



**THE NEW GENERATION OF
VEHICLE SCHEDULING AND
OPTIMIZATION SOFTWARE**

PTV Route Optimizer automatically plans your orders into optimized trips, taking into account all restrictions that are relevant to you and your customers. This makes the software as unique as you are; it can be customized to fit your workflow requirements, system environment and complexity of planning tasks.

PTV ROUTE OPTIMIZER

SERVICES AT A GLANCE

ALL PTV ROUTE OPTIMIZER SERVICES AT A GLANCE

- ▶ Maximize efficiency and save on operating costs while reducing environmental impact
- ▶ Support planner with automatic planning and optimization of delivery orders, pick-up orders or a combination of those including A to B orders (pick-up and delivery during the run)
- ▶ Automatic as well as manual scheduling options with suggestion functions
- ▶ Optimization both in situations with a fixed customer base as well as with a daily changing customer base
- ▶ Optimization of fixed route schedules
- ▶ Customer specific business rules can easily be included in the planning process, all within the standard version
- ▶ Configuration is flexible and user-orientated
- ▶ True multi-user system and multiple depots and alternative depot scheduling solution
- ▶ Allows for multiple, customer specific vehicle types, each vehicle type can have its own speed & routing profile (e.g. a van will have different travel times and routes compared to a B-double)
- ▶ Calculation of transport costs, toll charges and CO2 emissions can be included
- ▶ Central administration and structuring of roles and rights, orders, vehicles and drivers
- ▶ Simple interfacing with external systems
- ▶ Integrated master data maintenance
- ▶ Stand-alone or multi-user server solution
- ▶ Standard integration with telematics solutions for data transfer and live track & trace

CONVINCE YOURSELF!



ONLINE DEMO

Get an insight into PTV Route Optimizer with our short web demo. If you wish you can also take control and test PTV Route Optimizer for yourself. There is no installation required; all you need is a telephone and an internet connection.

- ▶ **Arrange a meeting!**



PTV QUICK-CHECK

Quick Check enables you to identify the savings potential of optimizing your trips, vehicle use, trip lengths and duration. We analyze your current situation and prepare a new plan based on your data and taking into account your business rules and requirements. You will receive a presentation of the results, showing your optimization and savings potential.

- ▶ **Request your free PTV Quick-Check!**



PTV ROUTE OPTIMIZER: YOUR BENEFITS AT A GLANCE



INCREASE EFFICIENCY AND SAVE COSTS

Planning with PTV Route Optimizer improves the **utilization of your resources** such as drivers, vehicles and trailers. Trips are optimized in line with your specific requirements, including delivery time windows, vehicle capacity and access restrictions. Even with small fleets the software generally creates savings of **between 7 and 15%**.



SAVE TIME AND IMPROVE CUSTOMER SERVICE

Manual planning is complex and can take several hours. With PTV Route Optimizer you can calculate the optimal solution in a matter of seconds. By using PTV Route Optimizer, a planner will **reduce planning time** dramatically while **improving customer service**. The time saving in planning can bring advantages in other areas. Picking and loading can start earlier, reducing expensive over-time or shift rates, order cut-off times can be delayed, offering improved customer service.



EASE THE SCHEDULING WORKLOAD OF YOUR PLANNING DEPARTMENT

PTV Route Optimizer gives you all the important information at a glance. Activities that were previously performed manually are now **standardized** and some are fully automated. **Responding** to changes in vehicle availability or customer orders is no longer a problem; with all the data at hand the impact of changes can be easily reviewed.



CREATE COMPLIANT AND SAFE DRIVING PLANS

Trip planning is not only about optimal use of resources; a plan also has to comply with statutory regulations, road access restrictions and social obligations. With PTV Route Optimizer you can ensure your planning results are compliant with external and internal requirements. For example, in addition to **driver fatigue management regulations**, you can also include **company specific agreements** in your resource scheduling.



