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INDUSTRIAL MANUFACTURING 4.0

RELIABLE SUPPLY CHAINS PLANNING FOR DISCRETE MANUFACTURING

Discrete manufacturing is one of the most diverse industries of all. Alongside the series production of packaging, glass products and building materials, it also includes the made-to-order production of heavy industrial pumps, electricity pylons, refrigeration technology and locomotives. Whether we're talking make-to-stock (MTS), make-to-order (MTO/CTO) or variant production (CTO): these sub-industries all share the multi-stage nature of production, the high staffing levels within many production stages and the widespread involvement of external contract manufacturers in the logistical chain.

Everyday supply chain management in the discrete manufacturing industry is characterised by rapidly changing conditions in production logistics in the form of ongoing disruptions in the market and, in particular, increasingly frequent raw material shortages. This makes end-to-end supply chain planning necessary.

Our software solutions make this possible for every branch of the discreet manufacturing industry – from sales forecasting to procurement planning and detailed planning.

Thanks to our many years of experience with our customers, both within and outside the German-speaking market, we are able to find the optimal solution for your future supply chain management, including responsive and cost-effective production.

Our products are all fully integrated into SAP ERP and S/4HANA and provide optimal support for or complement your existing processes. Our modular product portfolio allows us to address the SCM issues that appear to be the most promising at the moment:

automation of detailed planning, digitalisation of the raw materials planning as part of the S&OP process, or incorporation of forecast figures from suppliers or customers in accordance with the VMI concept. We offer you the choice to work with us in designing your processes for Supply Chain Management 4.0!

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ORSOFT Enterprise Workbench

Monitor globalised value chains in real time through end-to-end supply chain optimisation

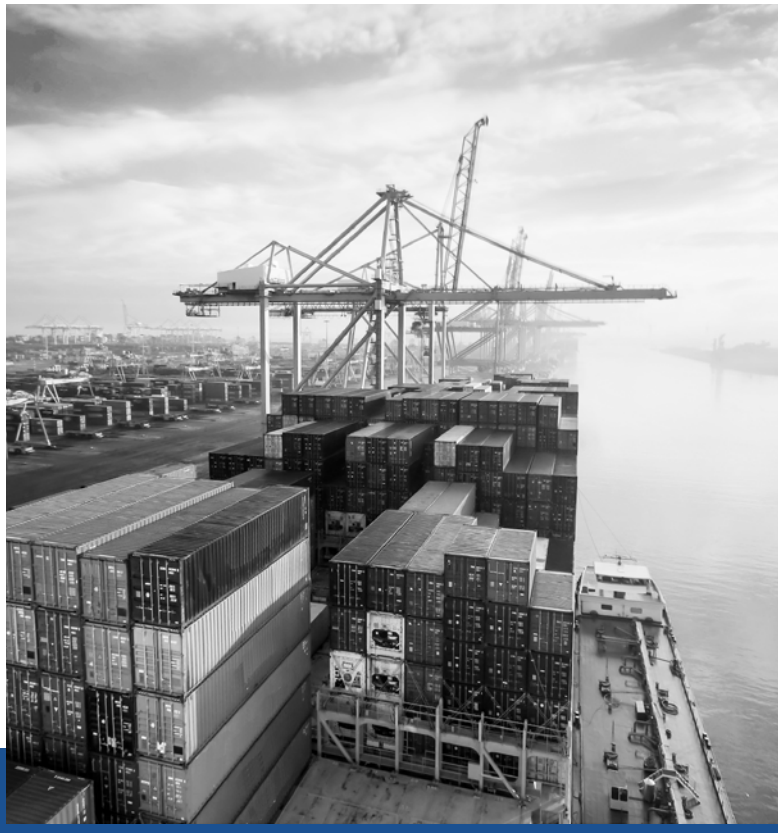
Disruptions to traditional sales and operations planning pose a major obstacle for discrete manufacturers today. The quantities ordered by customers are very volatile, making it almost impossible to achieve a high degree of forecast accuracy. This means that in order to be able to supply customers on time, a high level of safety stock of intermediate products is necessary throughout the supply chain, which unnecessarily ties up a lot of capital.

