

Agritech Sector in the UAE

The United Arab Emirates (UAE) has placed food security at the forefront of its national priorities, addressing challenges posed by its arid climate, limited freshwater resources, and dependence on imports. By integrating innovation, sustainability, and advanced logistics into its strategies, the UAE has emerged as a leader in agrifood logistics and a key player in the Gulf region's transformation of cold chain infrastructure.

About Europhia Consulting

Europhia Consulting specializes in strategic and operational consultancy services in supply chain, logistics, and distribution in the UAE and Europe. The company works across industries such as food, retail, and life sciences, offering tailored solutions to establish and optimize regional distribution and logistics processes.

Author: Eelco Dijkstra

Europhia Consulting, Dubai, UAE

1. UAE Government Initiatives:

Advancing Food Security

The UAE Government has adopted a forward-thinking and innovative approach to tackle food security challenges, focusing on fostering sustainability, leveraging advanced technologies, and reducing import reliance. Central to these efforts is the **National Food Security Strategy 2051**, a comprehensive framework aimed at transforming the nation's food systems to ensure a stable food supply and achieve agricultural resilience.

Key Areas of Focus:

- 1. Blockchain-Enabled Food Traceability** Blockchain technology plays a pivotal role in ensuring transparency and efficiency across the food supply chain. By enabling precise tracking of food products back to their origins, blockchain helps maintain high safety and quality standards while building trust in locally produced and imported goods. This also minimizes the risk of food fraud and contamination.
- 2. Climate-Controlled Logistics** To mitigate the challenges of the UAE's arid climate, the government invests significantly in climate-controlled logistics systems. These technologies maintain the quality of perishable goods during transport and storage, reducing waste and ensuring a consistent supply of fresh produce for consumers.
- 3. Agritech Investments** The UAE places substantial emphasis on fostering agritech innovation. Projects such as **Emirates Crop One** managing Bustanica, the world's largest vertical farm, demonstrate the nation's commitment to integrating advanced farming techniques like vertical farming and hydroponics. These initiatives are critical for producing locally grown crops and conserving vital resources, such as water.
- 4. Support for Early-Stage Agritech Ventures** The **Abu Dhabi Investment Office (ADIO)** has established a \$200 million fund dedicated to supporting early-stage agritech companies. This funding promotes the development of innovative solutions, including vertical farming, hydroponics, and patented food-tracking technologies. These initiatives are instrumental in enhancing local food production capabilities and fostering regional expertise.

By integrating cutting-edge technologies, fostering investment in agritech, and implementing sustainable practices, the UAE is positioning itself as a global leader in addressing food security challenges. Government-backed initiatives, such as those driven by the ADIO, not only stimulate innovation but also reduce the nation's dependence on food imports, paving the way for a resilient agrifood ecosystem.

2. Agritech and Sustainable Food Production

Producing food sustainably in the Middle East is inherently challenging due to the desert climate and limited fertile land. In response, the UAE has embraced agritech solutions, incorporating innovations such as hydroponics, vertical farming, automation, and smart irrigation systems. These advancements address efficiency and productivity gaps, enhancing food security by enabling domestic cultivation of crops like blueberries, tomatoes, and lettuce. Investments in water-efficient methods are also reducing reliance on food imports.

2.1 Market Trends in Vertical Farming

The vertical farming market in the Middle East and Africa is experiencing remarkable growth. Projections estimate its value will increase from USD 1.15 billion in 2024 to approximately USD 3.71 billion by 2029, with a compound annual growth rate (CAGR) of 26.4%. This growth is driven by the region's increasing demand for sustainable food production and population growth, coupled with pressing food security needs.

The UAE leads vertical farming efforts in the region. A prime example is Bustanica, the world's largest vertical farm, located in Dubai South. Spanning 330,000 square feet, the facility produces 1 million kilograms of salad crops annually while conserving 250 million litres of water using a closed-loop system. Other notable projects include Emirates Crop One and Emirates Flight Catering.

