

Smart Indoor Gardening Systems Market Assessment, By Type [Floor Garden, Wall Garden, Others], By End-use [Residential, Commercial], By Technology [Self-watering, Smart Sensing, Smart Pest Management, Others], By Distribution Channel [Online and Offline], By Growing Type [Hydroponics, Aeroponics, Aquaponics, Soil-Based, Others], By System Type [LED Grow Lights, Automatic Watering Systems, Nutrient Delivery Systems, Environmental Monitoring Systems], By Crop Type [Fruits and Vegetables, Herbs and Microgreens, Flowers and Ornamentals], By Region, Opportunities and Forecast, 2018-2032F

Market Report | 2025-02-19 | 237 pages | Market Xcel - Markets and Data

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# Report description:

Global smart indoor gardening systems market is projected to witness a CAGR of 7.15% during the forecast period 2025-2032, growing from USD 1.24 billion in 2024 to USD 2.15 billion in 2032. Over the past years, the global smart indoor gardening system market has undergone massive growth due to factors such as adverse climate changes, rapid urbanization, technological advancements, and growing environmental concerns. Integrating futuristic technologies such as IoT, AI, and automation enables users to grow plants, herbs, and vegetables within confined indoor spaces. Furthermore, urban dwellers are switching to these systems because of their features such as self-watering, pest management, smart lighting, and climate control, ensuring optimal plant growth infused with water, oxygen, and nutrients with minimal human intervention.

The rising popularity of hydroponics, smart nutrition, and controlled-environment agriculture has also contributed to the boosting

demand for smart indoor gardens, which allow the year-round harvest of fruits and vegetables without dependency on favorable weather conditions.

Further, the rising innovation in smart indoor gardening systems, the growing interior design industry globally, and increased demand for better yields are estimated to offer huge growth opportunities.

The modern consumers are informed like never before. They know what they are consuming and the air they are breathing. They are highly interested in health, organic foods, and sustainable lifestyles. The COVID-19 pandemic also catapulted the shift toward smart indoor gardening systems. With restrained access to food and the absence of rushed lifestyles, consumers engage in eco-friendly activities such as gardening and growing organic foods to ensure food security.

The interior design industry has been booming lately, and consequently, consumers have developed a strong inclination toward aesthetic and earthly designs. This preference for compact, aesthetically appealing designs, more pronounced among urban populations, fits perfectly into modern homes and commercial spaces.

The influx of product innovations, such as Al-powered systems, wireless connectivity integration, sensor-based technologies, and mobile applications, enhances the overall gardening experience. While high initial costs and limited awareness in developing regions create obstacles, the trail of advancements and rising environmental concerns are anticipated to contribute to market growth significantly.

At CES 2023, Rise Gardens, a US-based, award-winning giant in home hydroponic garden systems, unveiled a fully modular garden capable of growing up to 108 different plants concurrently. The unconventional system nurtures crop such as leafy greens, herbs, root vegetables, vining plants, and flowering crops such as tomatoes and peppers.

Increasing Urbanization Steering the Smart Indoor Gardening Systems Market Growth

Around 56% of the world's population, i.e., 4.4 billion people, live in urban cities. The trend is forecasted to prevail, with the urban population more than doubling its current size by 2050. Additionally, as per the United Nations, nearly 68% of the world population is projected to live in urban areas by 2050.

With rapid urbanization and industrialization, green spaces have been scarce, making traditional gardening demanding for city dwellers. While there has been a growing penetration of compact apartments and skyscrapers, they often lack backyard areas or spaces suitable for gardening. This absence, along with hampering individuals from growing their plants, fruits, and vegetables, deprives them of natural surroundings and fresh air.

Smart indoor gardening systems are emerging as an effective solution to the above, as these systems are curated to optimize small indoor spaces, enabling users to grow plants within their desired spaces. Their modular and compact designs make them adaptable to urban settings, while features such as vertical gardening or stackable units boost space efficiency.

These systems also improve food security in urban domains by empowering individuals to grow fresh, organic, pesticide-free products yearly. Hydroponics and controlled environment agriculture have nurtured the demand for smart indoor gardens as they enable the year-round harvest of fruits and vegetables, eliminating the challenge of adverse climates, a hurdle extremely common with traditional farming.

The escalating awareness of urban farming, clubbed with the need for sustainable living in cities, has significantly skyrocketed the demand for these systems. Governments and NGOs promoting urban agriculture initiatives further bolster this trend and make smart indoor gardening an integral part of the future urban lifestyle.

Aesthetics and Mental Wellbeing Catalyzing the Growth in the Market

Aesthetics play a pivotal role in driving the growth of the global smart indoor gardening systems market. Modern consumers seek products that deliver performance and value design that complements their living spaces. Smart indoor gardening systems intricately blend functionality with consumer appeal. Along with encompassing cutting-edge technologies for plant care, these systems now possess a first-mover advantage by offering stylish and elegant designs that stay in sync with contemporary interior aesthetics.

