



(Passenger Drones, Inspection & Monitoring Drones, Surveying & Mapping Drones, Spraying & Seeding Drones, Cargo Air Vehicles, Others), End-Use (Agriculture, Insurance, Energy, Mining & Quarrying, Oil & Gas, Transport, Logistics & Warehousing, Journalism & Media, Arts, Entertainment & Recreation, Healthcare & Social Assistance), MTOW (<25 kg, 25-170 Kg, >170Kg), Range (Visual Line of Sight, Extended Visual Line of Sight, Beyond Visual Line of Sight) & Region - Global Forecast to 2029



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DESCRIPTION

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METHODOLOGY

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The Commercial Drone market is projected to grow from **USD 5.32 billion in 2024 to USD 9.34 Billion by 2029, at a CAGR of 11.2% from 2024 to 2029**. Commercial Drones are remotely piloted, optionally piloted, or fully autonomous aerial vehicles that play a significant role in the commercial sectors. They are commonly termed drones and are mostly known for their wide usage in various functions, such as Surveying & Mapping, Inspection & Monitoring among others. These vehicles are also used for mapping, surveying, and determining the weather conditions of a specific area.

The use of commercial drones has been prevalent among defense forces worldwide for a long time. However, in recent times, several investments have been made by public and private sector organizations to develop new and sophisticated commercial drones according to their requirements. The potential of commercial drones to be used in several prospective applications in the civil and commercial sectors has led to advancements in them. The civil & commercial application segment of the commercial drones market is projected to grow significantly in the next 5 years

COMMERCIAL DRONE MARKET GLOBAL FORECAST TO 2029 (USD BN)

9.34

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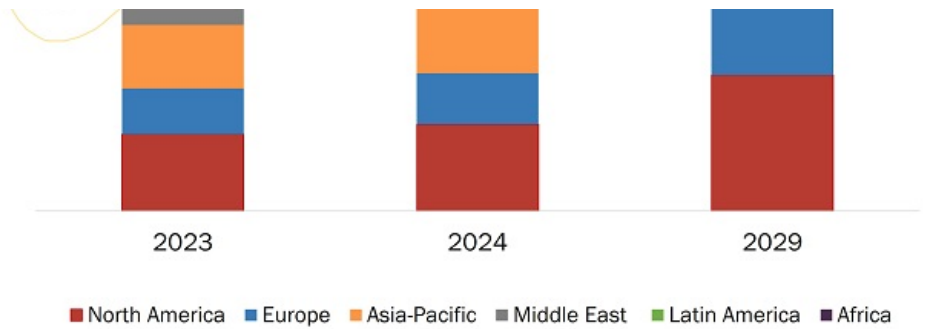
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CAGR OF

11.2%

The Commercial Drone market is projected to reach USD 9.34 billion by 2029, at a CAGR of 11.2% from 2024.



ATTRACTIVE OPPORTUNITIES IN THE COMMERCIAL DRONE MARKET

Asia Pacific is expected to record highest growth rate in the Commercial Drone Market



The market growth can be attributed to increasing utilization across various industries



New product launches and contracts are expected to offer lucrative opportunities to market players in the next five years.

ASIA
PACIFIC



Market growth in Asia Pacific can be attributed to increased adoption of drones in construction & mining and agriculture applications



High investments by governments, and key players in the commercial drone industry will lead to market growth.

Commercial Drone Market Forecast to 2029

To know about the assumptions considered for the study, [Request for Free Sample Report](#)

Commercial Drone Market Dynamics:

Driver: Sensor and technology development

For sensor and technology development in UAV/drone-based remote sensing, the development and design of sensors and cameras are essential. The capability of sensors and cameras will extend the use of commercial drone to handle various urban issues. As high-fidelity sensors continue to become smaller and more compact, drones are now capable of carrying more payload options than ever before. With all these various models, picking the right one for each unique industrial use can be overwhelming. Using drones as remote sensing platforms offers the unique ability for repeated deployment for the acquisition of high temporal resolution data at very high spatial resolution.

These sensor and technology development leads to the reduction in the price of drone components like ICs (controllers, GPS). The costs of drones are falling as the costs of various ICs (controllers, GPS), IoT sensors, MEMS sensors, and batteries are going down, whereas their performance is rising, like GPS accuracy. The drone's hardware is mostly made of fiber

composites, whose cost is decreasing due to advancements in technology and investment in drone hardware worldwide. This leads to the wide-scale availability of drones not only for industry but also for hobbyists.

