TMS/T&T

Secondary Research

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1 TABLE OF CONTENTS

TMS - T&T RESEARCH

1 WHAT IS TMS?

A transportation management system(TMS) is a software system that helps companies manage logistics associated with the movement of physical of goods – by land, air, sea, or a combination of transportation modes. Part of the larger supply chain management system, TMS logistics software helps ensure timely delivery of goods by optimizing loads and delivery routes, tracking freight across local and global routes, and automating previously time-consuming tasks, such as trade compliance documentation and freight billing. A TMS system reduces costs for both businesses and end customers.

A TMS centralizes and organizes transportation data, allowing companies to:

- Plan and forecast network needs
- Optimize routes
- Manage carriers
- Execute and track shipments
- Automate processes (like load booking and tendering)
- Handle payment and settlement
- Report on network KPIs.

An effective TMS provides shippers visibility into both their day-to-day operations and a bird's-eye-view of their overall network performance.

2 HOW DOES A TMS SYSTEM WORK?

Connected to carrier systems, a TMS system accesses, stores, and compares detailed information about carriers. It also includes functionality that allows businesses to optimize routes and transportation modes as well as track delivery progress.

A TMS system works in conjunction with other software as part of a broader supply chain management system – and most offer ERP and warehouse management system (WMS) integration. Each software system below performs a specific function; when integrated, they form a digital tripod that supports delivery of the end-to-end process.

1. Enterprise resource planning (ERP) handles accounting, order management, and invoicing.
2. Warehouse management system (WMS) helps manage warehouse functions, including palletization, order fulfillment, shipping and receiving, and inventory tracking.
3. TMS is responsible for freight management and route and carrier optimization.

3 TMS TODAY

What is a TMS system today? Modern TMS software includes features that can dramatically reduce complexity and improve efficiency. Key features include:

- Transportation planning and execution: Streamline procurement and freight shipment with automated carrier rate comparison and booking. Choose the mode of shipment – air, ocean, truck, or rail freight – and plan the most efficient route for the transport of goods. Optimize loads and take advantage of real-time track and trace capabilities to monitor progress.
- Freight management: Streamline the quote-to-contract process. Efficiently manage freight costing, order management, rate determination, and freight billing and settlement for both multimodal and intermodal transportation.
- TMS dashboards, reporting, and analytics: Forecast transportation demand, analyze rates and profitability, and adapt quickly to adjust to unforeseen circumstances. With real-time visibility into all aspects of the transportation process, you can make immediate, data-driven decisions.

Load Planning

With a TMS, shippers can easily find rates, plan routes and select carriers.

Benefit: Because a TMS uses complex algorithms to optimize each shipment, shippers not only save time on the front end, but they also save time and money throughout the entire shipping process.

Load Execution

A TMS automates the freight tendering process, using the shipper's routing guide to digitally tender loads to the appropriate carrier at the predetermined rate.

Benefit: Rather than shippers manually measuring carrier capacity, rate acceptance, and performance before dispatching carriers, a TMS filters through a vast amount of data and expedites freight booking and tendering.

Freight Tracking

A TMS gathers and consolidates detailed tracking information and records the movement of a shipment through the full lifecycle of a load — from warehouse to final destination.

Benefit: This not only allows shippers to get real-time updates about their freight, it also allows them to track and measure carrier performance.

Payment

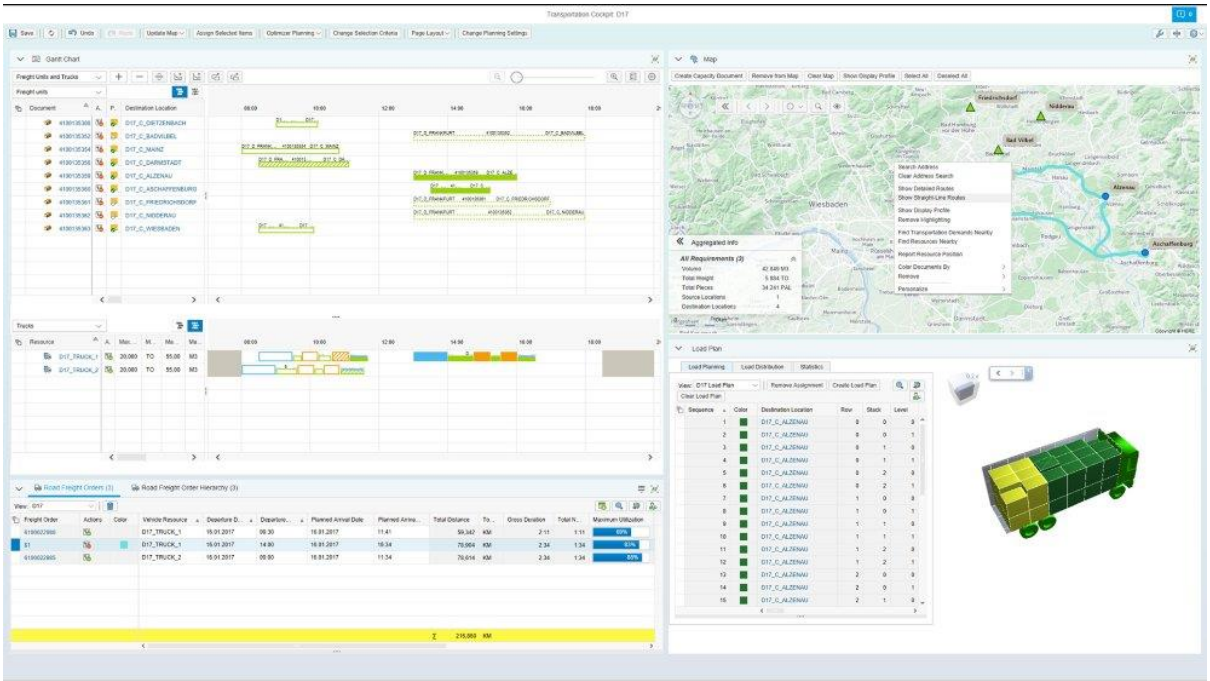
A TMS allows companies to automatically audit each carrier invoice and easily pay carriers.