Through strategic investments in agritech and cold chain infrastructure, the UAE has solidified its position as a pioneer in food security and sustainable agricultural practices in the GCC. By championing vertical farming and innovative solutions, the region is making significant strides toward addressing food security challenges and creating a more resilient agrifood ecosystem.

2.2 Leading Vertical Farming Innovators in the UAE

Below a list of 20 prominent companies driving advancements in vertical farming across the UAE:

- 1. AeroFarms:** Operates a 65,000-square-foot vertical farm in Abu Dhabi, specializing in aeroponics technology to enhance sustainability and efficiency.
- 2. Crop One:** Manages "Bustanica" in Dubai, the world's largest vertical farm spanning 330,000 square feet and producing over 1 million kilograms of salad crops annually.
- 3. Kalera Farms:** Focuses on hydroponic farming with plans to expand operations further in the Middle East region.
- 4. Pure Harvest Smart Farms:** Implements cutting-edge greenhouse technology to tackle challenges in desert farming, based in Abu Dhabi.
- 5. Madar Farms:** Utilizes hydroponic and vertical farming methods to cater to Dubai's growing demand for fresh, local produce.
- 6. Mowreq:** Emerging in Saudi Arabia, this company blends advanced agricultural technology with vertical farming innovations.
- 7. Armela Farms LLC:** Adapts vertical farming techniques to address the unique environmental challenges of the Middle East.
- 8. iFarm:** Provides smart farming solutions and leverages AI to optimize operations, now expanding its presence in the UAE.
- 9. AgriCool:** Champions urban farming in Dubai with a focus on sustainability and locally grown produce.
- 10. Greenhouse Ventures:** Pioneers innovative vertical farming strategies from its UAE base to support regional food security goals.
- 11. Vertical Field:** Specializes in modular farming systems designed for urban environments, increasing space efficiency.
- 12. Sky Greens:** Offers modular vertical farming solutions and aims to scale its initiatives across the Middle East.
- 13. Urban Crop Solutions:** Develops automated vertical farming technologies to streamline production processes in the UAE.
- 14. Hydroponics UAE:** Concentrates on advancing urban agriculture systems and water-efficient cultivation practices.
- 15. Future Crops:** A Netherlands-based company expanding to the UAE, bringing expertise in high-tech indoor farming.
- 16. FreshBox Farms:** Features modular farming systems for localized food production, aligning with the UAE's sustainability goals.
- 17. Vertical Harvest:** Promotes community-centred vertical farming initiatives, fostering collaboration and innovation in the UAE.
- 18. Local Roots Farms:** Provides modular farming solutions tailored to meet the Middle Eastern market's unique demands.
- 19. FarmedHere:** Focuses on organic and sustainable urban farming, targeting the UAE's expanding agritech sector.
- 20. ZERO FARMS:** Applies vertical farming techniques to grow crops in stacked layers, now extending its operations to the UAE.

3. UAE Market Opportunities and Growth Segments

The UAE’s agrifood logistics market is experiencing significant growth, driven by strategic investments, technological advancements, and increasing demand for sustainable food systems. Key growth segments include:

