Transportation Management
Managing Transportation Complexity

Commercial transportation faces unprecedented complexity. For shippers and logistics service providers (LSPs), ever-increasing customer demands for efficiency and improved margins require more transportation accuracy, speed, and flexibility than ever before.

As supply chains grow longer, the likelihood increases for loss of visibility, inflated logistics costs, and missed customer service commitments. Increases in international freight volumes can end in uncoordinated freight movements or lost shipments.

Freight costs go up and customer service levels go down unless a company optimizes its transportation capabilities – including the procurement and management of capacity, equipment, and resource utilization, routing decisions, and selection of logistics business partners.

Increased customer service levels are possible with a transparent end-to-end order management process that includes features such as end-to-end shipment visibility of track-and-trace pickup and delivery.

The increasing complexity of managing transportation charges and related rating structures can result in increased costs and inaccurate settlement.

In a globalized environment, it is imperative to validate and comply with international legal regulations, as well as requirements for shipping dangerous goods.

Today, shippers and logistics organizations must tightly integrate their logistics network and processes to support transparent management of global and domestic transportation.
This Is Best-in-Class Transportation

Integrate business and logistical activities across the transportation network.

Managing Complexity

Integrated Transportation

Better Services, Lower Cost

SAP Innovations

Businesses need tools to manage transportation holistically. Only a comprehensive management process supporting the complete order lifecycle provides the ability to plan, consolidate, and optimize all shipments – inbound, outbound, domestic, and international – while considering real-world constraints and costs. A transportation solution integrated with other business processes enables collaboration and visibility into every aspect of your business.

The SAP Transportation Management (SAP TM) application provides flexible support for strategic purchasing and selling of freight capacity, shipment volume forecasts, capacity management, shipment planning and execution, flexible tariff management and billing, and complete visibility of global and domestic shipping across all transportation modes and industry variations. Powerful analytics can help measure important process metrics.

Support your growth and stability with a future-proof platform based on worldwide standards. With this application, you can manage all freight holistically to improve asset utilization, lower cost, and reduce overall spending on transportation.
Meet Your Needs and Reduce Your Costs

SAP TM helps companies gain control over transportation. They can improve compliance and flexibility, streamline processes, and decrease transportation costs while maximizing available resources.

A centralized order management process enables users to make faster, better-informed decisions, while meeting customer demand, raising customer service levels, and enhancing supplier and stakeholder collaboration. And with improved performance comes lower operating costs.

- Fine-tune sales order planning
- Reduce transportation spend
- Maximize transportation asset utilization
- Optimize container shipment numbers
- Strengthen domestic freight tendering
- Increase costing accuracy and strengthen charge management
- Improve logistics visibility
- Improve on-time delivery and customer service levels
- Enhance supply chain agility and responsiveness
- Reduce costs related to freight procurement
- Lower total cost of ownership

12%

Lower transportation spend (% of revenue) when transportation planning is aligned with supply chain network planning

Source: SAP Performance Benchmarking
SAP Innovations

Database and technology solutions from SAP enable users to gain deep visibility into large volumes of transportation and logistics data for state-of-the-art analysis. They can access real-time transportation-related data in a synchronized way. User can perform quick analysis and simulations with user-driven, flexible analytics models and execute data-intensive planning processes.

Analytics solutions from SAP enable transparency and provide transportation-related key performance indicators and strategic freight management data to cover every aspect of the transportation process. Users can monitor carrier performance and enable revenue and cost analysis, in addition to emission analysis for sustainability reporting.

Mobile solutions from SAP enable on-the-go transportation users to collaborate on orders, tendering, exceptions, and alerts. This helps ensure a quick response, better-informed decision making, and faster and more agile completion of tendering and execution processes.

The collaboration portal enables streamlined work processes and information exchange with logistics partners.
Optimize Transportation Operations

Solution Overview

Capacity and Demand

Transportation Capacity and Demand Planning
Collaborate with carriers to negotiate freight contracts and to book ocean and air carrier capacity for domestic or international shipments.

Transportation Requirements Management
Manage transportation requirements holistically from order entry to final settlement.

Freight Planning

Freight Planning and Optimization
Create optimal freight plans to schedule the most freight for the least cost while honoring service constraints.

