

Siemens provides automation and building technology for Middle East's biggest vertical farm

- **Bustanica, the Dubai-based vertical farming company, requires 95% less water than a conventional plot, and yields more than 1 million kg of produce free of pesticides, herbicides and chemicals**
- **Siemens provided building systems and automation hardware and software from its Digital Industries and Smart Infrastructure portfolios**
- **Building systems, automation software and hardware are part of Siemens Xcelerator**

Siemens provided automation and building technology to the recently opened Bustanica vertical farm in Dubai, the world's largest of its kind. The \$40 million facility is owned by Emirates Crop One, a joint venture between Emirates Flight Catering, one of the world's largest catering operations serving more than 100 airlines, and Crop One Holdings Inc., an industry leader in technology-driven indoor vertical farming.

Technology from the Siemens Xcelerator portfolio has been integrated throughout the farm to ensure efficient production, reduce waste, and increase the farm's overall sustainability. Siemens Smart Infrastructure's building management system Desigo CC controls and monitors air-conditioning and ventilation, while Siemens Digital Industries' SIMATIC automation and control systems deliver optimal growing conditions by controlling the lights and CO₂ levels required by the plants. SINAMIC series variable frequency drives along with automation stations make sure plants receive the right nutrients and water supply. SENTRON electrical components distribute power to the grow racks.

Siemens SCALANCE components create a communication network connecting these automation technologies while protecting the facility with Siemens cyber security solutions. Siemens Xcelerator is an open digital business platform that enables customers to accelerate their digital transformation easier, faster, and at scale. At its core is a curated

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portfolio of connected hardware and software, a powerful ecosystem of partners, and an extensive marketplace.

Bustanica's system is designed to circulate water to the crops to maximize water usage efficiency. When the water vaporizes, it's recovered and recycled into the system, saving 250 million liters of water per year compared to traditional outdoor farming for the same output. The 330,000 sq. ft. facility requires 95% less water than conventional agriculture, and provides an output of 1 million kgs of produce per year that are free of pesticides, herbicides and chemicals.

"We are proud to work with Emirates Crop One on a project that will transform agriculture and will allow people to eat fresher foods while reducing water consumption and transportation costs," said Franco Atassi, CEO of Siemens Smart Infrastructure in the Middle East. "Bustanica uses smart infrastructure in its vertical farm that will allow it to sustainably scale operations and become a model for other vertical farms around the world. The infrastructure installed today will allow for the use of machine learning and artificial intelligence in future."

Bustanica's produce will initially be provided to airline passengers flying to and from Dubai. The company plans to sell leafy greens and other produce in local supermarkets, and because the greens are grown in a controlled environment, consumers can eat them straight out of the bag.

"Emirates Flight Catering constantly invests in the latest technologies to delight customers, optimize operations, and minimize our environmental footprint. Bustanica helps secure our supply chain, and ensures our customers can enjoy locally sourced, nutritious produce," said Kieran Dowd, General Manager of Emirates Crop One and Vice President, Sourcing Solutions, at Emirates Flight Catering. "The technology provided by Siemens enables the facility to bring food production closer to consumers, making our operations more efficient and sustainable."

Vertical farming facilities are up to 100 times more productive than outdoor farms because they consume 95% less water and don't require any use of pesticides or chemicals. This method allows farmers to control light, temperature, water, and carbon dioxide levels – maximizing output and efficiency – so they can grow crops year-round and near

consumers. The industry is expanding to mitigate challenges like food insecurity, limited arable land, labor shortages and to meet growing demand for pesticide-free produce.

This press release is available at

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Siemens Smart Infrastructure (SI) is shaping the market for intelligent, adaptive infrastructure for today and the future. It addresses the pressing challenges of urbanization and climate change by connecting energy systems, buildings and industries. SI provides customers with a comprehensive end-to-end portfolio from a single source – with products, systems, solutions and services from the point of power generation all the way to consumption. With an increasingly digitalized ecosystem, it helps customers thrive and communities progress while contributing toward protecting the planet. Siemens Smart Infrastructure has its global headquarters in Zug, Switzerland. As of September 30, 2022, the business had around 72,700 employees worldwide.

Siemens AG (Berlin and Munich) is a technology company focused on industry, infrastructure, transport, and healthcare. From more resource-efficient factories, resilient supply chains, and smarter buildings and grids, to cleaner and more comfortable transportation as well as advanced healthcare, the company creates technology with purpose adding real value for customers. By combining the real and the digital worlds, Siemens empowers its customers to transform their industries and markets, helping them to transform the everyday for billions of people. Siemens also owns a majority stake in the publicly listed company Siemens Healthineers, a globally leading medical technology provider shaping the future of healthcare. In addition, Siemens holds a minority stake in Siemens Energy, a global leader in the transmission and generation of electrical power.

In fiscal 2022, which ended on September 30, 2022, the Siemens Group generated revenue of €72.0 billion and net income of €4.4 billion. As of September 30, 2022, the company had around 311,000 employees worldwide. Further information is available on the Internet at www.siemens.com.