hoogendoorn
growth management

Connecting nature and technology

By analyzing plants on a cellular level we know exactly what to do to make them perform in the best possible way. We have combined over 55 years of growing experience with extensive, cutting edge agricultural studies to create the smartest greenhouse control system in the world. Allowing you to grow more, at higher quality while using minimal resources.

The IIVO system is a combination of smart software and state-of-the-art hardware. The unique crop-specific approach enables you to get the most out of your crop. The system is capable of monitoring, controlling and maintaining any type of greenhouse, no matter the scale or climate.

The system is highly effective, efficient and sustainable. With self-adaptive controls and integrated security it is undoubtedly the future of horticulture, seamlessly compatible with Intelligent Algorithms, the add-on for autonomous growing.

Ready, Set, Grow.

One for all, all in one

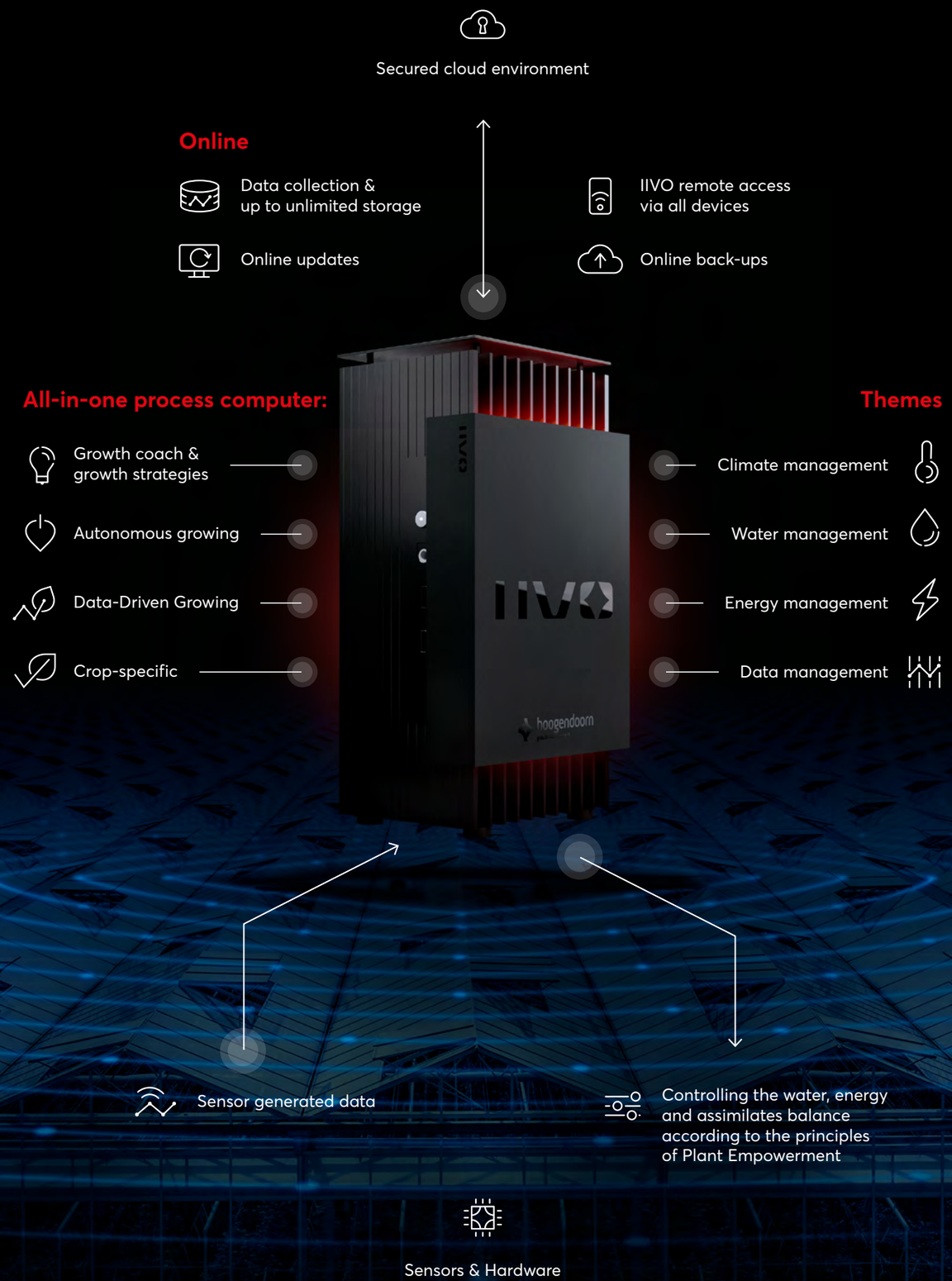
IIVO connects seamlessly to all industry standard sensors and is also compatible with smart-camera systems and irrigation units. This combination of capabilities simplifies and streamlines the management of any crop in a controlled growing environment.

