

# Logiqs



## Automated Cultivation Systems

Industry leading logistical solutions made possible by our flexible and reliable equipment and software



[www.logiqs.nl](http://www.logiqs.nl)

## THE QUALITY OF LOGIQS MOBILE BENCHES

### Better bench reinforcements

Each side of the Logiqs bench has a small aluminum profile going from the front side to the first crossbeam. This provides unmatched structural integrity to the bench so the front sides do not bend. Our benches also use thicker crossbeams for the wheel beams. The wheel beams are crucial since the weight of the whole bench and plant material rests on the 4 wheels.



### High quality bench support system

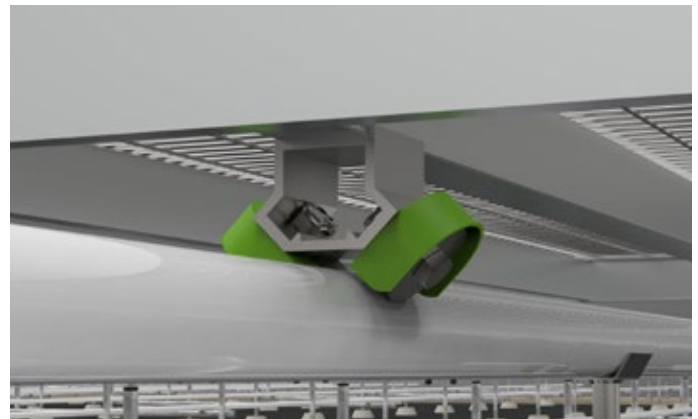
All our rail pipes are hot dipped galvanized inside and out. They are not electroplated like so many others. This process keeps them rust free for many years. The rail pipes also have wedged ends so there is no need to weld in the greenhouse. And that's an advantage because the welding of galvanized steel can produce dangerous gasses. Our support has a large footplate 4" x 8".



### Water protection for the bench wheels

The steering wheels are also designed with protective irrigation covers which extend the life of the bearings.

The rolling wheels are also encased in the bracket so they are protected from irrigation water.



### Superior aluminum alloy

We use a hardened marine alloy for our aluminum (EN-AW-6063 T66). Compared to our competitors, the Logiqs mobile bench side and front profiles are also thicker.

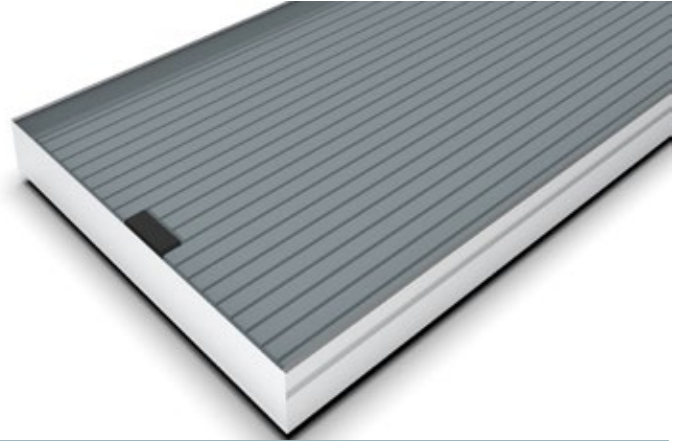


# MOBILE BENCHES

| *Different bench inlay options that are available*



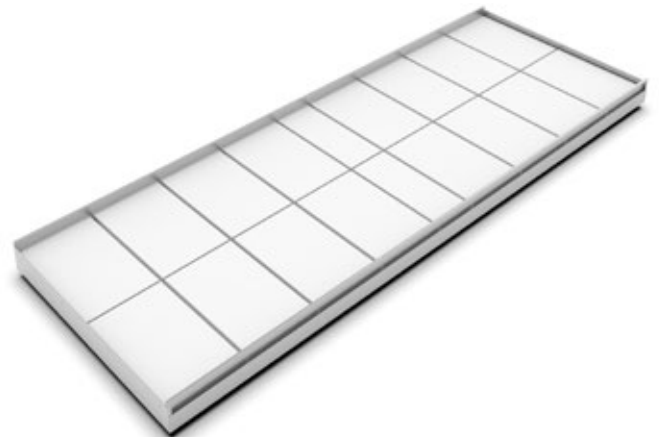
Growing gutters that allow optimal ventilation between plants



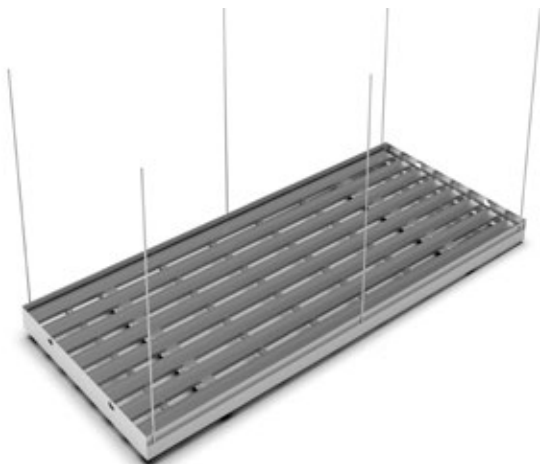
High quality ebb and flow trays, guarantees optimal irrigation and a dry surface after watering



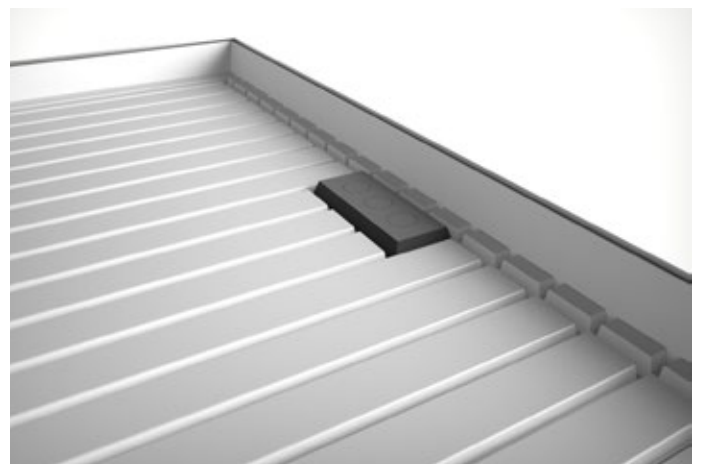
Galvanized steel mesh or aluminum in different shapes and sizes



Styrofoam plates, with PE-Foil, Fleece, or MyPex on top



Poles and trellis systems for support of nets



Different irrigation valves

## AUTOMATION EQUIPMENT | 2D-Shuttle system



The 2D-Shuttle is the most efficient way of fully automating the growing area of the greenhouse while at the same time facilitating a fast and reliable transport flow of the mobile benches to and from the work area.

