

Transportation Management System Market Report by Transportation Mode (Railways, Roadways, Airways, Waterways), Offering (Software, Hardware, Services), Deployment Type (On-Premises, Cloud-based), Application (Retail and E-commerce, Manufacturing, Logistics, Government Organizations, Healthcare, Travel and Tourism, and Others), and Region 2024-2032

https://marketpublishers.com/r/T9A13033926FEN.html

Date: July 2024

Pages: 146

Price: US\$ 3,899.00 (Single User License)

ID: T9A13033926FEN

# **Abstracts**

The global transportation management system market size reached US\$ 9.0 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 32.8 Billion by 2032, exhibiting a growth rate (CAGR) of 15% during 2024-2032. The rising need for real-time tracking and efficient logistics solutions, increasing focus on cost reduction and operational efficiency, and the rapid expansion of e-commerce activities are some of the major factors propelling the market.

A transportation management system (TMS) is a software solution designed to streamline and optimize the various processes involved in the transportation and logistics sector. This system helps businesses in planning, executing, and monitoring the movement of goods from one location to another. TMS plays a critical role in reducing shipping costs, improving operational efficiency, and enhancing customer service. It encompasses functionalities such as route planning, freight matching, real-time tracking, and analytics. By integrating with other supply chain technologies and offering a centralized platform, TMS ensures better visibility and control over transportation operations.



The escalating need for real-time tracking and enhanced visibility in transportation operations will stimulate the growth of the transportation management system market during the forecast period. Moreover, the rising demand for efficient and timely deliveries due to the rapid expansion of e-commerce activities that makes TMS solutions indispensable for managing shipping and route optimization is propelling the market growth. Apart from this, the increasing number of businesses focusing on reducing operational costs and enhancing efficiency, has accelerated the adoption of TMS software that aids in automating manual processes and optimizing resource allocation. Besides this, numerous technological advancements, such as the integration of Artificial Intelligence (AI) and Machine Learning (ML) algorithms that enable predictive analytics and smarter decision-making, have catalyzed market growth. Furthermore, heightened sustainability concerns are contributing to market growth as companies seek to minimize fuel consumption and reduce carbon emissions through optimal route planning.

Transportation Management System Market Trends/Drivers: Rising demand for real-time tracking and visibility

Real-time tracking and visibility have become crucial for efficient logistics management. A transportation management system (TMS) offers these capabilities, allowing businesses to monitor shipments, track inventory levels, and adjust in real-time. This level of visibility aids in making timely and accurate decisions, reducing bottlenecks, and ensuring smoother operations. It also enhances customer satisfaction by providing accurate delivery time estimates and enabling quick response to any disruptions. These features improve the overall supply chain efficiency and contribute to building stronger, more reliable relationships with suppliers and customers. As a result, the rising need for real-time tracking and enhanced visibility is propelling the market growth.

Escalating need for operational efficiency and cost reduction

The pressure to reduce costs and improve operational efficiencies continues to rise in the logistics and transportation sector. A transportation management system (TMS) helps companies achieve these objectives by automating manual tasks such as route planning, carrier selection, and freight auditing. This automation minimizes human errors, saves time, and ensures optimal resource utilization. Additionally, TMS can analyze historical data to identify trends and areas for improvement, helping businesses optimize their operations further. By streamlining these processes, companies can significantly reduce their operational costs, including labor and fuel expenses. The promise of operational efficiency and cost reduction makes TMS solutions an attractive



investment, acting as another major growth-inducing factor.

Rapid technological advancements

The market is also influenced by rapid technological advancements such as the integration of Artificial Intelligence (AI) and Machine Learning (ML) into these systems, which enables advanced functionalities like predictive analytics and intelligent routing. These technologies assist in anticipating potential disruptions in the supply chain, suggesting alternative routes or modes of transport, thereby making the operations more resilient. AI and ML also aid in data-driven decision-making, allowing businesses to plan better and react swiftly to changing market conditions. As companies become more tech-savvy and open to adopting new technologies, the infusion of advanced capabilities into TMS solutions is emerging as a major force driving market growth.

Transportation Management System Industry Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global transportation management system market report, along with forecasts at the global, regional and country levels from 2024-2032. Our report has categorized the market based on transportation mode, offering, deployment type, and application.

