Inertial Navigation System Market estimated to be valued at US$11.5 billion by 2027

The inertial navigation system market is projected to witness a compounded annual growth rate of 5.35% to grow to US$11.463 billion by 2027.

NOIDA, UTTAR PRADESH, INDIA, August 2, 2023 /EINPresswire.com/ -- According to a new study published by Knowledge Sourcing Intelligence, the Inertial Navigation System Market is projected to grow at a CAGR of 5.35% between 2020 and 2027 to reach US$11.463 billion by 2027.

The prime factors propelling the inertial navigation system market growth include increasing demand from the aerospace and defense sector, rising use of UUV, defense investments, technological advancements, aerospace industry growth, and the expansion of autonomous vehicles.

> The inertial navigation system market is projected to witness a compounded annual growth rate of 5.35% to grow to US$11.463 billion by 2027, from US$7.962 billion in 2020."
>
> *Knowledge Sourcing Intelligence*

An inertial navigation system is a navigation technology used to determine the position, orientation, and velocity of a moving object without the need for external references such as GPS signals or anything else. It relies on a combination of accelerometers and gyroscopes to measure changes in velocity and rotation, respectively, allowing for continuous tracking of movement. By integrating these measurements over time, the INS can estimate the current position and orientation of the object. INS is widely used in various applications, including aerospace, marine, and military, where reliable navigation is critical, especially in environments where GPS signals may be limited or unavailable.

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The market is witnessing multiple collaborations and technological advancements, for instance, in January 2023, Inertial Labs announced the release of an upgraded version of the INS-U GPS-Aided Inertial Navigation System. The new version includes an extended Differential Pressure Sensor and Embedded Air Data Computer, allowing for airspeed measurement of up to 600

knots, enhancing performance in high dynamic applications.

Based on application, the market is segmented into aircraft, missiles, space launch vehicles, marine and armored vehicles. Among these applications, the aerospace sector, including both aircraft and space launch vehicles, is witnessing significant growth. This can be attributed to the expansion of the commercial aviation industry, the increasing demand for UAVs, and the growth of the commercial space exploration sector.

Based on component, the inertial navigation system market is divided into accelerometers, gyroscopes, algorithms and processors, wireless systems, and others. Among these components, algorithms and processors are witnessing significant growth in the INS market. This is primarily due to the continuous advancements in computing technology, including the development of powerful processors, sophisticated algorithms for sensor fusion, and machine learning techniques.

Based on grade, the inertial navigation system market is analyzed as marine grade, navigation grade, tactical grade, space grade and commercial grade. Among these grades, the tactical grade INS is seeing significant growth in the market owing to the increasing defense expenditures globally, focus on modernizing military capabilities, and the need for advanced navigation and targeting systems in military operations.

Based on technology, the inertial navigation system market is divided into mechanical gyros, ring laser gyros, fiber optics gyros, MEMS, and Others. Among these technologies, MEMS-based INS is seeing significant growth owing to their compact size, cost-effectiveness, and advancements in MEMS sensor technology, which have improved their accuracy and reliability. MEMS INS finds extensive applications in consumer electronics, automotive navigation systems, and emerging sectors such as wearables and Internet of Things (IoT) devices.

Geographically, North America is projected to account for the largest market share and dominate the market due to its strong aerospace and defense industry, technological advancements, significant defense expenditure, and growing adoption of INS in commercial applications. The presence of major industry players, continuous research and development, defense modernization efforts, and demand from sectors such as aerospace, defense, automotive, and robotics contribute to North America's market dominance in INS.

As a part of the study, the major players operating in the inertial navigation system market that have been covered include Honeywell International Inc., Northrop Grumman Corporation, Safran Electronics & Defence, Thales Group, The Raytheon Company, Analog Devices, Inc., Teledyne Technologies, Inc., Vectornav Technologies, LLC, Lord Microstrain, and Tersus GNSS Inc. among others.

The analytics report segments the inertial navigation system market on the following basis:

- By Application

  - Aircraft
  - Missiles
  - Space Launch Vehicles
  - Marine
  - Military Armored Vehicles

- By Component

  - Accelerometers
  - Gyroscopes
  - Algorithms and Processors
  - Wireless Systems
  - Others

- By Grade

  - Marine Grade
  - Navigation Grade
  - Tactical Grade
  - Space Grade
  - Commercial Grade

- By Technology

  - Mechanical Gyros
  - Ring Laser Gyros
  - Fiber Optics Gyros
  - MEMS
  - Others

- By Geography

  - North America

- USA
- Canada
- Mexico

  - South America

- Brazil

- Argentina
- Others

o Europe

- UK
- Germany
- Italy
- Spain
- Others

o Middle East and Africa

- Israel
- Saudi Arabia
- Others

o Asia Pacific

- China
- Japan
- India
- Australia
- South Korea
- Taiwan
- Thailand
- Indonesia
- Others

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