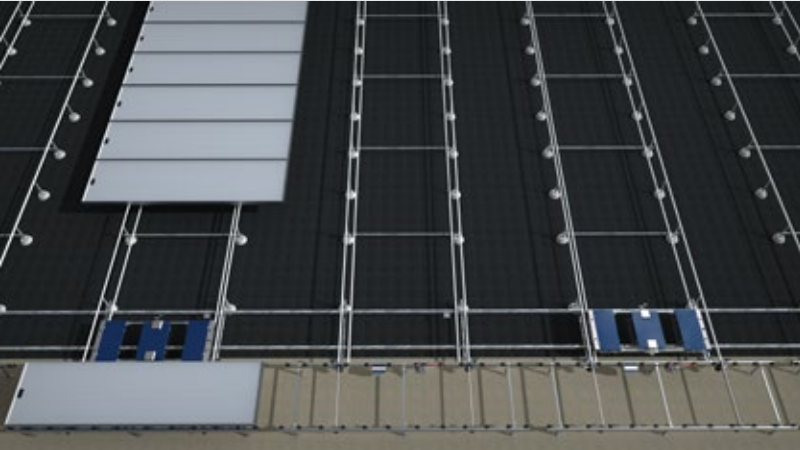
Because the 2D-Shuttles can also move independently between the rows of benches, the grow area can be fully automated even with just one or two shuttles (depending on size and required daily transport capacity) and without the need of expensive fixed push-pull equipment for each individual row.

A 2D-Shuttle system is made complete by the addition of one or more transport lines, that connect different sections of the greenhouse as well as the grow area to the work area (potting, spacing, harvesting, etc.)



## AUTOMATION EQUIPMENT | 2D-Shuttle system

### Flexible



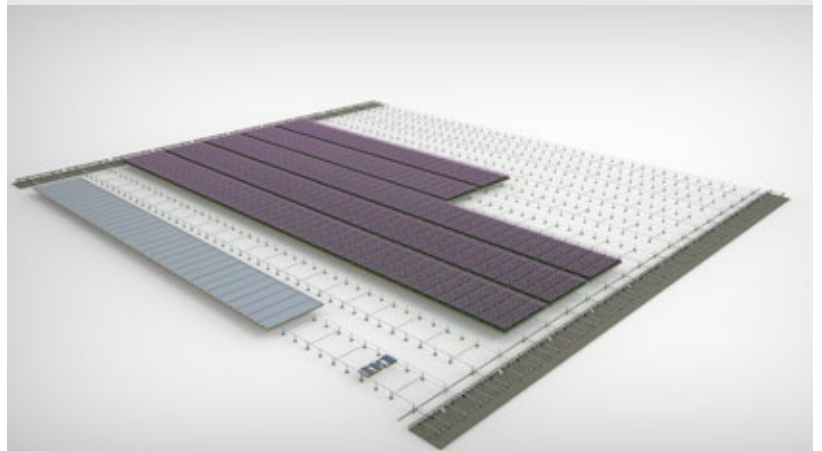
A 2D-Shuttle systems functions as an on-demand logistics system that dynamically allocates resources to where they are needed in the greenhouse.

The greenhouse foreman can easily assign higher priority to certain batches of transport tasks in the Dat-A-Control software.

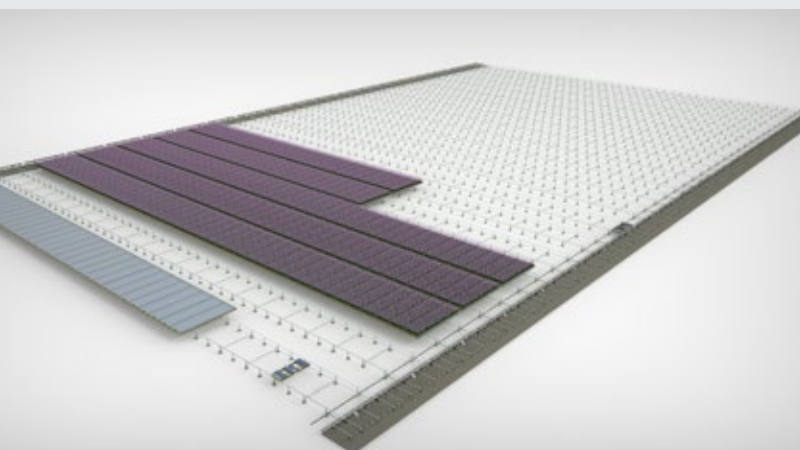
Multiple shuttles can be automatically deployed by the software to prioritize the batches that have high priority, so that the can be processed even faster.

There is no other system on the market that can match the 2D-Shuttle system in terms of modularity. This makes the 2D-Shuttle system ideal for phased builds. Growers can start off with a manual mobile bench system and manual transport lines and automate the system during later phases. This keeps initial costs to a minimum, while at the same time giving the grower instant access to all the benefits of a mobile bench system. Then in following phases the 2D-Shuttle system can be added, while the transport lines can be fitted with Automatic Drive units.

### Modular



### Scalable



The ideal system for phased construction, in both hardware and software. Adding extra growing surface and connecting it to the existing system is done at a fraction of the cost, compared to conventional automation solutions. If capacity requirements grow, extra 2D-Shuttles can be added to the system without requiring any major modifications. The rows are all connected to each other using an A-Track automatic transport line. The 2D-Shuttle can serve the entire growing area and move between the rows using specialized rails.

