

Inertial Navigation System (INS) Market Report by Technology (Mechanical Gyros, Ring Laser Gyros, Fiber Optics Gyros, MEMS, and Others), Grade (Marine Grade, Navigation Grade, Tactical Grade, Space Grade, Commercial Grade), Component (Accelerometers, Gyroscopes, Algorithms and Processors, Wireless Systems), Application (Aircraft, Missiles, Space Launch Vehicles, Marine, Military Armored Vehicles, Unmanned Aerial Vehicles, Unmanned Ground Vehicles, Unmanned Marine Vehicles), and Region 2024-2032

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Abstracts

The global inertial navigation system market size reached US\$ 11.5 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 18.9 Billion by 2032, exhibiting a growth rate (CAGR) of 5.6% during 2024-2032.

An Inertial Navigation System (INS) is a navigation system that calculates velocity, gravitational force and directional orientation of a moving object. It is a computer-based mechanism that primarily includes motion sensors, accelerometers and gyroscopes. The gyroscope measures the angular velocity of an object such as drones, ships and aircraft using sensors, whereas the accelerometer measures the degree of change in their speed. Based on these derivations, the object's direction and relative position are estimated. The INS finds extensive applicability in the production of guided military weapons and commercially produced games, cameras, computers and medical appliances.

The growing demand for Unmanned Underwater Vehicles (UUV) is the key factor driving the growth of the market. UUVs are extensively used in oil and gas explorations, scientific research and defense weaponry that require high precision to function. In the defense sector, they are used for deactivating underwater mines, counterattacking, port security and hull inspection. In scientific research, underwater drones assist in oceanographic studies for the mapping of the ocean bed. Furthermore, with the rising oil consumption across the globe, UUVs are increasingly being used for oil rig constructions, pipeline inspections, and maintenance activities, thereby fueling the demand for the product. Additionally, the thriving aerospace sector is another factor contributing to the growth of the market. Advancements in space research and increasing satellite launches have enhanced the utilization of these navigation systems that are necessary to measure the velocity and altitude of an object accurately. Moreover, various technological advancements such as the introduction of light-powered and compact-sized navigation systems, which utilize ring laser gyro (RLG) and fiber optic gyro (FOG), are also creating a positive outlook for the market.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global inertial navigation system market report, along with forecasts at the global and regional level from 2024-2032. Our report has categorized the market based on technology, grade, component and application.

Breakup by Technology:

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

Breakup by Grade:

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

Breakup by Component:

- Accelerometers
- Gyroscopes
- Algorithms and Processors
- Wireless Systems

Breakup by Application:

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

Breakup by Region:

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

Competitive Landscape:

The report has also analyzed the competitive landscape of the market with some of the key players being Honeywell International Inc., Northrop Grumman Corporation, Teledyne Technologies Inc., VectorNav Technologies, LLC, LORD, MicroStrain Sensing Systems, Safran Electronics & Defense, Thales Group, Raytheon Technologies Corporation, General Electric Company, Collins Aerospace, Trimble Inc., and Gladiator Technologies, Inc.

Key Questions Answered in This Report:

- How has the global inertial navigation system market performed so far and how will it perform in the coming years?
- What are the key regional markets in the global inertial navigation system industry?
- What has been the impact of COVID-19 on the global inertial navigation system

market?

What is the breakup of the market based on the technology?

What is the breakup of the market based on the grade?

What is the breakup of the market based on the component?

What is the breakup of the market based on the application?

What are the various stages in the value chain of the global inertial navigation system industry?

What are the key driving factors and challenges in the global inertial navigation system industry?

What is the structure of the global inertial navigation system industry and who are the key players?

What is the degree of competition in the global inertial navigation system industry?

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