Autonomous Navigation Market Size Expected to Reach $15.91 Billion by 2031

Autonomous navigation market was valued at $3.27 billion in 2021, and is estimated to reach $15.91 billion by 2031, growing at a CAGR of 17.1% from 2022 to 2031

WILMINGTON, DE, UNITED STATES, June 26, 2025 /EINPresswire.com/ -- By system, the sensing system segment dominated the global autonomous navigation market in 2021, in terms of revenue. Depending on platform, the marine segment incurs higher share. Depending on application, the commercial segment incurs higher share in 2021. Presently, Asia-Pacific is the highest revenue contributor and expected to lead the market during the forecast period, followed by Europe

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The autonomous navigation system is an on board, integrated suite of sensors and technology that enabled autonomous navigation, perception, path-planning and vehicle-following capabilities for unmanned group vehicles, allowing them to move on the battlefield with minimal human oversight. It is installed in vehicles, such as drones, robots, cars, boats, and others. The navigation system technology is performed by using advanced technologies such as inertial navigation system, satellite navigation system, radars, cameras, and ultrasonic & acoustics navigation along with autonomous navigation algorithms for accurate & safe navigation of vehicles. At present, development of sense and avoid systems in autonomous robots, the widespread deployment of autonomous robots for commercial and military purposes, and the demand for autonomous robots in logistics are all likely to drive the autonomous navigation industry forward. For instance, in December 2021, ENWAY released the new generation of its autonomous sweeping robot, the B2. It featured autonomous charging with inductive charging station, which allowed the robot to charge its battery completely autonomously. In addition, it also has a remote-control center that monitored all movements of the robots to guarantee smooth processes.

In addition, the autonomous navigation market has witnessed significant growth in recent years, owing to the promising growth rate of the drone market, public & private developments, and investments in unmanned aircraft system traffic management (UTM) are expected to drive the market growth during the forecast period. Furthermore, the companies operating in the autonomous navigation market have adopted partnerships, investments, and collaborations to

increase their market share and expand their geographical presence. For instance, in November 2021, ABB announced a strategic partnership with Sevensense Robotics AG, a provider of autonomous navigation technology to enhance ABB's new mobile robot offerings with artificial intelligence and 3D vision mapping technology. The partnership worked to develop the next generation of flexible automation technologies and to expand its robotics and automation portfolio.

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The factors such as increase in demand for sense & avoid system in autonomous system, rise in adoption of autonomous robot in commercial & military applications, and increase in demand for real-time data in military applications supplement the growth of the autonomous navigation market. However, lack of standard infrastructure for operation of autonomous systems in developing countries and privacy & security concerns related to data are the factors expected to hamper the growth of the market. In addition, increase in demand for improved surveillance and proactive government initiatives & support are expected to create ample opportunities for the key players operating in the autonomous navigation market.

COVID-19 Impact Analysis:

The COVID-19 crisis is creating uncertainty in the autonomous navigation market. Governments of different regions have announced total lockdown and temporarily shutdown of industries, thereby adversely affecting the overall production and sales. It also resulted in flight cancellations, travel bans, and quarantines, which led to massive slowing of the supply chain and logistics activities across the world. Since the beginning of 2020, more and more countries across the globe shut down their borders and limited transportation & travel to contain the coronavirus (COVID-19) outbreak, thereby creating impediments for international trade and transportation. However, during the COVID-19 pandemic, the use of autonomous navigation systems for unmanned aerial vehicles increased since it is the best replacement for reducing cross-infection. As a result, many governments have started using unmanned aerial vehicles or drones to transport medical supplies, food, and other requirements. For instance, in May 2021, the Ministry of Civil Aviation (MoCA) & Directorate General of Civil Aviation (DGCA) granted a conditional exemption to the Government of Telangana (India) for conducting experimental Beyond Visual Line of Sight (BVLOS) drone flights by using autonomous navigation systems for the delivery of COVID-19 vaccines.

Furthermore, the rise in demand for robots for border surveillance and combat operations has facilitated the growth during the pandemic. Zipline is making around 100 medical services, which is delivered daily. This type of navigation helps to navigate the drone to the desired locations. Hence, the demand for drones is witnessing rise and also demand for unmanned traffic management is growing in importance and urgency as the world is eagerly anticipating safe drone operations, which propels the autonomous navigation systems market growth during the

pandemic.

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KEY FINDINGS OF THE STUDY

On the basis of system, the software system segment dominated the global autonomous navigation market in 2021, in terms of growth.
On the basis of platform, the weapons segment is anticipated to exhibit a remarkable growth during the forecast period.
On the application, the government segment is the highest contributor to the autonomous navigation market in terms of revenue.
On the basis of region, North America would exhibit suitable growth rate during the forecast period.
The leading players operating in the autonomous navigation market are ABB, ENWAY, Fixposition AG, Furuno, General Dynamics, Honeywell International, Kongsberg Gruppen, L3 Harris Technologies, Moog Inc., NAVENTIK GmbH, Northrop Grumman, Raytheon Technologies, Rh Marine, Rolly Royce, Safran, Thales Group, and Trimble. Key innovators operating in the industry are Blickfeld, ModalAI, Starfish Space, Trustpoint, and Xona Space Systems.

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