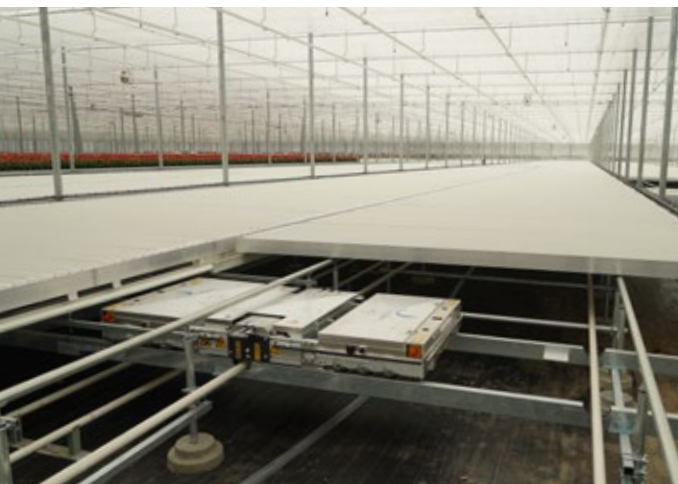
## AUTOMATION EQUIPMENT | 2D-Shuttle



### 2D-SHUTTLE

*A revolution in greenhouse automation!*

The 2D-Shuttle is a semi-autonomous vehicle that operates underneath the mobile benches, using the heating pipes as rails. Using its grabbing mechanisms and sensors the 2D-Shuttle can move the individual benches according to the transport tasks assigned by the grower. The 2D-Shuttle can also switch rows independent of other machines. Just one 2D-Shuttle replaces dozens of conventional fixed push-pull systems and can automate entire hectares of crop in certain situations



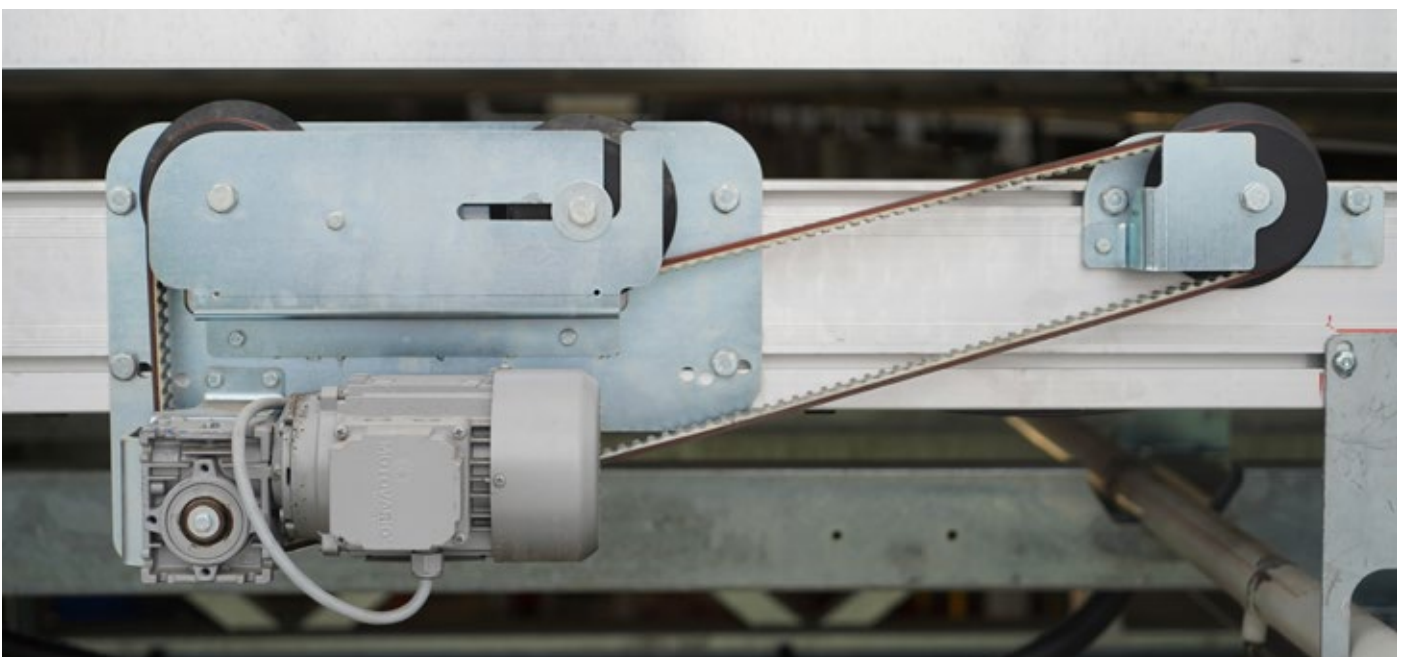
# AUTOMATION EQUIPMENT | Automatic Transport Lines



## Automatic Transport Line

*High capacity and high reliability!*

The A-Track automatic transport lines ensure bench movements between rows and connect the growing area to the work area. Each individual A-Track Transport Line section is powered by just one drive unit, using two speeds: a fast one for normal bench movements and a slow one for precise positioning of the bench on the lifting frame. The automatic transport lines work perfectly with the 2D-Shuttles to create an optimal flow of benches to and from the grow area



## AUTOMATION EQUIPMENT | 3D Cranes



### 3D Cranes

*Ultimate flexibility and speed!*

Logiqs developed the 3D Crane for high capacity and high output greenhouses that have strict capacity requirements for order picking. This crane can serve a large surface area, and move on both the X and Y axis.

As a logistical solution, it is ideal for order picking, giving the grower immediate access to all the plant benches within the cranes reach.



## AUTOMATION EQUIPMENT | *Overhead Cranes*



### Overhead Cranes

*Specialized for empty or full benches.*

Logiqs produces and installs high quality Overhead Cranes that can be used for both empty moving benches (used for empty bench management and in combination with bench cleaners) as well as for benches with plants on them.

The overhead cranes have a lightweight design and can be fitted in new as well as existing greenhouses.



# AUTOMATION EQUIPMENT | Transport Vehicles



## Transport Vehicles

*Highly configurable, reliable and fast!*

Our Transport Vehicles are extremely popular worldwide because of their high transport capacity and undeniable quality and reliability.

