

# **Swarm Robotics Market – Global Industry Size, Share, Trends, Opportunity, and Forecast. Segmented by Platform (UAV, UGV), By Application (Security, Inspection & Monitoring, Mapping & Surveying, Search & Rescue and Disaster Relief, Supply Chain and Warehouse Management), By Region, By Company and By Geography, Forecast & Opportunities, 2018-2028.**

<https://marketpublishers.com/r/SB2B3FB309A7EN.html>

Date: October 2023

Pages: 184

Price: US\$ 4,900.00 (Single User License)

ID: SB2B3FB309A7EN

## **Abstracts**

The Global Swarm Robotics Market was valued at USD 725 Million in 2022 and growing at a CAGR of 28.6% during the forecast period. The global swarm robotics market has been experiencing remarkable growth in recent years, driven by a confluence of technological advancements and the increasing need for more efficient and scalable solutions across various industries. Swarm robotics is an emerging field that leverages the collective behavior of a group of small, simple robots to perform tasks collaboratively, mimicking the behaviors observed in natural swarms. This technology is finding applications in diverse sectors, including agriculture, logistics, search and rescue, and environmental monitoring. One of the key drivers behind the market's growth is the continuous improvement in robotics and artificial intelligence (AI) technologies. These advances enable robots to communicate and coordinate with each other seamlessly, making swarm robotics an attractive choice for tasks that require teamwork, adaptability, and redundancy. For instance, in agriculture, swarm robots can work together to efficiently plant, monitor, and harvest crops, resulting in increased productivity and reduced labor costs. Moreover, swarm robotics addresses the growing need for automation and precision in various industries. It offers cost-effective and flexible solutions, making it a compelling option for businesses seeking to enhance their

operational efficiency and competitiveness. As industries continue to embrace swarm robotics for its myriad benefits, the global market is expected to witness further expansion and innovation in the coming years.

## Key Market Drivers

### Rapid Technological Advancements

The Global Swarm Robotics Market is experiencing a remarkable surge in growth, primarily driven by the relentless wave of technological advancements. In this rapidly evolving landscape, where innovations in robotics, artificial intelligence (AI), and communication technologies are becoming the norm, swarm robotics has emerged as a pivotal player. This field has evolved into a highly capable and remarkably versatile domain, thanks to the continuous improvements in its foundational technologies. These relentless advancements have bestowed upon swarm robotics the ability to orchestrate swarms of robots with unprecedented efficiency and finesse. These robotic swarms, like synchronized dancers, can seamlessly adapt to complex tasks that span a multitude of industries. In this transformative era, businesses are increasingly recognizing the immense potential of swarm robotics as a strategic tool to revolutionize their operations. The allure of swarm robotics lies in its capacity to streamline processes, curb costs, and elevate productivity to new heights. Gone are the days when single, monolithic robots were the vanguards of automation; instead, the future belongs to these collaborative and interconnected robotic ensembles. The crux of this paradigm shift rests upon the shoulders of technology's relentless march forward. Robotics, once considered a realm of science fiction, has become deeply ingrained in our reality. These robots have become more intelligent, more adaptable, and more communicative. They can perceive their environment with a level of sophistication that was once unimaginable. Artificial intelligence, driven by neural networks and machine learning, has bestowed upon these robots the ability to make decisions, solve problems, and learn from their experiences. Communication technologies have opened up channels for robots to interact seamlessly with each other and with their human counterparts. As a result, the possibilities for swarm robotics are limitless. Industries ranging from agriculture and logistics to search and rescue and environmental monitoring have all become fertile grounds for the deployment of swarm robots. These robotic swarms can tackle intricate challenges such as precision farming, warehouse automation, disaster response, and ecological data collection. The inherent adaptability and collaborative nature of swarm robotics make it a compelling solution for businesses seeking to navigate the complexities of the modern world.