CREATE VISIBILITY OVER YOUR LOGISTICS PROCESSES

PTV Route Optimizer provides the exact data you need to evaluate your logistics processes and identify additional savings and optimization potential. PTV Route Optimizer calculates your **toll, mileage, transport and vehicle costs** and it can provide **emission calculation on trip and drop level**.

PTV ROUTE OPTIMIZER FUNCTIONALITY

1. TRIP PLANNING



Your benefits

- Automatic trip planning based on customer data
- Mixed transport planning capability
- Suggestion function
- Take truck attributes into account

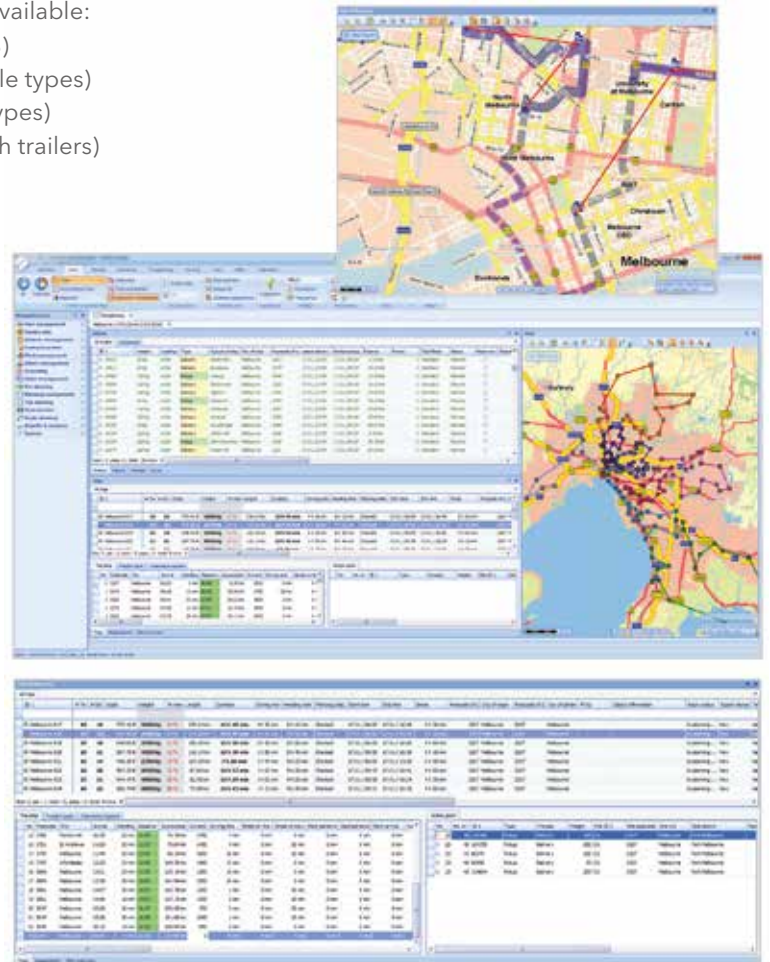
The trip planning program area is the central component of PTV Route Optimizer. This is where all the relevant planning objects are displayed. Automatic routing and scheduling creates optimized trips, but you also have the option to manually create or adjust trips. You can create daily and weekly schedules as well as strategic fixed route schedules. PTV Route Optimizer offers full flexibility.

The following **planning objects** are available:

- Orders (deliveries, pick-ups, A to B)
- Vehicles (actual vehicles and vehicle types)
- Trailers (actual trailers and trailer types)
- Vehicle combinations (vehicles with trailers)
- Depots
- Drivers
- Trips
- Forwarders (using the additional Cargo module)
- Single or multi-day trips

PTV Route Optimizer supports your trip planning with an intelligent suggestion system, which can be particularly useful when planning additional orders.