As soon as your IIVO system is operational millions of lines of code are put to work generating crop-specific insights. IIVO is shining a new light on the true potential of growing crops in controlled growing environments.

Effortless growth

IIVO constantly and consistently monitors every aspect of your greenhouse environment including climate conditions, CO_2 levels and water usage; but the system is capable of so much more. The system collects and archives data to create a complete and holistic overview of the conditions inside your greenhouse. IIVO can then be used as an advanced control computer to determine the specific needs of your crop at any given moment.

IIVO can also be implemented as a guide, analyzing the data to create insights and maintain optimum growing conditions. By combining the data from your greenhouse with future predictions and big data the system is able to function pro-actively and execute tasks independently.



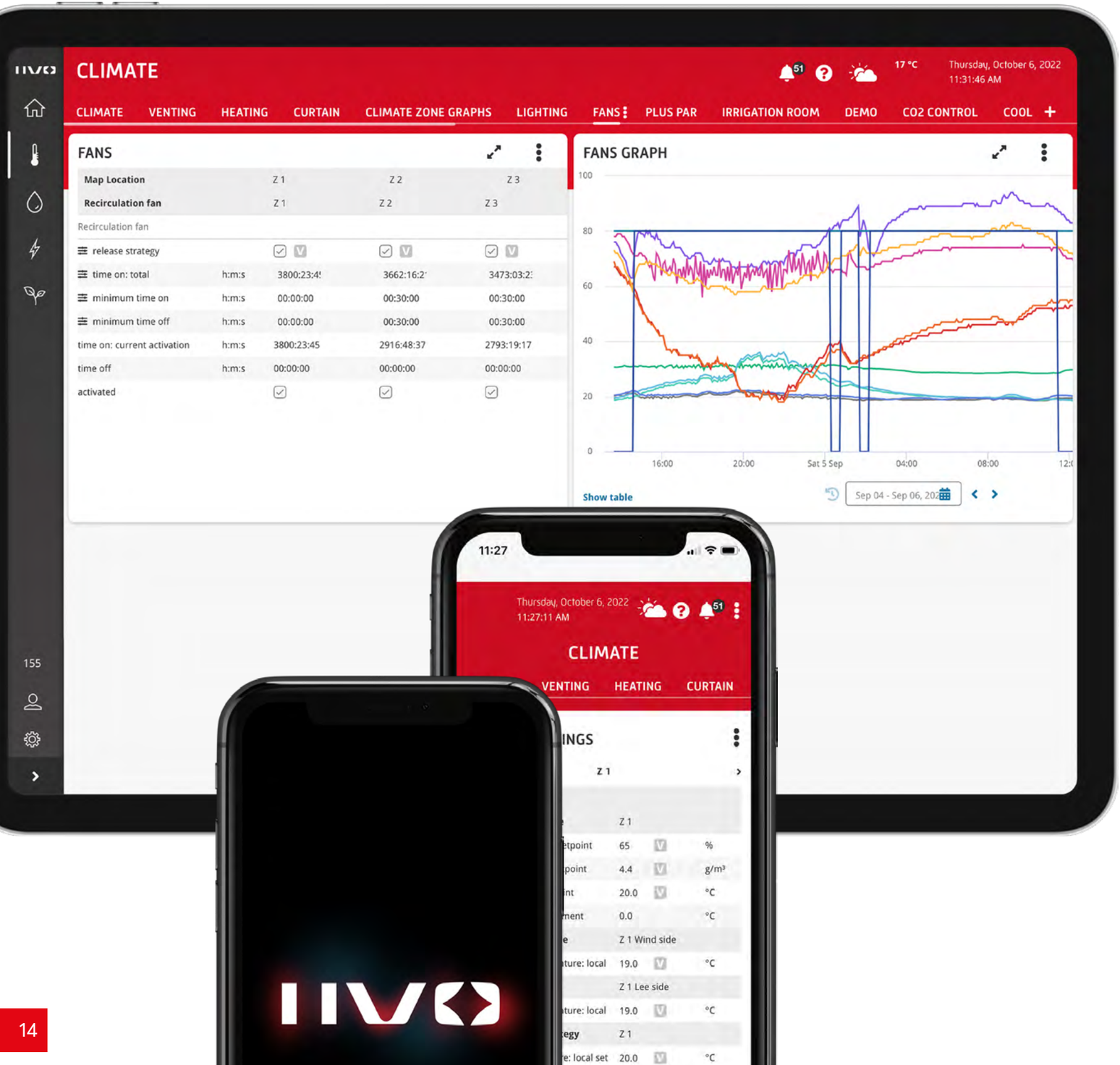
Growing more, with less

IIVO uses its predictive powers to create the ideal climate conditions for your crop by combining sensor generated data, weather predictions and past learnings. The system responds pro-actively to maintain a stable and uniform growth climate, which maximizes the yield and quality of a crop, and ensures the most efficient usage of natural resources.

In order to thrive, plants need regular irrigation and a steady supply of nutrients. IIVO's drag-and-drop function makes it possible to easily set and manage irrigation strategies using preferred start conditions. You can initiate irrigation cycles per valve based on time, radiation, slab weight, water content and drainage.

Water conditions are balanced and managed by integrated sensors including: solar radiation sensors, EC-sensors, pH-sensors and Aquabalance. This provides crops with the perfect amount of moisture and nutrients when they need it.

IIVO is easily integrated with energy sources including: boilers, co-generation, biomass, thermal, solar and wind energy. This ensures the most efficient use of heating and CO_2 according to the specific energy demands of your crop.



Complexity made easy