Freight Tendering

Freight Tendering
Reduce operating costs and improve operational performance by automating the freight tendering process.

Freight Settlement

Freight and Forwarding Settlement
Reduce transportation costs with more accurate costing and integrated billing.

Why SAP?
Transportation management systems help companies balance efficiency and effectiveness to achieve better-than-average delivery performance with lower-than-average spending on transportation.
Transportation Capacity and Demand Planning

SAP TM enables flexible and efficient freight capacity procurement through freight contract negotiations and automated electronic capacity reservations that include shipping instructions. This leads to cost savings and improved interaction with land, ocean, and air carriers as well as global supply and logistics networks.

Strategic forecasting and assessment of transportation demand and bid negotiations can keep transportation costs down and enable efficient management of carrier contracts.

SAP TM supports the setup of automated booking, capacity reservation, shipping instructions, and streamlined documentation with ocean carriers.

These capabilities allow companies to lower costs, increase business productivity, speed communications, and improve carrier services, while meeting increased demand for international transportation.
Improve Carrier Service Levels at the Lowest Cost

With SAP TM, companies can analyze carrier performance and historical transportation data for trade lanes to plan future transportation needs. Shippers can examine requirements in detail and compare carrier bids, facilitating the negotiation and award process. Carriers can also respond to shippers with service rates.

Long-term freight or forwarding agreements, as well as internal and mutual contracts with business partners, can be used as a starting point for calculating charges.

You can streamline carrier booking processes by:
- Supporting logic and Web-service collaboration for prebooking and postplanning booking
- Gaining visibility into booking and tracking them with predefined scenarios
- Integrating booking with optimization to support a variety of scenarios
- Creating flexible, automated workflows for booking confirmations and shipping instructions that can be changed dynamically
- Orchestrating standardized processes aligned with current, global electronic data interchange (EDI) communication standards

56% Of companies transmit bookings to carriers electronically

Source: SAP Performance Benchmarking
Integrate Carrier Booking with Communication

Effective demand and capacity management helps reduce freight rates, improve capacity utilization, and manage cost and operations with carriers more efficiently and with greater flexibility.

Strategic freight procurement enables companies to determine the best carrier rates and create contracts quickly and efficiently. This capability keeps transportation costs low, while helping to ensure reliable carrier services.

The application enables early visibility into confirmed carrier capacity for international shipments. Plus, it simplifies message-based integration to a multitude of ocean carriers.

By collaborating more effectively with carriers, companies can better coordinate their transportation processes, improve customer service levels, and lower transportation costs.

74%

Fewer shipments impacted by capacity (in %) for the top 25% of performers, when compared to average performers

Source: SAP Performance Benchmarking

SAP TM helps you set up a comprehensive process for managing international bookings. It streamlines the booking process, shipping instructions, documentation, and tracking and tracing of international shipments.
Innovations for Transportation Capacity and Demand Planning

Improve freight contract negotiation and communication with LSPs and carriers for capacity reservation and message exchange with formatted, standardized processes.

Strategic freight procurement processes supported by SAP TM allow you to access historical shipment information. Plus, you can accurately forecast and plan shipments by using integrated business intelligence tools. The application also allows secure interaction with carriers through a portal-based cockpit. SAP TM supports the alignment of standardized processes with current, global EDI communication patterns. Also, automated workflows enable booking confirmations and shipping instructions to be changed dynamically.

Simplified message-based integration with multiple ocean carriers is supported through our partnership with multi-LSP e-commerce platforms that manage most global container capacity shipped internationally. A standardized message format allows you to take advantage of quality assurance efforts for data and performance metrics.
Transportation Requirements Management

SAP TM supports a comprehensive requirements management process to integrate transportation order processing with order-to-cash and procure-to-pay processes.

The ability to receive and handle orders is critical to the entire business. SAP TM helps companies receive order-based or delivery-based transportation requirements either manually or electronically from order management systems – to confirm orders, plan and execute them, coordinate delivery processes with the warehouse, and communicate the order status back to business partners.

The software also supports change management in real time based on business rules to help ensure a closed-loop communication cycle. Centralization of transportation requirements management reduces redundant tasks, enabling companies to focus on value-added activities.