1. **Cold Chain Logistics** The UAE is heavily investing in climate-controlled logistics systems to ensure the safe transport and storage of perishable goods. These systems are vital for maintaining food quality and reducing spoilage, especially given the region's extreme temperatures. Cold chain logistics also support the growing demand for fresh produce and dairy products.
2. **Vertical Farming and Agritech Solutions** The rise of vertical farming and hydroponics is transforming the UAE’s agricultural landscape. These innovative methods enable local production of fruits, vegetables, and herbs, reducing reliance on imports. Agritech companies are leveraging automation, data analytics, and smart irrigation systems to enhance efficiency and sustainability.
3. **Blockchain-Enabled Supply Chains** Blockchain technology is being integrated into food supply chains to improve traceability and transparency. This ensures food safety, minimizes fraud, and builds consumer trust in locally produced and imported goods. Blockchain also facilitates efficient inventory management and reduces operational costs.
4. **E-Commerce and Online Food Delivery** The UAE’s growing e-commerce sector is reshaping food distribution channels. Online platforms are increasingly catering to consumer preferences for convenience and variety, driving demand for efficient logistics solutions. This segment has seen accelerated growth due to changing lifestyles and the impact of the COVID-19 pandemic.
5. **Warehousing and Distribution Services** Advanced warehousing facilities are being developed to support the storage and distribution of agricultural products. These facilities incorporate automation and climate control technologies to optimize operations and meet the needs of a growing population.
6. **Export and Import Logistics** As a global trade hub, the UAE is enhancing its logistics infrastructure to facilitate the import and export of food products. Investments in ports, airports, and transportation networks are enabling seamless movement of goods across borders, strengthening the country’s position in international agrifood trade.
7. **Sustainability Initiatives** The UAE is prioritizing sustainable practices in agrifood logistics, such as reducing carbon emissions and optimizing resource usage. Renewable energy solutions and eco-friendly packaging are being adopted to align with global sustainability goals.

These growth segments highlight the UAE’s commitment to building a resilient and innovative agrifood logistics ecosystem.



4.1 UAE Cold Chain Logistics Market

According to the Mordor Intelligence Cold Chain Logistics Market Report, the UAE Cold Chain Logistics Market size is estimated at USD 0.71 billion in 2025, and is expected to reach USD 1.15 billion by 2030, at a CAGR of 10.29% during the forecast period (2025-2030).

In the UAE, cold chain logistics plays a crucial role in supporting the agritech sector, ensuring the safe and efficient transportation and storage of perishable goods, particularly fresh produce, and is vital for food security and sustainability. Efficient cold chain logistics can reduce food waste and improve the sustainability of the food supply chain.

Achieving this goal necessitates not only advances in agriculture with agritech, but also the concurrent development and expansion of supporting industries such as logistics and transportation. While agriculture will help to increase the agricultural output in the region, a well-functioning and efficient supply chain is required to ensure the smooth transportation of all that output from farms to consumers. Investments in modern transportation infrastructure, cold storage facilities, and streamlined distribution networks are critical for reducing post-harvest losses and ensuring timely delivery of food products.

4.2 Free Zones and Companies Supporting UAE Agrifood Growth with Cold Chain Logistics

The UAE has established a robust network of free zones and companies that play a pivotal role in advancing the agricultural and food sectors through cold chain logistics. These entities provide state-of-the-art infrastructure, innovative solutions, and strategic support to ensure the efficient handling, storage, and transportation of perishable goods. Below is an elaboration on the key players:

1. Strategically located between Abu Dhabi and Dubai, the **Abu Dhabi Food Hub at KEZAD** (Khalifa Economic Zones Abu Dhabi) is a comprehensive ecosystem designed to facilitate wholesale trade and logistics across all food categories. Spanning 3.3 square kilometres, the hub integrates advanced cold chain facilities to maintain optimal conditions for perishable goods such as fruits, vegetables, seafood, and dairy. It also houses on-site customs, food control authorities, and laboratories, ensuring seamless operations and compliance with food safety standards.

The hub is a joint venture between **AD Ports Group and Ghassan Aboud Group**, in collaboration with Rungis International Market, and is a cornerstone of the UAE's food security agenda. Abu Dhabi Food Hub – KEZAD is a one-stop-shop integrated ecosystem to facilitate wholesale trade and logistics across all food categories. An integrated ecosystem comprising trading pavilions, logistics providers, cold and dry warehouses, government support services and commercial support services.