The Logiqs transport vehicles can be mounted either on the side-walls or through the center of the greenhouse where space permits it.

Transport Vehicles can be configured to carry up to 3 benches at the same time using multiple platforms.



# AUTOMATION EQUIPMENT | Automatic Irrigation Booms



## Automatic Irrigation Booms

*Precise irrigation with full registration!*

The automatic irrigation booms from Logiqs help growers gain more control over their irrigation processes and a better overview on their crops needs. The booms can be configured with both spray and ebb and flood capabilities.

Because of the full software integration with Dat-A-Control, irrigation can be done on individual container basis and automated with irrigation plans for individual plant lots.



## AUTOMATION EQUIPMENT | Bench cleaners

### *Better grow surface hygiene = Healthier plants*

Benches with a plastic or aluminium Ebb and Flood inlay as well as the ones fitted with gutters have to be washed under high pressure between crops.

This ensures the cleanliness of the bench surfaces and overall hygiene of the grow area.

For this task, Logiqs developed two different mobile bench cleaner solutions, that can be implemented according to the capacity requirements of the greenhouse and to the layout of the greenhouse.



### *100 Degree bench cleaner*

The name comes from the 100° angle at which the benches are flipped during the cleaning process. In this way, both the dirt and water easily fall out of the bench.

The inlays are cleaned, with the use of high-pressure nozzles and a moving brush, which thoroughly clean the entire length of each bench.

The cleaner can also be equipped with a dispenser for mixing in disinfecting agents.

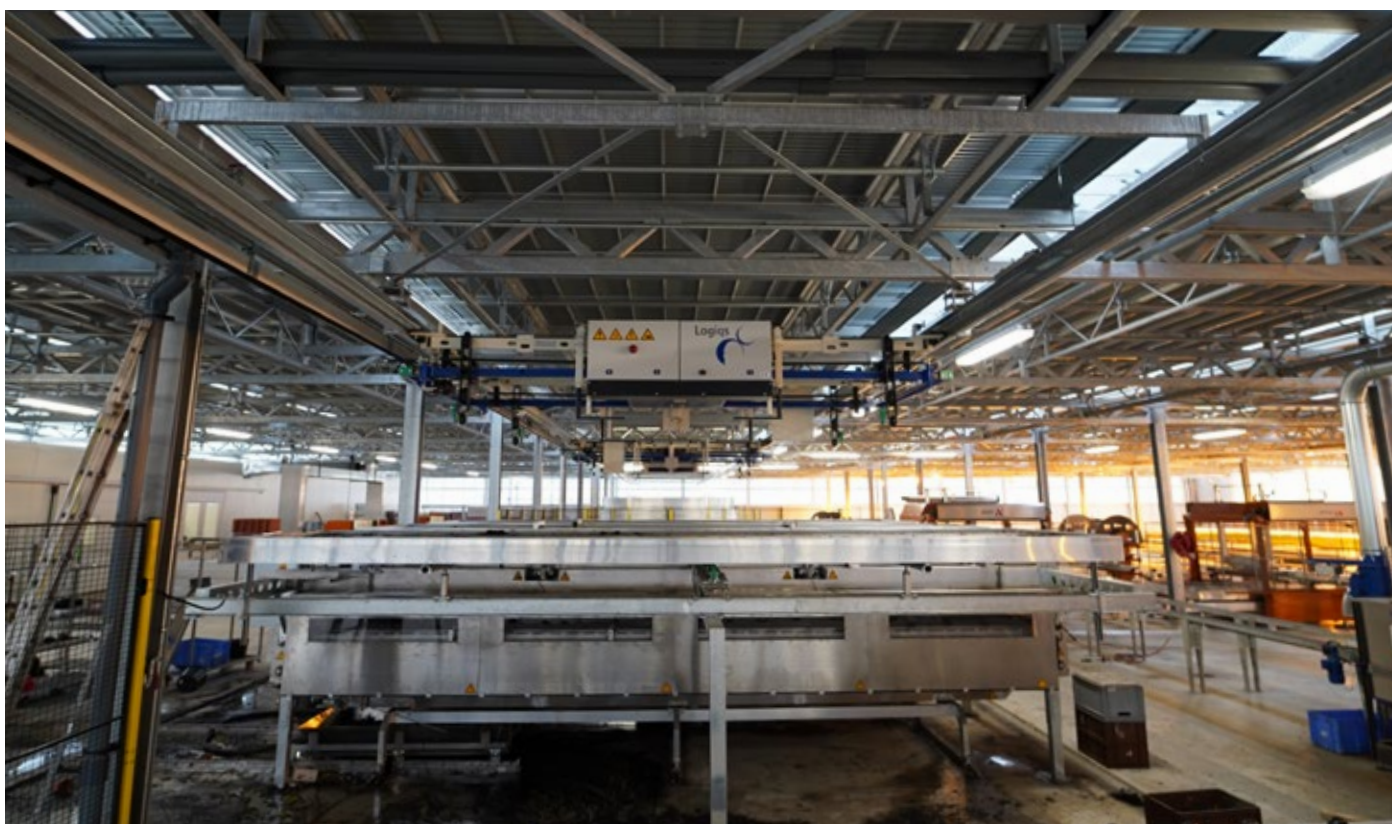
The import and export of benches is usually done by an overhead crane, but can also be combined with an extra input via a pipe track or A-track.



## AUTOMATION EQUIPMENT | Bench cleaners

### *Reliable equipment = Less production bottlenecks*

Because of the sheer scale of production some greenhouses have, the bench cleaning process is extremely important. Growers rely heavily on the bench cleaners and on the logistics system that delivers dirty benches and retrieves the clean benches. The supply of clean benches to the potting area often depends on it! It's extremely important that the bench flow is efficient and that the equipment is reliable and dependable.



### *180 Degree bench cleaner*

The 180° Bench Cleaner gives growers a higher cleaning capacity than ever before possible. This cleaner uses a tiltable platform on which dirty benches are positioned upright before cleaning.

The platform on which the bench has been placed, then rotates and the dirty bench is washed by several high-pressure water nozzles. Once the platform rotates, a clean bench appears that has undergone cleaning, ready to be buffered.

The 180° Bench Cleaner is designed to work together with an overhead crane transport system.

