

Harvesting Technology Market Set to Reach \$27.08B by 2031 Driven by AI, Robotics & Precision Farming | DataM Intelligence

Harvesting Technology Market is transforming global agriculture with smart, automated and sustainable solutions to address labor shortages & boost productivity.

AUSTIN, TX, UNITED STATES, July 16, 2025 /EINPresswire.com/ -- <u>Harvesting</u> <u>Technology Market</u> reached US\$ 17.25 billion in 2023 and is expected to reach US\$ 27.08 billion by 2031, growing with a CAGR of 5.8% during the forecast period 2024–2031.



This growth is primarily driven by the

increasing need for mechanized solutions in agriculture, the global shortage of farm labor, and the rapid adoption of precision farming practices. Farmers worldwide are looking for more efficient, data-driven, and sustainable methods to optimize productivity and reduce dependency on seasonal labor, and harvesting technology is emerging as a critical enabler.

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Harvesting Technology Market to hit \$27.08B by 2031, driven by 5.8% CAGR, smart automation, and rising global labor shortages precision and robotics are redefining modern farming." *DataM Intelligence* To Download Sample Report:

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Market Dynamics

The harvesting technology market is expanding due to rising food demand, labor shortages, and the push for precision farming. Farmers are adopting smart harvesters, autonomous systems, and IoT-enabled tools to improve

efficiency, reduce crop losses, and cut labor costs. Technologies like AI and GPS are transforming harvesting into a data-driven, automated process.

However, high upfront costs and limited access to financing remain key challenges, especially for smallholders. Regional differences in crops and terrain also affect scalability. Still, supportive government policies, agri-tech innovation, and new service-based models are helping accelerate adoption globally.

Key Investment Drivers

Labor Scarcity & Rising Wages: Particularly in North America, Europe, and Japan, where mechanization is vital to offset workforce shortages.

Precision Agriculture Adoption: Demand for technologies that improve yield efficiency and reduce crop losses during harvesting.

Climate-Smart Farming: Technologies enabling adaptive harvesting during changing weather patterns are gaining relevance.

Government Incentives: Subsidies and modernization grants in countries like India, China, the U.S., and Germany support mechanization.

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Business Opportunities

Autonomous Harvesters: Startups and OEMs developing Al-based, GPS-enabled harvesting machines are drawing VC and ag-tech investor interest.

Retrofit Kits: Companies offering sensor-based retrofitting solutions for existing harvesters are opening new revenue streams.

Service Models (Harvest-as-a-Service): Emerging in regions where smallholder farmers cannot afford full ownership.

Data Platforms: Harvest analytics and yield mapping services that complement machinery use are being bundled into SaaS models.

Investment Trends

Increasing M&A activity by agricultural machinery giants to acquire robotics or AI-powered harvesting tech firms.

Venture capital funding for companies focused on specialty crop harvesters (e.g., fruits, nuts,

vineyards).

Strategic partnerships between OEMs and tech startups to integrate software with hardware platforms.

Market Segmentation

By Technology: Light Energy Harvesting, Vibration Energy Harvesting, Frequency Energy Harvesting, Thermal Energy Harvesting, Radio Frequency Energy Harvesting. By Components: Power Management Integrated Circuits, Storage System, Transducers, Sensors, Others.

By Application: Horticulture, Greenhouse, Crops, Others. By Region: North America, Europe, South America, Asia Pacific, Middle East, and Africa

Competitive Landscape:

Analog Devices, Inc EnOcean GmbH ABB Fujitsu Ag Leader Technology Keetronics (India) Pvt. Ltd. Microchip Technology Inc. Mide Technology Corp. E-Peas SA Powercast Corporation

Regional Outlook

North America

North America is expected to witness robust growth due to high labor costs, large farm sizes, and significant investment in agri-tech. Precision harvesting is becoming a standard practice across the U.S. and Canada, with farmers seeking higher yields and lower operational costs. Government support for smart farming and favorable policy environments are further contributing to regional growth.

Europe

Europe is seeing increased adoption of sustainable harvesting solutions. Environmental regulations and the EU's push for carbon neutrality in agriculture are prompting investments in electric and hybrid machinery. Countries like Germany, France, and the Netherlands are leading the adoption of advanced harvesting technologies, particularly for vegetable and fruit crops.

Asia-Pacific holds a significant share of the global market, driven by rapid mechanization in countries like China and India. Japan is a frontrunner in deploying intelligent robotic systems, particularly in specialty crop sectors. The region's diverse climate and agricultural practices create ample opportunity for a range of harvesting technologies.

Latin America and MEA

Emerging economies in Latin America and the Middle East & Africa are slowly transitioning to mechanized harvesting as part of broader agricultural modernization strategies. Government subsidies, foreign investments, and agricultural development programs are acting as catalysts in these regions.

Latest News – USA

In the U.S., harvesting technology is rapidly advancing with a focus on autonomous machinery. Notable progress includes the use of AI-powered strawberry harvesters in Florida and California that accurately identify and pick ripe fruit, improving productivity and reducing waste. In Washington, robotic apple pickers are being piloted with promising results in precision and gentle handling, further showcasing the potential of automation in fruit harvesting.

The sector is also seeing increased integration between robotics and controlled environment agriculture. A leading company recently acquired a robotics firm to boost its vertical farming capabilities, highlighting the convergence of smart farming and indoor harvesting technologies. These innovations position the U.S. as a major driver of precision harvesting solutions globally.

Latest News – Japan

Japan remains at the forefront of integrating robotics and AI in harvesting, driven by labor shortages and an aging farming population. A recent innovation includes a lidar-enabled strawberry-picking robot that operates efficiently in greenhouse environments, accurately identifying and harvesting ripe fruit with minimal human input. This reflects Japan's continued focus on precision and automation in agriculture.

In addition, drones have been deployed to transport harvested apples from remote orchards during emergencies, demonstrating their value beyond monitoring and spraying. Japanese tech firms are also partnering with universities and local governments to introduce semi-autonomous harvesters for rice and vegetables, enhanced with real-time data analytics to optimize harvest timing and boost productivity.

Conclusion

The harvesting technology market is set for steady and transformative growth. With advancements in robotics, AI, electrification, and sustainability, the industry is evolving from mechanical efficiency to data-driven precision. As labor shortages and climate concerns continue

to challenge global agriculture, the role of intelligent, autonomous, and environmentally friendly harvesting solutions will only become more vital.

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