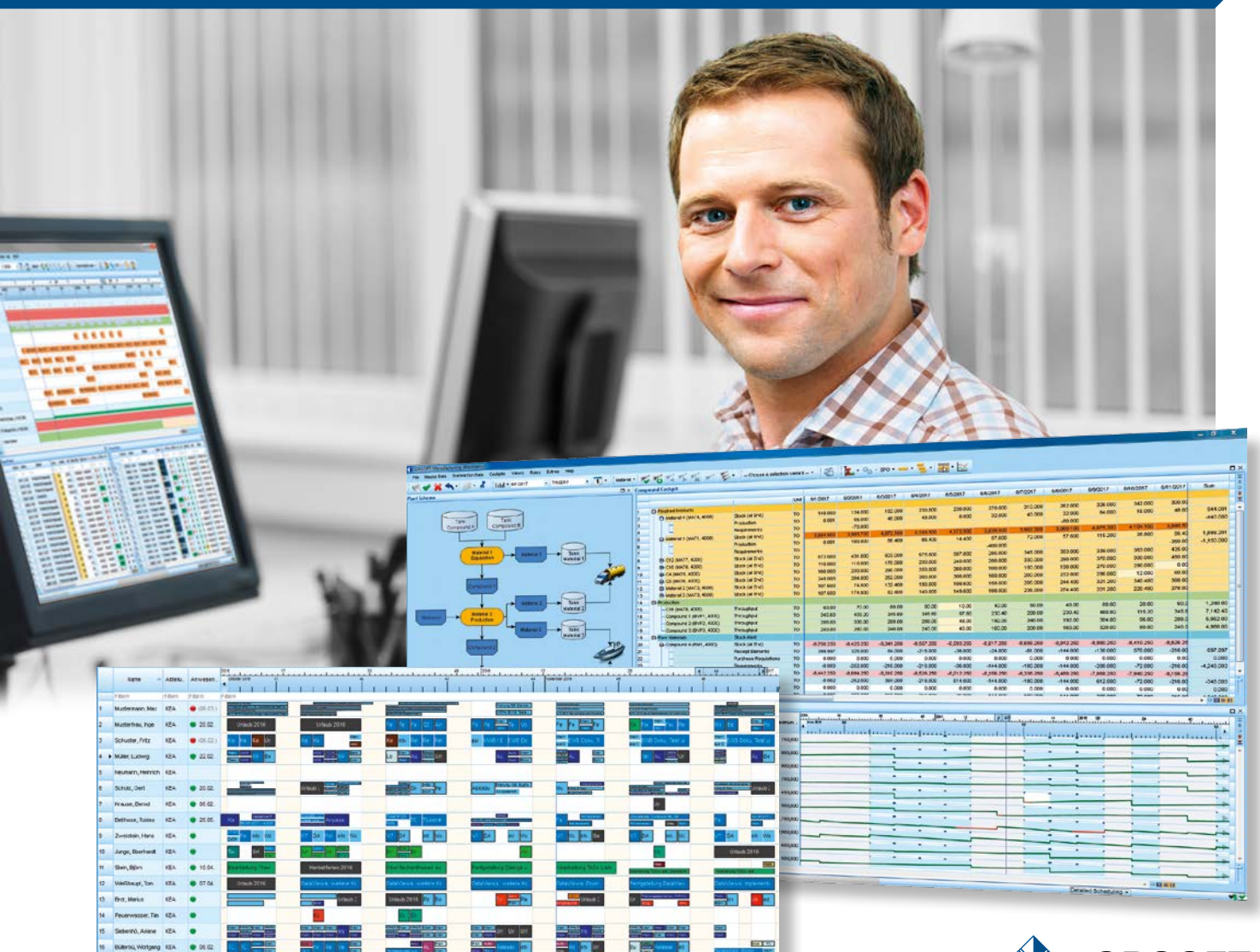


# Advanced Planning and Scheduling for SAP® ERP and SAP® S/4HANA

## Simultaneous Material and Multi-resources Planning



ORSOFT Manufacturing Workbench (ORSOFT MWB) is an Advanced Planning and Scheduling (APS) software that can be used as an add-on to SAP ERP and to SAP S/4HANA.

It provides functions and user interfaces to gain an overview of and plan complex production and cross-plant processes, taking industry specifics into consideration.

