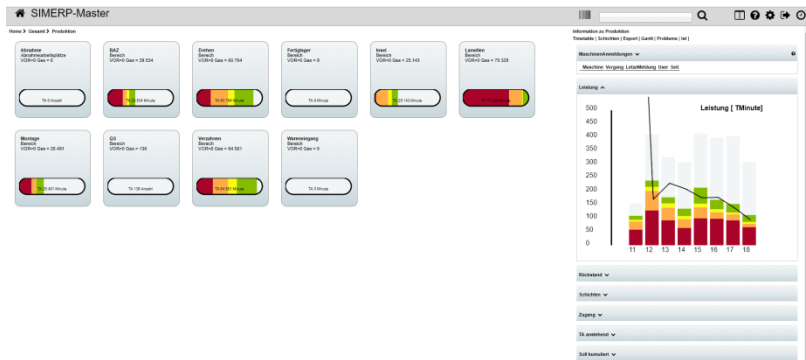


The plan that is calculated in the MES needs to be executed on the shopfloor. With many thousands of operations and disturbances and deviations being commonplace, it is important to keep an overview.

The system specifies per machine a degree of freedom for the employees. On one machine the staff may select any order from the

current shift to minimize setup time while on another machine the pre-planned sequence has to be strictly maintained. Any deviations from this have to be documented by means of status codes which indicate the reason for the deviation. This in turn is visible immediately the detailed level as well as in aggregate views.

Our web-based system allows employees to use mobile devices as smartphones or tablets to document any problems at their source.



Additionally of course the typical figures as time spent, quantity etc. can be tracked.

## Quality control module

Legal requirements, customer requirements and not the least certifications require an ever increasing level of documentation of process steps. At the same time the creation of the corresponding document templates is causing huge overhead.

Our quality control module is fully integrated in the PDA. The employee has not to switch between different applications and instead gets a step-by-step explanation on the process. Typically the industrial engineering creates a template including the used tools and the required quality control measurements required.

The screenshot shows the DStehr\_13285929/40@0543 für QMModul interface. It features a header with navigation icons and a 'Teil# 0' field. Below the header, there is a section for 'Qualitätsdaten notwendig' with a 'QMod: 1' field. The main area contains input fields for 'Sollwert' (75), 'Minwert' (74), 'Maxwert' (76), and 'Istwert'. At the bottom, there are 'Abbrechen' and 'Speichern' buttons.

During the first production run this data can be easily extended. Workers can use the built-in camera of their smartphone to take photos on the setup of machine and product and record via voice recognition additional production hints.

In the next production runs the full step-by-step approach is available and reduces the errors and time.

## Integration

We have much experience in the integration. This typically starts with the ERP-system which provides order data, purchasing orders and inventory. But we also have experiences in the connection of the machine level, e.g. to extract time and quantity data from the machine. But we also included pick-by-light shelves and sensor data to exchange measurement data, CNC-programs and commands. We support typical industrial protocols as MQTT, REST and OpenProtocol as well as of course the exchange of files.



## About us

Our company was founded in 2016 as a result of an industrial consulting project. We consider ourselves as partner of manufacturing companies that helps not only with the provision of a software



but to accomplish your objectives. Since foundation we have been awarded every year as one of the best companies in the area "IT & Softwaresolutions for the industry" as well as the "Initiative Mittelstand"

For us it is very important to support your specific requirements and to provide an intuitive system.

We are happy to discuss any requirements.

You can find our contact details at [www.sim-erp.de](http://www.sim-erp.de)