Breakup by Transportation Mode:

Railways Roadways Airways Waterways

Roadways represent the most widely used transportation mode

The report has provided a detailed breakup and analysis of the market based on the transportation mode. This includes railways, roadways, airways, and waterways. According to the report, roadways represented the largest segment.

Roadways are networks of roads that facilitate land-based transportation of goods and people. They are critical infrastructure components that connect various geographical locations, making them essential for commerce, daily commuting, and travel. Roadways play a pivotal role as the primary mode for freight and cargo transport. TMS solutions optimize road transportation by automating route planning, reducing fuel consumption, and providing real-time tracking capabilities. This ensures timely deliveries and lowers



operational costs.

Moreover, the increasing complexity of supply chains and a rise in e-commerce activities have escalated the need for efficient road transportation. TMS helps in managing these complexities by coordinating multiple shipments, ensuring regulatory compliance, and offering visibility into end-to-end logistics. The growing reliance on roadways for various transportation needs is thus a significant factor fueling the adoption and expansion of TMS solutions.

Breakup by Offering:

Software Hardware Services

Software holds the largest market share

A detailed breakup and analysis of the market based on the offering has also been provided in the report. This includes software, hardware, and services. According to the report, software accounted for the largest market share.

Software refers to specialized applications and platforms designed to streamline and optimize various aspects of transportation operations. TMS software solutions encompass route planning, load optimization, real-time tracking, and data analytics, providing businesses with the tools to enhance efficiency, reduce costs, and improve overall supply chain management. The software-driven approach in TMS enables companies to make data-driven decisions, optimize resource allocation, and respond swiftly to changing market dynamics and customer demands. It also facilitates seamless communication and collaboration across the entire logistics network. As the world becomes increasingly interconnected and reliant on efficient transportation, the demand for TMS software continues to grow.

Moreover, advancements in artificial intelligence (AI) and machine learning (ML) are enhancing the predictive capabilities of these systems, further driving their adoption. TMS software offers companies the agility and precision needed to thrive in today's competitive global logistics landscape, thereby augmenting market growth.

Breakup by Deployment Type:

**On-Premises** 



#### Cloud-based

On-premises represent the most popular deployment type

A detailed breakup and analysis of the market based on the deployment type has also been provided in the report. This includes on-premises and cloud-based. According to the report, on-premises accounted for the largest market share.

On-premises deployment refers to the installation and operation of software directly on a company's in-house servers and computing infrastructure, as opposed to a cloud-based solution. On-premises TMS solutions offer a high degree of customization, control, and data security. This deployment type is particularly appealing to large enterprises with complex supply chains, stringent regulatory compliance requirements, and sensitive data that they prefer to keep within their own network. On-premises TMS allows for deep integration with existing systems and offers the flexibility to tailor the software to specific operational needs. While it requires a higher upfront investment and ongoing maintenance, this type of solution provides robust capabilities that are tailored to a business's unique requirements. As a result, the rising need for customized, highly integrated, and secure TMS solutions has augmented the demand for on-premises deployment, particularly among large enterprises.

Breakup by Application:

Retail and E-commerce
Manufacturing
Logistics
Government Organizations
Healthcare
Travel and Tourism
Others

Manufacturing represents the leading application segment

A detailed breakup and analysis of the market based on the application has also been provided in the report. This includes retail and e-commerce, manufacturing, logistics, government organizations, healthcare, travel and tourism, and others. According to the report, manufacturing accounted for the largest market share.

The manufacturing sector requires efficient and reliable transportation of raw materials



to factories and finished goods to various markets. This complexity and scale of operations make the Transportation Management System (TMS) an indispensable tool for manufacturing industries. TMS solutions help these industries in optimizing routes, managing inventory, coordinating with suppliers and distributors, and ensuring timely delivery, thereby improving overall operational efficiency. The need for just-in-time manufacturing, coupled with fluctuating demand patterns, necessitates real-time tracking and analytics, features that modern TMS solutions readily provide. As manufacturing processes become more globalized and intricate, the need for a system to manage logistics and transportation becomes even more crucial. By reducing transportation costs, streamlining operations, and enhancing visibility across the supply chain, TMS solutions offer manufacturing industries the agility and efficiency they need, thereby propelling the growth and adoption of TMS in this sector.