Restraint: Drone Safety & Security Issues

Drone use has been identified as a possible and vital risk to information security. Several drones have significant flaws in their designs and lack wireless security protection systems and footage encryption software. Some of the existing threats and vulnerabilities associated with drones are stated below:

- **Susceptibility to technical issues:** Technical malfunctions in drones include application errors such as connection failures between remote devices of users and drones, triggering them to either collapse or fly away. The battery life is another technical issue that results in a reduced flight time of drones. Especially in cold weather, the life span of batteries decreases, leading to a short flying time and the potential for malfunctioning.
- **Prone to Wi-Fi jamming:** Drones can also be stolen by sending de-authentication signals between access points and devices monitoring drones. This can be done by overcrowding the planned drone frequency with a single-board computer and jamming it using the Wi-Fi signals of hackers. Hackers install and organize a Raspberry Pi, a type of tiny single-board computer for this.

Opportunity: Simultaneous localization and mapping

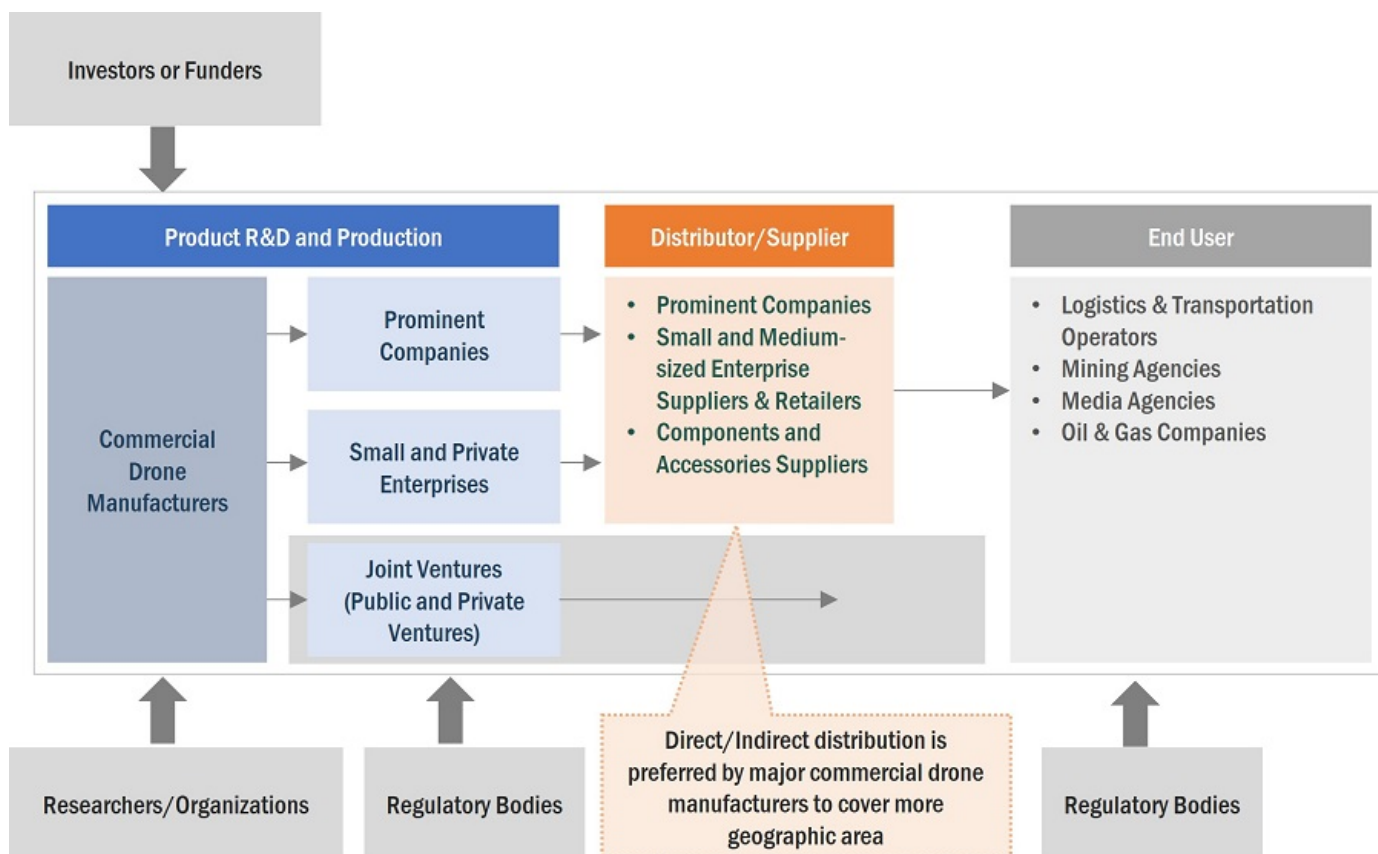
Simultaneous Localization and Mapping (SLAM) algorithms are used to develop landmark-based, terrain-aided navigation systems with the capability for online map building. Such systems simultaneously use the generated map to bind errors in the inertial navigation system. SLAM techniques have been widely used for ground robot navigation, but only a few are based on vision sensors. Usually, these techniques are associated with GPS/INS sensors. Research by S. Lacroix et al in 2002 presented a new concept of autonomous UAV navigation based on a SLAM algorithm and applied on a 6 DOF airborne platform that the group's work demonstrated the potential for applying SLAM-augmented, low-cost GPS/INS systems to UAVs in GPS-denied situations, such as urban canyons, indoors, or even underwater. Other Stanford researchers (K. Jonghyuk et al.) have developed passive GPS-free navigation for small UAVs operating in areas where GPS signals are jammed or obscured by natural or man-made features. The navigation method is based on only an IMU and a monocular camera, with SLAM providing the cornerstone of this work. SLAM algorithms will help drones become more robust and are a major opportunity for the Commercial drone industry.

