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Descartes Route Planner™ On-demand

Introduction to Improved Route Management

With tight margins and more demanding customers, improving productivity and service has never been so important to fleet operators. The challenge for many fleets is find a solution that can be easily deployed, but comprehensive in its coverage of fleet operations. Descartes Route Planner On-demand was designed to address these challenges. With a broad array of modular capabilities, fleet operators can plan and execute their deliveries, manage drivers in route and at the customer and track driver and vehicle performance to meet regulatory requirements. The cloud-based deployment minimizes IT involvement and skills and enables fleets of all sizes to get results quickly.

Four Pillars of Successful Fleet Operations

Descartes believes that there are four fundamental elements to successfully optimize fleet operations: Route Management, Mobile Applications, Fleet Management and Analytics (see Figure 1). Route management consists of route planning and route execution. Route management optimizes delivery orders to maximize productivity and customer service. Mobile Applications help provide logistics and commercial management to get to the driver successfully through the route and interact with the customer at the stop. Fleet management tracks driver and vehicle performance to ensure driver safety, improve vehicle reliability and comply with government regulations. Analytics brings together all the important data from the three operational pillars to provide fleet operators with deep insight into the overall performance of their fleet and customer service. This document covers Route Management, Mobile Applications and Analytics.
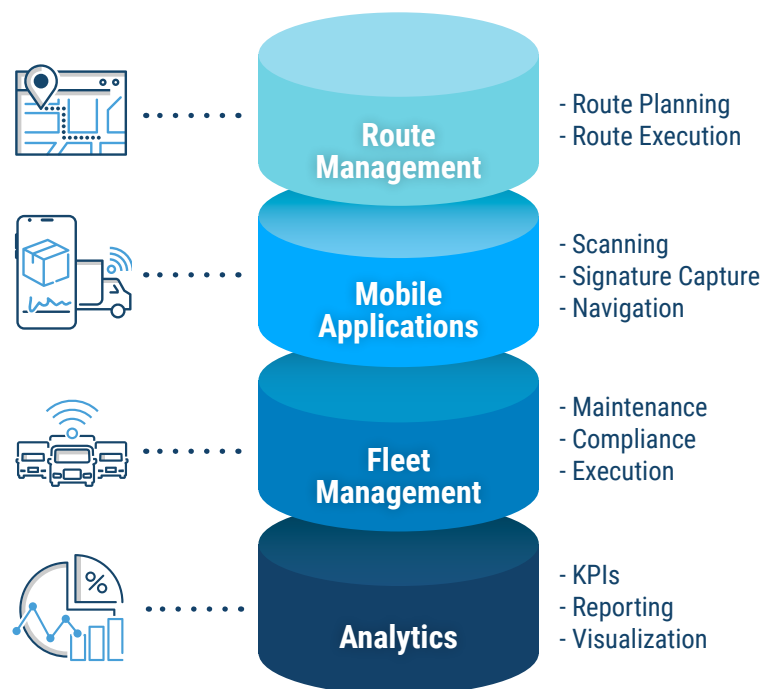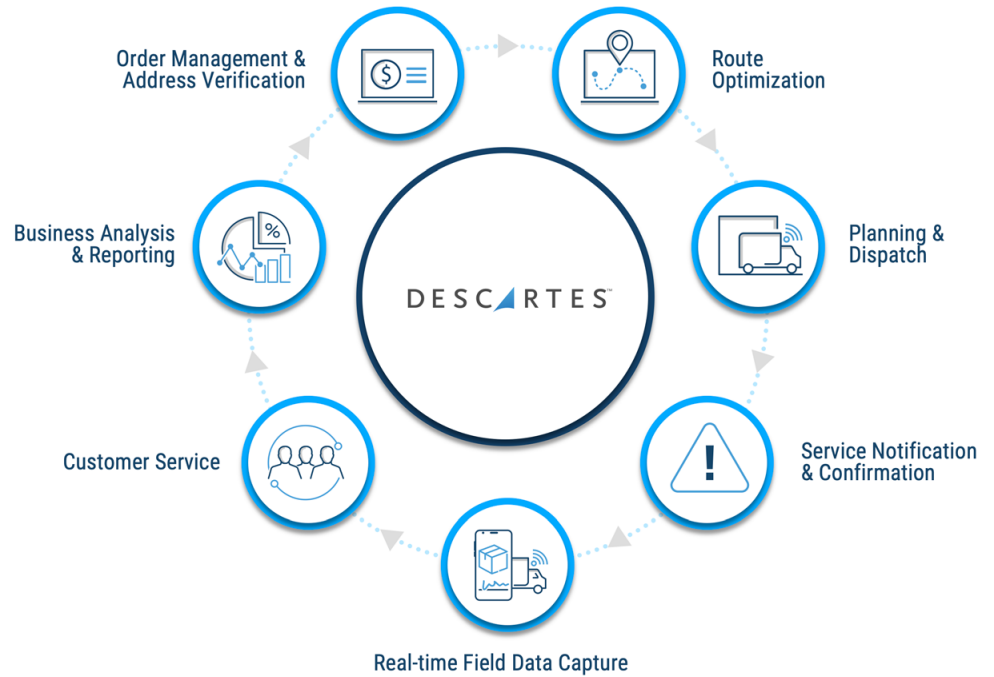