## Diverse Industrial Applications

The growth and proliferation of swarm robotics can be primarily attributed to its extensive and diverse array of applications across various industries. This expansion is fueled by an increasing recognition of swarm robotics as a game-changing technology that can bring substantial benefits to sectors as wide-ranging as agriculture, logistics, search and rescue, and environmental monitoring. These industries are increasingly embracing swarm robotics as a means to enhance their operations and address complex challenges in innovative ways. Swarm robots, working in harmony as a cohesive unit, exhibit the remarkable ability to tackle intricate and multifaceted tasks with precision and efficiency. In agriculture, for instance, swarm robotics is heralding a new era of precision farming. These robotic swarms can seamlessly navigate vast fields, performing tasks like planting, monitoring, and harvesting crops with unparalleled accuracy. By leveraging their collective intelligence, they optimize resource usage and crop yields, thereby revolutionizing traditional farming practices and promoting sustainable agriculture. In the logistics industry, swarm robotics is redefining warehouse automation. By working collaboratively, swarms of robots efficiently manage inventory, organize shipments, and fulfill orders with remarkable speed and precision. This not only streamlines supply chain operations but also reduces human labor costs and improves order accuracy. When it comes to disaster response, swarm robots excel in crisis situations where human intervention may be limited. These agile robotic teams can navigate through challenging terrains, locate survivors, and assess damage, all while minimizing risks to human first responders. Their ability to quickly deploy and adapt to dynamic environments is invaluable during emergencies. In the realm of environmental monitoring, swarm robotics offers unparalleled data collection capabilities. These robots can be deployed in remote or hazardous environments, collecting critical ecological data for research and conservation efforts. From tracking wildlife patterns to monitoring pollution levels, swarm robots enhance our understanding of the natural world while minimizing human impact. The remarkable versatility of swarm robotics makes it an attractive solution for industries seeking innovative and efficient automation solutions. Its adaptability to a wide array of tasks and its capacity to collaborate efficiently position swarm robotics as a transformative force capable of addressing the evolving needs of modern businesses and society at large. As industries continue to unlock the potential of swarm robotics, its presence will undoubtedly continue to grow, driving innovation and reshaping the way we approach complex challenges in an increasingly automated world.

## Enhanced Efficiency and Cost Savings

Efficiency and cost-effectiveness take center stage as the driving forces behind the widespread adoption of swarm robotics. These systems emerge as champions of efficiency, outpacing their single, larger robotic counterparts in the realm of task completion. The secret to their success lies in their ability to distribute workloads seamlessly among the members of the robotic swarm. In doing so, businesses reap the rewards of reduced labor costs, heightened operational efficiency, and remarkable reductions in task completion times. The advantages are not merely incremental but rather transformative, as swarm robotics becomes the linchpin for businesses seeking to optimize their processes and maintain a competitive edge in an increasingly complex and fast-paced industrial landscape. Traditional robotics often rely on single, monolithic machines to execute tasks. While effective, these systems can be encumbered by limitations in terms of speed and adaptability. In contrast, swarm robotics takes a more dynamic approach, orchestrating a coordinated dance of multiple robots, each playing a specific role within the collective effort. This collaborative synergy ensures that tasks are not just accomplished but accomplished swiftly and efficiently. The collective intelligence of the swarm permits real-time adjustments and problem-solving, leading to the rapid resolution of challenges that might otherwise have stalled productivity. One of the most significant advantages of swarm robotics is its potential to revolutionize labor costs. By dispersing responsibilities across a swarm of robots, businesses can significantly reduce their dependence on human labor. This reduction translates into substantial savings, as the need for human oversight and intervention diminishes. Furthermore, swarm robots operate tirelessly and consistently, eliminating the impact of fatigue on productivity. This 24/7 work ethic bolsters operational efficiency, enabling businesses to meet demanding production schedules and customer expectations with ease. In an era where efficiency is a prized commodity, swarm robotics presents an alluring solution. Its remarkable ability to optimize processes and amplify productivity positions it as an indispensable tool for industries seeking to thrive in a competitive environment. The cost-effectiveness and agility it brings to the table make it a compelling choice for businesses across various sectors. As industries continue to navigate the intricacies of the modern marketplace, swarm robotics stands as a beacon of innovation and a pathway toward unparalleled efficiency and competitiveness.