14%
Fewer outbound shipments expedited for shipments dynamically replanned during order changes based on real-time integration with a sales order system

Source: SAP Performance Benchmarking
Manage Requirements Holistically

With SAP TM, you can receive order information electronically from multiple source systems: standardized open interfaces, integration with the SAP ERP or SAP Customer Relationship Management applications, or manual creation in SAP TM.

The application supports process differentiation and orchestration control for a wide range of business purposes and order types, such as quotations, sales and purchase orders, returns and stock transfers for tight sales, procurement, and replenishment integration, or a manual order management process. It also supports freight unit determination, transportation capacity checks during order entry, and the creation of delivery proposals.

The integrated application also supports consignment traceability and visibility for order status and history with proactive alerts and event processing for both nonhazardous and hazardous goods.

The application’s dynamic, business rule-controlled change management functions fully support high-volume requirements management.

32%
Lower average trailer turn time when a system generates event-based alerts based on stored shipment milestones and lead times
Source: SAP Performance Benchmarking
### Streamline High-Volume Transportation Requirements Management

A robust framework manages high-volume transportation requirements holistically – from entry to final settlement – with best-in-class user experience and dynamic integration with source systems.

SAP software supports a cohesive requirements management process that integrates order processing with order-to-cash and order-to-pay processes, providing early visibility into requirements for planning.

The ability to have timely visibility and plan sales orders earlier than delivery notes can lead to significant cost savings.

Centralization of transportation requirements management reduces redundant tasks, enabling companies to focus on value-added activities.

Knowing the status of orders at all times streamlines communication with business partners. Synchronized transportation and warehouse order processing improves operational efficiency.

### Fewer outbound shipments expedited when freight management is leveraged for scale and complemented by local execution capability

26% Fewer outbound shipments expedited when freight management is leveraged for scale and complemented by local execution capability

Source: SAP Performance Benchmarking
Innovations for Transportation Requirements Management

Communicate easily with other applications, functions, and users through standard open interfaces to all order sources.

SAP TM supports order integration through standard open interfaces and standard integration with SAP software and other applications, facilitating receipt of orders from a variety of internal and external sources and cross-application visibility into order status.

The application also enables order capture variations across multiple industries and transportation modes, such as rail, air, and parcel.

SAP solutions also help maintain references to products, business partners, and documentation, as well as relevant cost and legal information.

With analytics solutions from SAP, you can achieve better transparency and obtain transportation order volume, trade lane, and execution-related key performance indicators, in addition to strategic freight management data to cover every aspect of the transportation process.

46%

More shipments delivered per load planner when summary-level graphic reports can be aggregated into role-based portals for business users

Source: SAP Performance Benchmarking
Freight Planning and Optimization

With SAP software, companies can plan, consolidate, and optimize freight shipments while considering applicable limitations and constraints, costs, and penalties.

SAP TM uses sophisticated optimization techniques to consolidate loads based on dimensions and loading rules. You can also determine the most efficient combination of modes, routes, and resources and optimize carrier selection by factoring in costs and penalties.

These capabilities reduce transportation-related costs, increase efficiency and vehicle utilization, and improve on-time delivery of shipments for large planning situations or for individual planning proposals for transportation requirements.

31%
Shorter outbound shipment cycle time when shipment plans are automatically optimized for freight consolidation opportunities, mode, and carrier

Source: SAP Performance Benchmarking
Optimize Transportation Plans

SAP TM helps optimize individual freight units and shipments, and consolidate them for domestic, international, single, or multimodal transportation scenarios in interactive or background planning.

The application supports single-step planning and scheduling as well as multistep planning approaches for complete, end-to-end transportation chains or focused, asynchronous, “stage-wise” planning, whether the situation requires local or global, and centralized or decentralized planning.

SAP TM offers high-volume optimization techniques to support the following:

- Dynamic planning and scheduling of resources and trailers with consideration for real-life constraints, events, costs, limitations, and schedules
- Support for various equipment types, such as trailers and railcar equipment combinations and hierarchy
- Superior carrier selection and continuous movement optimization based on geographical and carrier business rules with reevaluation capabilities and a planning cockpit
Reduce Costs and Improve Customer Service

Optimal freight plans and capacity utilization help you schedule the most freight for the least cost while honoring service constraints.