## Breakup by Region:

North America

**United States** 

Canada

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa



#### North America exhibits a clear dominance in the market

The market research report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, North America accounted for the largest market share.

North America held the biggest share in the market since the region is home to numerous industries, including retail, manufacturing, and e-commerce, that rely heavily on efficient logistics and transportation for their operations. The high adoption rate of advanced technologies in North American countries, such as the U.S. and Canada, facilitates the seamless integration of TMS solutions with other supply chain technologies, providing a conducive environment for market growth. Moreover, the stringent regulatory landscape related to transportation and shipping compliance in North America makes TMS an essential tool for businesses to remain compliant while optimizing their supply chains. The region's focus on sustainability and reducing carbon footprints further amplifies the need for efficient transportation management solutions that can offer optimal route planning and fuel usage. The combination of these factors—technological readiness, regulatory compliance, industrial diversity, and sustainability initiatives—positions North America as the leading regional market for TMS.

## Competitive Landscape:

The market is experiencing steady growth as key players are increasingly investing in groundbreaking innovations to gain a competitive edge. They are integrating artificial intelligence (AI) and machine learning (ML) algorithms for predictive analytics and intelligent decision-making. Companies are also focusing on enhancing real-time visibility through Internet of Things (IoT) connectivity, enabling more granular tracking and data collection. Some players are introducing cloud-based TMS solutions, offering scalability and ease of implementation, thereby making advanced logistics management accessible to smaller businesses as well. Blockchain technology is another innovation, providing secure and transparent transaction records, thereby boosting reliability and compliance. These innovations enhance the capabilities of existing TMS solutions and make them more adaptable to the evolving needs of the transportation and logistics industry.



The market research report has provided a comprehensive analysis of the competitive landscape in the market. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

3GTMS Inc.

BluJay Solutions Ltd.

CargoSmart Ltd.

CTSI-Global

**EFKON GmbH** 

Manhattan Associates Inc.

MercuryGate International Inc.

Metro Infrasys Pvt. Ltd.

**Oracle Corporation** 

SAP SE

The Descartes Systems Group Inc.

TMW Systems Inc.

## Recent Developments:

In May 2023, Manhattan Associates announced its Manhattan Active Yard Management solution. The new offering aims to revolutionize yard management by integrating it seamlessly with both warehouse and transportation management systems. This integration provides companies with a unified view of their logistics operations, from the warehouse to transportation to the yard, making it easier to make informed decisions quickly. Because the solution is cloud-native, it offers the benefits of scalability and flexibility, allowing businesses to adapt to changing market conditions and operational needs without the burden of managing a complex IT infrastructure.

In May 2022, MercuryGate International Inc., the largest independent provider of Transportation Management Systems (TMS), announced a strategic partnership with Amazon Freight, the freight delivery service powered by Amazon. This collaboration promises to be a game-changer in the logistics and supply chain sectors. By integrating with Amazon Freight's network, the MercuryGate platform aims to offer shippers an enhanced level of reliability and cost-efficiency. The move aligns with the growing trend of digital transformation in logistics, offering an integrated, data-driven approach to transportation management.

In January 2023, Oracle introduced new logistics capabilities under its Oracle Transportation Management suite. Among the most notable additions is the New Oracle Transportation Management Mobile App. This mobile application is designed to streamline transportation operations by offering real-time tracking, instant reporting, and convenient mobile accessibility, allowing decision-makers and operators to manage



logistics functions on the go. The inclusion of these new capabilities aims to address the evolving challenges in the transportation and logistics sectors, such as the increasing need for real-time visibility, scalability, and adaptability in complex supply chains.

## Key Questions Answered in This Report

- 1. What was the size of the global transportation management systems market in 2023?
- 2. What is the expected growth rate of the global transportation management systems market during 2024-2032?
- 3. What are the key factors driving the global transportation management systems market?
- 4. What has been the impact of COVID-19 on the global transportation management systems market?
- 5. What is the breakup of the global transportation management systems market based on the transportation mode?
- 6. What is the breakup of the global transportation management systems market based on the offering?
- 7. What is the breakup of the global transportation management systems market based on the deployment type?
- 8. What is the breakup of the global transportation management systems market based on the application?
- 9. What are the key regions in the global transportation management systems market?
- 10. Who are the key players/companies in the global transportation management systems market?



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