

EFFICIENT ROUTE AND DISTRICT PLANNING

WHEN WASTING TIME AND RESOURCES IS NOT AN OPTION

Your fleet and personnel constitute two of your most significant costs. How can you make the most of them? Using SAP® Route and District Management for Waste and Recycling by PROLOGA, you can optimize your routes and resource allocation, increasing efficiency and eliminating waste on the road.

Determining how best to complete all your scheduled jobs on a daily basis, integrating routine contract work with one-off hauling jobs, and defining how to satisfy customer requests for service changes pose serious managerial challenges. You need to assign appropriate vehicles and crews, plan the routes so that all vehicles cover the shortest distance possible, and ensure that all tasks are completed in a timely manner.

Software from SAP can help. SAP® Route and District Management for Waste and Recycling by PROLOGA enhances the dispatching tools of the SAP Waste and Recycling application. It helps you plan more effectively for the short, medium, and long terms. You can optimize routes and districts using digital maps, manage capacity, and plan operational tours more efficiently and effectively, because the tools that can help you meet these goals are integrated in a single application. Business-relevant data such as the locations of waste generation sites, disposal facilities, or depots can be geocoded and connected to commercial and logistic data. Moreover, because you can connect the SAP Route and District Management for Waste and Recycling application with the SAP ERP application, you can take advantage of existing master and variable data – without any additional interfaces.

Short-Term Operational Route Planning

That some managerial tasks involve short-term activities does not mean

that you cannot manage them more effectively. The operational tour planning functionality of SAP Route and District Management for Waste and Recycling helps you schedule and manage events that might have only a one- or two-day planning horizon. Yet for certain tasks – container service management, for example – this is a critical time horizon. The operational tour planning functionality of this application can help you accomplish certain tasks more effectively than ever:

- Assign single order items or disposal orders to vehicles and define routes
- Integrate customer and service orders from SAP ERP as well as waste and disposal orders in the planning process
- Visualize service locations, planning objects, and routes using a digital map
- Drag and drop objects to associate them with routes and resources

The power and flexibility of an interactive digital map makes it easier to schedule your activities. Depots, waste disposal facilities, and more appear on the map, and you can select objects simply by clicking on them. The software helps you calculate the optimal route from one point to another and prints the route information in a list format.

The functionalities of the scheduler are tightly linked with operational route planning. When you use the short-term planning functionality, a branching hierarchy plans different order types. The scheduler supports planning by day, by hour, and even by minute. Additionally, you can display labor times graphically on a time bar.



The operational tour planning functionality of SAP Route and District Management for Waste and Recycling helps you schedule and manage events that might have only a one- or two-day planning horizon.

The software also helps you see where all your vehicles and crews are supposed to be and which orders they support on selected days. You can sort this information in multiple ways to gain a variety of managerial insights:

- Availability of vehicles managed with the plant maintenance functionality within the SAP ERP application
- Allocation of a vehicle to a route or waste disposal order
- Availability of staff allocated through the human resources functionality of SAP ERP
- Scheduled and unplanned orders
- Address related to the order

You can see all your waste disposal orders and their related items. You can also reallocate vehicles and resources simply by dragging and dropping icons on the screen. You can track any unplanned services; the software displays them by service type or service area, so you can integrate the services into your plans.

Once you have completed your short-term planning activities, the application automatically saves the changes in the related waste disposal orders and items.

Medium-Term Capacity Planning

Certain standard tours, such as bulk waste collection, are subject to capacity changes at short notice. SAP Route and District Management for Waste and Recycling provides capacity planning functionality that supports planning horizons of one to four weeks – ideal for managing these jobs. You can:

- Assign planning horizons and capacities to a capacity type and calculate daily capacities
- Define thresholds and warning levels for the planning horizon and the daily capacity
- Assign orders to a planning horizon (unspecified performance date) without losing sight of the total capacity
- Assign orders to key dates while always being informed about your daily capacity
- Track and report on actual and anticipated capacity to ensure optimal customer service

You can post orders and their associated items against specific capacity categories. You can even post orders against several different capacity categories. For example, you can post a disposal order against a daily and weekly capacity allocation, and the software tracks the order under both capacity categories. A general capacity category lists most special waste disposal orders; a special capacity category contains only orders that fulfill the special capacity criteria.

Long-Term District Planning

Other tours rarely require modification – such as street cleaning, winter road clearance, and container servicing. For these tours, you need tools that can help you plan for the long term.

The route district planning functionality of SAP Route and District Management for Waste and Recycling supports a planning horizon 6 to 12 months into the future. You can create and maintain alternate routes in a variety of planning scenarios. You can compare the scenarios and activate them at the appropriate date, ensuring optimal routing at every stage.

You can satisfy other long-term planning needs as well with SAP Route and District Management for Waste and Recycling. For example, you can:

- Define service and performance catalogs for a vehicle group, crew, and service types, enabling you to define the pool of orders to be planned
- Create route districts and assign planning sections – for example, by district, street, or container location
- Define, calculate, and display key performance data

Within different planning scenarios, you can define route districts for individual planning areas without having to change active master data. You can assign planning sections and allocated containers to different route districts. You can also define and calculate various planning indexes – such as route capacities, distances covered, and so on – for each planning scenario.

Once you have tested your scenarios and identified the one that best suits your requirements, you need only indicate a scenario start date. The software automatically updates the assigned routes, creates any new routes that you have identified, and indicates service frequency.

Real-Time Interaction with the Road

Optimized short-term, medium-term, and long-term plans are critical to operational efficiency, but real-time communication with crews on the road is sometimes even more important for immediate customer satisfaction. To facilitate such real-time interactions, you can integrate SAP Route and District Management for Waste and Recycling with SAP Mobile Order Management for Waste and Recycling by PROLOGA.