## WORKING AREA



### *The heart of any production greenhouse*

One of the greatest benefits of using a mobile benching system is the fact that all production processes can be efficiently organized in one work-area serving the entire greenhouse. Since our benching systems are heavily customised for the needs of each project and each crop, the same goes for the design and configuration of each working area. According to the growers needs, we advise, design and build the ideal solution that can match and surpass the project requirements.



### *Reliable management of empty benches*

The working area of the greenhouse also usually houses the empty bench stacks and bench cleaning station.

These areas are generally connected using automated transport lines and/or Overhead cranes. The size of the bench buffers and the scale of the automation is always determined by the overall capacity requirement of the greenhouse.

# WORKING AREA

*Potting, spacing, trimming, phenotyping, sorting, harvesting...*

Not only does Logiqs have an extensive experience working with some of the worlds most successful growers, but we've also successfully collaborated with some of the largest producers of automated potting machines, transplanting machines, trimming machines, phenotyping and vision sorting equipment. We can fully integrate these production processes with our mobile benching systems and design the most efficient work-area layouts in order to maximise the usage of space and avoid potential bottlenecks. Integration can also be carried on to the software and our Dat-A-Control package also features optional Potting, Spacing, Pick and Place and Vision Sorting modules



## *Greater efficiency and better crops*

By using a automated mobile bench system and a centralized working area, working conditions are improved dramatically while also increasing efficiency.

Worker interaction with the crop in the grow area is reduced dramatically and all the major production processes happen in one specialised area.

With a wide variety of specialized equipment, Logiqs automated benching systems are not only designed to help integrate all other necessary equipment, but to do so while preventing possible production bottlenecks.

## COOLING CELLS

Cooling cells play a very important role in large scale cultivation of certain crops such as: bulb plants, cress, micro vegetables, etc.

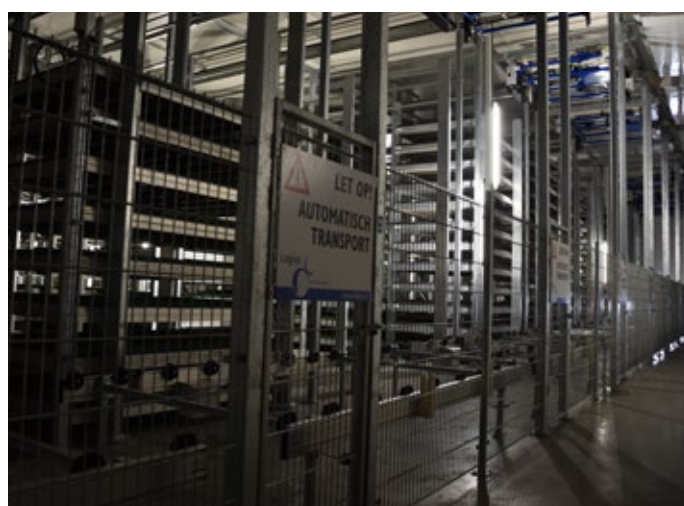
For these sort of crops, we've produced countless automated multi layer cooling cell logistics systems, that allow the maximum usage of space possible in the cooling cell.



### *Reliable logistics flow and maximum space usage*

While different crops require a cooling cell for different reasons and at different stages in the production processes, the need for efficient space usage and for a reliable inbound/outbound logistics flow remains universal.

For each project and each crop, we work closely with our customers in order to advise, design and build the best possible logistics solution for the project.





# COOLING CELLS

The highly efficient use of space has the advantage of minimizing the environmental footprint of the crop as a result of the lower energy usage needed to maintain the desired temperature in the cooling cell.

The automated cooling cells from Logiqs use highly reliable automated transport lines and overhead cranes and the equipment is controlled automatically using our user industry leading software package.



*Here are some of the main advantages when using a Logiqs automated cooling cell:*

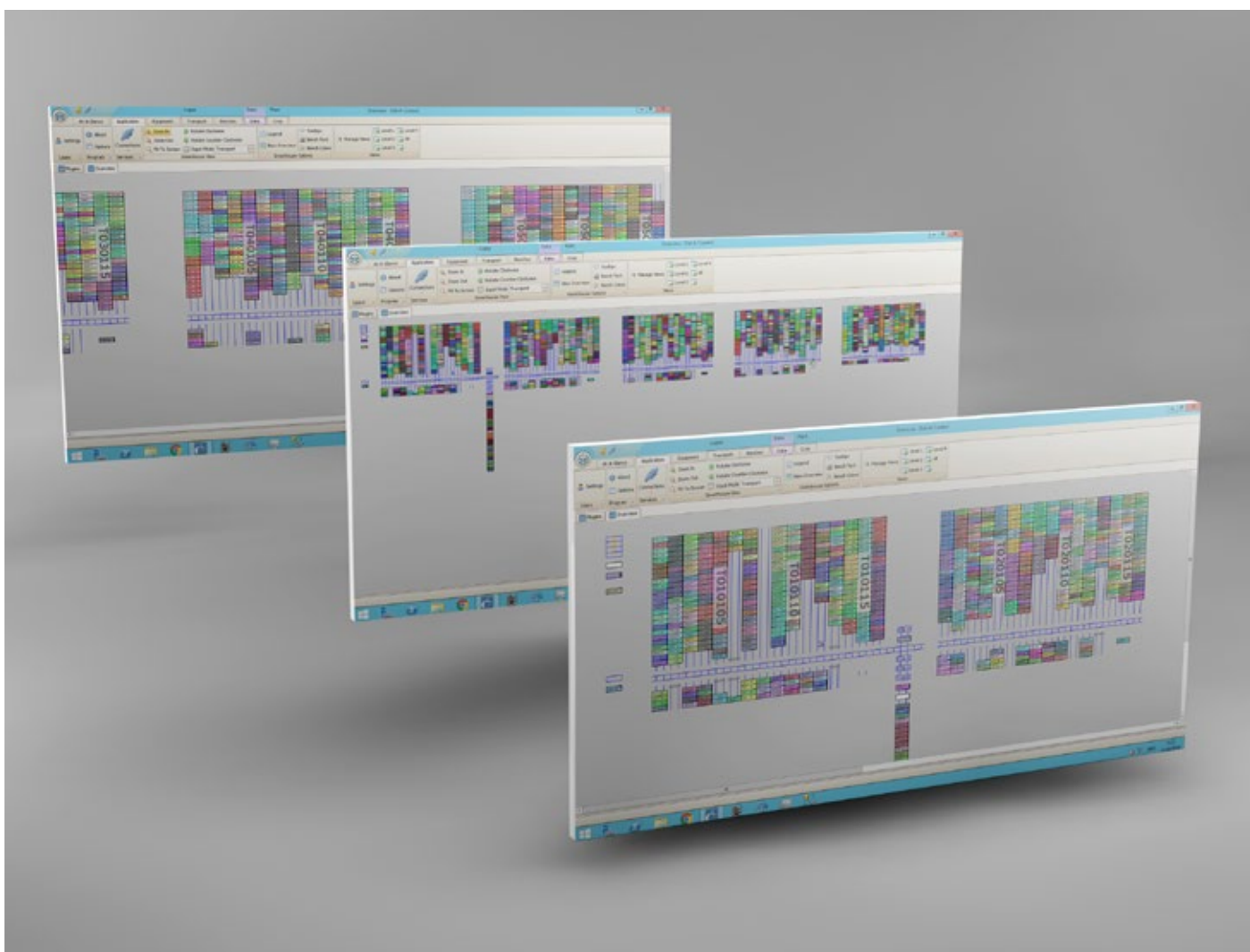
- mature equipment with a high level of reliability;
- no unnecessary equipment and sensor arrays needed;
- bench transfers from the automatic transport lines to the overhead cranes happen directly and efficiently;
- automation equipment is controlled using our user-friendly software, allowing the grower to focus their energy on the crop;
- Logiqs software allows for automated re-stacking of benches during night time, according to production date or other parameters.