PTV Route Optimizer lets you plan **mixed transports**. You can plan depot-related orders such as deliveries from a depot or collections from a pick-up point as well as A to B orders (pick-up at location A, drop off at location B).



2. USER-FRIENDLY



Your benefits

- Easy handling
- Clear display
- Quick planning
- Customized settings

The following features make PTV Route Optimizer extremely user-friendly and easy to operate:

► Ergonomic interface and customized settings

PTV Route Optimizer's interface is designed to be used intuitively. Every user has their **own profile** and can adapt the interface to suit their individual needs. The interface can be displayed across several screens, thereby creating better visibility and transparency.

The map provides visual information on orders, trips with stops and depots. This enables the planner to **recognize geographic references quickly and easily** and provides direct planning support. In addition, the size, shape and color of the objects can be formatted based on object properties. For example, shape the size of orders depending on order weight or define the color based on a fixed route number.



► **Planning performance**

You'll be impressed by PTV Route Optimizer's planning performance. Complex schedules with all the associated restrictions can be planned in a matter of seconds.

► **Drag-and-Drop**

With the Drag-and-Drop function you can easily make individual changes, both in the lists as well as on the map and between the map and lists.

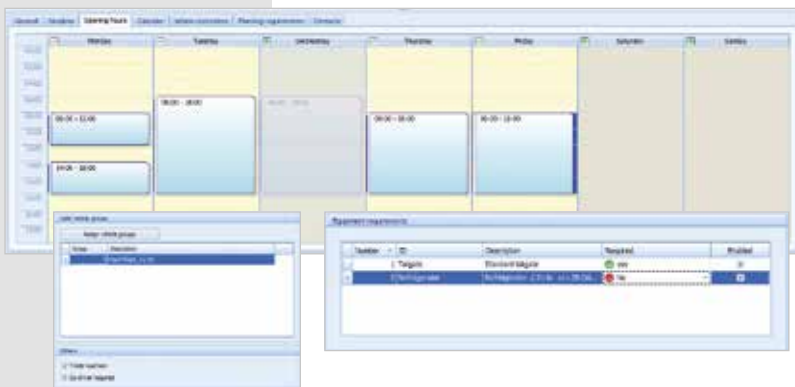
► **MultiUser**

PTV Route Optimizer runs on a robust database; it can be used on **multiple work stations, regardless of their location**. With **customizable access rights** you can create a set-up in which several employees can view all tasks simultaneously, but only some are allocated administration rights. PTV Route Optimizer can be installed locally, in a network and in Terminal-Server-Environments.

3. PLANNING RESTRICTIONS AND DATA MANAGEMENT



PTV Route Optimizer takes all scheduling related order information into account. This information can be included in the order interface, but can also be stored and managed in PTV Route Optimizer. The master data management module enables you to add logistic planning information so orders can be planned taking all relevant restrictions into account, even if these details are not available in the main order management system.



Planning-related information may include:

- Vehicle requirement (e.g. tail gate)
- Truck attributes (e.g. weight, width, height)
- Individual vehicle & speed profiles
- Order dimensions
- Order types (pickup, delivery, A to B)
- Customer ID (for pickup and delivery)
- Customer address info and/or geo-coordinates
- Deadlines or time slots for pickup and delivery
- Driving times and rest periods, driver fatigue management
- Up to 10 capacity values (weight, volume, etc.)
- Fixed route numbers

Your benefits

- Use of multiple time windows
- Manage co-loading restrictions
- Manage individual vehicle restrictions

With PTV Route Optimizer you can create and manages different vehicle categories with **individual speed profiles**. This ensures your routing matches the driving specifics of the different vehicle types and is in line with road restrictions and regulation. If your order management system (TMS, ERP, etc.) does not support managing customer specific restrictions, this can be set up in Route Optimizer as well.