Route Management
- Route Planning
- Route Execution

Mobile Applications
- Scanning
- Signature Capture
- Navigation

Fleet Management
- Maintenance
- Compliance
- Execution

Analytics
- KPIs
- Reporting
- Visualization

Figure 1: Four Pillars of Successful Fleet Operations

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Descartes Route Planner On-demand allows customers to manage their delivery life cycle holistically. Taking orders from your order management or ERP system, Descartes Route Planner On-demand optimizes the orders for the most efficient routes while meeting customer delivery requirements, dispatches routes and tracks them in real time, interacts with the driver during the route to help keep them on track or make in-route changes, notifies customers of their pending delivery, captures customer information such as signature and pictures, surveys the customer for delivery success and analyzes plan versus actual delivery performance (see Figure 2).

Figure 2:

Closed-Loop Route Management

Order Management & Address Verification

Route Optimization

Business Analysis & Reporting

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Planning & Dispatch

Customer Service

Service Notification & Confirmation

Real-time Field Data Capture

A Day in the Life with Descartes Route Planner On-demand

Every day, planners and dispatchers face new challenges. Descartes Route Planner On-demand helps them execute today's deliveries while also planning for tomorrow's deliveries. Because of the visual nature of Descartes Route Planner On-demand, pictures do a fantastic job demonstrating how the solution helps planners and dispatchers get the job done.

Integrating Orders: Descartes Route Planner On-demand provides several ways to bring in orders from the order management or ERP system. Once the orders are in the system, they can be viewed on the map display and information about each order can be viewed by hovering over the order "dot" (see Figure 3).

• **Orders Visualized in Map View**
• **Hover to Quick-View Stop Details**
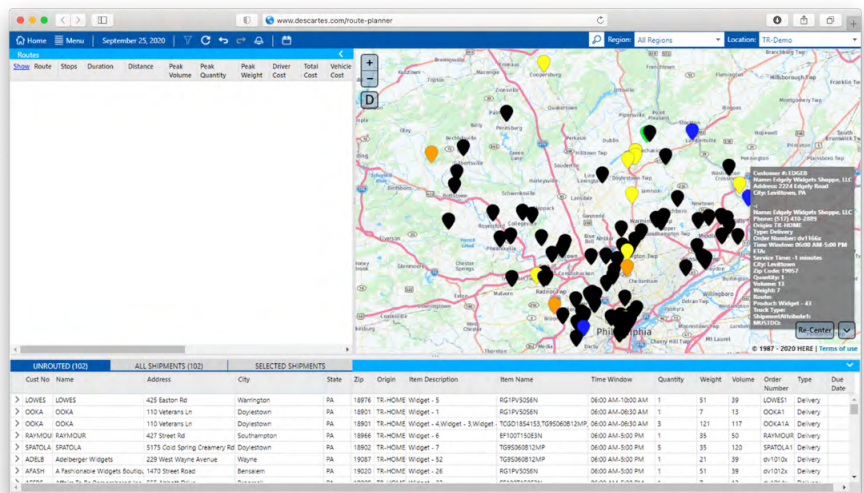• **New Orders in List View**