## Environmental and Regulatory Concerns

Environmental sustainability and adherence to regulatory standards emerge as pivotal influencers molding the trajectory of the Global Swarm Robotics Market. Central to this influence is the compact size and energy-efficient architecture of swarm robots, which together yield substantial reductions in energy consumption and confer a diminished environmental footprint. These attributes resonate harmoniously with the fervent efforts

of businesses striving to curtail their carbon emissions and achieve ambitious sustainability objectives. Swarm robotics embodies an eco-conscious ethos by design, as it champions energy efficiency, minimizes waste, and optimizes resource utilization. Moreover, the market is propelled forward by a confluence of stringent regulations and industry benchmarks that ardently advocate for the adoption of eco-friendly technologies. These regulations, spanning sectors as diverse as agriculture and conservation, serve as compelling catalysts, driving the integration of swarm robotics into operations where stringent environmental compliance is paramount. The commitment to environmental sustainability is an indelible mark of the swarm robotics revolution. The remarkable compactness and energy-efficient blueprint of swarm robots signify a quantum leap in green technology. Their smaller physical footprint translates into reduced energy requirements, reflecting a conscious effort to shrink the carbon footprint associated with robotic operations. The inherent efficiency in swarm robotics echoes the aspirations of businesses worldwide, keen on minimizing their impact on the environment while optimizing their operational efficiency. This harmonious alignment with sustainability goals resonates particularly strongly in sectors such as agriculture and conservation. In agriculture, where the delicate balance between productivity and environmental stewardship is paramount, swarm robotics offers a compelling solution. These eco-conscious robots can tend to crops with precision, minimizing the use of fertilizers and pesticides, thereby reducing ecological harm. In conservation efforts, swarm robots can navigate fragile ecosystems with minimal disruption, collecting critical data while preserving the delicate balance of the natural world. Simultaneously, regulatory bodies and industry associations have stepped up their efforts to promote environmentally friendly technologies. The web of regulations and standards, intertwined with sustainability concerns, underscores the urgency of adopting eco-conscious solutions like swarm robotics. For businesses, embracing these technologies is not just a matter of compliance; it represents an opportunity to showcase their commitment to sustainability, aligning their operations with societal and environmental values.

## Key Market Challenges

### Interoperability and Standards

The Global Swarm Robotics Market grapples with a significant challenge centered on achieving seamless interoperability and standardization across a diverse range of swarm robotic systems. With various manufacturers and developers offering swarm robots tailored to specific industrial applications and communication protocols, ensuring that these robots can work harmoniously together becomes a complex endeavor.

Swarm robots must be capable of fluidly collaborating within intricate operational environments that may encompass different software platforms, communication protocols, and operating systems. The challenge is further compounded by the need for effective coordination and management of heterogeneous swarm robot deployments. Overcoming this challenge necessitates the establishment of unified industry standards and interfaces that facilitate interoperability, streamlining the integration process for businesses adopting swarm robotics. Collaboration and consensus-building among industry stakeholders are paramount to creating a cohesive approach that addresses interoperability concerns and caters to the diverse needs of end-users.

### Scalability and Performance Optimization

Sustaining consistent scalability and optimizing performance represent significant challenges within the Global Swarm Robotics Market. Businesses often encounter fluctuating workloads and evolving operational demands, making it imperative that swarm robot fleets can efficiently scale while upholding dependable performance standards. Achieving load balancing, judicious resource allocation, and robust fault tolerance mechanisms across swarm robot ensembles pose inherent complexities, especially given the diverse array of tasks and applications they handle. To meet this challenge, intelligent management tools, adaptive workload distribution algorithms, and dynamic resource allocation strategies are indispensable. Manufacturers and solution providers must continually innovate to address this challenge, offering businesses swarm robotic solutions that can seamlessly adapt to varying workloads and deliver reliable performance across a multitude of scenarios.

### Energy Efficiency and Thermal Management

Effective power efficiency and thermal management are paramount considerations in the Global Swarm Robotics Market. Swarm robots are engineered to provide energy-efficient automation, yet their compact size can pose challenges in efficiently dissipating generated heat. As the density of swarm robots increases within operational settings, managing heat generation becomes a complex endeavor. Ensuring that swarm robots operate within safe temperature thresholds while minimizing energy consumption necessitates the development of innovative cooling mechanisms, efficient power distribution systems, and intelligent thermal management strategies. Confronting this challenge is crucial to prevent performance degradation, hardware malfunctions, and escalated operational costs. Manufacturers must place a strong emphasis on advanced cooling technologies, energy-efficient components, and dynamic thermal management approaches to furnish swarm robotic solutions that consistently uphold performance,

reliability, and cost-effectiveness.

