Intelligent 3D Load Space Planning and Dynamic Route Optimization
Improve your Logistics Planning in SAP ERP and SAP S/4HANA

Challenges within Logistics
Challenges within logistics, specifically within logistics planning, are consistently becoming more complex: multifaceted operational logistics processes (omni channel), short planning times and steadily rising shipping and transportation costs. Logistics planning supported by a software solution based on mathematical algorithms is very fast, very accurate and delivers optimized results. Your employees will actively support in the daily operational decisions making and you will experience more cost efficiency and growth potential within your business.

Logistic Planning and Optimization Processes
ORTEC is one of the worldwide leading suppliers of mathematical optimization software and data analysis. For more than 35 years we have implemented and expanded our software throughout various industries and business areas. Our focus within logistics planning are vehicle route optimization and the three-dimensional packing and loading optimization. These solutions are based on long-standing tested and refined mathematical optimization processes, which can be planned with for example the loading on cartons, pallets, trucks and containers or the dynamic assignment of orders to optimized tours all while taking into consideration best business practice restrictions and capacities.

The Perfect Add-on for your SAP Environment
For businesses that are working with SAP ERP or SAP S/4HANA, ORTEC offers certified SAP add-on products. Out-of-the-box our products allow for the use of our optimization algorithms defined SAP business processes for logistics planning and execution. With these, the planning efficiency and quality are significantly increased, and the potential atomization of different planning processes is created. The add-ons are seamlessly integrated into the relevant SAP business processes and SAP technology, as well was easily configurable and thus allows you to maximize your investment in the SAP environment.

Added Value in Multiple Business Areas
ORTEC’s add-on products for SAP offer out-of-the-box integration and use in multiple business areas, for example:

For the order management in Sales or Purchasing the optimal number of cartons, pallets, trucks or even one or multiple customer orders or purchases can be determined. For the intercompany product management, optimized full loads with consideration of, for example, delivery priorities and product requirements can automatically be consolidated. For use in the transportation planning, where the unique combination of geographical route planning with the assignment from orders are made into optimal tours and the use of the 3D load space optimization offers maximum planning value.

SAP Premium Certified Technology
ORTEC is one of few suppliers whose add-ons have successfully passed the SAP Premium Certification process. In addition to the general testing done to confirm that our software is compatible and seamlessly integrated into your SAP product, it is required as part of the Premium Certification process to validate compliance to SAP Development Guidelines for code quality, performance and security. ORTEC regularly preforms this certification process as required by SAP and confirms through this, that all existing and new releases can be used without restriction in your SAP environment.
Professional Logistics Planning in SAP ERP and SAP S/4HANA

ORTEC Planning Tools in SAP
Because of our years of experience, ORTEC has many different business processes in SAP together with the advantages of our logistics optimization covered in our existing products for SAP. This allows for an extensive offering of different planning applications within your business – all in one add-on.

Freight optimized Orders and Purchases
The integration of the ORTEC load space planning in the separate SAP business documents and the related standard transactions offers employees the certainty that the shipping and transport capacities are optimally planned. In addition, employees can proactively, directly in communication with the customer, change the orders so that they can be fit across the available shipping and transport units as optimally as possible.

The Ideal Transport Planning
The ORTEC Planboard is an add-on module for the transportation planners, where they can choose to either plan with or without support of the optimization processes to create tours from Shipping Orders and then assign these to vehicles. If the 3D load space planning and/or route optimization are used, an automatic creation takes place for the route planning, the optimal usage of available capacities, while considering business restrictions of orders, pack items, vehicles, drivers, as well as loading and unloading locations. The route plan is shown for the user directly in SAP, simply and quickly with multiple graphic visualizations, and when necessary manual changes can be made to accommodate any operational requests needed.

Automatic Creation of Optimized Full Truck Loads
The ORTEC Transport Load Optimizer (TLO) is an add-on module, which was created for the requirements surrounding inter-company goods transfers and creation of complete load shipments. Based on various SAP documents, the products and quantity are planned according to their demand priority with the support of the 3D load space optimization into vehicles. If free load space is available, the algorithm will fill this space automatically with products of a lower priority with the goal of achieving maximum usage with the lowest transport costs per product.

Your Benefits
+ Multiple planning options in one central add-on based on the same master data, configuration, etc.
+ Professional logistics planning and optimization integrated in SAP
+ Decision making support for employees
+ Potential automatization of the planning processes
Optimal Loading for Shipping Services, Road Transportation, Rail Transportation, Sea and Air Freight

**ORTEC Load Building**

**The optimal loading scenario – available in seconds**

ORTEC Load Building calculates and simulates, within seconds with the help of intelligent algorithms, how cube or cylindrical items can optimally be packed in cartons, placed on pallets and efficiently stowed in a truck or container. Because of configurable assessment criteria the “optimal” suggestion is then provided. These results are provided in an easy-to-understand interactive 3D graphic presented directly in SAP thus allowing you to make decisions immediately.

**3-stage optimization: carton, pallets and truck**

Whether carton, pallet or load space planning, ORTEC Load Building supports you to efficiently and optimally use your limited resources. ORTEC Load Building is made up of three separate modules for the packing into shipping cartons, onto pallets or for the loading of trucks, containers or other shipping units. These can consider multiple scenarios and requirements while also allowing for individual use or customer specific combination. This allows for a powerful 3-stage packing optimization solution.