Figure 3: Orders Entered from an Order Management System

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Flexible Planning: Descartes Route Planner On-demand provides multiple methods to plan. Routes can be built manually or automatically optimized. Planners can simply "lasso" orders to create and sequence routes (see Figure 4). Master or fixed routes can be created and automatically populated as the orders are input into the system.
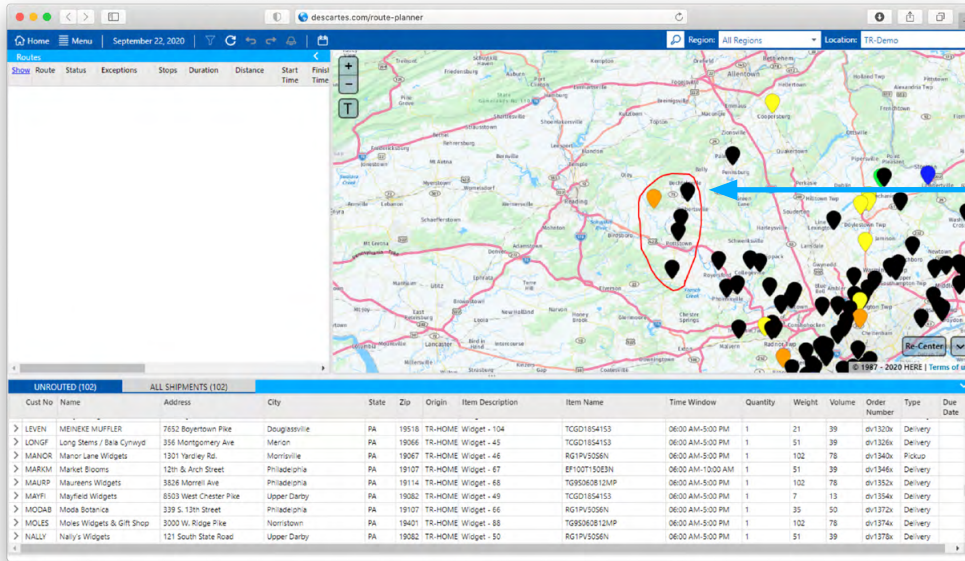
Figure 4:
Manual Planning

Draw Circles around stops to create route

New Orders in List View

In addition, planning can be accomplished using an advanced optimization engine that contains real-world constraints and minimizes costs while meeting service requirements (See Figure 5).