The ORSOFT Enterprise Workbench helps companies to better forecast future sales volumes – even for different product variants – while simultaneously checking which raw material quantities, safety stocks and transports are needed throughout the supply chain in order to produce at optimal costs. Forecasting and demand planning with volatile demand curves are made significantly more accurate with the help of artificial intelligence and machine learning. New product launches for customers benefit from the seamless transfer of histories from legacy products.

Sales & operations planning makes it possible to tactically and operationally simulate which staff capacities will be needed in the long term for the forecast figures. A long-term overview of the necessary raw materials also makes it possible to respond tactically to price fluctuations for raw materials and to avoid high stock levels. The solution is based on the production logistics model of SAP ERP and SAP S/4HANA. The capacity check is not based on coarse volume-time requirements, but on scheduling, taking into account relationships, shifts and other restrictions. This involves interactive, simulation-based planning processes which replace the previous batch-oriented processes, and rough planning becomes a seamless extension of detailed planning with additional capacity reserves freed up for important customers.

Expected added value from an introduction:

- → Improvement of forecast accuracy by 5–20%
- → Reduction of transport costs to distribution centres and to the customer by 5–10%
- → Reduction of capital commitment through a decrease of safety stock by 2–5%
- → Reduction of costly extra shifts by 20–50%
- → Reduction of raw material costs by 2–5%
- → Improvement of the efficiency of operational planning and IT support by 20–80%
- → Rise in customer commitments by 2–5% on the desired date



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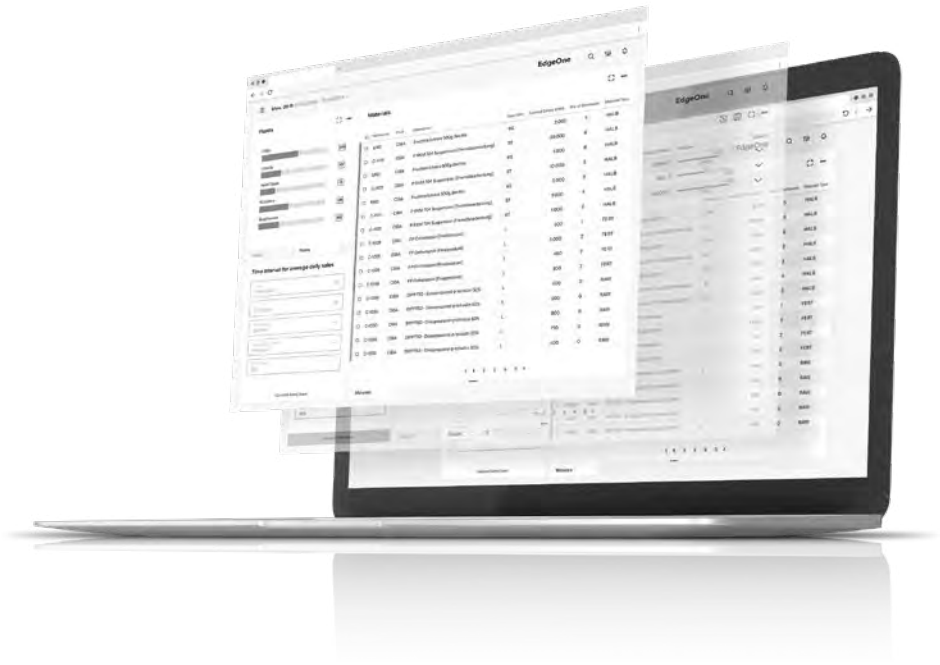
The advantages of the “ORSOFT Enterprise Workbench” at a glance:

- → **Global single point of truth** for the supply chain through certified integration in SAP ERP and SAP S/4HANA
- → Forecasting methods **supported by machine learning** for the sales planning process
- → **Simultaneous material and resource planning** to balance available capacity and capacity requirements for the next 24 months
- → **Simulation of the impact** of strategic investments in new products, equipment and production facilities
- → **Consideration across factories**, including multi-stage supply chains, in order to be able to counteract delays/bottlenecks at an early stage
- → **Reliable overview** of raw material and personnel requirements to ensure a high OTIF percentage

