

inet

part of alpega

ACTIVE TRANSPORTATION MANAGEMENT FOR THE AUTOMOTIVE INDUSTRY

How companies can sustainably reduce costs
by optimizing Transportation Processes

AN INET WHITE PAPER



Automotive manufacturers and suppliers fight with high costs due to a dynamic environment shaped by constantly changing customer demands and fluctuations in demand as well as high pressure from competition.

Various measures are taken so that they can be sustainably reduced, such as the reduction of inventory costs while simultaneously serving the trend toward individualization. The optimization of transporta-

tion processes often remains untouched. The result is high transportation costs and little transparency in the supply chains. At the same time, with optimized transportation planning, transportation execution and the calculation of freight costs, annual transportation costs can be reduced by 8 to 22 percent.

This white paper describes the process of optimizing transportation processes and the four sub-areas of implementing

comprehensive transportation management: organization and responsibility, process and standardization, change management, and the basic transportation management system.

It serves as a quick guide as to how active transportation management can be implemented or improved in your organization and which benefits you can achieve for your company with it.



STARTING SITUATION

The automotive industry is affected by quick trends, dynamic supplier bases and high fluctuations in demand. Due to these framework conditions, logistical decisions are frequently focused on reducing inventory costs while increasing flexibility along with it and efficiently managing a wide variety of products.

The result is batch sizes and order quantities that are increasingly smaller. In contrast, as one of the last activities in the logistics chain, transportation planning is still continuing to be managed and decided in an increasingly situational way, without a medium-term or long-term outlook.

THIS IS CONTRASTED WITH INCREDIBLY HIGH DEMANDS ON THE SUPPLY CHAIN AND LOGISTICS IN THE INDUSTRY:

- The majority of suppliers produces and delivers on the basis of scheduling agreements planned on a short-term basis
- Just-in-sequence (JIS) as well as just-in-time (JIT) concepts with tight time periods for delivery and pickup must be managed
- The intensive use of reusable, customized packaging materials ties up a lot of capital
- Suppliers, customers, and production structures spread throughout the world demand transportation in many stages (multi-leg) that are linked with various consolidation points (harbors, their own or outsourced consolidation centers, etc.) and therefore combine various modes of transportation (multi-modal)

This results in extremely complex transportation networks that manage all possible combinations of inbound and outbound streams, including deliveries of raw, semi-finished, and finished products, as well as empty returns.

Apart from the general goal of reducing costs by achieving improved vehicle capacity utilization, through active transportation planning and optimized transportation processes, a reduction in the number of shipments, the reduction of transportation times and savings of emissions, the increased transparency and quality of the database as well as an increase in flexibility can be achieved.

THE OPTIMIZATION OF TRANSPORTATION NETWORKS IS MOSTLY BASED ON A TWO-STAGE APPROACH. IT IS BEGUN WITH THE INITIALIZATION OF DECENTRAL, LOCAL OPTIMIZATION PROJECTS IN TRANSPORTATION LOGISTICS. IN THE FOLLOWING STAGE, THERE IS DECENTRALIZATION AND, THEREFORE, A HOLISTIC, LONG-TERM PLAN FOR THE TRANSPORTATION IS DRAWN UP, AS IS THE DEFINITION OF STANDARD PROCESSES.

In the following, it should be shown why this approach has proven to be successful and what needs to be observed on the way from a decentral transportation planned in an ad-hoc way to an active and comprehensive transportation management.



THE OPTIMIZATION OF TRANSPORTATION NETWORKS AND TRANSPORTATION PROCESSES

The first step towards the optimization of transportation processes mostly takes place in local initiatives, with a focus on individual locations or, separately, also in areas that apply across business divisions. In plant-related projects, cost-saving measures are defined that can later also be implemented and justified at the plant level.

THESE LOCAL OPTIMIZATION PROJECTS INCLUDE, FOR EXAMPLE:

- The change of transportation routes and methods in order to reduce costs
- Identification of regular, well-utilized full truck load (FTL) transportation and separation from the general cargo network
- Plans for dynamic milk runs, that is, the cycles that suppliers driven to and the load quantities can change
- Adjustment of the frequency of transportation, such as reducing the frequency to better utilize transportation as well as leveling capacity in incoming goods
- Introduction of tendering for the negotiation of contracts in order to target lower prices

The effects of these local optimizations are very promising. Evaluations on the basis of overall costs, which take stock and transportation processes into consideration, allow for the optimization of total costs. Furthermore – and not less important – awareness for the cost drivers and the effects of the selection of the means and frequency of transportation is created. For these reasons, local optimization measures are a very important step, also in the sense of change management (see Section 3.3).