- The ADQ AgTech Park** is a cutting-edge initiative aimed at transforming the UAE's agricultural landscape. Located in KEZAD and Al Ain Industrial City, the park focuses on controlled-environment agriculture, including vertical farming and hydroponics. In partnership with technology companies like ZERO, the park integrates advanced cold chain logistics to support the production and distribution of fresh produce. The park's facilities are designed to enhance local food production, reduce water usage, and shorten supply chains, aligning with the UAE's sustainability goals. At full scale, the park is expected to contribute significantly to the UAE's agricultural GDP.
- Jebel Ali, operated by DP World**, is the largest seaport in the Middle East and a critical hub for cold chain logistics. The port features state-of-the-art cool and cold storage facilities with temperature ranges from -29°C to +20°C, catering to a wide variety of perishable goods, including fresh produce, and dairy products. DP World's logistics solutions also include advanced tracking systems and AI-driven platforms to optimize supply chain efficiency. The port's strategic location and connectivity to global markets make it a vital player in supporting the UAE's agrifood sector. DP World collaborates with industry leaders like Americold (temperature-controlled warehousing and logistics) and Prime Aquaculture (marine shrimp RAS farm) to enhance food supply chains.
- Al Ain** serves as a key agricultural hub within the UAE, leveraging its strategic location and infrastructure to support cold chain logistics. The city is home to several facilities specializing in the storage and transportation of temperature-sensitive goods. Companies in Al Ain focus on integrating modern technologies, such as real-time temperature monitoring and eco-friendly packaging, to ensure the integrity of perishable products. These efforts contribute to the region's role in enhancing food security and supporting local agricultural production.

These free zones and companies exemplify the UAE's commitment to fostering innovation and sustainability in the agrifood sector. By investing in advanced cold chain logistics, they are not only addressing the challenges of the region's climate but also positioning the UAE as a global leader in food security and agricultural technology.



5. AgriTech Funding Programs

The Abu Dhabi Investment Office (ADIO) has allocated a \$200 million fund to support early-stage agritech ventures, fostering innovation in vertical farming, hydroponics, and patented tracking technologies.

The Emirates Development Bank (EDB) has launched UAE's first-of-its-kind financing initiative designed to support the country's vital food security sector. With a commitment to fostering agricultural innovation and enhancing food sustainability, EDB is allocating AED 100 million in financing support to empower farms, local growers, and food suppliers.

The AgriTech Loans Program aims to enable a sustainable and thriving national agriculture sector, positioning the UAE as a global leader in agricultural technology. By providing competitive and accessible financing solutions, EDB aims to facilitate the adoption of advanced technology and cutting-edge solutions in the agricultural industry.



6. The UAE's Cold Chain Logistics Sector: Transformation and Market Outlook

The UAE's cold chain logistics sector is undergoing a remarkable transformation, fuelled by advancements in technology, infrastructure development, and strategic investments. This evolution is closely tied to the broader trend of increasing foreign direct investment (FDI) in the UAE, which reached USD 22.73 billion in 2022. This surge in FDI reflects strong investor confidence in the UAE's logistics capabilities and its strategic position as a global trade hub.

6.1 Foreign Direct Investment and Market Confidence

The UAE's ability to attract substantial FDI is a testament to its investor-friendly policies, world-class infrastructure, and strategic initiatives. In 2022, the country ranked first in FDI inflows in the MENA region, accounting for 32.4% of the total. This influx of foreign capital is driving growth across key sectors, including logistics, agritech, and renewable energy.

6.2 Market Outlook Until 2030

The UAE's cold chain logistics market is poised for significant growth, with projections indicating a compound annual growth rate (CAGR) of 10.29% from 2025 to 2030. The market size is expected to increase from USD 0.71 billion in 2025 to USD 1.15 billion by 2030. Key factors contributing to this growth include:

- **Rising Demand for Temperature-Controlled Logistics:** Driven by the food and beverage sector, which saw consumer spending reach USD 58.98 billion in 2022.
- **E-Commerce Growth:** The surge in online retail is creating new opportunities for cold chain logistics, particularly in last-mile delivery solutions

The UAE's cold chain logistics sector is set to play a pivotal role in the nation's economic diversification and global trade ambitions. By leveraging technological advancements, enhancing infrastructure, and attracting foreign investment, the UAE is positioning itself as a leader in temperature-controlled logistics. This growth trajectory aligns with the country's broader vision for sustainable development and innovation.



