

Global Plant Factory Market Size Study & Forecast, by Facility Type (Indoor Farms, Greenhouses), by Growing System (Soil-Based, Non-Soil-Based, Hybrid) and Regional Forecasts 2025-2035

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Abstracts

The Global Plant Factory Market is valued at approximately USD 3.82 billion in 2024 and is poised to witness exponential expansion, reaching nearly USD 14.37 billion by 2035, progressing at a robust CAGR of 12.80% during the forecast period of 2025-2035. A plant factory refers to a highly controlled agricultural production system where crops are cultivated within enclosed environments using advanced technologies such as artificial lighting, climate control, and automated nutrient delivery. These systems are engineered to decouple food production from climatic volatility, allowing year-round, high-yield, and resource-efficient cultivation. The market's upward trajectory is being powered by rising global food demand, shrinking arable land, urban population growth, and the strategic need to strengthen food security through localized and resilient farming models.

The accelerating shift toward sustainable agriculture has further propelled investments into plant factory ecosystems, as stakeholders increasingly lean into technologies that cut down water usage, reduce pesticide dependency, and optimize land efficiency. Governments, agri-tech investors, and food producers are actively scaling up plant factory deployments to mitigate supply chain disruptions and address the environmental footprint of traditional farming. Moreover, advancements in LED lighting, IoT-enabled monitoring systems, and AI-driven crop management have dramatically improved productivity metrics, making plant factories not only technologically viable but also economically compelling. Nonetheless, high initial capital requirements and energy consumption challenges continue to act as friction points, particularly in cost-sensitive markets, moderating adoption rates during the early phases of the forecast period.

The detailed segments and sub-segments included in the report are:

By Facility Type:

Indoor Farms

Greenhouses

By Growing System:

Soil-Based

Non-Soil-Based

Hybrid

Indoor farms are expected to dominate the global plant factory market over the forecast horizon, accounting for a substantial share of installations worldwide. These facilities enable complete environmental control, allowing operators to fine-tune variables such as light spectra, temperature, humidity, and CO₂ levels to maximize yield consistency and crop quality. Indoor farms are particularly favored in densely populated urban centers where land scarcity and proximity to end consumers make vertical and enclosed farming economically attractive. While greenhouses continue to maintain relevance?especially in regions with favorable sunlight conditions?indoor farms are steadily pulling ahead as the preferred choice for high-value crops and year-round production cycles.

From a revenue leadership standpoint, non-soil-based growing systems currently generate the largest share within the plant factory market. Techniques such as hydroponics, aeroponics, and aquaponics have gained widespread traction due to their superior resource efficiency, faster growth cycles, and reduced risk of soil-borne diseases. These systems are increasingly being scaled up in commercial plant factories as operators seek to drive margins through higher output per square meter. At the same time, hybrid systems?blending soil and non-soil methodologies?are emerging as a fast-growing segment, offering operational flexibility and acting as a transition pathway for traditional growers moving toward advanced cultivation models.

Regionally, Asia Pacific stands out as a pivotal market for plant factories, driven by population density, limited arable land, and strong government backing for smart agriculture initiatives in countries such as Japan, China, and South Korea. North America follows closely, supported by venture capital investments, technological innovation, and rising consumer demand for fresh, locally grown produce. Europe continues to gain momentum through sustainability-focused policies and growing adoption of controlled environment agriculture. Meanwhile, Latin America and the Middle East & Africa are gradually entering the market landscape, supported by pilot projects and increasing awareness around food self-sufficiency and climate-resilient farming solutions.

Major market players included in this report are:

AeroFarms

Plenty Unlimited Inc.

Bowery Farming

Infarm

BrightFarms

Spread Co., Ltd.

Mirai Co., Ltd.

Gotham Greens

Sky Greens

Freight Farms

Vertical Harvest

Green Sense Farms

Eden Green Technology

Urban Crop Solutions

Everlight Electronics

Global Plant Factory Market Report Scope:

Historical Data ? 2023, 2024

Base Year for Estimation ? 2024

Forecast period ? 2025?2035

Report Coverage ? Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope ? North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope ? Free report customization (equivalent to up to 8 analysts? working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define the market size of the Global Plant Factory Market across different segments and regions in recent years and to forecast its evolution over the coming decade. The report is structured to integrate both qualitative insights and quantitative analysis, offering a comprehensive view of market drivers, technological inflection points, and operational challenges. It further provides a detailed assessment of competitive dynamics, strategic initiatives adopted by leading players, and emerging micro-markets that present attractive investment opportunities for stakeholders across the value chain.

Key Takeaways:

Market Estimates & Forecast for 10 years from 2025 to 2035.

Annualized revenues and regional-level analysis for each market segment.

Detailed analysis of the geographical landscape with country-level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of the competitive structure of the market.

Demand side and supply side analysis of the market.

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