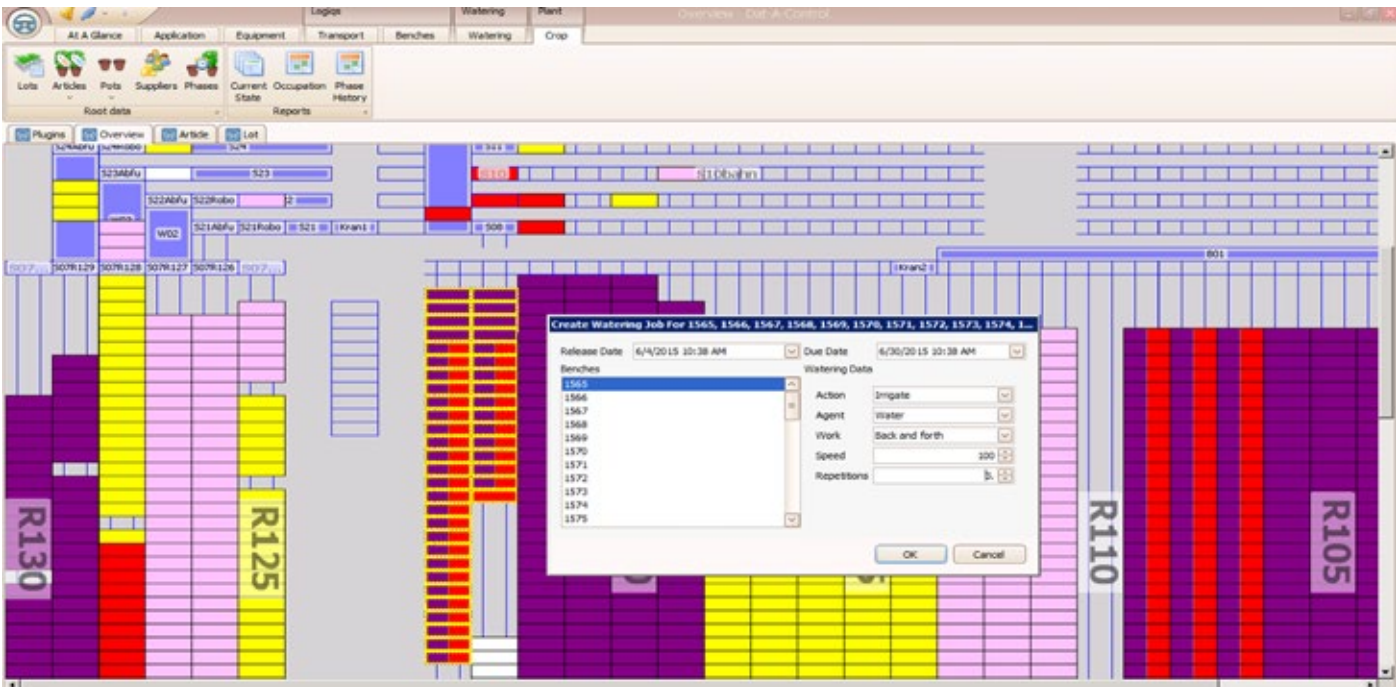
## DAT-A-CONTROL SOFTWARE

*The most advanced greenhouse control and registration software available today!*