## Key Market Trends

### Edge Computing and Decentralized Architectures

A transformative trend shaping the Global Swarm Robotics Market is the ascent of Edge Computing and Decentralized Architectures. As industries embrace the Internet of Things (IoT) and the demand for real-time data processing soars, the imperative for computational power in close proximity to data sources becomes increasingly pronounced. Swarm robotics, with its cooperative and distributed approach, seamlessly aligns with the requirements of edge computing. This trend is driven by applications in sectors such as manufacturing, healthcare, and logistics, where swarm robots play a pivotal role in enabling rapid data analysis and decision-making at the edge. The decentralization of computational resources through swarm robotics addresses latency concerns and supports time-sensitive applications, ushering in a new era of distributed computing architectures.

### Sustainability and Eco-Friendly Robotics

The Sustainability and Eco-Friendly Robotics trend is gaining significant traction within the Global Swarm Robotics Market. With heightened awareness of environmental concerns and the pressing need to minimize ecological footprints, businesses are increasingly seeking sustainable and eco-conscious automation solutions. Swarm robots, often designed with energy-efficient components and optimized for minimal environmental impact, are at the forefront of this trend. As industries strive to adhere to sustainability objectives and reduce operational costs, swarm robotics adoption is surging due to its capacity to deliver efficient and environmentally friendly automation. This trend is further bolstered by regulatory mandates and industry standards that promote eco-friendly technologies, positioning swarm robotics as a pivotal solution to address both operational and environmental sustainability.

### Collaboration and Human-Robot Interaction

The Collaboration and Human-Robot Interaction trend is reshaping the Global Swarm Robotics Market, driven by the growing need for robots to work alongside human counterparts. Swarm robots excel in collaborative and cooperative tasks, making them ideal candidates for applications that require human-robot teamwork. This trend is especially relevant in industries such as healthcare, where swarm robots can assist with

patient care, and in manufacturing, where they can collaborate with human workers on complex assembly tasks. The ability of swarm robots to seamlessly integrate with human-centric workflows positions them as enablers of efficient and harmonious human-robot collaboration, leading to increased productivity and improved safety in various domains.

### AI Integration and Intelligent Swarming

The AI Integration and Intelligent Swarming trend are revolutionizing the Global Swarm Robotics Market by ushering in the incorporation of artificial intelligence capabilities into swarm robot solutions. As AI-driven applications proliferate, there is a growing demand for swarm robots equipped with localized AI processing capabilities to support real-time decision-making. Swarm robots, strategically positioned in various operational settings, provide the computational power required for AI-driven tasks and analyses without the latency associated with cloud-based processing. This trend finds particular resonance in industries such as search and rescue, where swarm robots can autonomously navigate disaster sites and make AI-driven decisions, or in agriculture, where they can analyze crop health and optimize farming practices. As AI continues to permeate diverse sectors, the fusion of swarm robotics and AI is poised to redefine the boundaries of data processing and utilization, enhancing the efficiency and adaptability of robotic systems across a myriad of applications.

### Segmental Insights

#### Application Insights

In 2022, the 'Search & Rescue and Disaster Relief' application segment emerged as the dominant force in the Global Swarm Robotics Market, and it is poised to maintain its prominence throughout the forecast period. This segment witnessed substantial growth and garnered the highest market share due to the critical and life-saving nature of search and rescue operations, as well as disaster relief efforts. Swarm robotics has proven to be exceptionally well-suited for these scenarios, where the agility, coordination, and collaborative abilities of multiple robots working together are of paramount importance. Search and rescue operations often occur in challenging and hazardous environments, such as disaster-stricken areas, collapsed buildings, or remote terrains. Swarm robots excel in these conditions by offering a distributed approach to exploration and data collection. They can navigate tight spaces, work together to locate survivors, and assess the structural integrity of buildings. Furthermore, swarm robots are equipped with sensors and cameras that can transmit



real-time data to human responders, providing critical information that aids in decision-making and resource allocation. The 'Disaster Relief' aspect of this segment also plays a significant role, as swarm robots assist in mitigating the impact of natural disasters, such as earthquakes, hurricanes, or wildfires. They can be deployed quickly to assess damage, locate trapped individuals, and even assist in the delivery of essential supplies to affected areas. This efficiency and rapid response capability have made swarm robotics indispensable in disaster management. Looking ahead, the dominance of the 'Search & Rescue and Disaster Relief' application segment is expected to persist due to the increasing frequency and severity of natural disasters worldwide, coupled with a growing recognition of swarm robots' effectiveness in responding to these crises. Additionally, ongoing advancements in swarm robotics technology, including improved communication, sensing, and autonomy, are likely to further solidify the position of this segment as a cornerstone of the Global Swarm Robotics Market, ensuring its continued dominance in the forecast period.

