

# ROUTE OPTIMIZATION AS A COMPETITIVE FACTOR

Great potential savings.  
Smart solutions.  
Easy implementation.

An aerial photograph of a white semi-truck traveling on a two-lane asphalt road that curves through a dense forest. The trees are green and yellow, suggesting an autumn setting. The road has white dashed lines and a metal guardrail on the right side.

## COMPLETE CHECKLIST:

5 status questions to  
determine how mature  
your route planning is

# The significance of state-of-the-art route optimization for today's logistics processes

Maximally efficient, precise logistics processes are crucial in today's increasingly dynamic economy. The core requirement, **to be able to call up optimal routes to a particular destination quickly at any time**, is regarded as a high priority across all industries. For example, this applies for **general cargo transport, retail and wholesale trade, e-commerce, and food delivery to private individuals**, and for **courier, express, and parcel services**. In all of these cases, the people in charge are confronted with many challenges along complex supply chains. In the end, goods must always be brought to their destination **on-time and cost-effectively** or picked up from warehouses and distribution centers. Only state-of-the-art, high-performance route optimization systems that reflect real conditions offer **competitive advantages here**.

## Deriving specific benefits from the flood of data

A central element of state-of-the-art route optimization software is its ability **to analyze massive amounts of data** in order to make the right decisions very quickly. This allows companies to **effectively solve** complex – often spontaneously occurring – problems along possible transport routes.

Critical in this context is that the system examines particular correlations between various influencing factors automatically for optimal planning and offers appropriate options.

Traffic and weather conditions, road conditions, traffic jams, closures, and regulations – the interaction of all of these parameters must be considered to select the best possible route. This way, deliveries can be made on time and without detours and the associated additional costs. The result: greater customer satisfaction and lower operating costs.





# Everyday planning challenges: Complexity is the common denominator

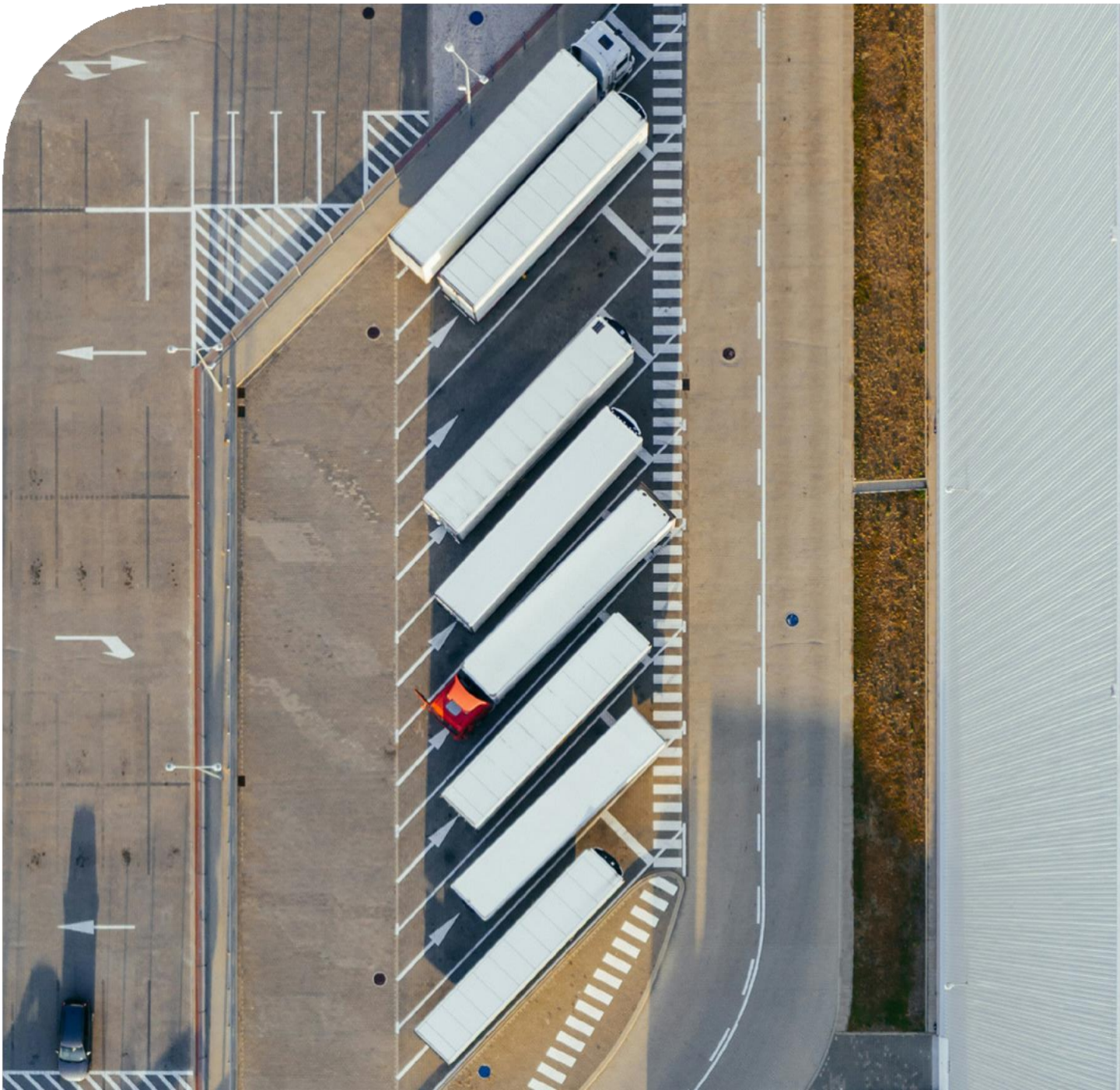
**Precise route optimization is indispensable because we live in a complex world.** Commercial cargo transport requires a **detailed analysis** of road capacities and other possible infrastructure constraints. State-of-the-art technologies and advanced algorithms help companies ensure that commercial cargo will be transported **safely and efficiently** by reducing the risk of accidents and delays. By optimizing delivery routes in retail and food delivery services, for example, it is possible to significantly reduce the **number of kilometers driven, fuel costs, and emissions**. In addition, suppliers can address customers' individual needs better and better, which generally increases customer loyalty.

