

UAV Navigation Systems - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The UAV Navigation Systems Market is valued at USD 9.73 billion in 2024 and is anticipated to reach USD 22.31 billion by 2029, registering a CAGR of 18.05% during the forecast period.

The increasing proliferation of UAVs in both civil and military applications is the main growth driver for the market. The production of UAVs is one of the fastest growing and dynamically developing sectors of the world industry, equally attractive for both government and commercial investments. A significant part of the developed and developing countries of the world already formed the necessary institutional and legal framework. It also announced national programs aimed at increasing the share of UAV usage for civil and military purposes.

Advancements in electronic warfare necessitated the adoption of autonomous capabilities in drones, which, in turn, is propelling technological developments in the market. The use of electronic warfare techniques is growing, so a reliable flight control solution ready to face new-generation attacks became vitally important. UAV companies anticipated the evolution of end-users and are investing in R&D for different features and testing to create a robust system ready to work in hard environments. Miniaturization of electronics played a key role in the development of advanced navigation and guidance systems without adding much overall weight to the UAVs.

UAV Navigation Systems Market Trends

Military Segment is Expected to Register the Highest Market Share in 2023

In terms of application, the military segment holds a higher market share in the UAV navigation systems market compared to the

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civil and commercial segments. The main reason for the higher share of the segment is the increased proliferation of UAVs into the military sector due to their enhanced capabilities in providing situational awareness to ground troops. In the UAV market, the revenues from the military segment comprise more than 80% of the market. It gives a glimpse of how much the segment dominates the global UAV industry. Compared to the civil and commercial segment, the UAVs in the military require better maneuvering capabilities with precision navigation and guidance, as they need to perform complicated tactical missions. It is the main reason for the high cost of the navigation systems in military UAVs. Also, the increased autonomous capabilities of the UAVs in the military are demanding complex system-level architecture of the navigation systems, thereby increasing their market revenues and supporting the growth of the segment. For instance, in May 2023, I-CONIC Vision, together with Spacemetric, won a contract on autonomous navigation independent of GNSS within the Swedish Defence Materiel Administration's military innovation program. The project aims to investigate different methods for GNSS-free navigation by drones over longer distances.

North America to Dominate Market Share During the Forecast Period

Currently, North America holds the highest market share in the UAV Navigation Systems Market due to the high usage of UAVs by the defense forces in the United States. UAVs are increasingly being used in North America for various applications. The applications include aerial photography, border security, law enforcement, weather research, emergency response, forest fire monitoring, scientific data collection, logistics and last-mile delivery, and traffic monitoring and control. For instance, in January 2021, Black Swift Technologies LLC (BST) was awarded a contract by the National Oceanic and Atmospheric Administration (NOAA). It is to develop commercially viable technology to enable GPS-denied navigation of UAVs during flights beyond visual line of sight (BVLOS). Black Swift Technologies LLC aims to provide this service through a robust, secondary navigation option using their diverse-source global positioning system (DS-GPS). However, the military segment remains the biggest demand generator for UAVs in North America, as the United States military procures and operates a large number of UAVs every year. With the increasing UAV usage, the demand for UAV subsystems like navigation systems is increasing in the region. It, coupled with the presence of a large number of UAV manufacturers in the region, is the main reason for the high market share of North America in the UAV navigation systems market. For instance, in May 2023, Asio Technologies (Israel) completed several demonstrations successfully of its NavGuard optical navigation system to strategic customers in the United States. The demonstrations, conducted in response to defense and civil customer requests, involved a rotary-wing unmanned aerial vehicle (UAV). It is to perform aerial navigation activities as well as automatic point-to-point deliveries of packages over urban and rural areas without relying on GNSS signals.

UAV Navigation Systems Industry Overview

Some of the prominent players in the market include Hexagon AB, SBG Systems, SZ DJI Technology Co., Ltd., Collins Aerospace (RTX Corporation), and UAV Navigation S.L., among others. As the products in the market range from small GPS systems of a small drone to the complete navigation system of the class 5 UAV, a large diversity of the products means that there will be a lot of small to big players in the market. However, there are very few acclaimed players in the market providing complete navigation and guidance systems to the major UAV manufacturers, whose revenues comprise a large percentage of the market share. Technological innovations will help the players to gather new contracts, especially with the military customers who dominate the customer base. For military customers, advanced navigation and guidance capabilities are necessary, as they give the armed forces a competitive edge on the battlefield. Hence, defense forces are willing to trade huge amounts for innovative products in the market, which is an opportunity for growth for the players. For instance, in September 2022, UAV Navigation released its new Visual Navigation System (VNS). The compact and lightweight device, which is provided as an optional peripheral to the main Flight Control System (FCS), enables the safe and efficient navigation of Uncrewed Aerial Vehicles (UAVs) in GNSS-denied environments.

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