With increasing complexity and volumes in global transportation, the ability to plan and optimize large volumes of freight can reduce freight costs, while customer service levels will likely increase.

With SAP TM, you can proactively plan your freight, arrange loads, and manage plan changes right up to the point of execution, reducing freight spend and increasing both owned or subcontracted vehicle and capacity utilization, Meanwhile customer expectations on service levels are realized. Plus this capability reduces working capital and operational expenses.

The application also supports compliance with legal requirements, such as hazardous goods restrictions.

19% Lower transportation spend where high opportunity lanes are continually analyzed using a common framework supported by analytic infrastructure

Source: SAP Performance Benchmarking
Innovations for Freight Planning and Optimization

SAP software offers an interactive user interface that supports the planning of shipments in a single environment.

SAP TM provides simplified information access, with visual representation of planning objects on a map, visual load plans, flexible process configuration and planning strategies, and scalable deployment options.

Database and technology solutions from SAP help users gain visibility into large volumes of trans-portionation and logistics data, facilitating quick analysis and simulations with user-driven, flexible analytics models and execution of data-intensive planning processes.

Analytics solutions from SAP support transparency and allow users to monitor carrier performance and cost analysis at the point of use, enabling you to improve planning and carrier selection.

31%

Shorter transportation planning cycle time when there is a single, virtual repository of clean transportation transactional data

Source: SAP Performance Benchmarking
Interactive Freight Tendering

SAP TM enables support for interactive or highly automated tendering with carriers or partners using configurable, business rules–driven processes.

Tendering functionality in SAP TM supports streamlined carrier collaboration with highly automated, business rule–driven process logic. It supports carrier assignment either based on templates or through carrier optimization and ranking. Or, it can apply standard, preferred carrier information from master data. The main characteristics of the tendering functionality are a flexible configuration and the reduction of manual interactions, supporting ease of use and lowering total cost of ownership.

40%

Fewer transportation FTEs per million of spend when tender responses are received electronically and automatically scored on configurable criteria

Source: SAP Performance Benchmarking
Streamline Carrier Communication

With SAP TM, companies can set up multistep, automated, or interactive carrier tendering processes, including peer-to-peer and broadcast tendering. The software supports direct tendering of orders and request for proposal–driven tender processes.

With SAP TM, you can handle decision support based on priorities, costs, carrier allocations, and business shares. You can also set up time-constrained process automation and alerts for manual and interactive processes, when required.

SAP TM supports Web-service electronic communication and e-mail- and SMS-based tendering. It also provides native Web access to collaborate with carriers for tendering.

The application offers best-in-class change controller logic for change management automation. It allows flexible, configurable, automated tender response processing, with supporting alert and workflow management.

95%

Of shipments are tendered electronically by the top 25% companies

Source: SAP Performance Benchmarking
Automated Freight Tendering Improves Operational Performance

By automating the freight-tendering process, companies can simplify carrier collaboration while reducing operating cost and effort and improving operational performance.

Effective supply chain execution requires intelligent carrier collaboration. Planning your tendering strategies in collaboration with your carriers helps you streamline your work processes and benefit from reduced handling costs, greater transparency, and enhanced efficiency.

The tendering functionality of SAP TM offers a flexible configuration that suits the customer’s unique business process and reduces the need for required manual interactions. This results in ease of use for end users and lower total cost of ownership for the carrier communication process.

12%
Shorter outbound shipment cycle time when tender responses are received electronically and scored automatically based on configurable criteria

Source: SAP Performance Benchmarking
Innovations for Freight Tendering

Enable automated tendering with tools and interfaces for easy communication with applications and business partners.

With SAP TM, you can provide carriers access to tendering data via a Web-based portal and use other communication methods, such as electronic data interchange (EDI), fax, and e-mail. You can control and manage the information shared with carriers in the portal, while carriers can see and respond to requests for quote (RFQs) for tenders in the portal. They can add free text and attachments in RFQs, quote prices in different currencies, and set price limits. Analytics solutions from SAP enable transparency and allow users to access relevant analytics data, such as carrier performance to support the carrier tendering process.

16%
Higher rate reduction realized when there is the ability to segment data and generate carrier-specific reports

Source: SAP Performance Benchmarking
Freight and Forwarding Settlement

By using the comprehensive freight cost management capabilities supported by SAP TM, companies can manage and settle freight costs as they relate to both carriers and customers.

