



# Digital transformation drives water management, energy sustainability and increased yield in precision agriculture

The advent of automation technology has enabled the deployment of Smart Farming solutions that can significantly reduce the costs associated with traditional farming while simultaneously optimizing and scaling the operations. To ensure ease of deployment, such a solution must be simple to install and operate, and not require expensive wired connections.

Opti-Harvest is an agricultural innovation company that develops and markets climate-smart products that help growers maximize yield, optimize land and labor resources and increase water use efficiency.

Opti-Harvest solutions:

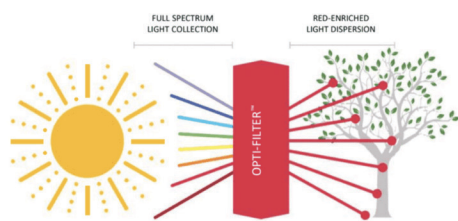
- Accelerate young crop growth
- Increase marketable yield
- Improve water-use efficiency
- Reduce labor costs
- Mitigate negative environmental impacts
- Reduce pre and post-harvest decay

Despite great technological advancements in agriculture (new breeding techniques, soil and biome enhancement, precision agriculture/AI, robotics, satellites, and other AgTech), sunlight interception remains a major limiting factor for Ag production in a variety of crops.

However, sunlight can now be optimized using innovative technology, rooted in established science, to maximize agricultural production and resource management.

Plants detect and respond to various parts of the light spectrum. Opti-Filter™ photo-selective technology turns sunlight into scattered, red-enriched light, maximizing the sun's most productive rays and filtering out those that inhibit growth and production.

Opti-Filter™ technology is integrated into rugged grower-centric field products designed to increase light interception while providing a microclimate environment and significant reductions in labor costs and other expenses associated with conventional farming.



**Opti-Filter** products accelerate growth in newly planted crops (Opti-Gro™ and Opti-Shield™), and improve production in mature vineyards and orchards (Opti-Skylight™ and Opti-Panels™. Opti-Filter™ photo-selective technology) turns sunlight into scattered, red-enriched light, maximizing the sun's most productive rays and filtering out those that inhibit growth and production.



## Customer

Trinchero Family Estates in California

## Partners

Veeva Inc. and Opti-Harvest

## Project

Central Coast Vineyard, Paso Robles

## Solution

Veeva Edge Platform™ supporting Opti-Harvest Opti-Gro™ solution deployed in Vineyards

## Outcome

Better Control and Monitoring of environmental conditions: Soil Moisture, Temperature and pH levels

Sustainability, Water Management and Efficiency

## Edge Computing: Cost-effective and scalable growth

The Veeahub® Pro Outdoor family provides a combination of strength and durability in its industrial design, complemented by a plentiful array of connectivity options, to render a user-friendly computing hub that is straightforward to install and maintain, allowing Smart Farming to be reality.

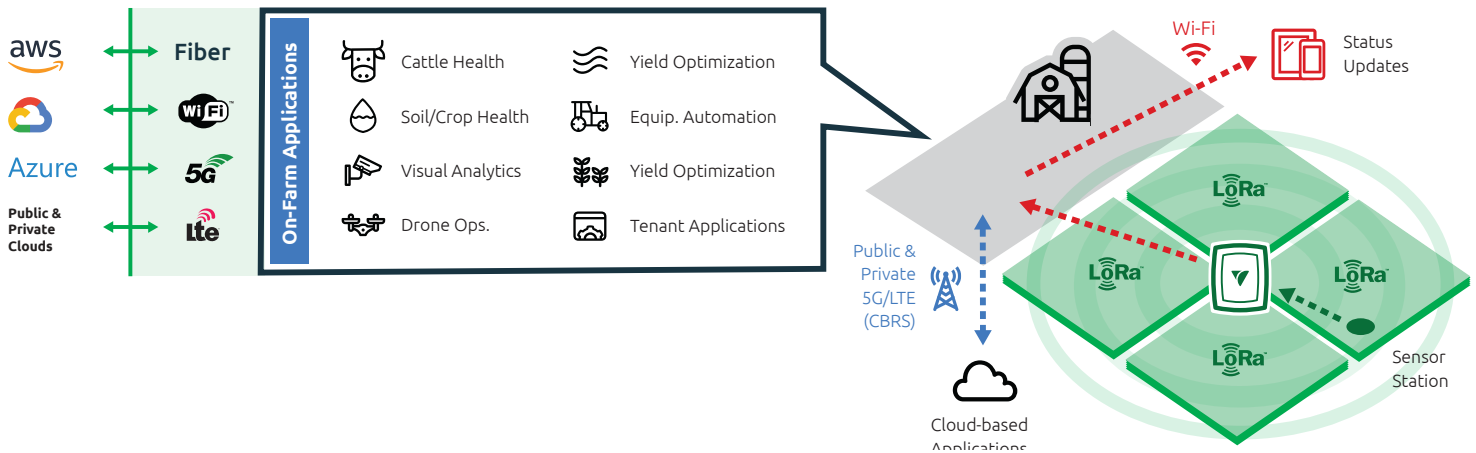


The integration of sensors and farming equipment is simplified through the IoT Toolkit and combined with robust management and monitoring capacities.

Veeahubs are key infrastructure components for Opti-View functionality and deployments. The VHH09-4GL Veeahub model offers a wide range of connectivity and expansion options for enterprise-grade, demanding applications and, in the case of Opti-Harvest, supports LoRaWAN and 4G LTE.

Veeah's Edge Platform™ optimizes performance in the field, connecting with LoRa sensors to collect important environmental data that can be stored locally or in the cloud; creating powerful, predictive analytics that growers can use in real-time. This data and predictive analytics facilitates the optimization of land, labor and natural resources resulting in an increase of water use efficiency and sustainability.

Typical deployments include various commercial off-the-shelf and proprietary sensors that send data to Veeahubs wirelessly, which in turn sends data to the cloud over public or private 4G or 5G connections, feeding a variety of cloud systems. The data collected by Veeahubs makes its way to the Opti-View portal with an intuitive admin experience.



Veeah Inc. is an edge platform provider headquartered in New York City. Our team has extensive knowledge and expertise on content delivery and edge computing, and strive to make edge computing simpler. With over 80 patents in virtualization, containerization, edge computing and hyperconverged networks, Veeah is a leader in this technology and is transforming the world to a smarter, more connected one from the device edge inward. To learn more, please visit [www.veeah.com](http://www.veeah.com)



Opti-Harvest is an agricultural innovation company. We develop and market climate-smart products that help growers maximize production, optimize land and labor resources, and increase water-use efficiency. Our patented Opti-Filter™ product lines, made from recyclable HDPE, enable commercial growers of high-value specialty crops to better utilize sunlight – our most fundamental, renewable, and free resource. Developed by Ph.D. scientists and designed for commercial farming, our products integrate decades of experience in plant physiology, horticulture, optical physics, and direct field practice and feedback directly from California's major commercial growers. Our Mission is to help growers and commercial growers better use sunlight to increase marketable yield, improve water use efficiency, reduce labor costs, and mitigate adverse environmental impacts. To learn more, please visit [www.opti-harvest.com](http://www.opti-harvest.com)