The SAP Mobile Order Management application enables you to communicate, exchange data, and interact fully with onboard units in your vehicles as they go about their daily tasks. Your drivers have access to real-time data, so they can see any changes made by your schedulers and controllers. You can manage vehicle breakdowns and traffic issues, reschedule jobs, and redirect the most appropriate vehicles and crews for reallocated or ad hoc jobs that require immediate attention.

The bottom line? Integrating SAP Route and District Management for Waste and Recycling and SAP Mobile Order Management ensures that you and your crews have access to vital data

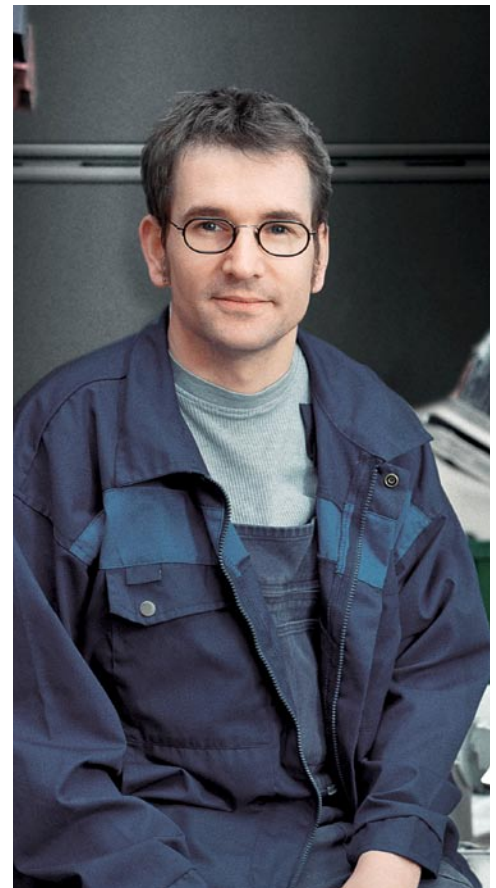
about service delivery. That means that you can make the most of that information to address customer requests and concerns. You optimize your operations and reduce bottom-line costs.

A Complete Solution for Route and District Planning

The ability to plan highly efficient routes and to manage closely the logistics of crews and vehicles is crucial to the realization of an operationally efficient hauling service. SAP Route and District Management for Waste and Recycling provides the tools and functionality required to help you achieve those efficiencies. The software does the following:

- Integrates with your core business processes and systems, ensuring optimal use of resources
- Enables optimal scheduling and resource deployment
- Facilitates planning on a long-term, medium-term, and short-term basis
- Provides digital maps on which you can drag and drop resources to develop optimized routes
- Supports allocation and reallocation of resources to accommodate changes in orders, capacities, or other contingencies

SAP Route and District Management for Waste and Recycling has been specifically designed for waste management companies. The application can help ensure that all jobs you agree to undertake on a given day will be executed in accordance with your customers' requirements and as efficiently and cost-effectively as possible.



Optimized short-term, medium-term, and long-term plans are critical to operational efficiency, but real-time communication with crews on the road is sometimes even more important for immediate customer satisfaction.

For More Information

To learn more about how SAP Route and District Management for Waste and Recycling can help you plan more effectively, call your SAP Services representative today or visit us on the Web at www.sap.com/solutions/solutionextensions/wasterecycling/index.epx.

Summary

SAP® Route and District Management for Waste and Recycling by PROLOGA has been specifically designed to support the planning and management needs of waste management and recycling companies. It supports route planning and management, from the development of optimized routes using the latest in digital mapping technologies to the development of long-term plans that optimize the delivery of customer services. The software integrates with the SAP ERP application, ensuring effective use of existing master data.

Business Challenges

- Eliminate waste through more efficient use of assets and resources
- Ensure the attainment of customer service goals
- Develop viable service delivery plans for the short, medium, and long terms
- Manage ever-changing capacity constraints

Supported Business Processes

- **Dispatching** – Improve short-term route planning and assign orders to vehicles immediately
- **Route management** – Compare routes through scenario planning with the map-based planning tool set
- **Resource and inventory management** – Ensure optimized assignment of your resources
- **Fleet management** – Record all relevant work processes, tours, and performance data of your vehicles when you use the SAP Route and District Management for Waste and Recycling application with SAP Mobile Order Management for SAP Waste and Recycling by PROLOGA

Business Benefits

- **Lower costs** by optimizing use of vehicles and personnel and by reusing master data and other information already residing within enterprise systems
- **Increase customer satisfaction** by enabling rapid response to customer service requests
- **Respond to change quickly** by developing optimized alternative routing models and reallocating resources quickly and efficiently

For More Information

Call your SAP representative, or visit us online at

www.sap.com/solutions/solutionextensions/wasterecycling/index.epx.

50 092 740 (08/11)

©2008 by SAP AG.

All rights reserved. SAP, R/3, xApps, xApp, SAP NetWeaver, Duet, PartnerEdge, ByDesign, SAP Business ByDesign, and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and in several other countries all over the world.

Business Objects and the Business Objects logo, BusinessObjects, Crystal Reports, Crystal Decisions, Web Intelligence, Xcelsius, and other Business Objects products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Business Objects S.A. in the United States and in several other countries all over the world. Business Objects is an SAP company.

All other product and service names mentioned are the trademarks of their respective companies. Data contained in this document serves informational purposes only. National product specifications may vary.

These materials are subject to change without notice. These materials are provided by SAP AG and its affiliated companies ("SAP Group") for informational purposes only, without representation or warranty of any kind, and SAP Group shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP Group products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.