7. Transportation Segment in the UAE Cold Chain Logistics Market

The transportation segment is anticipated to lead growth within the UAE cold chain logistics market, with a projected expansion rate of approximately 11% between 2024 and 2029, according to the Mordor Intelligence Cold Chain Logistics Market Report. This rapid advancement is fuelled by the widespread adoption of multi-temperature-controlled vehicles, innovative tracking systems, and the surging demand for efficient last-mile delivery services.

This segment's growth is further supported by significant investments in the expansion of temperature-controlled fleets and advancements in vehicle monitoring technologies.

Industry stakeholders are increasingly prioritizing sustainability by integrating electric vehicles and solar-powered refrigeration units into their operations. Additionally, the adoption of advanced route optimization technologies plays a crucial role in improving delivery efficiency while ensuring the integrity of temperature-sensitive goods throughout the logistics process.



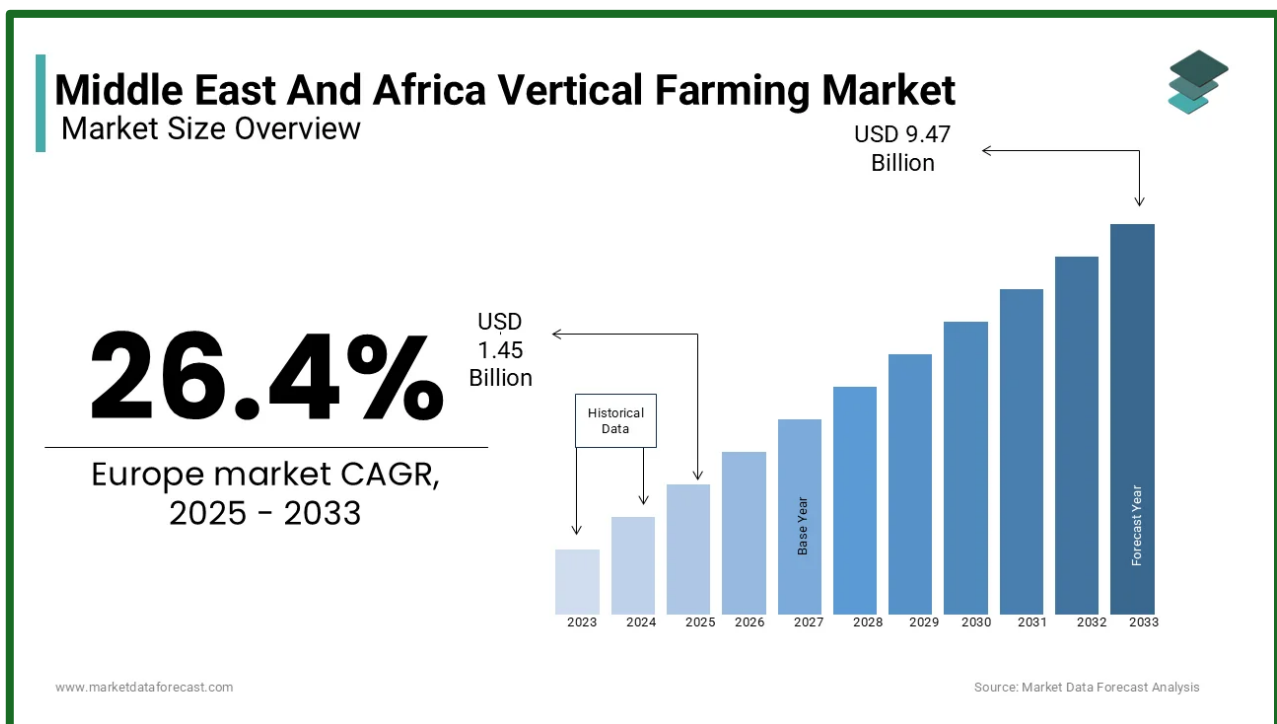
8. In Summary - Agritech and Cold Chain Logistics

The UAE has strategically positioned itself as a global leader in agritech and cold chain logistics, addressing food security challenges in the region through innovation, sustainability, and infrastructure development. These sectors are undergoing significant transformation, driven by robust investments, government initiatives, and technological advancements.

