

DHL Worldwide Express

Optimized Route Planning at DHL Worldwide Express

DHL Worldwide Express is one of the top 3 parcel service provider in the United States and the largest in Europe. Part of Deutsche Post Group, DHL cooperates with many other international parcel service providers (e.g., Securicor in the UK, Ducros in France and Deutsche Post Euro Express in Italy) via the EuroExpress network of Deutsche Post World Net.



120,000 destinations

DHL links 120,000 destinations in about 230 countries and has over 4,000 offices worldwide. No rail, air or sea services are included in this network. Orders larger than five pallets are directly transported from pickup to delivery address ("direct transport network"); other orders are first brought to the pickup distribution center, while during the night, combined truckloads are transported between distribution centers (in the inter-depot network). In the morning, orders are distributed from the distribution centers to the delivery addresses.

Strategic planning

ORTEC has successfully implemented SHORTREC as a strategic planning solution for the interdepot network. This easy-to-configure advanced routing and scheduling system is used for the optimal construction of routes and schedules for a given time period and to evaluate different strategic "what-if" scenarios (integration with Danzas and World Net for example)

SHORTREC, as configured for DHL, takes the following characteristics into account while optimizing:

- Sorting speeds at the different depots and time windows in which orders become available.
- Service level / costs trade-offs for use of extra depots and transshipments.
- Relations of orders to the international network and ready-times of international orders in the inter-depot network.
- Express orders for which special times, quality rules and vehicle type restrictions have to be met.

Reduction of required vehicles

In 1997 ORTEC also implemented SHORTREC as solution for P&D operations (to and from various distribution centers). Modules have been configured for the optimal division of orders to certain areas, assignments of trucks to areas and for strategic planning of the different loading patterns in these areas. Using SHORTREC has resulted in a substantial reduction of required vehicles.

Complete solution

To fully support the complete DHL "direct transport network", ORTEC has recently also rolled out SHORTREC as real-time planning solution for orders from pickup to delivery address. This solution is used for both strategic & real-time planning and also to assign transport costs to different customers, carriers and drivers.

In order to cope with this dynamic environment, realtime board computer information is used as input for the optimization engine, resulting in management information that is helpful for decision support processes. This is most effective in tender procedures with customers as well as optimization and balance of the direct transport network.



ORTEC Company Overview

ORTEC is the largest provider of optimization (operations research) technology and decision support solutions in Europe. Founded in 1981, ORTEC currently boasts both United States and European headquarters in addition to several more offices worldwide including Africa and Asia. ORTEC has many years of experience in the Transportation and Logistics domain successfully developing and implementing complex, high-level decision support solutions, which continues to be ORTEC's primary focus.

SHORTREC Solutions Overview

There are many decisions that affect a company's transportation cost, its service levels and its bottom line. For example, which driver tours to create, how to move empties, what type of services to offer and what equipment is required in the freight network. These decisions can be complicated by a series of factors; customer service requirements, DOT regulations, driver bids, pay structures, terminal congestion and equipment characteristics.

To assist dispatchers and to provide better management control over the transportation planning process, ORTEC has developed the SHORTREC Product Suite. SHORTREC enables dispatchers to construct improved and more cost effective schedules in less time and offers the opportunity to review a variety of "what-if" scenarios to determine the best transportation strategies.

Distriplanner Functionality Overview

SHORTREC DistriPlanner focuses on finding an optimal balance between service levels and transportation costs. This product was designed for use in an operational environment to support daily transport scheduling and dispatching. The system offers an environment to generate, evaluate, adjust, review and export routes and schedules.

Features

SHORTREC DistriPlanner includes the following features:

- Automatic scheduling of pick-ups and / or deliveries (service time windows).
- Distinction between required equipment (lift gate etc.).
- Integration of driver's familiarity with regions.
- Real-time dispatching and scheduling functions.
- Data integration with call-center units.
- Multi-depot planning functionality.
- Real time communication with vehicles.
- Electronic data exchange (e-mail, internet).
- Graphical user interfaces.
- Provision of accurate management information and key performance indicators.
- Various algorithms and optimization functions, such as a rush hour module.

In addition to daily use for operational purposes, the system can also be used as a support tool for many tactical or strategic decisions. It gives you the ability to determine which trucks and trailers are ideal in a new transportation environment (network structure, contracts, demand forecasts etc.), what prices to charge for new clients, which routes are profitable and which are not, what carriers and contracts to use or which transportation and distribution structures to choose.

