



100% DIGITAL SPECTRUM
CONTROL.



www.meshtek.com



VISION

The partnership between Meshtek Labs and California Lightworks was led by a vision centred on the research, design, development, and production of cutting-edge automation systems for greenhouse and indoor horticulture.

This collaboration now offers new grow lights to growers all around the world at competitive prices while utilizing the most recent advancements in high efficiency controls technology.



The Approach

Meshtek Labs with a team of highly experienced engineers in embedded systems, wireless systems, software applications, iOS/Android applications, Linux, database and backend systems, and hardware designs created an IoT solution to control lighting with an indoor horticulture application. With the ability to control and create schedules, light scenes and settings, growers can impact time and light and significantly increase yields.

OUR GOAL

For their client, California Lightworks aimed at building a low-power, efficient variable spectrum control to enable crops' development and accelerate their growth cycle, backed by wireless technology to ensure remote control of the lighting. Growers should be able to adjust the spectrum from anywhere, and there shouldn't be a need to install a contractor panel. Wired systems were cost prohibitive which makes it costly to control the system. They wanted a one-time installation solution that could be cost effective and also help in reducing costs in the future.

They needed an LED supplemental lighting control system that is cost-effective, has longer duration, provides higher ROI, has the ability to analyze the natural lighting, and gives wireless control to adjust lighting remotely with easy installation and commissioning across groups of lighting devices.

THE SOLUTION

Wireless Capabilities

Revolutionary Bluetooth Mesh technology connects all devices into a single intelligent network.

Efficiency

This supplemental greenhouse light draws a maximum of 340 watts with an efficiency of up to 3.0 umol/joule.

Durability

The GH Pro 340 has an IP rating of 65. The lighting has a rated life off 50,000 hours and can last for a duration of 15 to 20 years.

Variable Spectrum Control

The GH Pro 340 can manage the light spectrum to control crop's development and accelerate the growth cycle of the crops.

Photo Sensors

Photo Sensors are installed to read the level of natural light in the greenhouse and adjust the lighting according to the sunlight and weather changes.

Low-Cost, Convenient Installation

Apart from the power cables and interconnecting lighting devices with waterproof cables, there is no other wired installation required.

Authenticity

The GH Pro 340 uses only the highest quality LEDs from Osram LED technology.

Higher ROI

Growers can utilize the cloud network data transfer capabilities to analyze the numbers and calculate their ROI.



CONCLUSION



Other Salient Features Of MeshTek's Supplemental LED Grow Lighting:

- Designed to avoid shadow effects.
- Resistance to humidity and dripping.
- Revolutionary Mesh technology to connect multiple devices.
- AI enabled predictive control.
- Over the Air update of software across devices.
- Training for customer support.



MeshTek Labs and California Lighting have combinedly helped the client achieve 500 umols and gained total control over their crop. Specific growth benefits include, 100% digital spectrum control for optimal growth and chemical profiles and heavy red lighting for fruit and flower yield.

The industrial-grade BLE mesh IoT platform developed by MeshTek Labs provided the client ability to control their environment by managing the light spectrum for maximum growth, by filling in light where there were shadows and by allowing the operators to easily and quickly control and change schedules as needed.