Challenge: Delivery authentication and cybersecurity concerns

A protocol for authentication of drone deliveries needs to be in place to ensure privacy and security. Proper guidelines have to be in place to ensure that the delivery reaches the correct recipient. Densely populated suburbs could require essential thumb/fingerprint authorization or digital signatures to receive packages.

The rising number of hacking incidents is also a matter of concern since they have limited security mechanisms. Companies in the drone industry provide analytics software-as-a-service to their clients, which requires cloud-based servers to process data. Since the data is transmitted and stored in an external cloud network, it is prone to hacking. Industries also need highly secured cloud servers for data security. Therefore, data security and data encryption concerns act as a challenge for the Commercial Drone market.

Ecosystem Map: Commercial Drone Market



Based on End Use, the Transport, Logistics and Warehousing segment is anticipated to record the highest growth rate during the forecast period

By End Use, the Commercial Drone market has been segmented into logistics & transportation, agriculture, energy & power, construction & mining, media & entertainment, insurance, wildlife & forestry, academics & research. Logistics & Transportation segment is estimated to record the highest CAGR during the forecast period with the significant growth of the global e-commerce sector, postal companies are opting for new methods to modify their traditional delivery business models. With several countries focusing on the use of commercial drones for postal deliveries, the commercial drone market will witness growth. The US Postal Service is exploring the possibility of introducing commercial drone into its vehicle fleets to advance mail delivery operations and support its collection of geospatial, sensor, image, and other data. Companies such as DJI (China) are actively developing solutions for Drone-based package delivery. Amazon (US) has already developed these services. Lower cost, density of urban environments, and the rising demand for reduced delivery times are contributing to the growth of this segment

Based on Function, the Passenger Drone segment is estimated to register large share in

the base year

Based on function, the Commercial Drone market has been segmented into passenger drones, inspection & monitoring drones, surveying & mapping drones, spraying & seeding drones, cargo air vehicles, and others. Passenger Drone segment is projected to record the highest growth during the forecast period with emergence of drone taxis as convenient means of aerial transportation of passenger at high speed.

Based on Operational Mode, the Fully Autonomous segment is estimated to register highest CAGR during the forecast period

Based on operational mode, the commercial drone market has been classified into remotely piloted, optionally piloted, and fully autonomous. The remotely piloted segment is projected to grow at a significant rate during the forecast period, driven by the cost-effective usage of remotely piloted UAVs in several applications ranging from defense operations to surveys. Fully autonomous drones significantly enhance operational efficiency and reduce costs across various end use such as agriculture, transport, logistics & warehousing, and Oil & Gas.