Figure 5:
Optimized Planning

- Optimized models with real-world constraints
- Minimizes costs, while meeting service requirements
- Vehicle Attributes
- Street Level Network
- Load/Unload Times
- Services
- Driver Hours
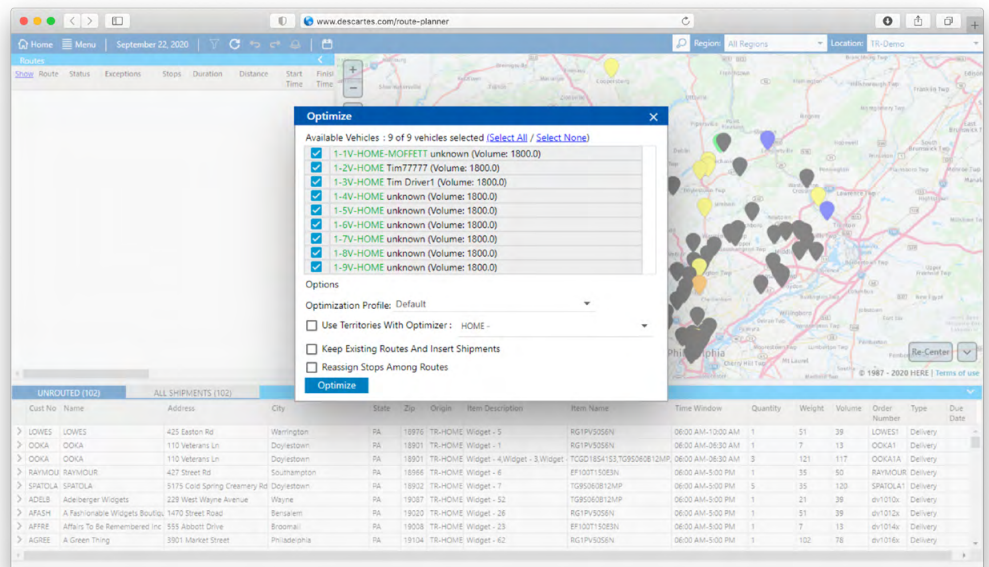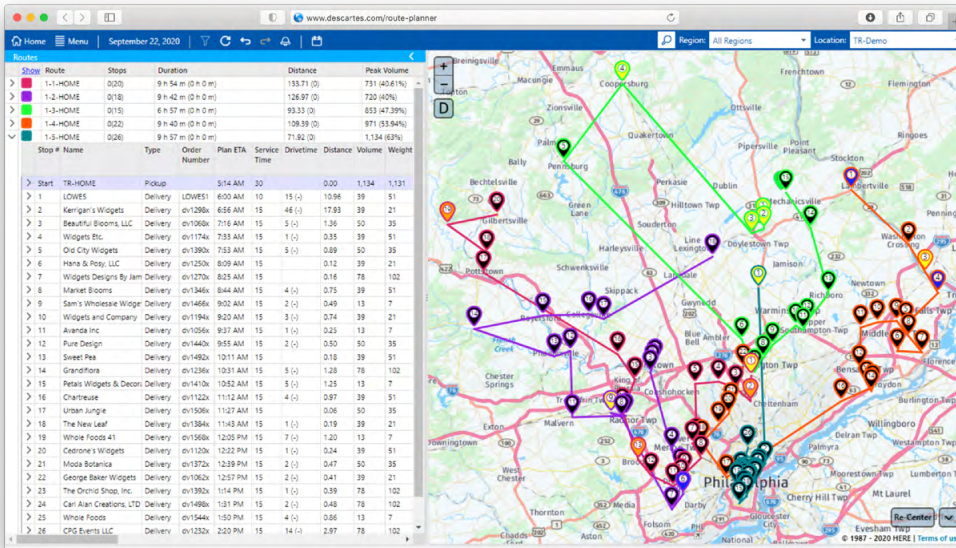- Skill Sets
- Delivery Time Windows

