

Inertial Navigation System Market Size to Hit USD 13.2 billion by 2029 | at a CAGR of 4.19%

Explore the comprehensive overview of the Inertial Navigation System Market. Understand market trends and the role of key players.

LUTON, BEDFORDSHIRE, UNITED KINGDOM, November 28, 2023 /EINPresswire.com/ -- The Global [Inertial Navigation System Market](#) is expected to grow at a 4.19% CAGR from 2022 to 2029. It is expected to reach above USD 13.2 billion by 2029 from USD 9.12 billion in 2020.



An inertial navigation system is an electronic device used to determine the direction, speed, position, and orientation of the item by utilizing locally available inertial sensors and dead shaking strategies. This system consists of a global navigation satellite system (GNSS) receiver, an inertial measurement unit, or other motion-sensing devices. These components operate together to identify the exact data of an object. In addition, the INS consists of a computational unit used to analyze and track the measured data coming from inertial sensors.

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Moreover, the inertial measurement unit (IMU) integrated with INS typically contains three orthogonal accelerometers and three orthogonal gyroscopes that provide linear acceleration and angular velocity

measurement. Therefore, the rising demand for miniaturized accelerometers and gyroscope sensors will emphasize developing next-generation INS with increased performance and reduced size and weight.

The growing adoption of unmanned vehicles is expected to fuel the demand for a next-generation INS with low weight, small size, and high efficiency. Furthermore, increased adoption of the MEMS technology-based navigation grade system to improve accuracy will aid the market

growth during the forecast period. Additionally, the rising development of driverless cars in China will be expected to create lucrative growth opportunities for market expansion.

Inertial Navigation System Market Trends

The Aerospace and Defense Sector Dominates the Inertial Navigation System Market

Fresh investments in military and naval applications encourage the inertial navigation system market. The blooming aerospace market and technological advancements in navigation systems are further anticipated to drive the market. Inertial Navigation System gives exact navigation and positioning information to fight platforms when engaged in missions, whether for their location or the pointing of weapons systems (artillery, missile, etc.), sensors (radars, optronics, etc.) or weapons themselves. They deliver valuable assistance to these systems while ensuring the best security. On advanced fighters like the Rafale, INS gives fully autonomous operation and resistance to electronic warfare. The European helicopter NH90 has also installed this technology.

The increasing military spending across multiple regions paves the way for technologies, like drones/unmanned aerial vehicles (UAVs). In addition, the usage of the inertial navigation system in traditional fighter jets is increasing significantly. The factors mentioned above are creating an exponential demand for inertial navigation systems in terms of volumes as well. These solutions have minimum standardization, are based on applications, and are highly customizable. However, the manufacturers are often challenged by the long production time, leading to the technology becoming obsolete by the end of the production period.

Aircraft carriers need to harmonize the ship's navigation system with those on its aircraft. Inertial Navigation System guarantees the ship's capability to work in a critical magnetic environment, without castigating performance, an ideal solution for new-generation submarines. Out on the battlefield, artillery systems have to offer extraordinary precision and extreme shock resistance. As the commercial aviation market is increasing at a more accelerated rate due to the exponential rise in air passenger traffic, the demand for new aircraft is growing year on year. This increasing demand is expected to drive the navigational grade INS market during the forecast period.

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Inertial Navigation System Market Players

From large companies to small ones, many companies are actively working in the inertial navigation system market. These key players include Honeywell International Inc., Northrop Grumman Corporation, Safran Electronics & Defense, Thales Group, The Raytheon Company, General Electric Company, Rockwell Collins Inc., Teledyne Technologies Inc., and VectroNav.

Technologies LLC. , LORD MicroStrain, Trimble Navigation Ltd., and others.

Companies are mainly in inertial navigation systems they are competing closely with each other. Innovation is one of the most important key strategies as it has to be for any market. However, companies in the market have also opted for and successfully driven inorganic growth strategies like mergers & acquisitions, and so on.

Key Market Segments:

Inertial Navigation System Market by Application, 2020-2029, (USD Million)

- Aircraft
- Missiles
- Space Launch Vehicles
- Marine
- Military Armored Vehicles
- Unmanned Aerial Vehicles
- Unmanned Ground Vehicles
- Unmanned Marine Vehicles

Inertial Navigation System Market by Component, 2020-2029, (USD Million)

- Accelerometers
- Gyroscopes
- Algorithms & Processors
- Wireless

Inertial Navigation System Market by Region, 2020-2029, (USD Million)

- North America
- Europe
- Asia Pacific
- South America
- Middle East and Africa

INDUSTRY DEVELOPMENTS

In 2017, Honeywell, Inc. was given a contract by General Dynamics Land Systems, UK to supply inertial land navigation systems for their AJAX armored combat vehicles.

In 2017, The US Air Force awarded Northrop Grumman Corporation a contract to build hardware and software architecture for integrated GPS/INS modernization in vintage aircraft. Northrop Grumman Corporation's design and technologies are compatible with current systems aboard legacy Air Force aircraft, enabling easy integration and quick adoption of new capabilities.

Browse Full Premium Report | Inertial Navigation System Market Analysis with Strategic Developments:

Objectives of the Report

- To carefully analyze and forecast the size of the Inertial Navigation System Market by value and volume.
- To showcase the development of the Inertial Navigation System Market in different parts of the world.
- To analyze and study micro-markets in terms of their contributions to the Inertial Navigation System Market, their prospects, and individual growth trends.
- To provide a meticulous assessment of crucial business strategies used by leading companies operating in the Inertial Navigation System Market, which include research and development, collaborations, agreements, partnerships, acquisitions, mergers, new developments, and product launches.

Conclusion

In conclusion, the Inertial Navigation System Market is navigating the future with precision, ensuring reliable and autonomous navigation across diverse industries. As demands for accurate navigation solutions continue to grow, inertial navigation systems will play a pivotal role in shaping the future of navigation, contributing to the advancement of technology and connectivity.

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Irfan T

Exactitude Consultancy

+1 704-266-3234

sales@exactitudeconsultancy.com

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