Technical highlights:

- → Real-time simulation platform with in-memory technology
- → Elimination of duplicate data storage through certified RFC interface
- → 100% compatible with SAP user management
- → Machine learning and artificial intelligence form the basis of planning algorithms



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ORSOFT Manufacturing Workbench

Simultaneous material and multi-resource planning

The challenges that discrete manufacturing companies face when it comes to detailed planning are manifold: Orders from customers placed at short notice, frequent re-scheduling due to staff shortages in the production area or frequent changes in the set-up of the production machines due to changing demands represent just a few of the daily concerns being faced. This complexity can only be managed with a detailed planning tool that can simulate and optimise both capacities and material flows.

The ORSOFT Manufacturing Workbench follows the principles of advanced planning and scheduling and offers interactive material and simultaneous resource planning with the option to create planning scenarios and collaboratively select the desired scenario based on key figures. Additional industry enhancements such as the ability to integrate maintenance orders into the plan, to plan production resources/tools as an additional dimension or to manage capacity reserves for contract manufacturers, allow the production process to be digitally mapped in accordance with the digital twin principle. Based on SAP ERP or SAP S/4HANA data, the software provides an immediate overview of capacity utilization, material flows, delay situations and material key figures – even across different locations.

In doing so, the ORSOFT Manufacturing Workbench supports manual processes (in Gantt chart as well as daily charts) as well as automated planning, in which human intervention is only required for regulation. All partial solutions are not only used as APS systems or control stations, but existing SAP processes can also be reused, for example, online ATP and CTP checks can be called up directly from SAP transactions at the touch of a button. Users receive reliable information on delivery dates and prices immediately.

Expected added value from an introduction:

- → Reduction of capital commitment through a decrease of safety stock by 3–10%
- → Reduction of setup times by 10–50%
- → Improvement of the efficiency of operational planning and IT support by 20–80%
- → Improvement of OTIF by 5–10%

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The advantages of the “ORSOFT Manufacturing Workbench” at a glance:

→ **Simultaneous capacity and material flow planning** with the option of integrating maintenance, personnel, production resources and tools, or projects

→ **Automatic scenario generation** for easier selection of the optimal production plan

→ **ATP, CTP and PTP checks** directly from the customer entry

→ **Quick increase in value through piloting** by means of a certified interface

→ **Flexible planning solutions adapted to customer needs** based on standard products

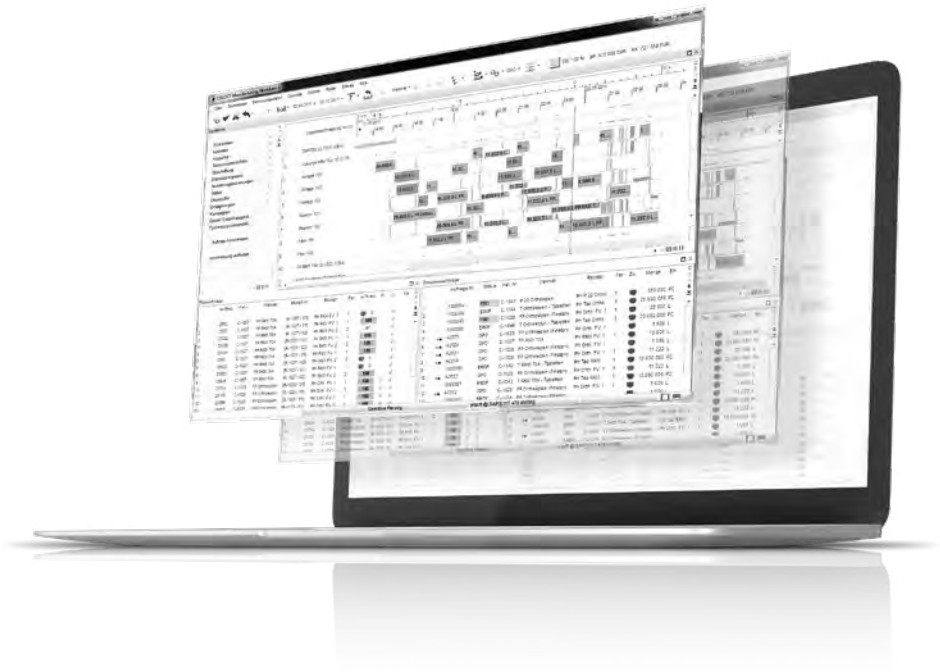
Technical highlights:

