

## Fact Sheet

Bustanica, meaning your garden or orchard in Arabic, is the world's largest vertical farm and a historic milestone for the UAE. The facility is the first for Emirates Crop One (ECO1), the joint venture between Emirates Flight Catering (EKFC), one of the world's largest catering operations serving more than 100 airlines, and Crop One, an industry leader in technology-driven indoor vertical farming.

### Facility

- Bustanica is the commercial brand name for ECO1 – the joint venture between Emirates Flight Catering and Crop One.
- Investment: worth US\$40 million in the joint venture, facility and technology.
- Location: near Dubai World Central – Al Maktoum International Airport.
- Size: 330,000sq.ft, spanning three floors.
- Output: over 1,000,000kgs per year (about 2,414,061 lbs), or more than 3 metric tonnes per day.
- Over 1 million cultivars (plants) are grown at any given time.

### Sustainability

- Hydroponic cultivation uses up to 95% less water (15 litres for 1kg) than traditional outdoor farming (317 litres for 1kg).
- 250m litres of water saved every year compared to traditional outdoor farming
- 1,000MW saved in the production of water
- Grown indoors in a controlled environment, leading to zero soil degradation
- Nutrient-rich water is recirculated continuously and precisely to each crop, eliminating nutrient leaching into the soil which is a concern with conventional agriculture

### Produce

- Currently, the range includes kale, spinach, arugula and mixed greens
- Plans to grow fruits and vegetables in the future
- Vertical farming techniques and innovative technologies completely eliminate the use of pesticides, chemicals, herbicides, and fungicides
- The risk of fungal and foodborne diseases is almost entirely eliminated as humidity levels are managed, and limited human interaction with the crops removes the risk of contamination.
- Filtered and purified water is treated with a precisely calculated mix of plant-specific nutrients such as nitrogen, phosphorus and calcium and then delivered to the roots of the plants to encourage peak nutritional development.
- The harvested greens are beyond organic, ready to eat and don't need pre-washing – they can be eaten straight out of the box
- Precision farming means each plant gets the optimal mix of nutrients
- Controlled environment with closed loop systems ensures nutrients are not lost
- Locally produced, therefore quicker delivery from farm to fork in the UAE, and the produce retains its nutritional value, is crunchier and has better flavour and quality

## Technology

Emirates Flight Catering and Crop One have developed a comprehensive operating system that controls all aspects of the facility from water treatment, environmental management, nutrient management, and lighting. Significant parts of the technology have been built in the UAE.

Food is grown hydroponically with unique formulas for each cultivar. It leverages machine learning, artificial intelligence and advanced methods to grow and sustain plants. This means the plants are supported by millions of data points collected each day for maximum growth and supplied with the exact amount of light, water, and plant nutrients, sans soil.

## Team

The team has agronomy experts, engineers, horticulturists, plant biologists and scientists. Supported by digital controls, the teams monitor the plants' growing conditions, collecting data and testing samples to improve the yield and knowledge of the plant growth cycle.

## Supporting UAE's self-reliance

Supports **UAE's National Food Strategy 2051 agenda**

- Reliable year-round crop production and stable supply chain.
- Independent of weather conditions and attacks by pests or fungus.
- Reduced harvest times.

Supports **UAE's Water Security Strategy 2036 agenda.**

- Uses up to 95% less water (15 litres for 1kg) than traditional outdoor farming (317 litres for 1kg).
- Clean, nutrient-rich water is recycled and reused, reducing costs and minimising waste.

## About vertical farming

- Vertical farming is a method of growing plants using mineral nutrient solutions, in water and without soil.
- With vertical farming, plants are grown in an entirely controlled environment — everything from the temperature, humidity, lighting, water, and nutrients are precisely monitored and controlled, maximising growth and yield, and virtually eliminating any risk of contamination.

## About Emirates Flight Catering (EKFC)

Emirates Flight Catering is one of the world's largest catering operations. Offering airline, events and VIP catering as well as ancillary services including laundry, food production and airport lounge food & beverage, EKFC is a trusted partner for over 100 airline customers, hospitality groups and UAE government entities. Each day, the company's 11,000 dedicated employees prepare an average of 200,000 meals and handle 210 tonnes of laundry.

## About Crop One Holdings Inc.

Crop One Holdings Inc. (Crop One), headquartered in Massachusetts, USA, is an established and experienced vertical farming leader with continuous commercial operation exceeding 6 years. Leveraging new technological and biological advancements, Crop One has built a scalable, global model to bring fresh, local produce, to previously ungrowable environments.