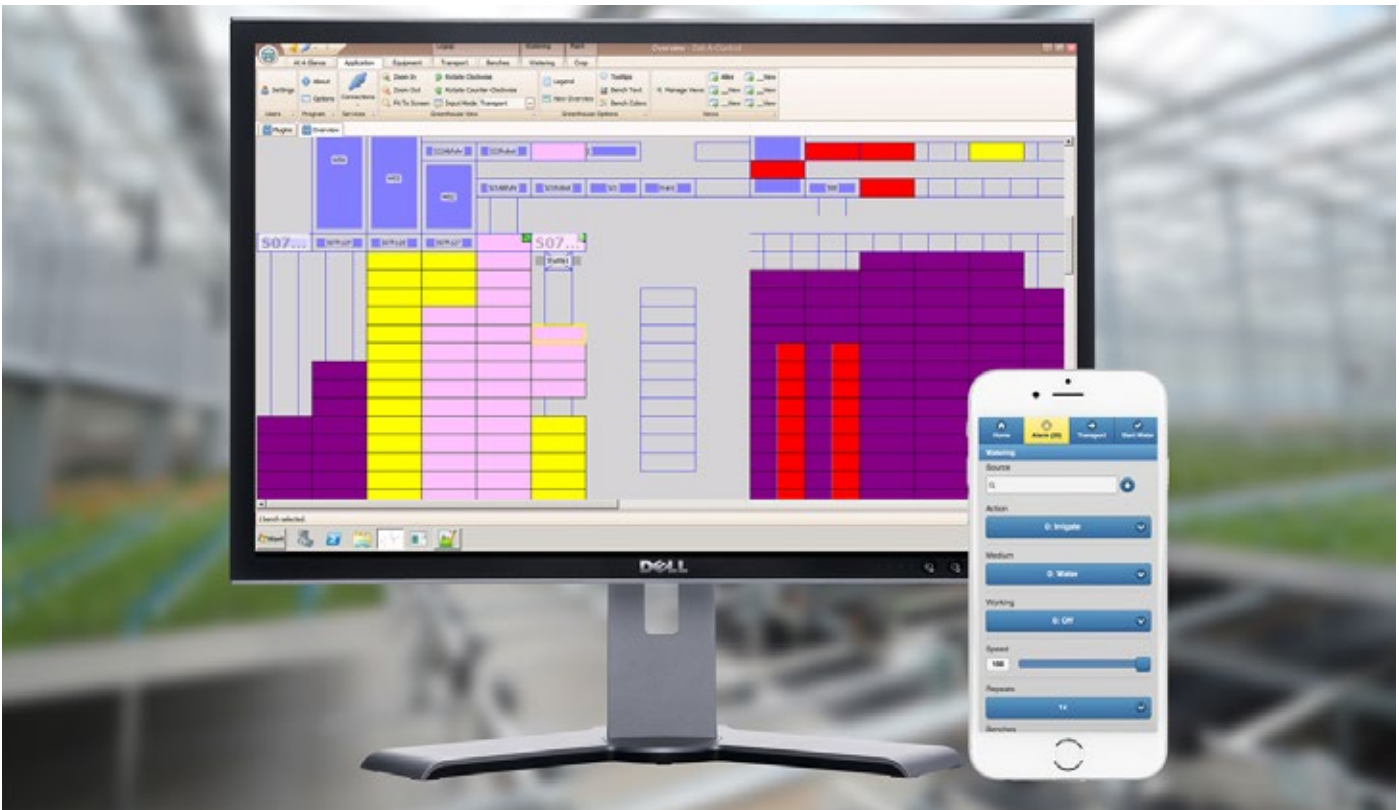
More than 20 years of constant development have made Dat-A-Control the leading software solution for the control of a mobile benching system and for advanced plant registration. By using Dat-A-Control, growers gain full control over all the machines and plants in the greenhouse directly from their computer or mobile device.



Because Dat-A-Control is built from the ground up to be modular, growers can also benefit from the integration of their potting and spacing equipment, Camera sorting systems and Automatic Irrigation booms. Dat-A-Control also allows the growers to easily automate various bench sorting tasks that can be performed during the night, freeing up to system for optimal operation during working hours



Because Dat-A-Control is such a capable software tool for plant registration and tracking, it is also extremely capable when integrated with irrigation and spraying operations. Growers can choose to use automated irrigation booms controlled through Dat-A-Control increasing the efficiency with which they use water and feeds. Dat-A-Control makes it possible to carry out irrigation and spraying for individual benches or plant lots, keeps a comprehensive history of all irrigation tasks and does not spill water or feeds on unoccupied spots in the greenhouse



## ABOUT LOGIQS | *More than 45 years of experience and passion*

### Logistics quality systems

Logiqs has more than 45 years of experience and know-how, gained in the field of internal transport and logistics systems for greenhouses. Our industry leading solutions help our clients achieve a higher profitability and a stronger competitive position within the worldwide horticultural marketplace.

We advise, design, produce and install complete logistical systems, manual or completely automated, for growers specialized in: potted plants, cut flowers, tree nurseries, flower bulbs and vegetables.

By working closely together with our customers, we aim to always provide a highly reliable service as well as intelligent solutions for any logistics automation problems our customers might encounter.

The quality of our cultivation systems, comes from the close collaboration we have with our customers, the growers. We always work together with the customer to fully understand both the short term and long term needs of the growers, so that we can design and build the best possible logistical solution for our customer.

Logiqs also has a great deal of international experience and has established partners in the United States of America, China, Great Britain, Australia, Finland, Brasil and South Korea.



Working together with growers worldwide for more than 45 years, constantly improving our logistical solutions and equipment.

## ABOUT LOGIQS | *More than 45 years of experience and passion*



### After Sales Services

Logiqs has its own experienced installation and service team based in the Netherlands, but also collaborates with reliable service engineer teams in several countries so as to prevent unnecessary installation costs.

You can be sure of prompt and efficient attention for routine maintenance, breakdown or emergency.

Routine preventative maintenance can be tailored to the customer's choice, with service intervals to suit the specific needs of the grower.

### Software Update Agreements

Growers can also opt for a Software Update Agreement with Logiqs, which brings a multitude on long-term advantages.

Our software development team works hard year round to further improve the Dat-A-Control software and that translates itself to monthly software update for clients with an Software Update Agreement.

Apart from the obvious advantages of always having up-to-date software, customers can also make new feature requests for Dat-A-Control.

