

## Report Information

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# Unmanned Ground Vehicles (UGVs) Market Size, Share, Growth, Trend Forecast-2030

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## Description:

## Unmanned Ground Vehicles (UGVs) Market Overview:

**Unmanned Ground Vehicles (UGV) Market Is Estimated Reach USD 3.6 Billion, at CAGR 5.7% From 2020 To 2030**

Unmanned ground vehicles are a powerful range of robotic systems that don't need any manual assistance throughout the operation; therefore they are intensively used in crucial operations and applications. They are intensively used in military applications and the industrial verticals that involve the dangerous environment and operations that cannot be carried out by humans. The varied mobility and the advent of new technologies and software are now enabling unmanned ground vehicles to perform the task efficiently while maintaining lower operational and additional costs.

Autonomous vehicles are intensively used in the agricultural sectors, especially for mechanical weeding, soil sampling, irrigation management, and significant others. The increasing adoption of technologies in the agricultural sectors and the increasing investments in the sector are propelling the overall growth of the unmanned ground vehicles industry.

### COVID 19 Analysis:

The pandemic has restricted the production rate and reduced the key operations of various business and industrial verticals. Reduced labor and economic distress combined and reduced productivity in several industrial verticals. Therefore manufacturing units of unmanned ground vehicles were also reduced during the lockdown. However, the industries are growing inclination towards automation and thereby growing demand for unmanned ground vehicles for the key business processes.

This robot is expected to perform more efficiently and restrict the spread of the virus as well. Therefore, the unmanned ground vehicles (UGV) market demand is witnessing a balanced state in recent times.

### Market Dynamics:

#### Market Drivers:

The growing demand for autonomous vehicles across the commercial sector and defense sector because of the demand for operational efficiency are considered as the major drivers of unmanned ground vehicles market growth.

The increasing number of intricate applications such as search and rescue, mining explorations, evaluation of disasters, industries involved with harmful gases, nuclear radiation, and significant others are considered as the major drivers of unmanned ground vehicles market growth.

#### Market Opportunities:

The advent of artificial intelligence in the industry has paved the way to develop intelligent Unmanned Ground Vehicles (UGVs) Market which are considered as the trend in the industry. The deployment of artificial intelligence had enhanced the overall performance and thereby promoted them as intelligent unmanned autonomous systems as well. For instance, one of the startups called Torus Robotic Pvt. Ltd had joined hands with another leading company called BEML to take artificial intelligence to another level. This collaboration had given way for the unmanned ground vehicles to operate and carry out key roles like logistics, surveillance in terrain conditions, extreme weather. Such advancements are expected to bolster the overall growth of the unmanned ground vehicles industry during the forecast period.

The increasing demand for autonomous unmanned ground vehicles across the defense and commercial sectors and the presence of wide-range applications are expected to propel the overall growth of the unmanned ground vehicles industry during the forecast period. The key applications in the agricultural sector are soil sampling, mechanical weeding, and irrigation management, crop harvesting, and significant others. The increasing investment in the agricultural sector is also impacting the overall growth of the unmanned ground vehicles industry.

#### Market Restraints:

The economic crisis and the unprecedented economic fall are considered as the major challenge in the unmanned ground vehicles market growth. The reduction in the defense budgets regarding research and development is expected to hinder the overall growth of the unmanned ground vehicles industry.

The integration with the wireless solutions, where the bandwidth interruptions and the issues caused when the

wireless and the wired technologies are combined are expected to hinder the overall growth of the unmanned ground vehicles industry. Prominent issues like the slow reaction time of the controller and incapability to detect the location of the enemy vehicles are some of the major restraints of the unmanned ground vehicles industry.

#### **Market Challenges:**

Improper scope of applications and standards are some of the key challenges of unmanned ground vehicles market growth, where the applications are improper and the end-user industries are unable to choose the right kind of vehicle for them. Therefore the improper standards in the unmanned ground vehicles industry are considered as the key challenge.

Reliability is considered as the key factor in the unmanned ground vehicle industry, which demands highly sophisticated design and research centers. The design is expected to combat several incidences that the robot had to undergo, therefore the expectations are higher. On the other hand, the issues like hardware failure, incompetent software failure, unprecedented situations, and harsh external situations are considered as the major restraints of unmanned ground vehicles market growth. Therefore the designer had to consider various aspects and thereby eliminate the pitfalls in the hardware and software.

