Smart Transportation - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Smart Transportation Market size is estimated at USD 33.38 billion in 2024, and is expected to reach USD 46.36 billion by 2029, growing at a CAGR of 6.79% during the forecast period (2024-2029).

Increasing traffic volume, government initiatives aimed at decreasing the effects of greenhouse emissions, rising city projects, and the rise of megacities, urbanization, and population are some factors driving the market growth. The UN forecasts estimate that more than 70% of the world population will be urbanized by 2030, wherein 700 million people will reside in cities in India. These predictions serve as a unique opportunity to plan, design, and build an ecologically and economically sustainable new India. Additionally, urbanization has boosted national economies across the globe, as 75% of global economic production takes place in the cities.

Key Highlights
-Increasing urbanization reflects the growing complexities in cities worldwide, with transportation needs being one of them. One of the primary issues the transportation market faces is resolving this complexity. The trend of a rising number of IoT and linked devices will continue with smart city projects during the projection period. The increased use of linked products like smart homes, smart meters, smart transportation, and smart lighting, among others that use IoT to communicate with one another, is expected to drive market expansion. In addition, it is predicted that by 2025, there will be more than 26 smart cities, with the majority existing in North America and Europe, delivering a significant drive to AI and IoT technology for adoption in smart cities.
-One of the primary objectives of innovative city development is smart mobility, which includes transportation. Creating efficient, flexible, and integrated transportation networks is vital to smart mobility. Smart mobility is a significant development driver in modern urban centers and may improve tourists' and inhabitants' everyday lives. By 2040, cities are expected to accommodate 65% of the world's population. Healthy modes of transportation, such as walking and cycling, are prioritized in urban mobility

management. Mobility management also minimizes carbon emissions and provides communities with optimal traffic flow analysis.
-Traffic congestion is increasing due to exponential growth in suburban and rural populations relocating to cities and an equivalent increase in population concentration around metropolitan centers. Vehicle congestion in cities has increased as cities have grown in density, assisted by insufficient roadway designs and bad urban planning. For example, in 2022, the average American motorist wasted 51 hours in traffic congestion, or approximately an hour each week. This is 15 hours longer lost to traffic than previously, and all that time squandered in traffic jams costs the typical American motorist USD 869 in lost time, according to the mobility analytics firm Inrix's 2022 Global Traffic Scorecard.
-Further, in April 2022, the Ministry of Electronics and Information Technology (MeitY) launched several applications under the Intelligent Transportation System (ITS) as part of the InTranSE- II program to improve India's traffic scenario. An indigenous Onboard Driver Assistance and Warning System (ODAWS), Bus Signal Priority System, and Common SMart IoT Connectiv (CoSMiC) software were designed as a joint enterprise by the Centre for Development of Advanced Computing (CDAC) and the Indian Institute of Technology Madras (IIT-M). Mahindra and Mahindra was the industrial collaborator for the project. The government declared that ODAWS aims to improve the highway infrastructure as the number of vehicles and road speed has increased, exacerbating safety concerns.
-However, due to the need for a standardized strategy, smart transportation mixed with numerous aspects, such as software, hardware, and mobile network components, are produced by multiple manufacturers, resulting in compatibility concerns. Furthermore, communication protocols range significantly among nations, posing challenges for manufacturers in terms of worldwide acceptance of their products.
-In the post-COVID-19 scenario, rising demand for biometric, integrated, contactless, mobile payment adoption, sensor-based technology, and ticketing technologies throughout public transit will positively impact the market. Moreover, the development by various companies is also expected to boost the demand for smart transportation.

