

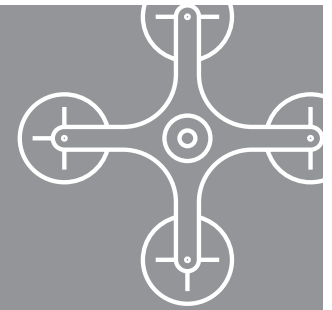


IHS Markit™

TECHNOLOGY

Drone Industry Taking Flight

DRONES are a particular form factor of robots that can fly—and include fixed-wing and multi-rotor-based balloons and airships. They are capable of flying without humans on board. In the context of service robots, drones are aerial robots that undertake the same definitions of tasks conducted by service robots.

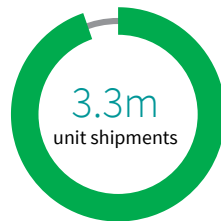


REVENUE, SHIPMENTS AND CAGR

Professional drones

The market for professional drones is still in its infancy, but unit shipments are projected to reach 3.3 million in 2020.

2015 **\$322 million** 2020 **\$4.6 billion**

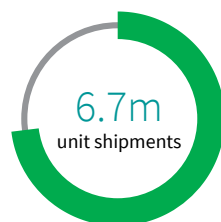


CAGR (2015–20)
77% in volume | 70% in value

Consumer drones

The consumer drone market is more established and its growth will be relatively slower than the professional drone market. Still, the consumer drone segment will continue to be the spine of the drone sector as increasing demand leads to the development of new technologies and features.

2015 **\$1.3 billion** 2020 **\$3.3 billion**



CAGR (2015–20)
22% in volume | 20% in value

APPLICATIONS

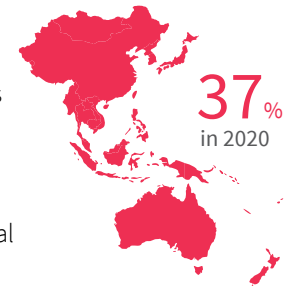
Drones are and will be used in a wide variety of applications, but perhaps none more important than transport and logistics systems—especially once governments define the regulations and provide a safe and stable environment for companies to develop their ideas and plans.

- Agriculture and forestry
- Construction, maintenance and demolition
- Energy and mining
- Finance
- Government, humanitarian, civic defense and rescue
- Hospitality, retail, hotel and restaurant
- Media and entertainment
- Science, research and environment
- Telecommunications
- Transport and logistics systems

REGIONAL VOLUME SHARE

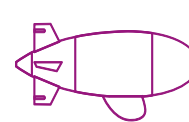


The **AMERICAS** comprised 35% of global professional and consumer drone unit shipments in 2015, followed closely by Europe and Asia Pacific.



By 2020, **ASIA PACIFIC** will account for the majority of global unit shipments.

SUB FORM FACTORS



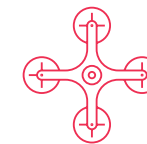
Airships
Blimps or dirigibles are lighter than air but move under power



Fixed wing
Aircraft kept airborne using powered flight



Balloons
Lighter than air but move under power



Multi-rotor
Aircraft kept airborne using rotor thrust, typically configurations of multiple vertical thrust rotors but occasionally traditional helicopter designs

78% of drones in 2015 were multi-rotor

CHALLENGES TO ADOPTION

The regulatory framework is an important factor affecting the adoption of drones. At present, there are no global regulations for drones that concern safety, security and privacy. Different regions have their own regulations and standards, which has resulted in varying growth rates for certain application areas in different geographies.

The evolution of regulations will continue to have a significant impact—positive or negative—on the drone market, either by allowing the technology to reach its potential capabilities or by preventing manufacturers from introducing new applications.