The Asia Pacific region is projected to be high growth potential markets for the Commerical Drone market during the forecast period.

Rising number of drone manufacturers in China and India and increased procurement of military drones in Asia Pacific is the lea China held the leading share in the Asia Pacific Commercial Drone Market during 2023. China is one of the prime manufacturers of drones globally. Surge in E-Commerce, which demand faster delivery times and innovative logistics solutions have boosted the demand for the drones which offers a rapid delivery service

Major players in the Commercial Drone market are DJI (China), Parrot Drone SAS (France), EHANG Holdings Limited (China), Aerovironment, Inc. (US), The Boeing Company (US)



Commercial Drone Market by Region

To know about the assumptions 11565470 for the study, [download the pdf brochure](#)

Key Market Players

The major players in the Commercial Drone market are [DJI \(China\)](#), [Parrot Drone SAS \(France\)](#), [EHANG Holdings Limited \(China\)](#), [Aerovironment, Inc. \(US\)](#), [The Boeing Company \(US\)](#). These players have adopted various growth strategies such as contracts, joint ventures, partnerships & agreements, acquisitions, and new product launches to further expand their presence in the Commercial Drone market.

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Scope of the Report

Report Metric	Details
Market size available for	2019–2029

years	
Base year considered	2023
Forecast period	2024-2029
Forecast units	Value (USD Million)
Segments covered	By Point of Sale, By Systems, By Platform, By End Use, By Function, By Application, By Type, By Mode of Operation, MTOW, Range and By Region
Geographies covered	North America, Asia Pacific, Europe, the Middle East, Latin America, and Africa
Companies covered	DJI (China), Parrot Drone SAS (France), EHANG Holdings Limited (China), Aerovironment, Inc. (US), The Boeing Company (US)

The study categorizes the Commercial Drone Market based on Point of sale, systems, platform, type, mode of operation, end use, MTOW, range, and region

By Point of Sale

- OEM
- Aftermarket

By Systems

- Platform
- Payload
- Datalink
- Ground Control Station
- Launch & Recovery System

By Platform

- Micro
- Small
- Medium
- Large

By Type

- Fixed Wing
- Rotary Wing

- Hybrid

By Mode of Operation

- Remotely Piloted
- Optionally Piloted
- Fully Autonomous

By Function

- Passenger Drones
- Inspection & Monitoring Drones
- Surveying & Mapping Drones
- Spraying & Seeding Drones
- Cargo Air Vehicles
- Others

By End-Use

- Agriculture
- Insurance
- Energy
- Mining & Quarrying
- O&G
- Transport, Logistics & Warehousing
- Journalism & Media
- Arts, Entertainment & Recreation
- Healthcare & Social Assistance

By MTOW

- <25 KG
- 25-170 KG
- >170 KG

By Range

- Visual Line Of Sight
- Extended Visual Line Of Sight
- Beyond Visual Line Of Sight

By Region

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

- Africa

Recent Developments

- In December 2023, JOUAV introduced the PH-20, an upgrade to its heavy-lift multi-rotor drone, formerly known as the PH-25. The revamped model promises a leap forward in performance, flexibility, and reliability, catering to diverse applications
- In July 2023, SZ DJI Technology Co., Ltd. launched DJI Air 3, a new powerful drone. It is in addition to Air Series with dual primary cameras. Featuring a wide-angle camera and a 3X medium tele camera, it empowers more users to get a sense of compression in their shots
- In March 2022, DJI launched DJI RS 3 and DJI RS 3 Pro, which incorporate a range of new features to get filmmakers up and running as quickly as possible. A redesigned axes-locking system means that the process is now automated. By simply turning on the gimbal, the automated axis locks release and unfold the gimbal, allowing the operator to get started in seconds.
- In June 2021, EHang Holdings Limited conducted a test flight of its first passenger-grade autonomous aircraft for permission to fly in open airspace in Japan. It acquired a preliminary flight grant from the Ministry of Land, Infrastructure, Transport, and Tourism of Japan (MLIT) with a local partner.

Frequently Asked Questions (FAQ):

What is the current size of the Commercial Drone market?



Who are the winners in the Commercial Drone market?



What are some of the technological advancements in the market?



What are the factors driving the growth of the market?



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