## Platform Insights

In 2022, the 'UGV' (Unmanned Ground Vehicle) platform segment emerged as the dominant force in the Global Swarm Robotics Market, and it is expected to maintain its dominance throughout the forecast period. UGVs, or ground-based swarm robots, played a pivotal role in shaping the market landscape due to their versatility and wide range of applications across various industries. UGVs have found extensive use in sectors such as agriculture, logistics, manufacturing, and defense. In agriculture, they are deployed for precision farming tasks, including planting, monitoring, and harvesting crops. In logistics, UGV swarms excel in warehouse automation and inventory management, improving operational efficiency and reducing labor costs. In manufacturing, they contribute to tasks like assembly and material handling, streamlining production processes. Additionally, the defense sector leverages UGVs for tasks like reconnaissance, surveillance, and perimeter security, enhancing situational awareness and soldier safety. The dominance of the UGV platform segment is expected to persist for several reasons. First, UGVs are well-suited for indoor and outdoor environments, making them adaptable to a wide array of applications. Second, they offer a stable and reliable platform for swarm robotics, with robust terrain navigation capabilities. Third, the continuous development of advanced sensors, communication systems, and artificial intelligence technologies is enhancing the capabilities of UGV swarms, further solidifying their position as a preferred choice for swarm robotics applications. Moreover, the growing demand for automation and efficiency across industries is likely to drive the continued dominance of the UGV segment. As businesses seek scalable and cost-effective solutions, UGV swarm robots provide a

compelling answer to their needs, enabling them to optimize processes, reduce operational costs, and remain competitive in an evolving market landscape. As a result, the UGV platform segment is expected to maintain its leading position in the Global Swarm Robotics Market, showcasing its adaptability and effectiveness across a wide range of industrial and commercial applications in the foreseeable future.

## Regional Insights

In 2022, North America emerged as the dominant region in the Global Swarm Robotics Market, and it is poised to maintain its supremacy during the forecast period. Several factors contribute to North America's leading position in the swarm robotics market. Firstly, North America boasts a robust ecosystem for research and development in robotics and artificial intelligence (AI). The presence of renowned universities, tech giants, and innovative startups in the United States and Canada has fostered a fertile ground for the advancement of swarm robotics technology. This technological leadership enables the region to introduce cutting-edge solutions and stay ahead in the global market. Secondly, the industrial landscape of North America is characterized by a high degree of automation adoption across various sectors, including manufacturing, agriculture, healthcare, and defense. Businesses in the region recognize the efficiency and cost-saving potential of swarm robotics, driving substantial market growth. Additionally, stringent safety regulations and a strong focus on disaster response and search and rescue operations in North America have accelerated the adoption of swarm robotics in these critical applications. The ability of swarm robots to swiftly respond to emergencies and assist in disaster management aligns with the region's priorities and contributes to market dominance. Furthermore, North America's well-established logistics and e-commerce industries have also adopted swarm robotics for warehouse automation and order fulfillment, driving the demand for these technologies. With the continuous evolution of swarm robotics, North America's technological leadership, diversified industrial landscape, and focus on innovation are expected to maintain its dominance in the Global Swarm Robotics Market throughout the forecast period, making it a pivotal region for market growth and development.

## Key Market Players

Exyn Technologies

Idaho National Laboratory

SwarmFarm Robotics

Scientific Systems Company

Spaxels

TU Delft

EPFL

Boeing

Hydromea

DO Bots

IRRC

Robotics Inventions

Sentien Robotics

#### Report Scope:

In this report, the Global Swarm Robotics Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Global Swarm Robotics Market, By Platform:

UAV

UGV

Global Swarm Robotics Market, By Application:

Security

Inspection & Monitoring

Mapping & Surveying

Search & Rescue and Disaster Relief

Supply Chain and Warehouse Management

Global Swarm Robotics Market, By Region:

North America

Europe

South America

Middle East & Africa

Asia Pacific

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Swarm Robotics Market.