Benefit: When it comes to finances, a TMS simplifies and streamlines the payment process for both shippers and carriers by providing access to freight audits, invoices, payments and cost performance analytics.

Actionable Reporting

A TMS provides in-depth reporting on shippers' networks and facilities and offers performance insights to assist in future planning.

Benefit: After monitoring and assessing the broad data provided by TMS reporting, shippers can develop continuous improvement strategies to reduce unnecessary expenses, improve service levels (i.e. on-time pickup and delivery), and analyze overall cost savings.



A TMS cockpit helps organizations optimize freight management, routes, and carriers, to name just a few key benefits.

4 T&T: TRACK & TRACE

The term Track & Trace was first used in the United States by businesses like UPS and DHL to give their customers greater insight into the location of parcels and packages.

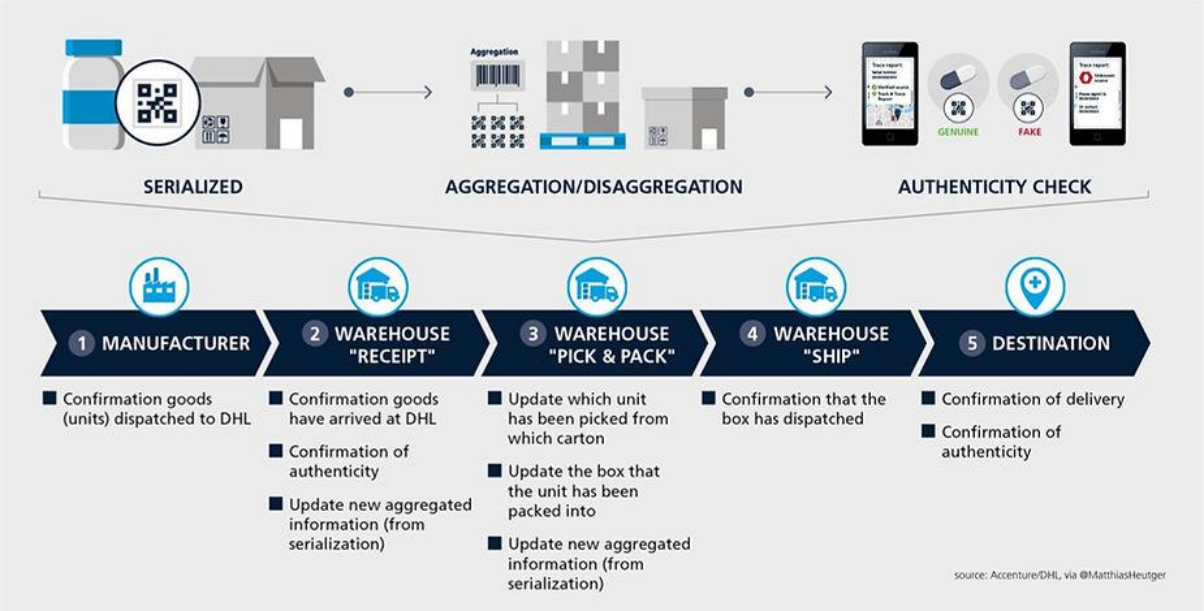
Nowadays, Track & Trace is more widely used in the logistics industry. It allows companies to determine the physical location and status of goods in the supply chain. Track is the act of following a trail left by the movement of a shipment or an asset. Trace refers to tracking the movement of a shipment, property, or even the temperature of a package.

In general, Track & Trace is a task/system implemented/used by shippers or carriers to record the movement of parcels or goods during transportation.

The core mission of Track & Trace is to create a transparent end-to-end supply chain so that customers, partners, and logistics companies can know the exact location of goods and shipping status at any time. Moreover, the Track & Trace system also helps to improve the efficient management of the logistics network and improve the quality of customer service.

4.1 HOW DOES TRACK & TRACE WORK?

The Track & Trace system helps automate the process of collecting and recording important information about goods through tracking and tracing their origin and status throughout the supply chain.



By using Track & Trace in production, each tracking object (raw material or finished product) will be assigned a separate barcode and stored in the database. Every time the object goes through a stage such as packing, crating, palletizing, it will be given a new barcode and updated into the system.

In addition, Track & Trace is used during distribution and transportation. When a product is tracked to a predetermined location in the supply chain network, shipment information (including packaging, delivery location, delivery time, etc.) will be sent to the system database.

Managers can also manage and authenticate goods through Track & Trace, effectively ensuring a transparent supply chain, saving costs, time and enhancing customer satisfaction experience.

4.2 THE FUTURE OF T&T

According to the research firm MarketsandMarkets, the global market for Track & Trace technology solutions is expected to grow to $3.93 billion by 2023, reaching a compound annual growth rate (CAGR) of 18,9%.

Track & Trace is not new, but their applicability in logistics activities is still quite limited. This situation makes it difficult for organizations and businesses to manage and consume a lot of money and time due to the lack of supply chain visibility and real-time data on logistics activities.

The more information manufacturers, retailers, logistics service providers, or any customer are demanding at every stage of the supply chain, the more critical Track & Trace in logistics management becomes.

An integrated Track & Trace system improves supply chain efficiency, saves costs and time, creates more sustainable value, and enhances customer experience. In the future, many technologies such as IoT and Blockchain will be in use to provide a more comprehensive and optimal solution for all parties involved in the supply chain.

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