Certified Add-Ons  
for SAP® ERP  
and SAP® S/4HANA

# Advanced Planning and Scheduling

## PLAN BETTER IN SAP ERP / SAP S/4HANA

ORSOFT Manufacturing Workbench follows the principles of advanced planning and scheduling and offers interactive, simultaneous multi-resource planning, allowing the planning scenarios to be simulated and optimized. Based on SAP ERP or SAP S/4HANA business data, ORSOFT software provides an immediate overview of capacity loads, material flows, delay situations and production key figures even across multiple plants.

Both dialogue-orientated, gradual improvements of plans using heuristics and algorithms and mathematical solver-based optimization processes are used.

ORSOFT's APS software solutions are based on a standard system with a user-specific shell that is the basis for tailored, individual planning solutions. These individual solutions will be fully maintained within the user shell.

## MORE THAN CLASSICAL SCHEDULING

Solutions based on ORSOFT Manufacturing Workbench are not only used as an APS system or control stations. Existing SAP processes are replaced by online ATP and CTP tests using static or dynamic pegging at the click of a button directly from SAP transactions. In this way, users immediately receive current and reliable statements concerning delivery dates and prices directly during the sales process without having to know or operate the software.

Additional solutions are e.g. the blend optimization in foundries or the leveling and smoothing in series production. Common to all solutions is the improvement of specific processes and fulfillment of company objectives within the production planning process based on an established functional range.

Today, the system is used in nearly all industries – whether the processing or the manufacturing industry.

## Industry Competence

### Chemicals

Multi-product campaigns  
 ♦ Energy requirements ♦  
 Lab Scheduling ♦ Batch  
 and semi-continuous  
 production and variable  
 outputs ♦ Constraints ♦  
 Fire load ♦ Cascades ♦  
 Tank Scheduling



### Oil and Petrochemicals

Blending and filling  
 plan ♦ Semi-continual  
 production ♦ Loading  
 plan ♦ Tank storage  
 and pipeline planning  
 ♦ Hydrocarbon product  
 management



### Food & Beverage

CIP ♦ Parameter-based  
 planning and packaging  
 ♦ Blending calculation ♦  
 Tank and silo planning ♦  
 Filling ♦ Shelf-life ♦ Lab  
 Scheduling



### Mill-Products

Blending optimization ♦  
 Box planning in found-  
 ries ♦ Vendor managed  
 inventory for packaging  
 manufacturers ♦ Cut  
 Planning ♦ Cross-Plant  
 Inventory Balancing



### Series Production, Automotive

Subcontracting ♦ Production  
 balancing and leveling ♦  
 Demand balancing ♦ KANBAN  
 principles ♦ Planning against  
 delivery plans ♦ Dynamic  
 pegging and CTP ♦ Resource  
 networks ♦ Order networks



Analyses ♦ Sequencing ♦ Maintenance Scheduling ♦ Personnel Planning ♦ Material, Resource and Capacity Planning (MRCP)  
 ♦ ATP ♦ CTP ♦ PTP ♦ Advanced graphical planning board ♦ Reports ♦ Cockpits with capacity-validated evaluations ♦ etc.



### Pharmacy

Laboratory planning  
 ♦ Packaging planning  
 ♦ Non-free packing ♦  
 Active agent content ♦  
 Prescription validity ♦  
 Customer retention ♦  
 Documentation



### Textile

APS for SAP ERP with  
 Industry Solution AFS ♦  
 Product mix ♦ Learning  
 curves and capacity  
 maintenance concern-  
 ing work familiarization  
 periods



### High Tech/Solar/Defense

Project system planning  
 by linking SAP PS and  
 SAP PP ♦ Folding tables  
 ♦ Dome production ♦  
 Missing Parts Lists



### Make-to-Order Production

Installation processes ♦  
 Mixed static and dynamic  
 pegging ♦ Capacity check  
 at basic dates ♦ Missing  
 Parts Lists ♦ Workflows