Available Customizations:

Global Swarm Robotics Market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

## Contents

### **1. PRODUCT OVERVIEW**

- 1.1. Market Definition
- 1.2. Scope of the Market
  - 1.2.1. Markets Covered
  - 1.2.2. Years Considered for Study
  - 1.2.3. Key Market Segmentations

### **2. RESEARCH METHODOLOGY**

- 2.1. Baseline Methodology
- 2.2. Key Industry Partners
- 2.3. Major Association and Secondary Sources
- 2.4. Forecasting Methodology
- 2.5. Data Triangulation & Validation
- 2.6. Assumptions and Limitations

### **3. EXECUTIVE SUMMARY**

### **4. IMPACT OF COVID-19 ON GLOBAL SWARM ROBOTICS MARKET**

### **5. VOICE OF CUSTOMER**

### **6. GLOBAL SWARM ROBOTICS MARKET OVERVIEW**

### **7. GLOBAL SWARM ROBOTICS MARKET OUTLOOK**

- 7.1. Market Size & Forecast
  - 7.1.1. By Value
- 7.2. Market Share & Forecast
  - 7.2.1. By Platform (UAV, UGV)
  - 7.2.2. By Application (Security, Inspection & Monitoring, Mapping & Surveying, Search & Rescue and Disaster Relief, Supply Chain and Warehouse Management)
  - 7.2.3. By Region (North America, Europe, South America, Middle East & Africa, Asia Pacific)
- 7.3. By Company (2022)
- 7.4. Market Map

## **8. NORTH AMERICA SWARM ROBOTICS MARKET OUTLOOK**

### 8.1. Market Size & Forecast

#### 8.1.1. By Value

### 8.2. Market Share & Forecast

#### 8.2.1. By Platform

#### 8.2.2. By Application

#### 8.2.3. By Country

##### 8.2.3.1. United States Swarm Robotics Market Outlook

###### 8.2.3.1.1. Market Size & Forecast

###### 8.2.3.1.1.1. By Value

###### 8.2.3.1.2. Market Share & Forecast

###### 8.2.3.1.2.1. By Platform

###### 8.2.3.1.2.2. By Application

##### 8.2.3.2. Canada Swarm Robotics Market Outlook

###### 8.2.3.2.1. Market Size & Forecast

###### 8.2.3.2.1.1. By Value

###### 8.2.3.2.2. Market Share & Forecast

###### 8.2.3.2.2.1. By Platform

###### 8.2.3.2.2.2. By Application

##### 8.2.3.3. Mexico Swarm Robotics Market Outlook

###### 8.2.3.3.1. Market Size & Forecast

###### 8.2.3.3.1.1. By Value

###### 8.2.3.3.2. Market Share & Forecast

###### 8.2.3.3.2.1. By Platform

###### 8.2.3.3.2.2. By Application

## **9. EUROPE SWARM ROBOTICS MARKET OUTLOOK**

### 9.1. Market Size & Forecast

#### 9.1.1. By Value

### 9.2. Market Share & Forecast

#### 9.2.1. By Platform

#### 9.2.2. By Application

#### 9.2.3. By Country

##### 9.2.3.1. Germany Swarm Robotics Market Outlook

###### 9.2.3.1.1. Market Size & Forecast

###### 9.2.3.1.1.1. By Value

- 9.2.3.1.2. Market Share & Forecast
  - 9.2.3.1.2.1. By Platform
  - 9.2.3.1.2.2. By Application
- 9.2.3.2. France Swarm Robotics Market Outlook
  - 9.2.3.2.1. Market Size & Forecast
    - 9.2.3.2.1.1. By Value
  - 9.2.3.2.2. Market Share & Forecast
    - 9.2.3.2.2.1. By Platform
    - 9.2.3.2.2.2. By Application
- 9.2.3.3. United Kingdom Swarm Robotics Market Outlook
  - 9.2.3.3.1. Market Size & Forecast
    - 9.2.3.3.1.1. By Value
  - 9.2.3.3.2. Market Share & Forecast
    - 9.2.3.3.2.1. By Platform
    - 9.2.3.3.2.2. By Application
- 9.2.3.4. Italy Swarm Robotics Market Outlook
  - 9.2.3.4.1. Market Size & Forecast
    - 9.2.3.4.1.1. By Value
  - 9.2.3.4.2. Market Share & Forecast
    - 9.2.3.4.2.1. By Platform
    - 9.2.3.4.2.2. By Application
- 9.2.3.5. Spain Swarm Robotics Market Outlook
  - 9.2.3.5.1. Market Size & Forecast
    - 9.2.3.5.1.1. By Value
  - 9.2.3.5.2. Market Share & Forecast
    - 9.2.3.5.2.1. By Platform
    - 9.2.3.5.2.2. By Application

