

# Smart Harvest Market by Site of Operation (On-field, Greenhouse, Indoor), Component (Harvesting Robots, Automation & Control Systems, Imaging Systems, Sensors, Software), Crop Type (Fruits and Vegetables), and Region - Global Forecast to 2023

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## Abstracts

“The smart harvest market is projected to grow at a CAGR of 11.81% during the forecast period.”

The smart harvest market is estimated at USD 9.0 billion in 2018 and projected to grow at a CAGR of 11.81%, to reach USD 15.6 billion by 2023. The growth of the smart harvest market is driven by the labor shortages in farms and increasing demand for fully automated solutions in farms. The key driver for market growth is the cost efficiency benefits offered by fully automated robots in terms of the harvest area and reduction in overhead costs for farms. Smart harvest systems and technologies involves the adoption of artificial intelligence (AI), GPS, cloud machine learning, satellite imagery, and advanced analytics. Harvesting is one of the major phases of farming and the use of various smart devices increases the output and thus decreases the overall loss.

“Hardware components segment led the market with the largest share in 2017.”

On the basis of component, smart harvest is predominantly used in the hardware segment. The smart harvest systems use multiple types of hardware and software components, which are integrated to deliver the expected results. The smart harvest systems incorporate the use of sensors and robots which work in unison to perform the task. The sensors perform monitoring tasks which include observing the soil and yield monitoring functions to ensure the produce stays within the required parameters. The hardware functions are integrated with an independent software which relays

information from different sensors surrounding the robot.

“Indoor applications of smart harvest systems accounted for a larger share in 2017.”

Based on site of deployment, the indoor segment is estimated to account for a larger share in 2018. Indoor or vertical farming involves the production of food in vertical layers stacked upon each other and supplemented with soil nutrients and water. These crops are grown using a multitude of methods including hydroponics, aquaponics, aeroponics, and soil-based or hybrid methods and can be adapted to a wide variety of urban settings. The smart harvest systems used in indoor farming employ a similar operational structure as that of greenhouses. The systems are reliant on multiple sensors installed throughout to understand the surroundings and navigate across the work area. High-resolution multi-spectral cameras and imaging sensors observe and monitor the produce to determine the time for harvest.

“Fruits to be the fastest-growing crop type in the smart harvest market for the next 5 years.”

Based on crop type, the fruits segment is projected to be the fastest-growing during the forecast period. Fruits have emerged as a key area of application for smart harvest systems, given the high manufacturer presence and the technologies being developed to harvest different types of fruits. The presence of smart harvest technologies in fruits is crucial to overcome the labor shortage and meet the demanding nature of the task. Fruits such as strawberries and apples are difficult to harvest, and the high degree of manual labor involved in the harvest tends to inflate the cost of the final product.

“High growth is projected in the Asia Pacific smart harvest market from 2018 to 2023.”

The Asia Pacific market is projected to be the fastest-growing market for the period considered for this study due to the strong potential for growth given the large-scale production and increasing population in the region. In addition, the agriculture industry is deeply integrated into the economies of China and Australia where agricultural produce forms a crucial part of the exports.

Break-up of Primaries:

By Company Type: Tier 1 - 35 %, Tier 2 - 45%, and Tier 3 - 20%

By Designation: C Level - 35%, D Level - 25%, and Others\* - 40%

By Region: Asia Pacific – 30%, North America - 45%, Europe - 20%, S and RoW - 5%

\*Others include sales managers, marketing managers, and product managers.

Leading players profiled in this report:

The scope of this report includes a detailed study of those manufacturers whose portfolio mentions the end use of its systems and technologies for smart harvest operations. Key players in the market include Robert Bosch GmbH (Germany), Deere & Company (US), Smart Harvest Ltd. (UK), Dogtooth Technologies (UK), Harvest Automation (US), Panasonic Corporation (Japan), Root AI (US), Abundant Robotics (US), Iron Ox (US), Agrobot (Spain), Energid Technologies Corp. (US), FFRobotics (Israel), Vision Robotics Corp. (US), Metomotion (Israel), AVL Motion (Netherlands), and Harvest Croo (US).

## **RESEARCH COVERAGE:**

The report segments the smart harvest on the basis of component, site of operation, crop type, and region. In terms of insights, this report has focused on various levels of analyses—competitive landscape, end-use analysis, and company profiles, which together comprise and discuss views on the emerging & high-growth segments of the global smart harvest, high-growth regions, countries, government initiatives, drivers, restraints, opportunities, and challenges.

## **REASONS TO BUY THIS REPORT:**

To get a comprehensive overview of the smart harvest

To gain wide-ranging information about the top players in this industry, their product portfolios, and key strategies adopted by them

To gain insights about the major countries/regions in which the smart harvest market is flourishing

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