→ High-performance response through local RAM database with the possibility of planning in real time

→ Elimination of duplicate data storage through certified RFC interface

→ 100% compatible with SAP user management

→ Planning can be automated according to the principle of autonomous planning



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ORSOFT LabScheduling

Laboratory planning as part of an integrated planning process from planning through to quality controls

Customer expectations for the highest quality are constantly increasing. These days, discrete manufacturers who do not have appropriate quality control quickly lose orders and, in the worst case, can lose the customer entirely to the competition. At the same time, the importance of quality management for small batch production is rising, as expensive post-processing steps become necessary in the event of any shortcomings.

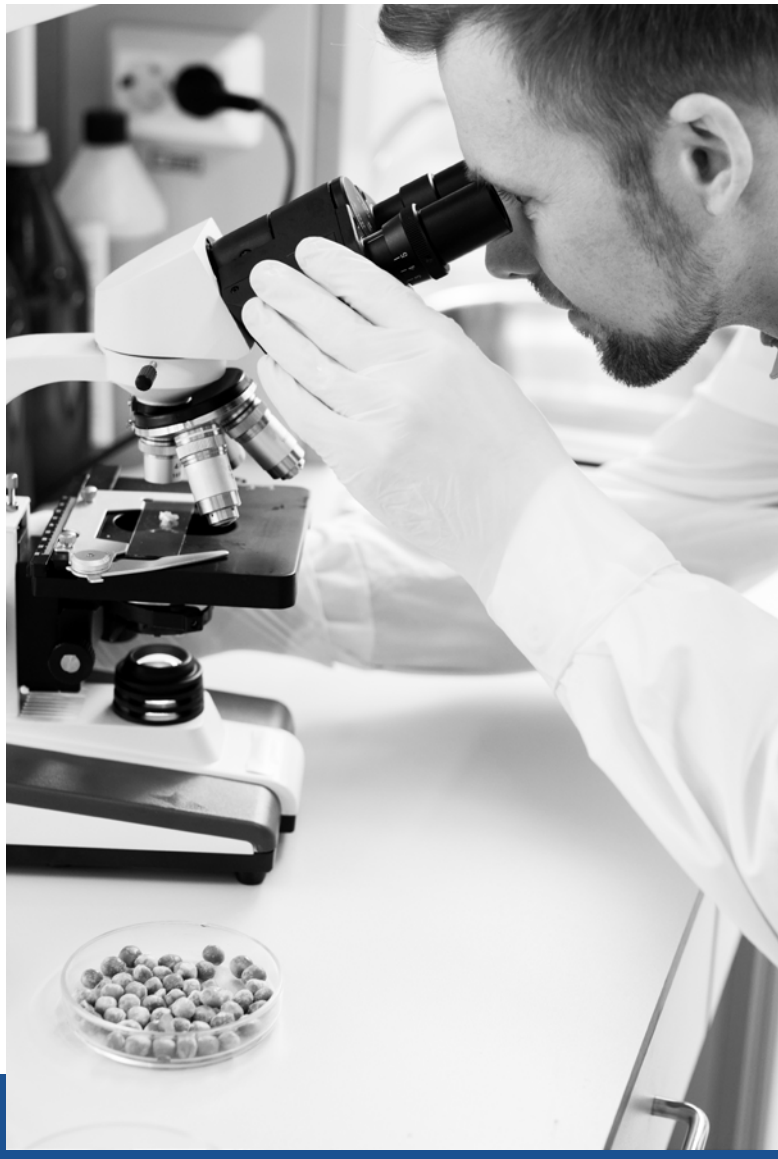
Quality control involves a massive demand for personnel and equipment in order to carry out tests after goods receipt, before dispatch and alongside production processes. Inadequate capacity previews of (end) products that need to be tested can quickly cause new bottlenecks in production and thus lead to delays in laboratories and even late deliveries to customers.