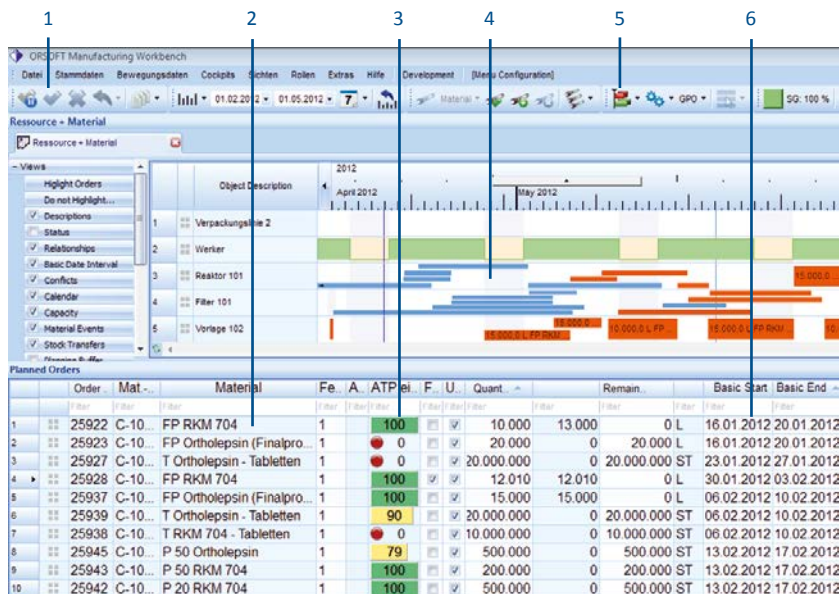
### Healthcare

Bed allocation ♦ Surgery  
 allocation ♦ Admission  
 coordination by clinical  
 patterns ♦ Appoint-  
 ment disposition for  
 ambulances and service  
 facilities



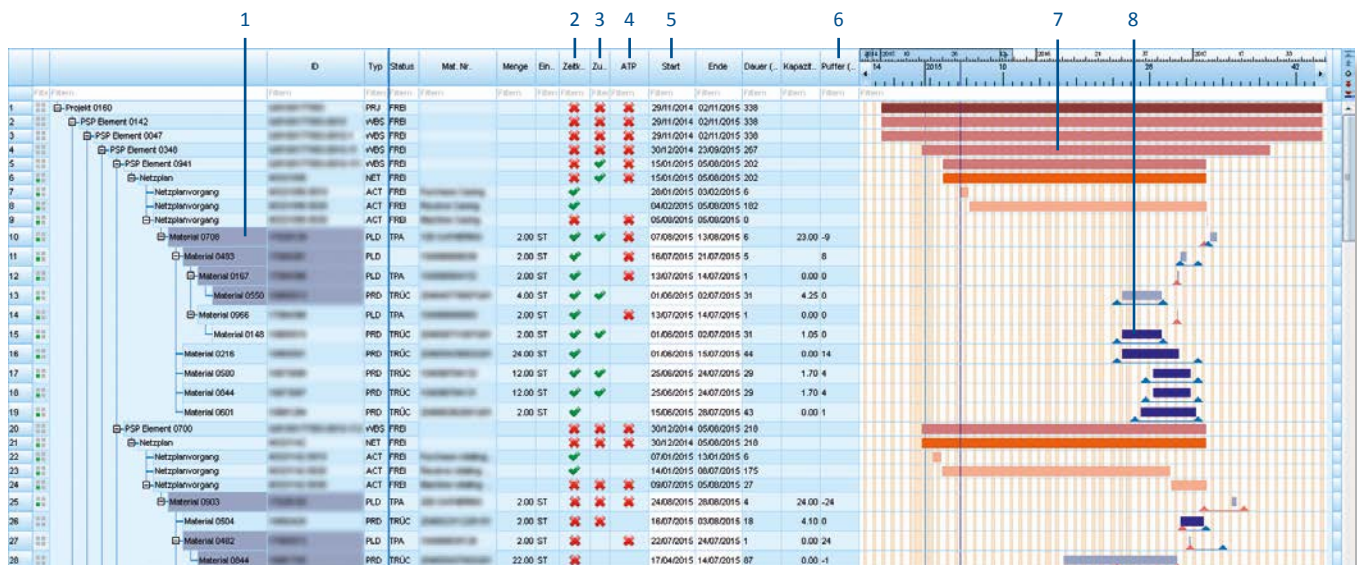
# Transparency and Optimal Decisions in Supply Chain Management and Production Planning

## Example for Simultaneous Material and Resource Scheduling with Gantt Charts



- 1 | Identification of the best (most profitable) planning through quick simulations in temporary local RAM databases
- 2 | Simultaneous planning of materials and capacities
- 3 | Immediate content update, such as dynamic ATP determination and feasibility test
- 4 | Improvement of the planning accuracy by using the detailed planning model for all planning levels
- 5 | Decision support through automatic planning algorithms and optimisation procedures
- 6 | Better overview and transparency, also across departments, plants and companies

## Example for Project-based Scheduling with Tree Display



1 | Critical Path: Highlights those orders in each subproject that define the lead time, that means primarily those orders need to be rescheduled in order to reduce the project lead time.