The user interface is designed around the needs of the grower, with crop sections, installations and technical rooms clearly mapped. IIVO generates information in the form of easy to understand graphs and statistics, which help to streamline the day-to-day operations of a greenhouse.

So whether you are born in a greenhouse, or never been in one, smart growing is now accessible for everyone.

Knowledge is plant power

At the core of IIVO are the principles of Plant Empowerment: a unique cultivation method combining plant physiology and physics. An optimal balance of energy, water and assimilates creates stronger, healthier crops that are less susceptible to pests and diseases. A crop-specific approach that gives every crop exactly what it needs.

Data-Driven Growing combines powerful algorithms, data from the growing environment and plant physiology, allowing you to make the best decisions for your crops. The continuous flow of data collected during cultivation generates real-time insights into the conditions within your greenhouse and the health of your plants. Insights that can be used to power artificial intelligence and machine learning technology to grow even smarter over time.

LetsGrow.com
IIVO is completely integrated with LetsGrow.com to allow further implementation of the Data-Driven Growing Strategy in the greenhouse.

Greenhouse Powerhouse

A complex operation, made easy

Although the system offers endless possibilities we have deliberately kept the way you use and interact with IIVO as simple as possible. With a wide variety of supported devices, everything you need to manage your greenhouse is right at your fingertips. You can access statistics, graphs and data visualisations that provide you with a clear, real-time overview at any time, on-site or remotely.

Stop reacting. Start predicting

The integrated Weather Forecast capabilities are based on the specific GPS coordinates of your greenhouse's location. IIVO uses both real-time and predicted climate conditions to create the optimal growth climate. This allows you to maintain a more consistent climate while consuming less resources.

You are always in control, even from a distance

IIVO gives you access to your greenhouse any time, day or night, from anywhere in the world. With IIVO Remote you can control your greenhouse with a wide variety of devices, all you need is an internet connection and you're good to go.