Although some individual measures function well at the plant level and entail a certain added value, such as the planning of milk runs, the limits to decentral optimization initiatives in transportation are quickly seen:

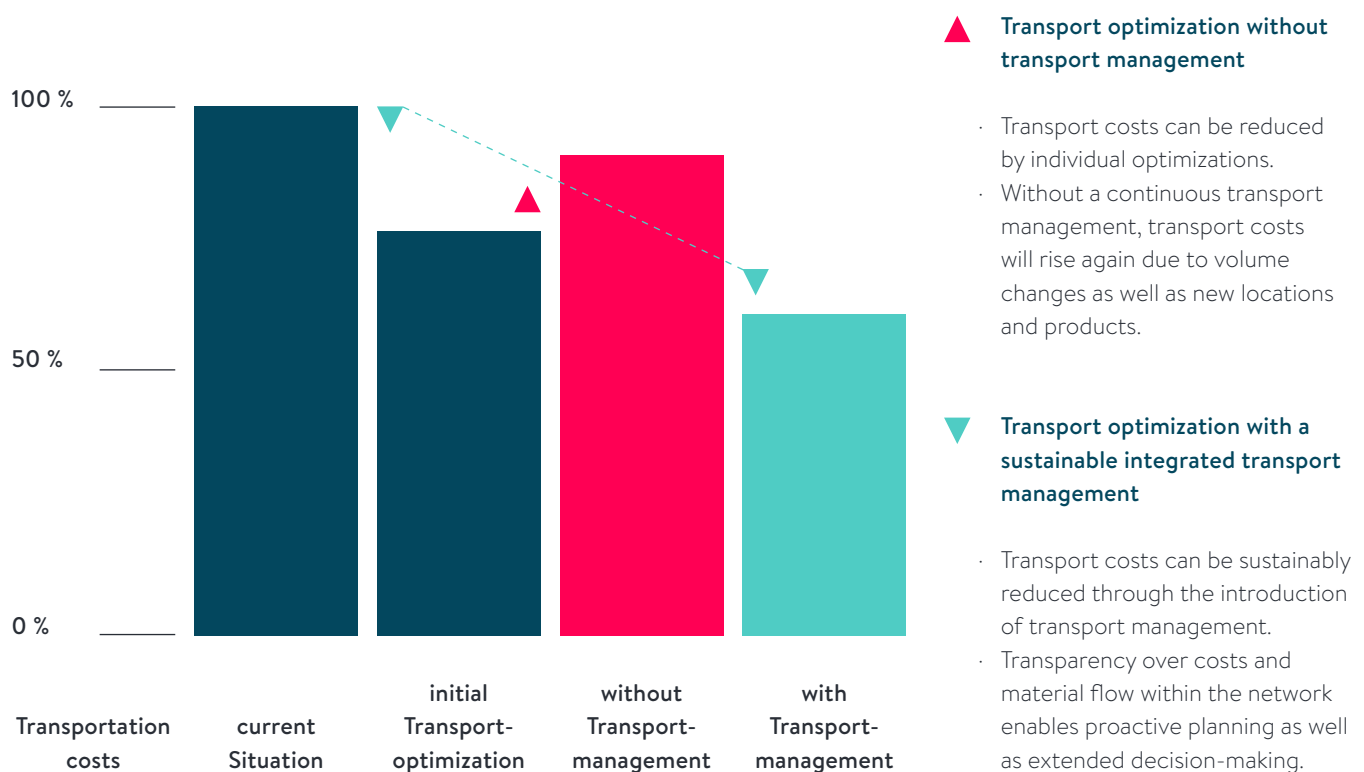
- Synergies between plants cannot be realized with decentral approaches
- Measures that apply to multiple locations require a lot of effort for coordination
- In particular, administration and coordination tasks are individually processed at every location and lead to the inefficient use of resources
- Potentials in the introduction of standard processes cannot be used, such as with rate tendering or when constructing rate structures
- To suppliers and service providers, the company appears to be uncoordinated, because there is no perception of a uniform company