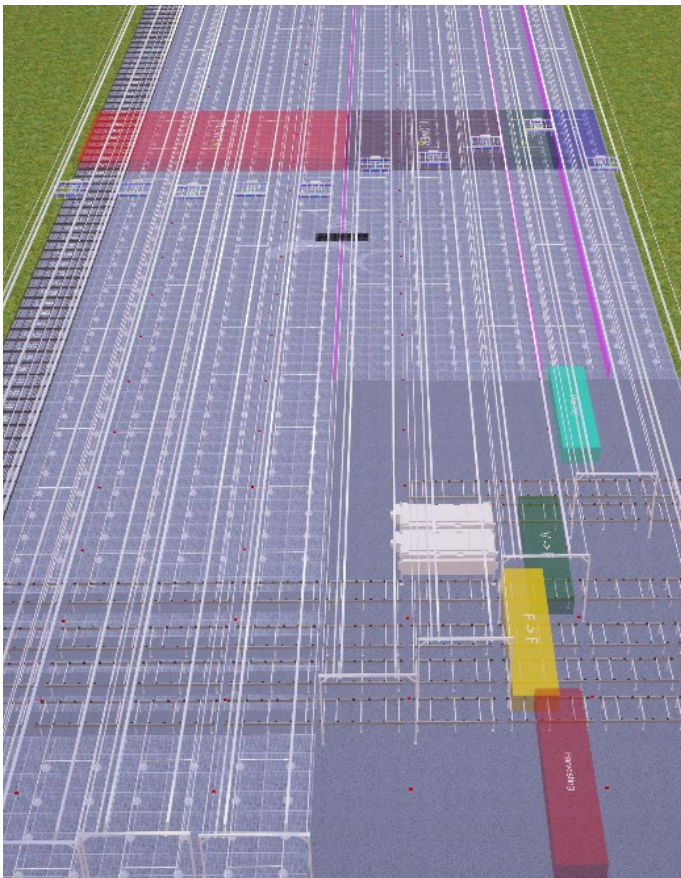
If you would like to learn more about Logiqs and our automated benching systems please visit our website:  
[www.logiqs.nl](http://www.logiqs.nl)

## DESIGN YOUR GREENHOUSE

Convert all your wishes and ideas into a 3D design with the help of our 3D Configurator

Experiment with different layouts, create multiple design iterations, calculate production capacity, all while seamlessly collaborating with our sales engineers in order find the best logistics solution for your crop.

If you would like to quickly configure the 3D layout of your new grow facility, use our free 3D Configurator to bring your vision to reality. And whenever you're ready, you can get in touch with our Sales Engineers to discuss your layout or you can request a quote for your system.



<https://greenhousebenching.logiqs3d.nl/>

### New Project

Project Name

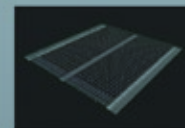
Green-House

Crop Name

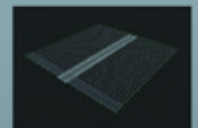
Crop



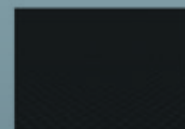
Default



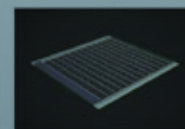
WalkingPath



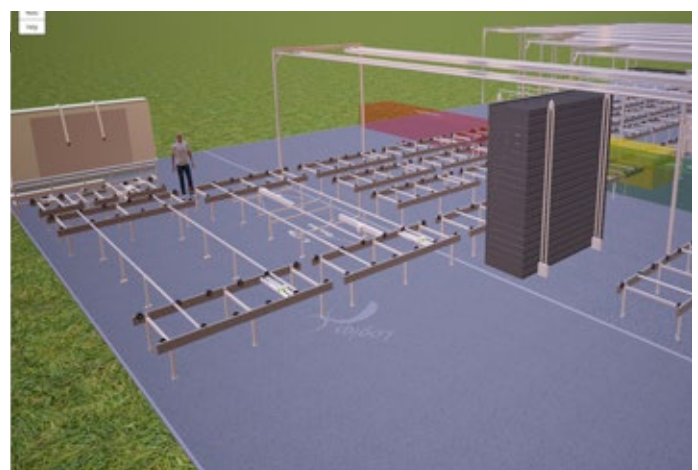
MiddleAtrack



Work Area Only



Grow Area Only



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Colourful in every season

**AMAZONE**  
plants

**K**  
**KOPPERT CRESS**  
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**MAAREL**  
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**MDK**  
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**Microflor**  
Getuoged door sterke planten

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CREATING ORCHIDS

**Perfect Plants**

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PROFESSIONALS.

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Die Blumenfamilie

**DELÍFLOR**  
CHRYSANTHEM

**Star Roses**

**sion**

**Silver Vase**  
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OF POTPLANTS

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**Bayview**  
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Bringing Colour to Life

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ORCHIDEËN

**ORCHIDS**  
**Florious**

Gärtnerei  
Thomas Koster

**Gebr. Valstar**  
Calathea

**HB**  
HOOG BOS

**J & P**  
**HAVE**  
POTPLANTS

**HARTMANN**  
QUALITY IN POTPLANTS

**HOLLANDPLANT**

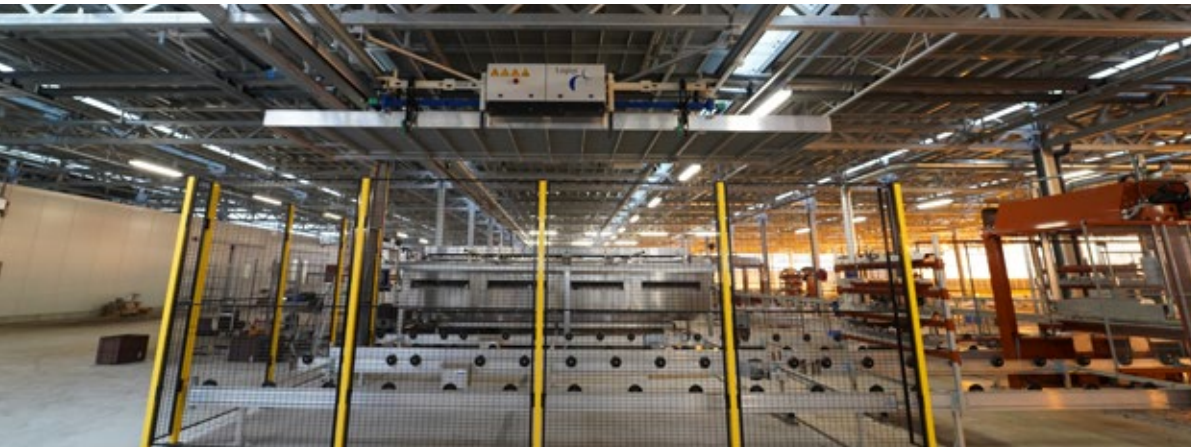
**Heuger**

**Kientzler**

**KNOX HORTICULTURE**



# Logiqs



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