Smart Transportation Market Trends

Rise of Urbanization, Increasing Mega Cities and Population Drives the Market

- The population growth, coupled with the increasing urbanization rate and megacities, is the primary factor driving the market. Moreover, as the population grows and urbanizes, many cities will face transportation challenges, thus driving the demand for smart transportation. For instance, according to the Population Reference Bureau, in 2022, the degree of urbanization worldwide was 57%. North America was the region with the highest level of urbanization, with over four-fifths of the population residing in urban areas.
- More than half the world's urban population resides in Asia, where some countries, like India and China, already have about a billion people living in cities alone. The other regions with relatively high urban populations are North America, Europe, and Africa. Increasing urbanization indicates the rising complexities in the transportation of cities worldwide. Resolving these complexities is one of the significant challenges faced by the transport markets across these areas. For instance, according to the United Nations, people living in urban areas are expected to reach 68% by 2050.
- Urban population growth will significantly pressure public transport infrastructure. Residents of big cities will expect public transport that is fast, efficient, affordable, safe, and environmentally friendly. Delivering such transportation infrastructure will be one of the critical challenges confronting future cities. Furthermore, rapid urbanization has brought heavy traffic congestion, serious safety issues, and growing urban inequality. Smart transportation solutions have gained significant traction in the past few years across many highly urbanized cities to overcome such challenges by delivering real-time travel and traffic information with resilient network control.
- Furthermore, besides increasing traffic congestion, the urban areas and megacities face several other transport-related problems, such as growing emissions of pollutants and depleting fuel resources that adversely impact the overall well-being of any major city. To make transport management more effective, several cities worldwide are trying to create intelligence into

existing systems by adopting smart transportation systems, which is expected to drive the market's growth at a rapid pace.
- Moreover, urban transportation is becoming crucial for a better quality of life for citizens in any city. Today cities worldwide are expanding to incredible sizes. The rising maturation rate of megacities worldwide and multiple innovations taking place in the technology field for the transportation sector are further driving the market's growth.

Asia Pacific is Expected to Register Fastest Growth

- China outlined a recent comprehensive transportation system in the 14th Five-Year Plan (2021-2025). According to the circular, by 2025, China will have made achievements in pursuing intelligent and green transportation, as well as significant advances in overall competence, service quality, and efficiency of the transportation industry. This plan aims to improve the transportation industry's roads, trains, ports, and waterways and the technology and human resources involved. As a result, this will support growth in urbanization, consumer demand, and factor supply movements.
- Smart transportation is quickly expanding in Japan with the introduction of smart transportation networks, such as the Internet of Things (IoT). Smart transportation networks require IoT architecture, which includes technologies such as the cloud, sensors, and data communication. Rapid improvements in recent years have made it feasible to enhance device communication.
- Australia has been developing traffic management technologies interacting with drivers and infrastructure operators to reduce traffic congestion and enhance safety and traffic conditions. The country has a diverse and complex transportation infrastructure network, creating an opportunity for the market players in the country due to the increasing demand for smart transportation technologies.
- The rest of Asia-Pacific consists of many emerging countries, including Singapore, India, and South Korea. The emergence of smart cities in these countries is increasing the adoption of intelligent technologies in transportation to enhance traffic efficiencies, creating a market opportunity for technology providers.
- Countries in the region are also helping each other by investing and partnering in the market adoption in Asia-Pacific. For instance, in December 2022, India and South Korea agreed to a loan of INR 1,495 crore (USD 183.14 million) from the Economic Development Cooperation Fund (EDCF) of the Republic of Korea to construct an intelligent transport system on the Nagpur-Mumbai Expressway.

Smart Transportation Industry Overview

As the market penetration of the smart transportation industry is relatively low, firms are poised to offer products and solutions that are tailor-made to specific segments and even customize products for individual customers, enhancing differentiation and price realization. The major participants in the smart transportation business, like Cisco, SAP SE, IBM, etc., are focusing on growing their operations in new areas. These companies have a track history of developing novel and inventive ideas to expand their product lines in the smart transportation sector. Overall, the industry's intensity of competitive rivalry is expected to be high during the forecast period.

- November 2022 - Alstom and Kazakhstan Railways (KTZ) signed a cooperation agreement. Alstom and KTZ strengthened their partnership in the renewal of KTZ's locomotive fleet and maintenance support, which includes the next-generation locomotive KZ8A. Currently, 90 freight and 39 passenger locomotives are in commercial service, with 160 freight and 80 passenger locomotives scheduled to be manufactured and delivered for KTZ.
- October 2022 - Siemens and 16 partners started a project likely to last through the end of 2024 to enhance artificial intelligence in the autonomous operation of regional trains. A budget of EUR 23 million (USD 25 million) within the German government-funded "safe.trAIn" project is available for this project. Meeting the requirements in this highly governed and

standardized environment can significantly improve the efficiency and sustainability of regional railway transportation.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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