8.1 Sector

The UAE's agritech industry is a cornerstone of its **National Food Security Strategy 2051**, which emphasizes sustainable, innovative agricultural practices to combat the region's arid climate and reliance on imports. Key highlights include:

- Vertical Farming:** Pioneering initiatives, such as Emirates Crop One's Bustanica, the world's largest vertical farm, are transforming the agricultural landscape. These projects utilize advanced hydroponics, automation, and water-efficient technologies to boost local crop production.
- Government Support:** The Abu Dhabi Investment Office (ADIO) has allocated a \$200 million fund to support early-stage agritech ventures, fostering innovation in vertical farming, hydroponics, and patented tracking technologies.
- Market Growth:** The vertical farming market in the Middle East and Africa is projected to grow at a CAGR of 26.4%, increasing from USD 1.15 billion in 2024 to USD 3.71 billion by 2029.



8.2 Cold Chain Logistics

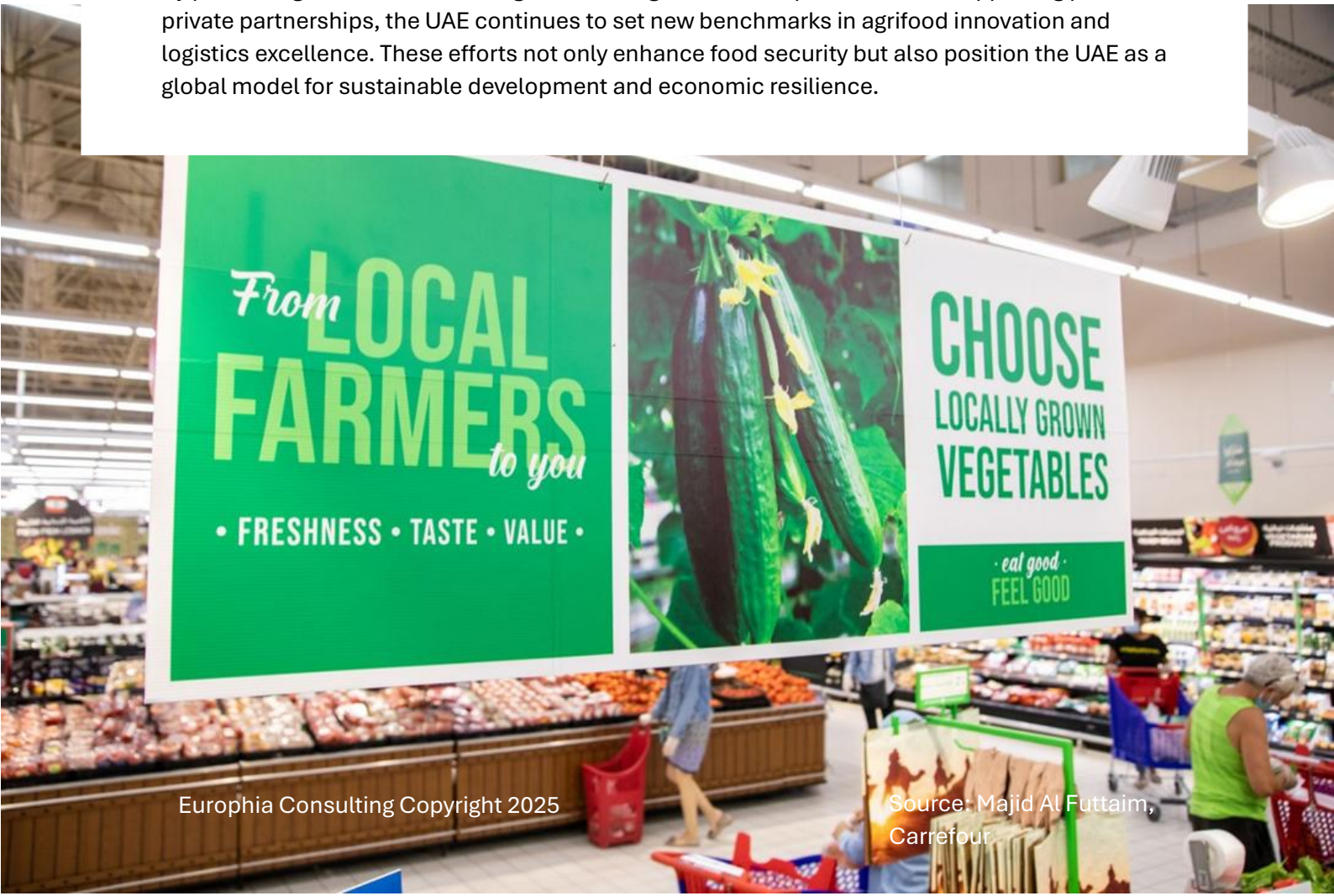
The cold chain logistics market in the UAE is evolving to meet the demands of food security, agritech expansion, and growing consumer needs. Key drivers include:

