

**Smart Greenhouse Market by Type (Hydroponic, Non-Hydroponic), Offering (Hardware, Software, Services), End User (Commercial Growers, Research and Educational Institutes, Retail Gardens, and Others), and Region 2023-2028**

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**Report description:**

The global smart greenhouse market size reached US\$ 1.74 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 3.23 Billion by 2028, exhibiting a growth rate (CAGR) of 9.60% during 2023-2028. The rising consumer preferences for organic food, increasing utilization of vertical farming technology, and supportive government initiatives represent some of the key factors driving the market.

A smart greenhouse is an advanced concept encompassing a traditional greenhouse equipped with cutting-edge sensors and communications systems to continuously monitor, gather, and deliver data on the surroundings and crops. The collected data is fed into a platform where analytical algorithms convert it into actionable insights to uncover potential problems and analyze crop disease and infection risks. It helps optimize plant growth by regulating temperature, heat, humidity, and light automatically, as well as on demand. It provides a self-regulated controlled environment that allows crops to reach the harvesting stage faster while retaining the maximum nutrients. It also controls moisture in the soil to automatically supplement all crops with precise quantities of water. Since it aids farmers in reducing labor work, improving resource and chemical use efficiency, and optimizing yield rates with minimal human and climate interference, the smart greenhouse is rapidly gaining popularity across the globe.

**Smart Greenhouse Market Trends:**

Smart greenhouses assist in enhancing the productivity of farmers and producing better farming outcomes. As a result, the surging awareness regarding the ease of crop monitoring, cultivation, and harvesting associated with smart greenhouses represents one of the key factors driving the market growth. Besides this, the rising consumer preferences for organic food and the escalating demand for high-value crops are other major growth-inducing factors. In addition, governments of various countries are taking favorable initiatives to promote the uptake of smart agricultural practices due to the surging food demand, declining

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arable land, and increasing water shortage. Along with this, heavy investments in the modernization of the agriculture sector, especially in developing nations, coupled with the rising adoption of indoor farming in urban areas, are contributing to market growth. Furthermore, the leading players are offering integrated products and introducing new smart greenhouse variants embedded with various novel features and technologies to provide higher visibility and automation. In line with this, the surging adoption of the internet of things (IoT) and artificial intelligence (AI) by farmers and agriculturalists have propelled market growth. Other factors, including the growing popularity of vertical farming technology, increasing environmental concerns among the masses, continual technological advancements, and ongoing research and development (R&D) activities, are also anticipated to create a positive outlook for the global market.

#### Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global smart greenhouse market, along with forecasts at the global, regional, and country levels from 2023-2028. Our report has categorized the market based on type, offering, and end user.

#### Type Insights:

- Hydroponic
- Non-Hydroponic

The report has provided a detailed breakup and analysis of the smart greenhouse market based on the type. This includes hydroponic and non-hydroponic. According to the report, hydroponic represented the largest segment.

#### Offering Insights:

- Hardware
  - HVAC Systems
  - LED Grow Lights
  - Irrigation System
  - Valves and Pumps
  - Sensor and Control System
- Others
- Software
- Services

A detailed breakup and analysis of the smart greenhouse market based on the offering has also been provided in the report. This includes hardware (HVAC systems, LED grow lights, irrigation system, valves and pumps, sensor and control system, and others), software, and services. According to the report, hardware accounted for the largest market share.

#### End User Insights:

- Commercial Growers
- Research and Educational Institutes
- Retail Gardens
- Others

The report has provided a detailed breakup and analysis of the smart greenhouse market based on the end user. This includes commercial growers, research and educational institutes, retail gardens, and others. According to the report, research and

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educational institutes represented the largest segment.

#### Regional Insights:

##### North America

United States

Canada

##### Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

##### Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

##### Latin America

Brazil

Mexico

Others

##### Middle East and Africa

The report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Asia-Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, Europe was the largest market for smart greenhouse. Some of the factors driving the Europe smart greenhouse market included the rapid growth in the agriculture industry, increasing penetration of advanced farming practices and technologies, rising demand for highly nutritious and organic food, etc.

#### Competitive Landscape:

The report has also provided a comprehensive analysis of the competitive landscape in the global smart greenhouse market. Competitive analysis such as market structure, market share by key players, player positioning, top winning strategies, competitive dashboard, and company evaluation quadrant has been covered in the report. Also, detailed profiles of all major companies have been provided. Some of the companies covered include Argus Control Systems Limited (Convion), Certhon, Heliospectra AB, Netafim (Orbia), Sensaphone, etc. Kindly note that this only represents a partial list of companies, and the complete list has been provided in the report.

#### Key Questions Answered in This Report:

How has the global smart greenhouse market performed so far, and how will it perform in the coming years?

What are the drivers, restraints, and opportunities in the global smart greenhouse market?

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What is the impact of each driver, restraint, and opportunity on the global smart greenhouse market?  
What are the key regional markets?  
Which countries represent the most attractive smart greenhouse market?  
What is the breakup of the market based on the type?  
Which is the most attractive type in the smart greenhouse market?  
What is the breakup of the market based on the offering?  
Which is the most attractive offering in the smart greenhouse market?  
What is the breakup of the market based on end user?  
Which is the most attractive end user in the smart greenhouse market?  
What is the competitive structure of the global smart greenhouse market?  
Who are the key players/companies in the global smart greenhouse market?

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