## Well-integrated. Fit for the future.

Another important way to make transport-related logistics processes more efficient is **to integrate route optimization systems into or connect them to other company systems** – for example, transport management, warehouse management, and fleet management systems. Well-integrated systems and seamless data transfer **can help automate flows completely**. The route optimization results can be used right in the customer's familiar, leading systems and incorporated into downstream processes. Of course, this scenario assumes an existing system environment.

# Indispensable for reducing complexity.

Overall, state-of-the-art, precise route planning systems contribute to increasing logistics companies' **efficiency, reliability, and competitiveness**. Such systems adapt to the diverse challenges of today's logistics and at the same time, **improve operations**. Given the increasing complexity and dynamics of transport and goods transport, both globally and on the much-discussed "last mile", these systems are therefore not only something companies want, but they are **absolutely indispensable because they are a competitive factor**.





# And now: A way out of planning dilemmas!

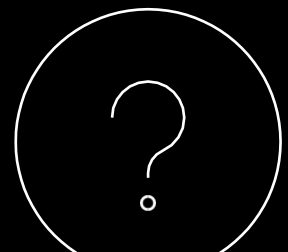
- **How can complex route-planning dilemmas be resolved optimally and as quickly as possible?**
- How can specific growth opportunities and more efficient delivery processes best be exploited?

**We at PTV LOGISTICS** – as the world's leading software company for time- and cost-efficient planning, calculation, and optimization of transport logistics – **will stand by you at all times and advise you how to confront these challenges**. And of course, we can hardly wait to offer you our **sophisticated solutions** – regardless of how complex your processes are. **But** we really don't want to bother you for no reason. That's why we asked our route optimization experts to formulate **5 specific questions** for you.

**Your individual answers** to these questions and the resulting insights are our contribution to helping you correctly assess **needs within your organization**.

## 5 questions. 15 options. One maturity level.

- There are three pre-formulated answers to each of the following questions.
- The points associated with each answer do not provide a qualitative assessment of existing processes.
- From the total of all answers/points, however, you can determine the maturity level of your own route planning.