Comprehensive freight cost management functionality in SAP TM helps you manage contractual freight agreements with business partners, associated tariffs and charges, and advanced charge calculations based on rules.

You can integrate this functionality with financials software for freight auditing, carrier payment, customer invoicing, and cost distribution. This level of integration enables more accurate costing and more timely settlements, reducing freight costs and improving service levels.

40%

Lower transportation charge management spend when a system electronically stores complex, multidimensional carrier rate structures and associated accessorial charges

Source: SAP Performance Benchmarking
Accurate Costing and Settlement

SAP TM helps you manage both simple and complex freight agreements and related master data, as well as calculation rules for carriers and customers. And it enables you to calculate freight costs, revenue, and profits precisely and automatically.

The application supports advanced calculation of charges for different modes and industries (ocean, air, rail, and parcel) and integrates with corresponding processes in financials and invoicing. Calculated results are available in auditable business documents, as well as details for analytical reporting.

SAP TM also supports inheritance of charge management from order management, and integrates workflow techniques for approval processes.

The application allows manual changes and adjustments and uses order, logistical, and actual event information for automatic charge calculation and settlement.

SAP TM facilitates charges to support freight procurement, planning, carrier optimization, and tendering processes in a dynamic way.

Finally, SAP TM provides Web service-based integration for less than truckload (LTL) rates with providers, such as SMC3.

Fewer freight invoices with erroneous charges (%) when costs are automatically calculated and transmitted to financial systems for matching

Source: SAP Performance Benchmarking
Integrated Freight and Forwarding Settlement

Effective freight settlement requires advanced charge calculations to determine actual freight costs accurately.

The ability to calculate freight costs precisely is mandatory.

With SAP TM, you can set up flexible tariff management and integrated billing that enables more accurate costing and more timely settlement of freight contracts. This reduces freight costs and improves carrier relations, which can lead to improved service levels.

Tying freight costs back to financial accounts, cost centers, and orders allows you to determine the full cost of an order and to undertake profitability calculations. This capability also helps you better understand the impact of shipment costs on your bottom line.

56%

Of companies do not accept updates of carrier charges electronically

Source: SAP Performance Benchmarking
Innovations for Freight and Forwarding Settlement

Integration with the SAP ERP application supports cost calculation, dispute management, accounting and controlling, and financial visibility.

SAP TM integrates with the SAP ERP Financials solution to enable freight auditing and autopayment, as well as invoicing to customers. SAP TM provides enhancements for invoice verification for materials management and integrates in a unique and dynamic fashion, based on two-way communication.

Database and technology solutions from SAP help users handle large volumes of transportation and logistics data to perform quick analysis and simulations and execute data-intensive processes in transportation charge management.

Analytics solutions from SAP support transparency and multidimensional analysis of transportation costs.

32%

Lower transportation charge management spend when a settlement system calculates shipping charges for a customer based on order attributes and the customer freight agreement

Source: SAP Performance Benchmarking
Why SAP?

SAP TM leverages technology innovations to help you optimize and integrate your transportation management processes, empowering you to enhance your transportation management operations.

Use an integrated solution that supports end-to-end business processes: Integrate business processes across your entire enterprise and extended transportation network, using various options, such as the SAP ERP application, SAP Business Suite applications, SAP Global Trade Services application, or SAP Environment, Health, and Safety Management (SAP EHS Management) application.

Reduce costs and improve efficiency: Use best-in-class transportation management to provide executable transportation plans that are cost efficient and compliant with customer requirements.

Leverage key innovations: Harness the power of database, technology, and analytics solutions from SAP to handle large volumes of transportation and logistics data for state-of-the-art analysis and data-intensive planning to achieve faster processing and better-informed decisions.


Source: ARC, May 2012
Find Out More About How Your Organization Can Become Best-Run

**Benchmark Your Performance**
Position your organization for dominance in this new economy with the business performance benchmarking program from SAP – available free to SAP customers and select prospects. The SAP benchmarking program has helped more than 3,000 organizations assess their strengths, uncover areas for improvement, and identify best practices and IT strategies that generate clear, tangible value – not someday, but today.

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