ORSOFT LabScheduling enables integrated laboratory planning on the basis of production planning in ERP up to the evaluations from the LIMS. At the process level, capacity analysis, capacity planning and detailed planning are supported. This allows for precise capacity forecasts and the early detection of capacity bottlenecks in the laboratories. In conjunction with detailed planning, real-time data processing allows flexible reactions to changing business events and agile detailed planning of the laboratories. This leads to a high level of planning transparency. In turn, quality inspectors and supply chain management can track the entire business process across the long, medium and short-term planning horizons.

Additional functions enable the prioritization of tests in relation to the requirements of the production, procurement and sales departments. It is also possible to assign inspection lots to employees in order to take different employee qualifications into account.

Expected added value from an introduction:

- → Improvement of OTIF by 3–8%
- → Improvement of the efficiency of the testing staff by 10–30%
- → Improvement of laboratory throughput by 5–15%



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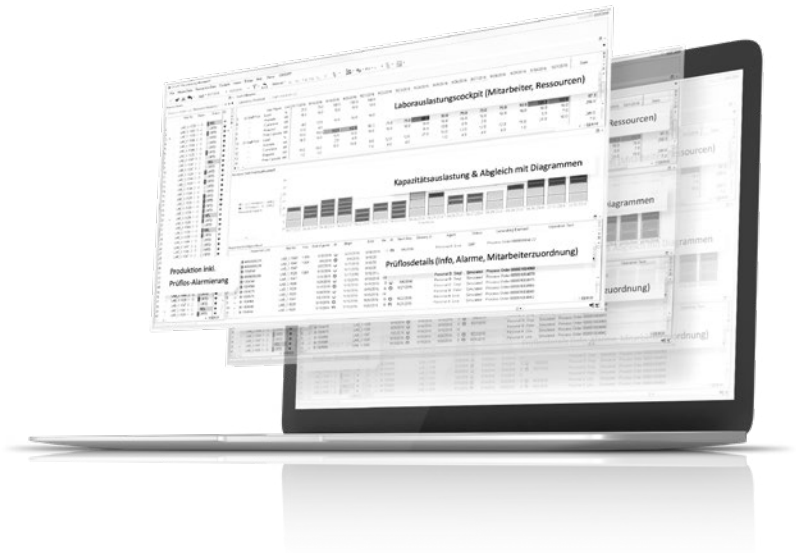
The advantages of “ORSOFT LabScheduling” at a glance:

- → **Extension of the classic supply chain** through the inclusion of simulated quality inspections
- → **Short, medium and long-term capacity preview** for future audits
- → **Optimisation of the use** of equipment, personnel and testing resources
- → **Automatic levelling** of the simulated tests available as standard
- → **Fast responses** thanks to real-time data processing and complex simulation capabilities

Technical highlights:

- → High-performance response through local RAM database with the possibility of planning in real time
- → Flexible connection to external databases and all common LIMS systems
- → Integration by design for the group’s own LIMS from the company QDA
- → Compatible with all classic detailed planning solutions
- → Seamless transition from simulated inspection lots/test procedures to real tests
- → Access to planning results via web frontend



Get in touch →

ORSOFT is part of the Germanedge Group.
Germanedge is a leading provider of Manufacturing Operation Management (MOM) software that brings Industry 4.0 into the perfect flow. Together with its four product providers (GEFASOFT, New Solutions, ORSOFT and QDA SOLUTIONS) the brand offers a complete solution portfolio for the manufacturing industry: international, cross-plant, maximum efficiency.