Apart from that, de-central systems have the tendency to be disorganized, less productive, and cost-intensive. Isolated optimization projects often do not take long-term developments into consideration and have little flexibility in order to adjust to globalization, which is constantly growing, and the increase in complexity of the supply chain that goes along with it. Transportation costs can temporarily be reduced through optimiza-

tion projects, but they increase again if continuous checks and planning are lacking. **Only active, comprehensive transportation management with clearly-defined processes constructed for the long term is a guarantee for the sustainable reduction of transportation costs, as well as the necessary high data transparency and the ability to be able to act flexibly.**

TRANSPORT OPTIMIZATION



Originating from a decentral organization, the second step in the optimization of transportation networks is the construction of a central transportation management organization that is in the position to plan and control strategic, tactical and operational transportation processes for the entire company. **This measure, which is spread across different locations, includes, among other things:**

- An improvement in capacity through the consolidation of transportation and introduction of hub-spoke networks - that is, the connections between the individual network locations do not take place directly but rather, are consolidated through optimized network points company-wide
- Central planning, optimization and coordination of shipments
- Central administration of rates and conditions and calculation of freight costs
- Central completion of tendering for combined transportation volumes (country-specific bidding, for example)



IMPLEMENTING COMPREHENSIVE TRANSPORTATION MANAGEMENT: 4 KEY FACTORS

Few ask the question as to whether the decentralization of transportation and service provider management is the way to efficiency and cost optimization. The question in focus is more often about the challenge of an approach that makes sense. For this reason, in the following section, the most important sub-areas for the implementation of comprehensive transportation management are discussed:



3.1 ORGANIZATION AND RESPONSIBILITY

The term "**control tower**" is used as an umbrella term for the central transportation organization unit. It serves as a type of information hub – a central location that can guarantee a comprehensive overview of the supply chain at the location, division,

and internationally. **Independent of the incredibly important decision as to whether the control tower should be managed within the business or externally, it is important to illustrate the following central roles and clearly define them:**

- Network design and optimization – strategical and tactical evaluation and planning of the transportation network
- Scheduling and monitoring – operational transportation planning and the management of exceptional situations, such as delivery requirements with short notice, delays, or the loss of goods
- IT Management – support and the implementation of IT tools to exchange data and achieve a real-time view of shipments and loading
- Master Data Management – the collection and maintenance of relevant data on strategical, tactical, and operational planning, as well as the execution of shipments
- Management of supply chain partners – central tendering and the negotiation of rates as well as the strategic connection of service providers and the definition of escalation processes between the partners involved
- Freight cost management – drawing up rates, clarifying process questions and management, and the authorization of cost complaints
- Logistics controlling and business intelligence – regular reporting on the performance of supply chain partners, capacities, costs, and other key performance indicators (KPI), as well as the examination of invoices, rates, and conditions



First and foremost, a decision on outsourcing depends on whether it is feasible to internally construct and further develop the necessary knowledge of planning, operations and systems technology. In doing so, it is entirely conceivable to outsource just some areas. For the final decision, a concrete business case should be created, in which necessary investments are compared with the direct and indirect costs. Finally, in the implementation,

it is crucial to address the necessary importance of the new organizational unit and to construct it as a central unit in the business or, if it is externally contracted, to thoroughly integrate it into the company. The challenge lies in allowing a decentral flexibility, if necessary, despite the central organization (for example, the centralized planning of maritime and air freight transportation and the local planning of land freight).

3.2 PROCESS AND STANDARDIZATION

For a central transportation authority to function efficiently, it is necessary to create uniform and integrated processes. The better the processes are coordinated and the clearer the interfaces and responsibilities (see 3.1, Organization and Responsibility), the easier it can be ensured that processes are expedited and, by doing so, effort and costs can be reduced. In particular, similar and identical business processes that are currently carried out at various locations or by various internal and external instances are a part of process harmonization.

In order to allow for uniform, effective, and efficient processes, it is necessary to take care of data consistency and transparency. Data quality is a decisive factor in success for efficient planning. It is not just related to transaction data, but also concerning static data, like network structures, address information, or rates. The revision and improvement of data leads to an increase in work

quality and speed and typically has a positive effect on many areas of activity. For example, the standardization of contracts with service providers and the drafting of rate structures that can be digitally processed make functional integration possible and simplify joint work on data. In addition, through better comparability and the simpler evaluation of offers, they make the position of negotiation easier and promote consistent communication, especially also by connecting external partners.

