






# Revolutionizing agriculture to feed the world

ZERO makes vertical farming environmentally and financially sustainable with an edge to data center infrastructure from Dell Technologies.

## Business needs

Vertical farming can successfully grow crops in locations where conventional methods fail, but it can be complex and costly to put into practice. Digital innovator ZERO decided to empower growers by addressing these challenges.

## Business results

-  Advances vertical farming innovations that are both financially and environmentally sustainable.
-  Allows resource-efficient, high-yield vertical farming to ramp up quickly and scale to meet demand.
-  Empowers vertical farming innovators to confidently pursue their goals and vision, using highly available and scalable technology.
-  Delivers the compute power to analyze large data sets to deliver real-time insights at the edge and support algorithmic and AI analytics and predictions.
-  Establishes a successful blueprint for similar use cases in other industries.

## Solutions at a glance

- [Dell PowerEdge Servers](#)
- [Dell Edge Solutions](#)
- [Dell ProSupport Plus](#)



**Advances vertical farming innovations that are both financially and environmentally sustainable.**

ZERO has taken on a world-changing mission by revolutionizing agriculture with a new model for vertical farming. The company enables growers to monitor growth, drive sustainability and keep costs down by gaining real-time data insights at the edge.

Many agribusinesses find the costs and logistics of operating and scaling vertical farming operations challenging. However, by partnering with Dell Technologies, ZERO can offer a scalable, standardized way to make vertical farming both environmentally and financially sustainable. That makes this growing method viable for many more farmers and growers who feed the world. Daniele Modesto, CEO of ZERO, says, "With edge computing, centralized data center computing and AI enabled by Dell Technologies, you have all the tools you need to scale vertical farming to commercial enterprise applications."

## Driving sustainability with real-time insights at the edge

In ZERO's vertical farming architecture, edge sensors monitor growing operations by collecting large volumes of data points about water, air quality, light, temperature, soil chemistry and other conditions every day. Dell PowerEdge servers powered by Intel® Xeon® Platinum processors receive the information, allowing growers to react in real time to improve growing conditions and efficiencies. "Dell PowerEdge servers at the edge and in the data center allow us to accelerate transformation anywhere, so we can innovate, adapt and grow," Modesto says. "When you analyze the infinite edge data streams from vertical farming, you can introduce optimizations to make the financials work better. You can also run predictive maintenance algorithms and optimize energy consumption."

## AI analytics improve growing recipes

Data is also routed to the data center, where PowerEdge servers make it available for AI analytics and algorithmic processing to maintain highly productive growing conditions and keep facilities working reliably for the long term.

"Collecting a meaningful amount of data makes it possible to train algorithms able to predict the yields and the behavior of plants in reaction to recipes," Modesto says. "You can then improve the recipes and achieve even better results."

## Manageability reduces IT workloads

By taking advantage of the Dell Technologies global brand and presence, ZERO propels growth and builds credibility with prospects. Dell Technologies also enables the manageability that is key to the success of vertical farmers. The company's IT team can efficiently manage all edge and data center technology with a single set of tools, including Dell OpenManage Enterprise and Integrated Dell Remote Access Controller (iDRAC).

## Optimizing the infrastructure

ZERO relies on Dell Services to make certain that its infrastructure stands up to the rigors of demanding use cases like vertical farming. "Dell ProSupport Plus maintains optimal, 24x7 availability and performance from the edge to the data center," says Modesto. "It enables us to commit to stringent service levels with customers, who license our vertical farming platform as a production-ready solution."

## Assurance from a secure supply chain

Growers can rely on receiving their Dell Technologies solutions when they expect them. "The secure Dell Technologies global supply chain ensures on-time delivery, allowing customers to plan vertical farming operations with confidence," Modesto adds.

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**Daniele Modesto,**  
CEO, ZERO

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## Expanding the reach of sustainable innovation

Currently, ZERO spearheads vertical farming projects in some of the world's more challenging locations, including Saudi Arabia, Dubai, Canada and Italy. Using ZERO's vertical farming platform, agribusinesses can begin operating within weeks, at extremely high yields and with extremely low costs. "Making technology accessible is the key to effective innovation," says Modesto. "Dell Technologies solutions allow us to democratize edge and data center technologies to make them accessible and deliver the best environmental advantage."

ZERO aims to become the world's leading provider of vertical farming technology by collaborating with Dell Technologies and relying on Dell innovation. In addition to serving nutritional growers, ZERO is bringing its model to life sciences and biopharmaceutical companies that grow biomaterials – such as fungi and bacteria – or use plants as bioreactors. Modesto concludes, "We look forward to developing tailored IT solutions together with Dell Technologies as a research and development team to tackle the world's needs."

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Daniele Modesto,  
CEO, ZERO

Learn More About **Dell Technologies Servers** and **Edge Solutions**.

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