- **Infrastructure Development:** Investments in climate-controlled logistics hubs, such as the Abu Dhabi Food Hub – KEZAD and DP World’s facilities in Jebel Ali, ensure the seamless storage and distribution of temperature-sensitive goods.
- **Technological Advancements:** The integration of AI, blockchain, IoT, and multi-temperature controlled vehicles is enhancing transparency, efficiency, and product integrity across the supply chain.
- **Sustainability:** Companies are adopting electric vehicles, solar-powered refrigeration units, and route optimization technologies to align with global environmental goals.
- **Transportation Growth:** The transportation segment is expected to grow at a rate of 11% (2024–2029), fueled by innovations in vehicle monitoring systems and last-mile delivery solutions.

8.3 Opportunities and Outlook

The UAE is attracting substantial foreign direct investment (FDI), reaching USD 22.73 billion in 2022, underlining strong global confidence in its logistics and agritech sectors. The cold chain logistics market is anticipated to grow from USD 0.71 billion in 2025 to USD 1.15 billion by 2030, with a CAGR of 10.29%.

By prioritizing advanced technologies, fostering sustainable practices, and supporting public-private partnerships, the UAE continues to set new benchmarks in agrifood innovation and logistics excellence. These efforts not only enhance food security but also position the UAE as a global model for sustainable development and economic resilience.



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A key area of expertise is assisting companies in setting up their distribution businesses in the UAE. Europhia Consulting provides comprehensive end-to-end support, including:

- **Location Studies:** Evaluating distribution needs and identifying ideal warehouse or office locations based on market benchmarks.
- **Regulatory Guidance:** Advising on licensing models, taxation, VAT, accounting, and auditing to ensure compliance with UAE regulations.
- **Logistics and Staffing Support:** Offering solutions for logistics operations and commercial staffing to facilitate smooth business setup.
- **Project Management:** Managing the end-to-end process for a seamless and timely "go-live" execution.
- **Real Estate Solutions:** Assessing warehousing and office space requirements, considering factors like infrastructure, labour costs, and proximity to key markets.

By leveraging its deep regional expertise, the company empowers businesses to establish resilient and scalable distribution models in the UAE and beyond. Europhia Consulting has been operating in the UAE since 2008.

Contact us for a free consultation on how we can help your company establish and grow your Middle East distribution business.



eelco@europhia.com



www.europhia.com