Nevertheless, in the evaluation of measures to increase data quality, a cost-benefit estimation always needs to be done. In the definition of processes and standards, it is also recommended to establish a continuous process of improvement and, with regard to current developments, scrutinize, evaluate, and adapt it, if necessary.

3.3 CHANGE MANAGEMENT

Strategic innovations, like the centralization of transportation management with the accompanying changes in responsibilities and the introduction of new processes, often cause resistance within the organization. For a successfully designed and coordi-

nated change, there needs to be a well-thought out framework concept as well as active, preparatory and accompanying measures, so that acceptance and support is gained from employees.

They include:

- Closely involving project employees from various areas of the supply chain – also in the decision committee
- Comprehensive communication measures to ensure transparency about the change processes
- Extensive training measures and the efficient processing of questions or problems that arise (for example, the creation of FAQs), in particular about the development of total cost understanding

For these reasons, a successful implementation project needs time and sufficient resources. In particular, in companies with a strong decentral organization, it makes sense to follow a step-by-step migration approach and plan multiple, consecutive implementation phases over a longer period of time. By doing so, it is possible to maintain decentral expertise and combine it with the benefits of a central approach.



CENTRAL TRANSPORTATION MANAGEMENT SYSTEM AS CENTERPIECE

The basis of the areas described in the previous sections on the implementation of active and sustainable transportation management makes up the introduction of a centrally-used, integrated system. Independent from the decision as to whether central transportation organization should take place internally or externally, the trend is increasingly leaning towards the companies itself making the selection of an appropriate system – one speaks of strategic **"system ownership"**.

The benefits are obvious. The company makes itself independent of insourcing or outsourcing decisions and retains control over the system and its own data, therefore gaining transparency. **In addition to optimizing transportation planning tasks, such as**

- The increase of capacity of transportation resources,
- The avoidance of unnecessary traffic,
- The planning of consolidation and the de-consolidation of single shipments, and
- Automated calculation and control of freight costs,

an appropriate Transportation Management System (TMS) provides consistency in terms of organization, process, and communication. Modern, computer-based systems offer a high degree of automation and the possibility to process large quantities of data and guarantee data consistency. This way, transparency over the entire supply chain is attained and processes can be efficiently and effectively shaped and monitored. In addition to current and comprehensive functionality on transportation planning and control, the following main characteristics of a TMS offer a crucial added value:

PROCESS STANDARDIZATION

The introduction of a TMS plays a role in systematically collecting and constantly further processing transportation and delivery orders.

A TMS offers the possibility to flexibly shape work flows and, at the same time, comply with laws, guidelines, agreements, and transportation instructions, and ensures the observation of approval and authorization requirements.

NETWORKING

A TMS is a platform that networks the various players in the transportation process with each other – from the supplier to the planner, freight forwarder, and freight carrier all the way to the customer.

Here, a cloud-based TMS solution offers the benefit that it is accessible from everywhere via Internet, and therefore, all players in the supply chain can be reached, independent of their geographical position or size.

In particular, the offerings of standardized interfaces on ERP, WMS or the connection and integration of service providers are of great importance here. Here, the TMS is in the position to collect the transportation needs (delivery call-offs, orders) from multiple third-party systems and "convert" them for further processing into transportation orders (consignments).



END-TO-END VISIBILITY

A TMS serves as an information platform for the partners in the supply chain and allows the tracking and monitoring of transportation orders and their content from the creation all the way to the end.

Authorized users can search for the necessary information in a targeted way with the help of multiple criteria and are proactively informed of deviations, so that the necessary counter-measures can be taken.

SCALABILITY

Through a modularized structure, a TMS allows for horizontal as well as vertical scalability. This implies a number of benefits.

For example, it allows for an iterative integration process instead of a big bang migration.

MULTI-TENANT CAPABILITY

Through the multi-tenant capability, all people participating in a process can have access to the same master data and movement data in real time, but are only authorized to see and process their own data or data that is relevant to them.

On the one hand, this supports the networking concept – data changes and status updates are visible for all actors in the supply chain. On the other hand, it makes the maintenance of decentral flexibility possible, even with centralized structures, in that functional areas will continue to be planned by decentral technical experts whilst central transparency is still guaranteed. In addition, it is possible to completely or partially hand over control to a 4PL service provider that is specialized in it.