2 | Basic Time Conflicts: Do order steps exceed basic end dates?

3 | Feasible Schedule: Are no multiple order steps scheduled on a resource at the same time?

4 | ATP: Will all required materials be available in required quantity at the scheduled time?

5 | Filtering and ordering can be set using the column header menus. The more complex focus mechanism is a data-centric way of temporary filtering based on a set of key business objects. For example, focus on a specific material, hence concentrating on affected orders in a material supply shortage situation.

6 | Buffer: How long are time buffers between predecessor and successor productions, i.e. in which limits can subprojects be rescheduled without affecting other subprojects?

7 | Subproject scheduling in a supply chain

8 | Basic Dates vs. Schedule: compare basic dates with detailed scheduling

## SAFETY THROUGH CERTIFIED INTEGRATION INTO SAP

ORSOFT Manufacturing Workbench is an add-on for SAP ERP, SAP S/4HANA, and SAP S/4HANA PP/DS. Only data structures and nomenclature of the superior SAP system are used. There are no parallel data worlds. Usage and administration is much easier and simpler than separate, parallel systems.

The product uses a certified interface to the SAP system and can be implemented and used productively within just a few weeks.

ORSOFT has been a close partner of SAP SE since 1997 and a Microsoft ISV Gold Partner since 2011.

ORSOFT Manufacturing Workbench extends SAP ERP, SAP S/4HANA, and SAP S/4HANA PP/DS with regard to production planning through functional or model-specific additions and adds APS features for SAP Industry Solutions.

INTEGRATION	IMPLEMENTATION	ARCHITECTURE
<p><b>Certified Add-on to SAP Software</b></p> <ul style="list-style-type: none"> <li>◆ 100% integrated into SAP ERP</li> <li>◆ Uses business data and SAP authorizations from SAP ERP, SAP S/4HANA, and SAP S/4HANA PP/DS</li> <li>◆ No additional infrastructure or modifications in SAP ERP</li> <li>◆ Easy to administer software and interface</li> <li>◆ Fully maintained extension to SAP ERP (no individual programming)</li> </ul>	<p><b>Fast Piloting of Customer Data</b></p> <ul style="list-style-type: none"> <li>◆ Minimization of project risk from piloting based on customer data</li> <li>◆ Fast and gradual introduction without big bang with high ROI from the beginning</li> <li>◆ Short project terms</li> <li>◆ Standardized project implementation</li> <li>◆ If implemented as rich clients, then no additional hardware is required</li> <li>◆ Strong solidarity of the later user due to high user friendliness and use from the start</li> </ul>	<p><b>Standard and Individualization</b></p> <ul style="list-style-type: none"> <li>◆ Affordable due to powerful standard functionality</li> <li>◆ High-performance response behaviour due to local RAM database</li> <li>◆ Continual planning without system ends due to uniform detailed planning model for all planning levels</li> <li>◆ Simple adjustment to user requirements through configuration</li> <li>◆ Planning in accordance with strategic goals through powerful algorithms</li> <li>◆ Optimal decisions thanks to simulation ability</li> <li>◆ Choose interactive or short planning runs</li> </ul>



**SAP® Certified**  
Integration with SAP® S/4HANA

**SAP® Certified**  
Powered by SAP NetWeaver®

**SAP® Certified**  
Integration with Applications on SAP HANA®



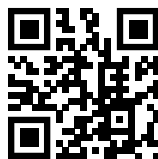
**Microsoft Partner**

Gold Application Integration  
Silver Application Development  
Silver Datacenter



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The SAP-certified solution ORSOFT Manufacturing Workbench is also available in the SAP App Center ([www.sapappcenter.com](http://www.sapappcenter.com)).



For further information please visit our website at:  
[www.orsoft.net/en](http://www.orsoft.net/en)  
[www.orsoft.net/en/mwb](http://www.orsoft.net/en/mwb)

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