Self learning

The self-learning controls allow the system to continuously adapt and improve its understanding of the growing conditions during cultivation. The system learns from past experiences, adapts its reactions based on current measurements and makes appropriate corrections automatically. This results in a more stable regulation of the greenhouse climate, and a considerable reduction in the use of natural resources.

Crop recipes

One of IIVO's distinctive features are its crop recipes. Crop recipes allow you to save a group of settings in the Crop Recipes library. You can create crop recipes for the different seasons and crop stages. Creating an optimum growth climate for your crop in each stage of his growth cycle. Combine the saved crop recipes and include transition periods, to create your plants' crop strategy.

Crop strategy

Create your own cultivation strategy using graphical settings based on set points, periods and influences. This provides you thorough insights in your cultivation strategies. Fine-tune your own strategy using the parameters you desire.

Built for today and tomorrow

IIVO is built to run the latest features, and even some that haven't been invented yet. Our in-house development team makes frequent software updates, installed to your system remotely. Due to the cloud-based nature the IIVO platform is also scalable, so as your company grows, or you move to more high tech, IIVO grows with you intuitively, ensuring a future ready investment.

Your data is always safe with IIVO

We are committed to maintaining the highest data-protection and safety standards. We are ISO 27001, ISO 9001 and HortiQ certified. The system is equipped with a state-of-the-art, 24/7 backup functionality to ensure that your data is always safe with us.

Unlock your full potential

POWERED BY
INTELLIGENT
ALGORITHMS

IIVO's Intelligent Algorithms work harder and smarter to support your growing ambition. With only a few settings, you can set the most optimal climate strategy to meet the requirements of your greenhouse, your crop and your climate.

The algorithms proactively control your climate on a micro-level while taking into consideration the forecasted weather conditions. They combine your customized strategy with the principles of Plant Empowerment to create an optimal balance of energy, water and assimilates that lead to stronger, healthier crops.

Confidence in your vision
Realize your growing strategy with Intelligent Algorithms.

Efficiency in growing strategy
Ensure higher yields with higher quality whilst using fewer resources.

One dashboard, optimal productivity
Manage growing environments of all sizes with a few holistic settings.

Autonomous growing

IIVO puts the power to grow into your hands, ensuring all systems work together in smarter ways.

The combination of powerful algorithms, weather forecasts, and plant physiology allows you to make the best decisions for your plants. The continuous stream of data collected during cultivation generates real-time insights on the conditions in your greenhouse and the health of your plants. These insights are used to drive artificial intelligence software and machine learning mechanisms.

As the winner of the Autonomous Greenhouse Challenge, we continue to pioneer solutions in autonomous growing software—so you can continue to grow smarter.

Intelligent Lighting

Intelligent CO_2

Intelligent Ventilation

Intelligent Irrigation

Intelligent Temperature

Intelligent Screening

Practice makes perfect

When it comes to operating a greenhouse, we know that there's no room for mistakes or accidental miscalculations. For over 10 years the system is in development, we tested it over and over again and are now more than confident to say that it works. IIVO is the trustworthy and reliable partner you need in this business, it has proven to us and our customers that it makes the right decisions in managing and maintaining optimal growing conditions.

About Hoogendoorn Growth Management

Backed by history, driven by innovation

IIVO was developed by Hoogendoorn Growth Management - one of the world's foremost innovators in the horticulture sector with more than 55 years' experience. With offices and partners around the world our roots are in Dutch Greenport. Hoogendoorn has been responsible for developing many of the systems and innovations now regarded as the industry standard. Aiming to not only excel in technological products, but also in customer support and training. We work with growers in every conceivable climate, with the most diverse crops to ensure a more efficient and sustainable future for horticulture.

Growing technology

Our team of in-house data- and plant-scientists are constantly pushing the boundaries of smart technology to harness the power of nature. We continue to develop and improve the system as the data evolves, this new information is then used to help our customers unlock IIVO's full potential. We collaborate with plant-physiologists, biologists and physicists to further advance growth practices, methodologies and technological applications. Our software is built from scratch, by us. No legacy coding, no workarounds. The best technology, in a revolutionary, future ready system.

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