Vertical Farming Automation System Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2026 - 2035

Market Report | 2026-01-27 | 220 pages | Global Market Insights

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Report description:

The Global Vertical Farming Automation System Market was valued at USD 817.1 million in 2025 and is estimated to grow at a CAGR of 6.5% to reach USD 1.53 billion by 2035.

Growth is driven by the need to maximize crop output in constrained spaces while reducing resource consumption. Vertical farming relies on stacked cultivation systems that allow higher yields with lower water usage and reduced dependency on chemical inputs. Automation plays a central role in improving productivity, consistency, and operational efficiency across these controlled environments. Supportive government initiatives and financial incentives that encourage sustainable farming practices further contribute to market expansion. Awareness of environmental benefits, such as water efficiency and reduced land use, strengthens adoption across regions. Advanced lighting technologies remain essential to vertical farming, as artificial illumination replicates optimal growth conditions for different crops. Modern LED solutions enable precise control of light intensity and spectrum while minimizing heat output, allowing closer placement to crops and improved space utilization. Dynamic lighting systems enhance growth cycles, improve yield quality, and support nutrient optimization throughout cultivation stages.

The lighting systems segment generated USD 208.3 million in 2025 and is expected to grow at a CAGR of 6.7% during 2026-2035. Demand rises alongside the need for accurate environmental management within vertical farms. Climate control solutions regulate temperature, humidity, and carbon dioxide levels to ensure uniform crop development. Advancements in intelligent climate management improve system efficiency while lowering operating costs. Lighting remains a critical component because it directly influences plant development, productivity, and quality. Energy-efficient LED technologies continue gaining preference due to their adaptability across crop types and growth phases.

The commercial segment is projected to grow at a CAGR of 93% from 2026 to 2035. Commercial operations increasingly depend on automation to support large-scale food production, reduce labor intensity, and maintain consistent crop quality. Technologies such as robotics, artificial intelligence, and connected systems support yield optimization and operational reliability.

United States Vertical Farming Automation System Market held 77% share, generating USD 320.1 million in 2025. Growth is supported by rising urbanization, demand for sustainable food systems, and the need to enhance agricultural efficiency. Increased adoption of urban farming solutions brings food production closer to consumption centers, reducing logistical complexity and

improving supply freshness.
Key companies operating in the Global Vertical Farming Automation System Market include Signify Holding, Danfoss, OMRON Corporation, Heliospectra, Swisslog, American Hydroponics, Priva, AutoStore, Jungheinrich, Artechno Growsystems, Green Automation, Modula USA, Logiqs, Arianetech, and TTA. Companies in the vertical farming automation system market strengthen their market position by investing in advanced automation technologies that improve precision, scalability, and energy efficiency. Many focus on integrating AI-driven monitoring systems to optimize growing conditions and reduce operational costs. Strategic partnerships with agricultural operators help accelerate system adoption and customization. Manufacturers emphasize modular system designs to support flexible deployment and future expansion. Continuous innovation in lighting, climate control, and data analytics enhances performance differentiation. Expanding global distribution networks and offering long-term technical support further reinforce customer confidence.

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