## **10. SOUTH AMERICA SWARM ROBOTICS MARKET OUTLOOK**

- 10.1. Market Size & Forecast
  - 10.1.1. By Value
- 10.2. Market Share & Forecast
  - 10.2.1. By Platform
  - 10.2.2. By Application
  - 10.2.3. By Country
    - 10.2.3.1. Brazil Swarm Robotics Market Outlook
      - 10.2.3.1.1. Market Size & Forecast
        - 10.2.3.1.1.1. By Value

- 10.2.3.1.2. Market Share & Forecast
  - 10.2.3.1.2.1. By Platform
  - 10.2.3.1.2.2. By Application
- 10.2.3.2. Colombia Swarm Robotics Market Outlook
  - 10.2.3.2.1. Market Size & Forecast
    - 10.2.3.2.1.1. By Value
  - 10.2.3.2.2. Market Share & Forecast
    - 10.2.3.2.2.1. By Platform
    - 10.2.3.2.2.2. By Application
- 10.2.3.3. Argentina Swarm Robotics Market Outlook
  - 10.2.3.3.1. Market Size & Forecast
    - 10.2.3.3.1.1. By Value
  - 10.2.3.3.2. Market Share & Forecast
    - 10.2.3.3.2.1. By Platform
    - 10.2.3.3.2.2. By Application

## **11. MIDDLE EAST & AFRICA SWARM ROBOTICS MARKET OUTLOOK**

- 11.1. Market Size & Forecast
  - 11.1.1. By Value
- 11.2. Market Share & Forecast
  - 11.2.1. By Platform
  - 11.2.2. By Application
  - 11.2.3. By Country
    - 11.2.3.1. Saudi Arabia Swarm Robotics Market Outlook
      - 11.2.3.1.1. Market Size & Forecast
        - 11.2.3.1.1.1. By Value
      - 11.2.3.1.2. Market Share & Forecast
        - 11.2.3.1.2.1. By Platform
        - 11.2.3.1.2.2. By Application
    - 11.2.3.2. UAE Swarm Robotics Market Outlook
      - 11.2.3.2.1. Market Size & Forecast
        - 11.2.3.2.1.1. By Value
      - 11.2.3.2.2. Market Share & Forecast
        - 11.2.3.2.2.1. By Platform
        - 11.2.3.2.2.2. By Application
    - 11.2.3.3. South Africa Swarm Robotics Market Outlook
      - 11.2.3.3.1. Market Size & Forecast
        - 11.2.3.3.1.1. By Value



