

Urban Vertical Farming Market Forecasts to 2034 – Global Analysis By Component (Lighting Systems, Climate Control Systems, Growing Mediums, Irrigation Systems and Other Components), Type, Crop Type, Technology, Application and By Geography

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Abstracts

According to Statistics MRC, the Global Urban Vertical Farming Market is accounted for \$8.35 billion in 2026 and is expected to reach \$19.81 billion by 2034 growing at a CAGR of 11.4% during the forecast period. Urban vertical farming is an advanced agricultural approach that involves cultivating crops in stacked layers or vertically inclined systems within controlled urban environments. It typically integrates hydroponics, aeroponics, or aquaponics with artificial lighting and climate-controlled infrastructure to maximize space efficiency and year-round productivity. By bringing food production closer to consumers, the method reduces land use, transportation costs, and supply chain emissions. Urban vertical farming supports sustainable city development by enabling fresh, high quality produce cultivation in limited spaces, enhancing food security and resource efficiency in densely populated regions.

Market Dynamics:

Driver:

Rapid urbanization and shrinking arable land

Accelerating urban expansion and the steady decline of cultivable land are significantly propelling the urban vertical farming market. As cities grow denser and traditional farmland becomes scarce, controlled environment agriculture offers a practical solution to maintain food supply close to consumption centers. Vertical farming enables high-

yield production within compact urban spaces, reducing dependence on rural agriculture. This structural shift toward space-efficient cultivation is strengthening investment momentum and accelerating adoption across major metropolitan regions worldwide.

Restraint:

High urban real estate and facility maintenance costs

Despite its strong potential, the market faces notable constraints from elevated urban real estate prices and ongoing facility maintenance expenses. Establishing vertical farms in prime city locations requires substantial capital outlay for infrastructure, climate control, and advanced lighting systems. Additionally, continuous energy consumption and technical upkeep increase operational costs. These financial pressures can extend payback periods and limit entry for smaller operators, thereby moderating large scale deployment, particularly in cost-sensitive and developing urban economies.

Opportunity:

Rising demand for fresh, locally produced food

Growing consumer preference for fresh, pesticide-free, and locally sourced produce is creating strong opportunities for urban vertical farming. Health-conscious urban populations increasingly value traceable food with minimal transportation time and reduced environmental impact. Vertical farms can supply consistent, year-round harvests directly to city markets, restaurants, and retailers. This shift in consumption patterns, combined with expanding farm-to-table movements and sustainability awareness, is opening new revenue streams and encouraging retailers and investors to support localized agriculture initiatives.

Threat:

Technical complexity and integration challenges

Urban vertical farming systems involve sophisticated integration of automation, lighting, nutrient delivery, and climate management technologies, creating notable technical risks. Operational efficiency depends heavily on precise system calibration and skilled workforce management. Any failure in environmental controls can quickly impact crop yield and quality. Additionally, integrating new digital and AI-driven solutions with legacy

infrastructure can be complex and costly. These technological barriers may slow adoption among traditional growers and increase dependency on specialized expertise.

Covid-19 Impact:

The COVID-19 pandemic highlighted vulnerabilities in global food supply chains, indirectly accelerating interest in urban vertical farming. Movement restrictions and logistics disruptions increased awareness of localized food production benefits. Investment in controlled environment agriculture strengthened as retailers and governments prioritized food security and supply resilience. However, the sector also faced short-term setbacks from project delays, labor shortages, and capital constraints during the early pandemic phase.

The leafy vegetables segment is expected to be the largest during the forecast period

The leafy vegetables segment is expected to account for the largest market share during the forecast period due to its strong suitability for controlled-environment cultivation and short growth cycles. Crops such as lettuce, spinach, and kale thrive in vertical farming systems with predictable yields and minimal resource input. Their high market demand, quick harvest turnover, and premium pricing potential make them economically attractive for operators. Consequently, producers continue prioritizing leafy greens to maximize productivity and revenue stability.

The aquaponics segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the aquaponics segment is predicted to witness the highest growth rate due to its integrated and resource-efficient production model. By combining fish cultivation with plant farming in a closed-loop ecosystem, aquaponics minimizes water usage and reduces reliance on synthetic fertilizers. Increasing interest in circular agriculture and sustainable protein sources is accelerating adoption. Technological improvements in system design and growing investor focus on environmentally responsible farming solutions are further supporting rapid expansion of aquaponics-based vertical farms.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share due to robust investment activity, and early commercialization of vertical

farming solutions. The region benefits from advanced controlled-environment agriculture expertise, supportive venture funding, and high consumer demand for premium fresh produce. Additionally, the presence of leading vertical farming companies and well-developed retail distribution networks continues to reinforce North America's dominant position in the global urban vertical farming landscape.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR owing to rapid urban population growth, increasing food security concerns, and limited arable land availability in major economies. Governments across the region are actively promoting smart agriculture and urban food resilience initiatives. Rising disposable incomes and expanding demand for safe, locally grown produce further support market momentum. These structural drivers, combined with growing technology investments, position Asia Pacific as the fastest-growing regional market.

Key players in the market

Some of the key players in Urban Vertical Farming Market include AeroFarms, Infarm, Freight Farms Inc., Intelligent Growth Solutions (IGS), Urban Crop Solutions, Kalera Public Limited Company, Plenty Unlimited Inc., CropOne Holdings Inc., AppHarvest Inc., BrightFarms, Eden Green Technology, Green Sense Farms Holdings Inc., 80 Acres Farms, Lufa Farms and Vertical Future Ltd.

Key Developments:

In December 2025, AeroFarms announced it will continue operations and maintain microgreens supply after securing new funding from an existing stakeholder. The update follows earlier concerns over potential shutdown triggered by investor withdrawal. The company will keep production running while exploring strategic alternatives and stabilizing operations.

In February 2023, AeroFarms and Saudi Arabia's Public Investment Fund (PIF) formed a joint venture to build and operate advanced indoor vertical farms across Saudi Arabia and the wider MENA region. The initiative aims to enhance local food production using smart AgTech, enabling year-round, high-quality crop output with significantly reduced water usage.

Components Covered:

Lighting Systems

Climate Control Systems

Growing Mediums

Irrigation Systems

Other Components

Types Covered:

Hydroponics

Aeroponics

Aquaponics

Other Types

Crop Types Covered:

Leafy Vegetables

Herbs

Fruits

Microgreens

Other Crop Types

Technologies Covered:

Automated Systems

Controlled Environment Agriculture (CEA)

Smart Farming & IoT Integration

Artificial Intelligence & Robotics

Applications Covered:

Residential

Commercial

Research & Educational Institutions

Retail & Restaurants

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

§ Saudi Arabia

§ United Arab Emirates

§ Qatar

§ Israel

§ Rest of Middle East

Africa

§ South Africa

§ Egypt

§ Morocco

§ Rest of Africa

What our report offers:

Urban Vertical Farming Market Forecasts to 2034 – Global Analysis By Component (Lighting Systems, Climate Cont...

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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