







Connecting nature and technology

By analysing plants on a cellular level we know exactly what to do to make them perform in the best possible way. We have combined over 50 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 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, and the first step towards automated 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, CO₂ 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, analysing 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.

Secured cloud environment

Online

- Data collection & up to unlimited storage
- Online updates

- IIVO remote access via all devices
- Online back-ups

All-in-one process computer:

- Growth coach & growth strategies
- Automated growing
- Data Driven Growing
- Crop specific

Themes

- Climate management
- Water management
- Energy management
- Data management



Sensor generated data

Controlling the water, energy and assimilates balance according to the principles of Plant Empowerment

Sensors & Hardware



11:31 25 mei 67%

IIVO HOME

DAILY CHECKS WEATHER STATION WEATHER GRAPH WEATHER FORECAST ALARMS

11.9 °C 3.0 m/s ZW 626 µ/cm³ di 25 mei 12:5

METEO

Meteo		Meteo
buitentemperatuur meting	°C	12.1
windsnelheid	m/s	3.0
windrichting windvlagen	m/s	3.9
windrichting meting		ZW
relatieve luchtvochtigheid	%	68
echtpiepe	µg/g	26.7
absolue luchtvochtigheid	g/m³	7.2
regen		<input type="checkbox"/>
storm		<input type="checkbox"/>
verst		<input type="checkbox"/>
stralingsover meting		<input type="checkbox"/>
stralingsmeting	µ/cm²	616
straling vertraagd klimaat	W/m²	329
Locatie informatie	W/m²	347
zon onder	u/m:s	03.09:28
zon op	u/m:s	13:59:32

LOCATIE

Meteo		Meteo
Locatie informatie		Location Information
ligging bedrijf		
ligging bedrijf hoogte	m	2240
ligging bedrijf breedtegraad	°	-
ligging bedrijf lengtegraad	°	19.5300
zonnestand azimuth	°	-99.0700
zonnestand hoogte	°	58.8
zon op	u/m:s	0.0
zon onder	u/m:s	13:59:32
	u/m:s	03.09:28



Growing more, with less



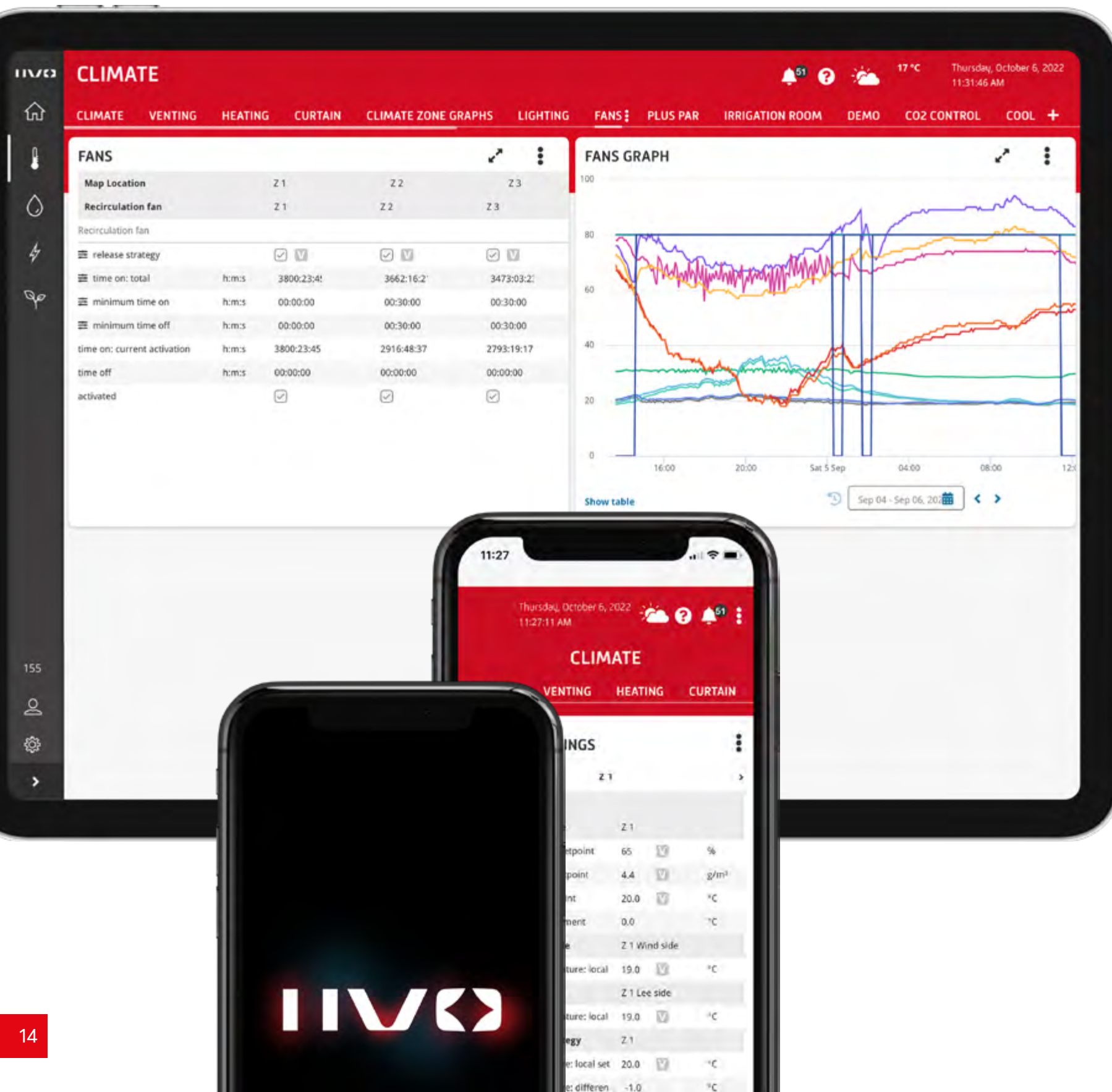
IIVO uses its predictive powers to create the ideal climate conditions for your crop by combining sensor generated data, weather predictions and past learnings. The system responds pro-actively to maintain a stable and uniform growth climate, which maximises the yield and quality of a crop, and ensures 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 CO₂ 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.



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 50 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.