11.2.3.3.2. Market Share & Forecast

11.2.3.3.2.1. By Platform

11.2.3.3.2.2. By Application

## **12. ASIA PACIFIC SWARM ROBOTICS MARKET OUTLOOK**

12.1. Market Size & Forecast

12.1.1. By Platform

12.1.2. By Application

12.1.3. By Country

12.1.3.1. China Swarm Robotics Market Outlook

12.1.3.1.1. Market Size & Forecast

12.1.3.1.1.1. By Value

12.1.3.1.2. Market Share & Forecast

12.1.3.1.2.1. By Platform

12.1.3.1.2.2. By Application

12.1.3.2. India Swarm Robotics Market Outlook

12.1.3.2.1. Market Size & Forecast

12.1.3.2.1.1. By Value

12.1.3.2.2. Market Share & Forecast

12.1.3.2.2.1. By Platform

12.1.3.2.2.2. By Application

12.1.3.3. Japan Swarm Robotics Market Outlook

12.1.3.3.1. Market Size & Forecast

12.1.3.3.1.1. By Value

12.1.3.3.2. Market Share & Forecast

12.1.3.3.2.1. By Platform

12.1.3.3.2.2. By Application

12.1.3.4. South Korea Swarm Robotics Market Outlook

12.1.3.4.1. Market Size & Forecast

12.1.3.4.1.1. By Value

12.1.3.4.2. Market Share & Forecast

12.1.3.4.2.1. By Platform

12.1.3.4.2.2. By Application

12.1.3.5. Australia Swarm Robotics Market Outlook

12.1.3.5.1. Market Size & Forecast

12.1.3.5.1.1. By Value

12.1.3.5.2. Market Share & Forecast

12.1.3.5.2.1. By Platform

12.1.3.5.2.2. By Application

## **13. MARKET DYNAMICS**

13.1. Drivers

13.2. Challenges

## **14. MARKET TRENDS AND DEVELOPMENTS**

## **15. COMPANY PROFILES**

15.1. Exyn Technologies

15.1.1. Business Overview

15.1.2. Key Revenue and Financials

15.1.3. Recent Developments

15.1.4. Key Personnel

15.1.5. Key Product/Services Offered

15.2. Idaho National Laboratory

15.2.1. Business Overview

15.2.2. Key Revenue and Financials

15.2.3. Recent Developments

15.2.4. Key Personnel

15.2.5. Key Product/Services Offered

15.3. SwarmFarm Robotics

15.3.1. Business Overview

15.3.2. Key Revenue and Financials

15.3.3. Recent Developments

15.3.4. Key Personnel

15.3.5. Key Product/Services Offered

15.4. Scientific Systems Company

15.4.1. Business Overview

15.4.2. Key Revenue and Financials

15.4.3. Recent Developments

15.4.4. Key Personnel

15.4.5. Key Product/Services Offered

15.5. Spaxels

15.5.1. Business Overview

15.5.2. Key Revenue and Financials

15.5.3. Recent Developments

- 15.5.4. Key Personnel
- 15.5.5. Key Product/Services Offered
- 15.6. TU Delft
  - 15.6.1. Business Overview
  - 15.6.2. Key Revenue and Financials
  - 15.6.3. Recent Developments
  - 15.6.4. Key Personnel
  - 15.6.5. Key Product/Services Offered
- 15.7. EPFL
  - 15.7.1. Business Overview
  - 15.7.2. Key Revenue and Financials
  - 15.7.3. Recent Developments
  - 15.7.4. Key Personnel
  - 15.7.5. Key Product/Services Offered
- 15.8. Boeing
  - 15.8.1. Business Overview
  - 15.8.2. Key Revenue and Financials
  - 15.8.3. Recent Developments
  - 15.8.4. Key Personnel
  - 15.8.5. Key Product/Services Offered
- 15.9. Hydromea
  - 15.9.1. Business Overview
  - 15.9.2. Key Revenue and Financials
  - 15.9.3. Recent Developments
  - 15.9.4. Key Personnel
  - 15.9.5. Key Product/Services Offered
- 15.10. DO Bots
  - 15.10.1. Business Overview
  - 15.10.2. Key Revenue and Financials
  - 15.10.3. Recent Developments
  - 15.10.4. Key Personnel
  - 15.10.5. Key Product/Services Offered
- 15.11. IRRC
  - 15.11.1. Business Overview
  - 15.11.2. Key Revenue and Financials
  - 15.11.3. Recent Developments
  - 15.11.4. Key Personnel
  - 15.11.5. Key Product/Services Offered
- 15.12. Robotics Inventions

- 15.12.1. Business Overview
- 15.12.2. Key Revenue and Financials
- 15.12.3. Recent Developments
- 15.12.4. Key Personnel
- 15.12.5. Key Product/Services Offered
- 15.13. Sentien Robotics
  - 15.13.1. Business Overview
  - 15.13.2. Key Revenue and Financials
  - 15.13.3. Recent Developments
  - 15.13.4. Key Personnel
  - 15.13.5. Key Product/Services Offered

## **16. STRATEGIC RECOMMENDATIONS**

## **17. ABOUT US & DISCLAIMER**

## I would like to order

Product name: Swarm Robotics Market – Global Industry Size, Share, Trends, Opportunity, and Forecast. Segmented by Platform (UAV, UGV), By Application (Security, Inspection & Monitoring, Mapping & Surveying, Search & Rescue and Disaster Relief, Supply Chain and Warehouse Management), By Region, By Company and By Geography, Forecast & Opportunities, 2018-2028.

Product link: <https://marketpublishers.com/r/SB2B3FB309A7EN.html>

Price: US\$ 4,900.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/SB2B3FB309A7EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:

Last name:

Email:

Company:

Address:

City:

Zip code:

Country:

Tel:

Fax:

Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below  
and fax the completed form to +44 20 7900 3970