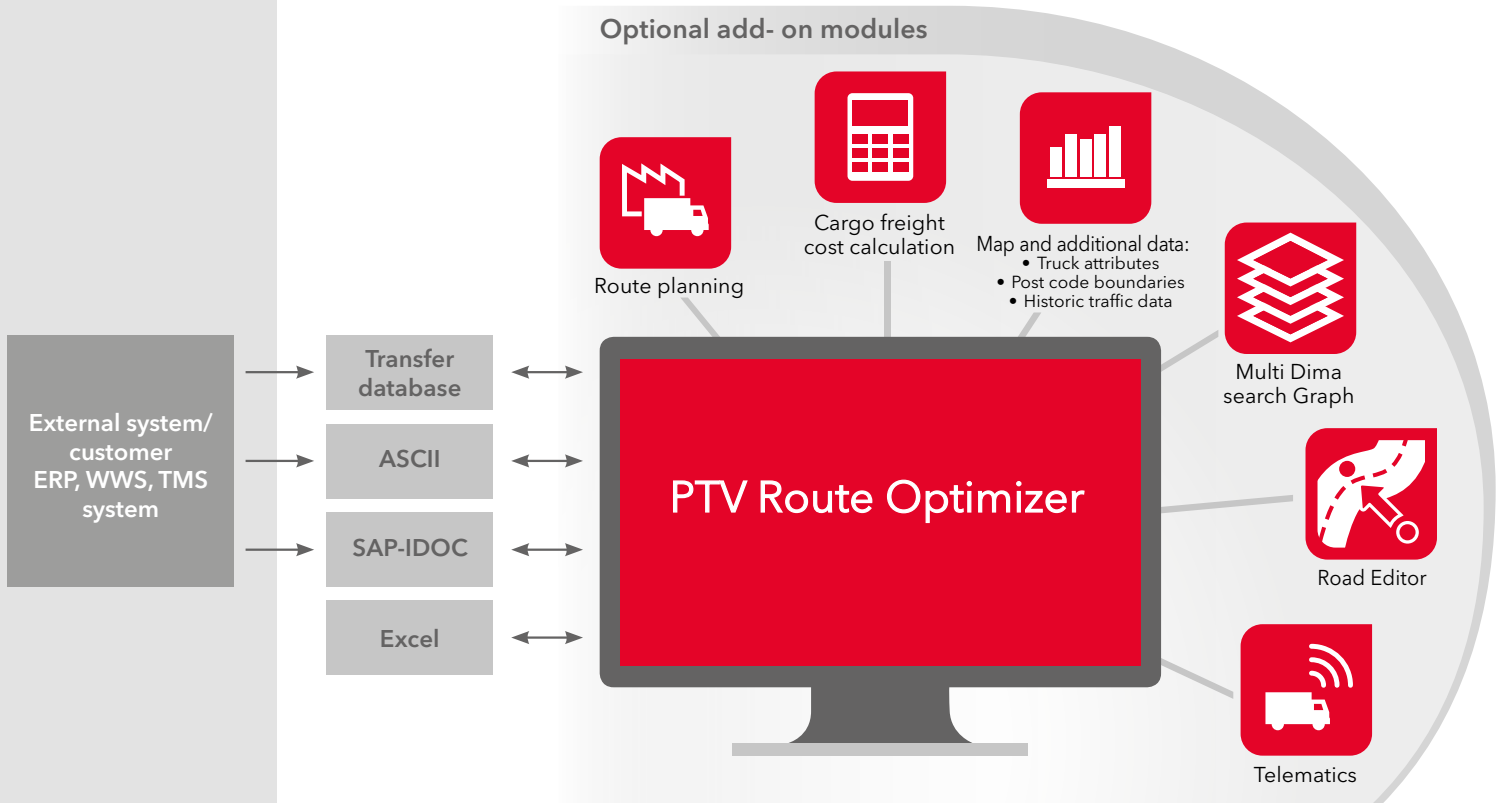
Your benefits

- Optimal integration into your existing environment
- Adaptable to your requirements

4. MODULAR DESIGN

The PTV Route Optimizer vehicle scheduling and optimization software is as unique as you are. The modular design guarantees you only pay for the components you need. The modules range from the transfer database to the telematics interface, and from truck attributes to freight calculation with the Cargo Module. The modules can be adapted to your process requirements and complexity of the system landscape and planning tasks.