# Compact checklist

## Question #1 Route optimization:

Do you already use existing tools within your organization to optimize routes at the touch of a button by simulating various scenarios and quickly comparing the options offered based on KPIs?

- ① Such optimization steps are already in place at our company.
- ② Our company has identified this topic as relevant, but we are still working on a solution.
- ③ No one at our company has addressed this topic or analyzed the potential ROI.

**5 points**

**3 points**

**1 point**

## Question #2 Order coordination:

Can you upload orders or order packages into your existing system, including all specific requirements such as time frame, volume, driver skills, definition of pick-up v. delivery, etc.? And can you edit all details at any time and use flexible tags (IDs) to custom-tailor each individual order if necessary?

- ④ Our company has implemented this kind of flexible software-supported order processing.
- ⑤ Our company has identified this topic as relevant, but we are still working on a solution.
- ⑥ No one at our company has addressed this topic or analyzed the potential ROI.

**5 points**

**3 points**

**1 point**

## Question #3 Vehicle coordination:

Can you consider different vehicles and vehicle types in your system? And is the system flexible enough to adjust critical features such as capacity limits, maximum time frames, costs, and specific restrictions at any time as needed and in user-friendly fashion?

⑦ Our company already has this capability.	<b>5 points</b>
⑧ Our company has identified this topic as potentially in need of optimization.	<b>3 points</b>
⑨ Our company has not yet addressed this topic, and potential ROIs are unclear.	<b>1 point</b>

#### **Question #4 Coordination of restrictions and specifications:**

Does the system you are using now identify which orders on which vehicles require drivers to have specific skills? And do you know how much time you need to reliably respond to inquiries like this?

⑩ This topic is a priority at our company, and we are satisfied with the way we handle such inquiries.	<b>5 points</b>
⑪ Our company has identified this topic, but we are still working on a solution.	<b>3 points</b>
⑫ Our company has not addressed this topic so far, nor has it analyzed the ROIs in question.	<b>1 point</b>

#### **Question #5 Optimization & adaptation:**

Can you optimize your routes on an ongoing basis and is it possible to trace the optimization process while it is happening? And does your current set-up offer you the opportunity to cancel processes at any time, to adjust route sections, re-assign orders manually, and then continue optimization?

⑬ Our company already has this topic in hand.	<b>5 points</b>
⑭ Our company has identified this topic, but we are still working on a solution.	<b>3 points</b>
⑮ Our company has not addressed this topic so far, nor has it analyzed the ROIs in question.	<b>1 point</b>

# Your current maturity level

## 5 to 9 points

In your current situation, you seem to have focused very little on the topic of route optimization. This could mean that there is a lot of potential for short- and medium-term optimization at your company. The first step in this direction could be an easy-to-connect SAAS (software as a service) standard product, which could provide you with attractive savings with relatively little effort.

## 10 to 15 points

Your company has already addressed critical sub-topics, which as a whole contribute to optimized route planning. Now the issues are implementation and maximum benefit, and – probably – game-changing (software) decisions. In this situation, working with experts to examine applications similar to yours is crucial. For you don't need time-consuming experiments, but rather solutions that help you from square one.

## 15 to 25 points

You've been considering this matter for a long time, and you have clearly done your homework. Now the concern is to continue doing exactly as you've been doing, for progress never sleeps. For example, it is possible to integrate the latest route optimization algorithms into your existing platform. In addition, intensive, regular exchange with research & development experts will surely provide you with added value.

**The total points you have earned**, and the corresponding recommendations are a good basis for starting a dialog. Our PTV LOGISTICS team, with its extensive technological, technical, and industry expertise, is available to you at any time for an absolutely non-binding exchange.

We would be very pleased if your individually optimized route leads you to us!

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# PTV OptiFlow – cloud-based software for your route optimization



Transform complex delivery processes into perfect routes with PTV OptiFlow, the PTV LOGISTICS software for automated SAAS route optimization. With intelligent, quick, high-performance algorithms, you can achieve the best performance while simultaneously reducing costs thanks to optimal planning of vehicles, routes, and working hours.

## PTV OptiFlow also available as developer API

It's easier than ever to integrate route optimization algorithms into your platform. For PTV OptiFlow API – as part of the PTV Developer Component Suite – can be tested directly in your environment free of charge.