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Figure 6 shows the results of route optimization. The routes can be analyzed visually or through the route summary on the right-hand side with the estimated-time-of-arrivals (ETAs) and service times. Notice that all stops are in green because everything is scheduled to be on time.
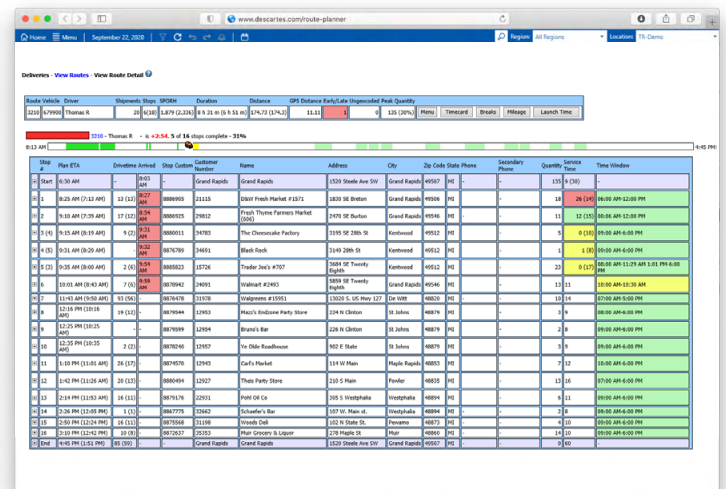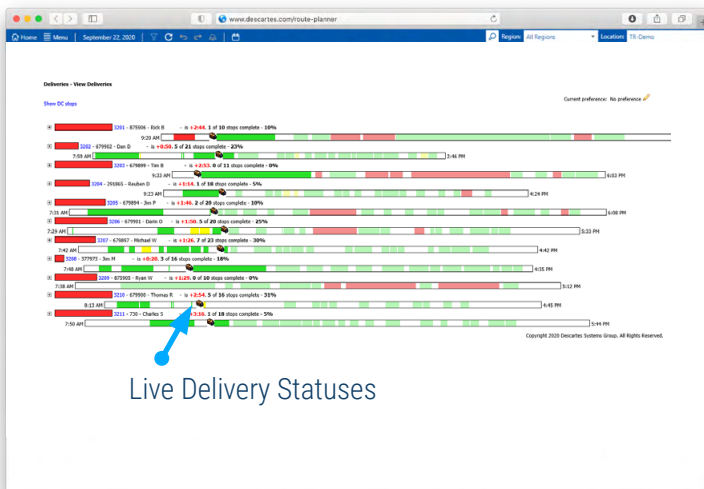

Figure 6:
Optimization Results

5 Routes were automatically created in a map and list view

Real-Time Dispatch and Tracking: Once the plan is finalized, Descartes Route Planner On-demand helps turn it into action. The dispatch features push the plan to the GPS-based Descartes Mobile™ application used by the drivers. Using 2-way real-time communication, dispatchers can track and communicate with the driver during the route execution. Real-time ETA calculations and color-coded warnings alert the dispatcher when deliveries are going to or have fallen behind schedule, so they can more proactively manage these exceptions (see Figure 7). Dispatchers and managers can drill down into routes in execution to get a better understanding of the progress and challenges drivers are facing and take corrective actions (see Figure 8).

Figure 7:
Real-Time Dispatch & Tracking

Figure 8:
Detailed Route Progress Review

Live Delivery Statuses

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Enabling Drivers Through GPS-Based Mobile Solutions: Descartes Mobile solutions help drivers be more productive, capture critical customer information and create a "closed-loop" management process. The combination of logistics management functions such as electronic manifests and navigation help drivers run their routes. Flexible work flow allows drivers to conduct their business in front of the customer and capture critical customer information such as proof-of-delivery (see Figure 9).
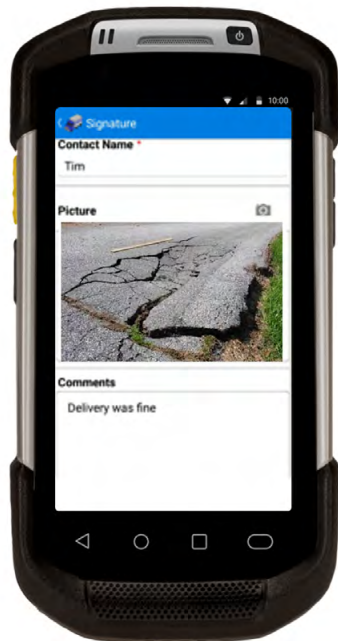
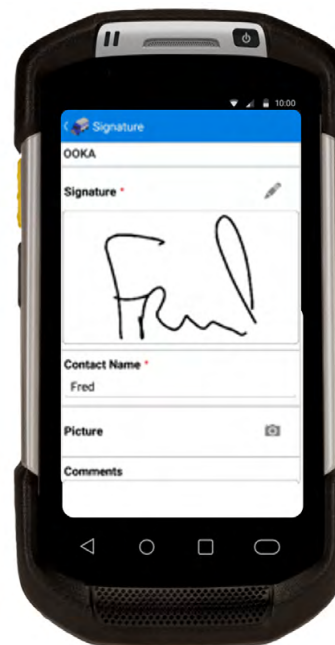## Figure 9: Mobile Application Capabilities