SUMMARY UND OUTLOOK

Increasing numbers of companies, not exclusively those from the automotive industry, have the goal of

- significantly reducing costs,
- minimizing transportation routes,
- increasing the utilization of capacity,
- more efficiently shaping administrative processes, and
- gaining transparency of transportation orders, delivery statuses and freight cost invoices

When realizing active, sustainable transportation management, it is important to pay attention to the sub-sections described: **Organization & Responsibility, Processes as well as a well-thought-out Change Management.** Depending on the size and structure of the company, a step-by-step process has proved to be successful – from local optimization projects to the centralization of transportation management.



SUITABLE TRANSPORTATION MANAGEMENT SYSTEMS ARE AN ESSENTIAL COMPONENT IN THE CENTRALIZATION OF TRANSPORTATION PROCESSES, BECAUSE THEY GUARANTEE TRANSPARENCY AND CONSISTENCY THROUGHOUT ALL PLANNING STEPS AND BETWEEN PARTICIPANTS IN THE TRANSPORTATION PROCESS.

COOPERATIVE WORK BETWEEN THE STAKEHOLDERS OF THE SUPPLY CHAIN HAS BECOME SIGNIFICANTLY MORE IMPORTANT, IN PARTICULAR BECAUSE AN INCREASING NUMBER OF SPECIALIZED SERVICE PROVIDERS ARE INVOLVED.

Another step in the direction of transportation optimization in the future will be the cooperation with other producing companies that, for example, have similar transportation routes or an overlapping supplier base. These horizontal collaborations create an additional step to expand the current, mostly vertical, cooperations between the members of the supply chain. In doing so, transportation can be designed more efficiently and effectively by bundling or through the use of alternative methods for transportation (transport by block trains, sea freight), and this does not just save costs, it also reduces emissions.

This expanded form of cooperation also brings additional challenges along with it. In that there must be a high level of trust between the company and in the IT systems, the availability of data, the protection of data as well as in the access authorizations.

A collaboration platform that is multi-client capable, cloud based, and neutral already provides the best conditions to fulfill these demands and, at the same time, support newly created organizational models.



PRACTICAL EXAMPLE

IMPLEMENTATION OF A 4PL SOLUTION AT AN AUTOMOTIVE SUPPLIER IN EUROPE

INITIAL SITUATION AND CHALLENGES

- High transportation costs within the European transportation network
- No European-wide transparency regarding volumes, capacities and its utilization
- Decentralized planning and steering of shipments in the plants
- System gaps between the ERP system and the transportation planning and execution
- Different targets for freight purchase and operations in the plants

BENEFITS

- A new internal 4PL organization was successfully implemented
- Annual transportation costs were reduced by 8-14% per plant
- Additional, sustainable annual savings of 6-8% were identified based on continuous optimization efforts

SOLUTION

1

PILOT PHASE:
SET UP OF IT-SYSTEM AND
EXECUTION OF PLANNING PROCESSES
IN 6 EUROPEAN PLANTS

2

IMPLEMENTATION OF INTERNAL
STAND-ALONE ORGANIZATION COMBINING
LOGISTICS AND TRANSPORTATION
PURCHASING

3

ROLL-OUT OF IT-SYSTEMS ACROSS
EUROPE AND INITIAL OPTIMIZING OF
EUROPEAN PLANTS

4

OPERATING INTEGRATED
TRANSPORTATION SOLUTION WITH
A CENTRALIZED PLANNING TEAM



inet

part of alpega

ABOUT INET

We are a leading European provider of Software-as-a-Service (SaaS) with substantial know-how in the field of logistics. Since our founding in 1999 we have developed into one of the top 5 providers of Transportation Management Systems (TMS) worldwide. The inet TMS connects global and multi-mode transport networks on the in- and outbound levels. Our TMS software is proven to reduce transport costs by an average of 20 percent by networking all participants in the supply chain on a web-based platform in real time. The inet TMS plans, manages and optimizes your global supply chain networks on an efficient and sustainable basis.

inet is part of the Alpega group.

Find out how our cloud-based TMS can optimize your supply chain network. For more information about our company and products, please visit our website www.inet-logistics.com

Join our community



inet, part of Alpega



inet_logistics

AUTHORS

Susanne Schmid - Business Consultant

Günter Pallestrang - Senior Consultant

PUBLISHER

inet-logistics GmbH

Färbergasse 17, 6850 Dornbirn, Austria

Tel: +43 (0) 5572 7374 0

marketing@alpegagroup.com

Copyright © 2018, inet-logistics GmbH