Inertial Systems in Transportation - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License $4750.00
- Team License (1-7 Users) $5250.00
- Site License $6500.00
- Corporate License $8750.00

Report description:

The Inertial Systems Market in Transportation Industry is expected to register a CAGR of 11.28% during the forecast period.

Inertial systems comprise IMUs in combination with high-performance sensors (gyroscopes, magnetometers, and accelerometers) to provide high-accuracy information about the surrounding environment through relative movement. The powerful combination of IMUs with other onboard sensors produces critical data increasing the reliability of the vehicles and leading to new automation breakthroughs in automotive applications.

Key Highlights
- Inertial sensors are being used increasingly in the transportation market. They are being used by automotive companies to increase safety features, improve performance, and reduce the cost of their vehicles. They are being used in ABS, airbag deployment, helping the stability of the vehicle, anti-theft, and many other features.
- The IMUs are used in a multitude of automotive applications as well as for the latest ADAS functioning for autonomous driving. It helps to fill the gap in GPS while the vehicle moves towards the blind spot and when LiDAR functionality struggles in a snowstorm.
- Moreover, owing to the high resonance frequency of over 25 kHz in IMU along with the closed driving and evaluation unit, it provides a high barrier to mechanical interference. The inertial measuring unit (IMU) has gained popularity for the application of contributing to active and passive safety systems such as ESP (Electronic Stability Control Program), airbag control unit, and driver assistance systems like the adaptive cruise control. This enhances the offset performance with an integrated microcontroller.
- On the contrary, companies with strong financials are also focusing on product enhancements and strategic acquisitions to gain more market share and significant control over the supply chain. For instance, Honeywell launched the HGuide i300, which is a high-performance MEMS-based Inertial Measurement Unit (IMU) designed to meet the needs of applications across various

markets, including transportation, UAVs, and UGVs. With industry-standard communication interfaces and a wide-input voltage range, the HGuide i300 can be easily integrated into a variety of architectures. The small size, lightweight, and low power make the HGuide i300 ideal for many applications.

Transportation Inertial Systems Market Trends

Rise in Demand for Automotive MEMS in the Market

- A growing population of car owners is looking for enhanced vehicle features for better safety, comfort, and stability within cars. This is the major growth driver of the MEMS market. Moreover, the governments are imposing stringent regulations towards the standards for vehicle fuel efficiency and emission standards. As a result, major players in the automotive market are increasingly striving to meet the standards through the adoption of MEMS, thereby escalating the demand for automotive MEMS in the market.

- MEMS are increasingly being used in various applications, such as parking brakes sensing, anti-theft sensing, efficient engine management, tire pressure sensing, rollover & skidding detection, efficient engine management, and many more.
- The emergence of micro-electromechanical systems (MEMS) technology resulted in the miniaturization of mechanical and electro-mechanical elements in the field of sensors and semiconductors, with the help of micro-fabrication and micro-machining techniques. Hence, MEMS has now become an important part of several automation components in Level 1, 2, and 3 autonomous cars, boosting demand for inertial systems from the automotive sector significantly.
- According to the World Health Organization, globally, approximately 1.35 million people are killed in road accidents every year. Moreover, between 20 and 50 million more people suffer non-fatal injuries, with many incurring a disability as the result of their injury. MEMS accelerometers play an important role in improving the safety features of vehicles.

Asia Pacific to Register a Significant Growth

- The Asia Pacific region is a significant market for Inertial Systems Market in Transportation in the current market scenario. Huge volume production in countries such as China, Japan, and India keeps a constant demand for inertial systems in the region. However, in recent times, sales of the new vehicle in certain parts of the region have been sluggish. The witnessed a decrease in car sales across various economies due to COVID-19 Outbreak.
- For instance, according to the OICA, In 2020, it was estimated that about 32 million passenger cars were sold within the Asia Pacific region, including the Middle East, of which 20.18 million were sold in China. Comparatively, it was also estimated that approximately 35.36 million passenger cars were sold in the Asia Pacific region in 2016.
- Further, Electric vehicles (EVs) are projected to gain popularity with Chinese car owners this year, as new designs with improved performance offset a government cut in price subsidies. According to Roland Berger, China leads the way in terms of industry, producing the largest number of xEVs and battery cells. Battery Electric Vehicles (BEV) accounted for the vast majority of the new energy passenger vehicle sales in China. The Chinese government sees EVs as an opportunity for China to compete and become a major car manufacturer.
- Furthermore, the electric vehicle market is gaining momentum in India owing to the ambitious plans and initiatives of the government. Public authorities in India have made several electric vehicle-related policy announcements over the past few years, showing strong commitment, concrete action, and significant ambition for the deployment of electric vehicles in the country.

Transportation Inertial Systems Industry Overview

The Inertial Systems Market in Transportation is moderately competitive and consists of a few major players. In terms of market share, some of the players currently dominate the market. However, with the advancement in sensor technology across the inertial systems, new players are increasing their market presence, thereby expanding their business footprint across the emerging economies.

- April 2021- ACEINNA, a developer of inertial-based guidance and navigation systems for autonomous vehicles and devices, announced the commercial availability of OpenARC, a precise positioning hardware and software platform that offers system integration of GNSS corrections with high-performance INS and RTK hardware. OpenARC is powered by Point One Navigation, a provider delivering precise positioning for the next generation of transportation.
- March 2020 - Teledyne Marine, which engages in subsea visualization technology and unmanned marine vehicles, announced today that it had released a new unmanned survey vessel, the TELEDYNE Z-BOATTM 1800-T. The survey vessel will be equipped with Trimble's high-precision GNSS heading receiver. It is compatible with Trimble Marine Construction (TMC) software, enabling marine construction/dredging projects to run efficiently and be monitored in real-time anywhere in the world.

Additional Benefits:

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

Table of Contents:

Inertial Systems in Transportation - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	$4750.00
	Team License (1-7 Users)	$5250.00
	Site License	$6500.00
	Corporate License	$8750.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	
		Date	2026-02-26
		Signature