**Practice suitable consideration of Packing and Loading Regulations**

ORTEC Load Building is equipped with numerous options to take into account many different restrictions and planning requirements for example, stackability, grouping, sequencing, axle weight restrictions, center of gravity, package orientation, etc.

**Proven Technology**

ORTEC Load Building has been in use for many years by leading companies worldwide in various industries for planning and optimization of their shipping and transportation units. With ORTEC’s certified integration in SAP you no longer need any interface to third-party external systems.

**Your Benefits**

+ From 3% to 7% improved utilization of shipping and transport units
+ Reduction of planning time needed from 50% to 70% in comparison to manual planning
+ Reduction of delay risks during loading due to not loadable items which require additional time on the ramp because of reloading or even lead to cost intensive need for additional transports
+ Improved customer service and increased customer satisfaction
More Efficiency and Transparency in Tour Planning

**ORTEC Route Scheduling**

**Optimize your Tour Planning**
The Route Scheduling module optimizes based on SAP Sales Orders/Deliveries and vehicles to create the most cost-efficient assignment to route optimized tours, where the digital map is used to calculate exact distances and times and the vehicle capacity is used to control the maximum vehicle utilization. In connection with this, a comparison of the used vehicles, the allowed vehicle types and required equipment is done against the selected orders. The module can be used to model multiple scenarios also including delivery shipments through a 2-stage Cross-Docking transport.

The calculation takes multiple strategies and planning restrictions into consideration:

- Digital map material for the exact route calculation (time and distance)
- Manual, semi-automatic and automatic creation of tours (assignment of orders to vehicles)
- Multiple planning restrictions such as detailed drive times, time windows for the loading/unloading, allowed vehicle types, required driver or equipment, and loading space capacities
- Load space consolidation and full load truck distribution supported by intelligent algorithms
- Possible to plan single or multi-day tours
- Combination of incoming and outgoing transports
- Consideration of driver break times

**Your Benefits**

- Fewer kilometers driven
- Reduction of driver overtime
- Compliance with customer requirements
- Maximum utilization of transport units
- Low impact made by daily changes to the transportation planning
Expand Your SAP Environment with Business Proven Software

**IT Compliance, Secure Business**

In the age of digitization and networking, the compliance with IT Regulation Standards and a trusted and simple usage of the software are important deciding factors when selecting a new solution. ORTEC add-ons are SAP Premium certified, which tests and validates the code quality, system performance and security based on set SAP Standards.

**User Friendly**

All user interactions with the functionalities of our add-ons occur through the trusted and known SAP GUI user interface, often in the SAP standard transactions already in daily use. This reduces the initial training needed and increases productivity across the board in daily business.

**Expandability**

ORTEC’s Add-Ons for SAP have been developed with the same concept of expandability and configuration as the standard SAP products have been. Compliant with SAP standards, the individualization of the add-ons through configuration or customer specific developments to accommodate your organizational and process requirements is an essential feature. In comparison to other suppliers, ORTEC can individualize the optimization processes so that you achieve the maximum additional value - even for specific and specialized business requirements.

**Release Compatible**

ORTEC meets the strict requirements of the SAP Premium Certification through regular testing of our own new product versions with the SAP Releases. Through this, it is ensured that your SAP environment will run and function stably and securely with our add-ons.

**Scalability**

Our add-on solutions can be scaled to meet your business needs based on work volumes. This allows for process security in your daily operations and the flexibility to respond to short-term spikes in workloads if necessary.

**Future-proof**

ORTEC involves itself continually in the new SAP technologies and concepts, so that you have security that you can continue to profit from the newest innovations. With the regular release of new versions of our add-ons, you stay current with the most up-to-date technologies we offer.
Our software solutions

SAP add-ons

ORTEC for SAP S/4HANA
Logistics Optimization embedded in SAP S/4HANA.

ORTEC for SAP ERP
Logistics Optimization embedded in SAP ERP.

Windows-applications

ORTEC Load Building
Carton, pallet, and load space optimization plus order picking.

ORTEC Routing and Dispatch
Route planning and optimization with a primary focus on real-time route planning and dispatching in a multiuser environment.

ORTEC Route Scheduling
Route planning and optimization for logistics and field services.

ORTEC Tactical Routing
Territory and delivery day optimization including individual route sequencing and the creation of trips while optimizing the utilization of resources.

ORTEC Service Planning
Route planning and optimization for field services.

ORTEC Inventory Routing
An advanced solution for demand forecasting, order generation, and route planning and execution.

ORTEC Workforce Planning
An advanced solution for warehouse control.

ORTEC Workforce Scheduling
Strategic workforce planning, forecast and budgeting.

ORTEC Warehouse Control System
Operational workforce scheduling with rules, skills, service-level agreements and employee preferences taken into account.
About ORTEC
The ORTEC journey started in the early 1980s. A few young Dutch students wanted to show the world the value of mathematics to secure long term sustainable growth for organizations and society at large. 39 years later, ORTEC is the world’s leading supplier of mathematical optimization software and advanced analytics with around 1,000 employees and offices in 13 countries around the globe. Over the years, we have optimized business processes at more than 1,200 leading companies, enabling us to make a significant contribution to a better world.

ORTEC world wide

Want to learn more about our solutions? Contact us at:

✉️ info.de@ortec.com
✉️ ortec.com