#### **Cumulative Growth Analysis:**

The market value of the unmanned ground vehicles industry was at USD 3.17 billion in the year 2019 and it is expected to surpass the market value of over USD 8.25 billion by the year 2027 while registering a CAGR of 11.20% during the forecast period. The market growth of the unmanned ground vehicles industry is expected to grow at a steady state due to the increasing investment from the defense force towards the high-end equipment where the personnel is restricted to over-exposure. The demand for neutralizing the enemy targets in the defense sector is considered as the major driver of the unmanned ground vehicles industry.

However, there are quite a few restraints where the changing environment can cause serious significant impacts, and the failure of hardware and incompetent software are some of the major restraints of unmanned ground vehicle market growth. The increasing contracts and investments for the developments are expected to boost the overall growth of the unmanned ground vehicles industry during the forecast period. For instance, one of the leading market players, FLIR systems had signed in for a USD 152 million contract with US army manufacturing with 350 UGVs due to the emerging applications across varied industrial units. Moreover, the government of developed countries is demanding custom requirements and thereby propelling the overall growth of the Unmanned ground vehicles industry.

#### **Value Chain Analysis:**

The key developments in the unmanned ground vehicles industry and the increasing investments are considered as the major drivers of unmanned ground vehicles market growth. For instance, in the year 2019, one of the leading market players, FLIR systems had announced that it had signed a contract with the US defense sector which is worth about USD 152 million and is expected to bring in over 350 unmanned ground vehicles to operate for the US defense sector. Among other categories, the tracked segment in the unmanned ground vehicles is holding the higher market share in the year 2020 and it is expected to grow at a steady growth rate during the forecast period, as it is considered as the most powerful among the others.

Although the production rate of the wheeled unmanned ground vehicles are increasing year over year as they are intensively used for critical mission and they are capable of operating on rough surfaces and unpredictable environment. The demand for the defense sector is propelling them to utilize the wheeled machines for their critical missions.

On the other hand, the advanced technologies in the industry have propelled the key market players to utilize the hybrid segment that is capable of operating at higher speed and possesses attractive features like light in weight, higher speed, lower production costs, and significant others.

#### **Segment Overview:**

##### **Based On Mobility:**

- Wheeled
- Tracked
- Hybrid
- Legged

##### **Based on size:**

- Small
- Medium
- Large
- Very large
- Extremely large

##### **Based On Mode Of Operation:**

- Tethered
- Tele-operated
- Autonomous

**Based on The System:**

- Payload
- Controller system
- Navigation system
- Power system
- Others

**Based On Application:****Military**

- Commercial
- Law enforcement
- Federal law enforcement

**Regional analysis:**

Currently, North America is expected to dominate the unmanned ground vehicles industry as the region held the highest market share since 2019 due to the increasing demand for military services. US military forces are increasingly procuring a large number of unmanned ground vehicles to enhance their security.

The key market players in the regions such as FLIR systems are making contracts with manufacturing units and receiving funding support from other organizations as well. For instance, in the year 2021, FLIR systems had received over USD 70 million for their order centaur robots that are manufactured from US armed services. North America due to the presence of leading market players and economic support, is deploying unmanned ground vehicles to transport suspicious packages across airports or the disposal area from the flight operational region. They are increasingly deployed in Kelowna international airport in British, Columbia, and Canada. Since the demand for unmanned ground vehicles is higher across the region, North America is expected to lead the unmanned ground vehicles market share.

**Competitive Landscape:**

- AeroVironment Inc.
- ASELSAN AS
- Clearpath Robotics Inc.
- DevelopmentEx.com Inc.
- HORIBA Ltd.
- Lockheed Martin Corp.
- Northrop Grumman Corp.
- Oshkosh Corp.
- QinetiQ Group Plc
- The Boeing Co.

**Recent Developments:**

In the year 2021, one of the leading market players, ADASI had launched a couple of unmanned ground vehicles which was due to the collaboration with NIMR. The vehicles were named AJBAN armed robotic vehicle which is capable of withstanding the small arms fires and even survives mine and blasts of improvised explosive devices.

In the year 2021, one of the leading market players, ADASI had launched a mini UGV which was named SCORPIO-M and SCORPIO-S which possess attractive features like climbing slopes, stairs with a gradient of 40-45 degrees and is also capable of communicating with the autonomous control station.

**Report overview:Market overview**

- COVID 19 Analysis
- Market dynamics
- Cumulative growth analysis
- Value chain analysis
- Segment overview
- Regional analysis
- Competitive landscape
- Recent developments

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