Manifest

Navigation

Capture Delivery Exceptions

Electronic Proof of Delivery

Managing Driver Performance: Using the real-time GPS-based information, managers can track drivers' actual route to see if the driver is complying with the planned route instructions or deviating from them. This information provides valuable information for driver coaching and helps improve the planning process by taking into account conditions that are affecting the route path (see Figure 10).
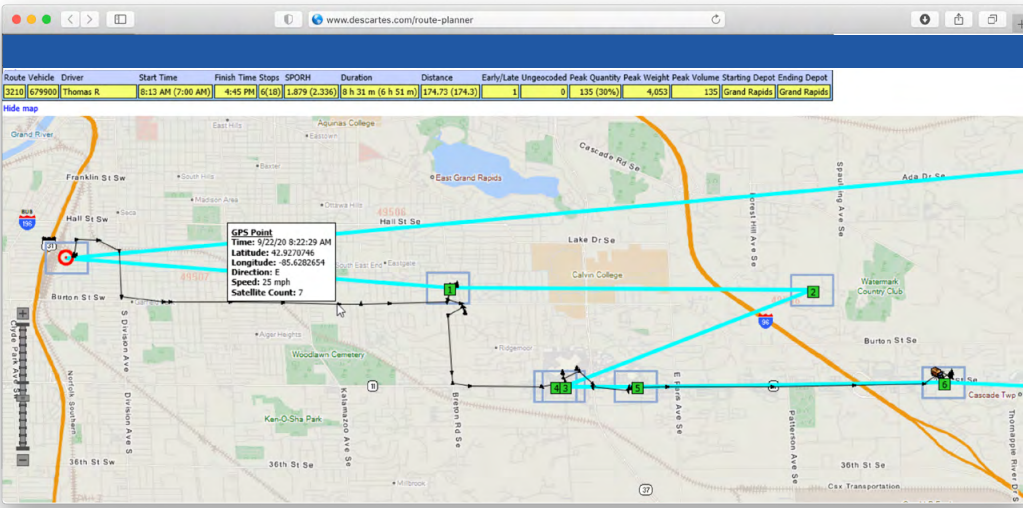

Figure 4:

GPS-Based Route "Breadcrumb Trail"

Analytics That Provide Deep Operational Insight

Descartes Analytics combines powerful analytics technology with integration and domain expertise to help your organization leverage the valuable information that resides in Descartes Route Planner On-demand, Descartes Mobile and other solutions. Predefined reporting and dashboards allow fleet managers to easily drill down into their operations performance and create custom views to address the unique requirements of their business.

Get Quick Results with Descartes Route Planner On-demand:

Because Descartes Route Planner On-demand is cloud-based, small and large fleets can rapidly implement it and be on their way. The IT requirements are minimal – a browser and simple integration, and the solution is intuitive. A standardized implementation approach efficiently steps fleet operators through the implementation process.

Increase Operational Efficiency, Reduce Costs and Enhance Customer Service

Descartes works with leading companies across the globe to increase operational efficiency, reduce costs and enhance customer service by offering the industry's most comprehensive fleet management software solutions. Contact Descartes if your company is looking for optimized route planning, execution, integrated mobile applications and advanced analytics for fleet operations.

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