Smart homes and aesthetic appeal have become a sweeping trend over the past few years, and the comfort and visual appeal they offer captivate potential consumers. Minimalist designs, custom color palettes, and compact structures cater to the demands of urban dwellers who want utility without compromising their vision of a beautiful space. Moreover, aesthetics also intensifies the emotional connection between consumers and their products. Indoor gardens featuring LED grow lights, customizable settings, and accentuate the soothing ambiance consumers seek.

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In an era where emotional resonance, wellness, and sustainability remain top priorities when building homes, smart indoor garden systems have become the medium that reflects and fulfils those personal values and tastes.

Younger consumers, comprising millennials and Gen Z, highly favor modest yet modish interiors. The combination of utility and aesthetics that smart gardening indoor systems provide these consumers is what draws them.

On the mental health front, indoor gardening systems provide a unique way to combat stress and promote calmness. According to the American Psychological Association 2022 study, over three-quarters of adults reported symptoms of stress, including headache, tiredness, and depression.

According to a study by the National Institute of Health, active interaction with indoor plants can alleviate physiological and psychological stress by reducing sympathetic nervous system activity, lowering diastolic blood pressure, and promoting a sense of comfort and calmness. As consumers become incredibly aware of these comprehensive health benefits, they are incorporating greenery into their spaces for a therapeutic environment around them.

Apart from the intrinsic relief nature offers, system features such as automatic watering, optimized light cycles, and reminders remove the stress of plant care, making it a rewarding and accessible activity even for those who are always on the go. Moreover, these systems often find their way into relaxing spaces, such as living rooms and bedrooms, further amplifying their mental health benefits.

In April 2024, Vertefarm unveiled its innovative hydroponic micro plant factory that smoothly integrates aesthetic appeal with smart and practical functionality. Vertefarm leverages innovative vertical surface planting and root cyclic drip irrigation technologies to ensure healthy plant growth by providing ample contact with water and air.

Hydroponic Systems Gaining Utmost Traction in the Smart Indoor Gardening Systems Market

Hydroponic systems such as NFT (nutrient film technique) and deep-water float systems are nutritional solutions that enable plant growth without soil and are witnessing an unprecedented boom in the growth of smart indoor gardening market systems. With efficient water usage and the ability to produce higher yield compared to soil-based methods, they are notably favored among consumers on the lookout for sustainable and low-maintenance gardening options. Therefore, hydroponics is poised to remain a dominant segment, strengthened by the support of ongoing innovations and increasing consumer awareness.

In November 2024, Grow Generation, the United States' largest hydroponic and organic gardening retailer, launched three premium product lines across categories, including grow lighting, essential accessories, and mediums for indoor cultivation and greenhouse hydroponics.

North America Dominates the Smart Indoor Gardening Systems Market

North America is the frontrunner in the global smart indoor gardening systems market, owing to the rising disposable income, changing consumer behavior, rising preference for organic and locally sourced produce, and growing adoption of smart technologies.

The United States holds a prominent share of the market. According to Secure Data Recovery data, 6.9% of American households were using smart technology in 2015, which skyrocketed to an impressive 22.3% in 2023. Additionally, 39% of individuals use climate control technology.

Future Market Scenario (2025

☐2032F)

- □ Advancements in IoT and AI will continue to enhance smart indoor gardening systems, offering new features for improved plant health.
- ☐Growing affinity toward home gardening and sustainable living choices will augment the adoption of smart indoor gardening systems.
- Madverse climatic conditions and demand for local and organic food will boost the market growth.
- □Indoor gardening will become a staple stress-relieving and therapeutic activity.
- $\hfill \square$  Brands will focus on product diversification, catering to the diverse needs of consumers.
- □ E-commerce platforms will accelerate the adoption and access to smart indoor gardening systems.

Key Players Landscape and Outlook

Intense competition, dynamic innovations, and strategic collaborations characterize the global smart indoor gardening system market. Key players such as Click and Grow and AeroFarms are pushing the boundaries with Al-powered and automated solutions and sustainability-centric designs. Furthermore, partnerships between technology firms, design firms, and home improvement

brands are revolutionizing smart gardening ecosystems.

Market players are leveraging personalized designs and modular systems to cater to diverse consumer preferences, ensuring that their products resonate with varied cultural aesthetic sensibilities across the globe.

In July 2024, Bosch announced its biggest acquisition, buying Johnson Controls' HVAC businesses and the Johnson Controls-Hitachi joint venture for USD 8 billion. The move will double Bosch's Home Comfort Revenue, strengthening Bosch's innovative energy solution, especially in the USA and Asia.

In September 2024, Gotham Greens unveiled a 55,000-square-foot expansion in Pullman, amplifying its footprint by one-third. The company is piloting spinach cultivation alongside its year-round hydroponic basil and lettuce. With this addition, Gotham Greens uses advanced technology and operates 230,000 square feet of greenhouse space across two Pullman sites.

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