PTV ROUTE OPTIMIZER SYSTEM INTEGRATION



5. TELEMATICS INTEGRATION



This module provides extensive integration of PTV Route Optimizer and telematics applications. Planned routes can be transferred to a telematics system, automatically transferring the data to the device in the vehicle. This significantly speeds up and improves the communication between driver and scheduler. While trips are executed, **status messages** are displayed directly in PTV Route Optimizer's trip planning, highlighting any delays that occur. This gives the scheduling department a real time track & trace solution:

- ▶ Trip planning
- ▶ Vehicle location
- ▶ Order delivery status
- ▶ Possible delays and impact the current trip planning



Your benefits

- Direct connection to the drivers and vehicles
- Delivery status updates in real time
- Up-to-date track & trace of all trips and vehicles
- Enables pro-active response in case of deviations



6. FREIGHT CALCULATION

The Cargo Module with integrated freight calculation enables you to compare transport costs when outsourcing routes. You can then decide on the basis of cost to which carrier the routes should be assigned or whether you should allocate it to your own drivers. You can create and manage **individual freight tariffs** for each carrier which can then be used to calculate the exact freight costs. The module supports simple distance- and quantity-based structures as well as complex variations with different surcharges.

Your benefits:

- Individual freight tariffs for each carrier
- Carrier cost comparison (internal and external comparison)

The screenshot displays the 'Tariff editor' application. On the left, the 'Objects' pane lists various calculation methods: Matrix, Parcel Rate by weight (selected), Range matrix, Reference matrix, Area, Aggregation, Error generator, and Astag tariff. The main window shows 'Calculation rules' with a table structure:

Field	Formula	Description	Weight
Field	Parcel Rate by weight...	Calculation rule	Condition

Below this, a detailed data table is visible, titled 'Rate by weight'. It features a legend on the left with categories like 'Net weight', 'Agreement', 'Minimum', 'Maximum', 'Surface value', 'Tare for', and 'Tare for (maximum gross weight)'. The table columns include weight values (e.g., 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500, 7000, 7500, 8000, 8500, 9000, 9500, 10000) and corresponding rates. The bottom status bar indicates 'Data source: File \\C:\Temp\TariffEditor\Sheet1.xlsx\$B\$17' and 'Last update: 22 February 2014 13:08'.



COMPANIES OF ALL INDUSTRIES RELY ON US

With over 800 customers globally PTV Route Optimizer is the leading software solution for vehicle scheduling and optimization. No matter what industry you're in - transport & logistics, (fresh) food logistics, building materials, wood or steel trade, automotive or furniture industry - with PTV Route Optimizer you have the right solution!

PTV. THE MIND OF MOVEMENT:

The PTV Group provides software and consulting for traffic, transport logistics and geomarketing. Be it transport routes or sales structures, private or public transport - we plan and optimize everything which moves people and goods worldwide. Our range of products and services includes Concepts & Solutions, Software & Services, Components and Data & Content. Customers in more than 100 countries rely on our solutions. Our software tools enable private and public sector organizations to perform their everyday tasks in a highly efficient manner.

Scientific expertise is one of our particular strengths. We run projects in a goal-based and practice-oriented manner. Currently,

we have over 650 employees worldwide crafting powerful and innovative solutions. Our head office, which is located in the technology region of Karlsruhe, Germany, has been the centre of development and innovation since the formation of our company in 1979.

See for yourself. Ask for:

- ▶ User report from your industry
- ▶ Quick Check
- ▶ Online Presentation
- ▶ Pilot

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