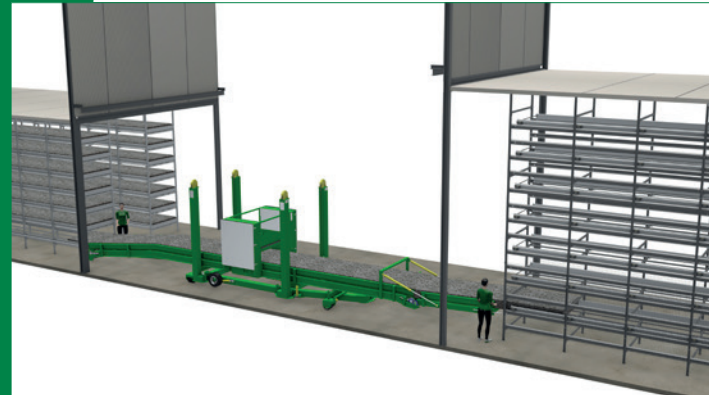


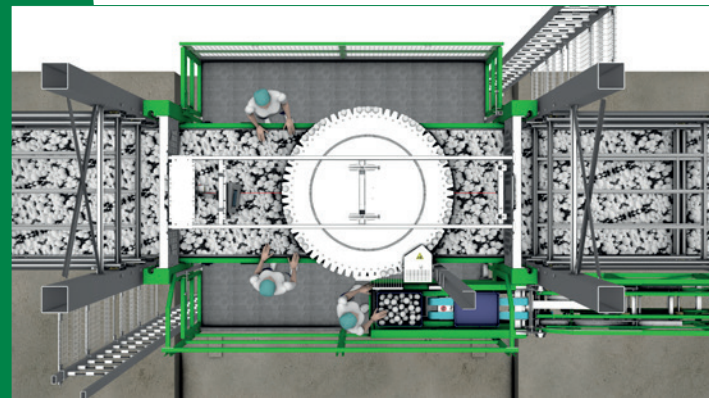
## THE DRAWER SYSTEM



Filling the pinning room

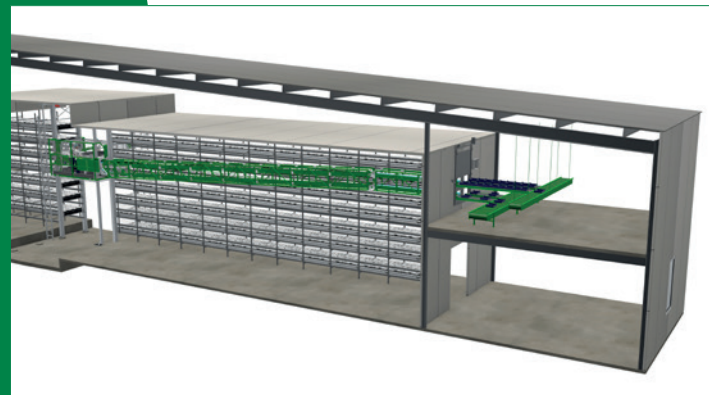


Transfer substrate with pins to the harvesting room



Harvesting the mushrooms

*Optional: full automation possible with pointer, harvesting robot and take off device*



Supply of empty crates and discharge of harvested mushrooms



Emptying the harvesting room



## THE DRAWER SYSTEM

The automated harvesting solution

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## SERIOUS CHALLENGES

Modern mushroom cultivation knows serious challenges. In the area of personnel, for instance. Finding and keeping the right people, working as ergonomically as possible, rising labour costs. And how do you ensure a maximum harvest? And that the mushrooms are picked at the optimum time? Not too early, not too late and cut at the ideal height? That is difficult to determine.

With these challenges in the back of our mind, we have combined our innovative approach with our proven technology to create: the drawer system.

## THE CONCEPT

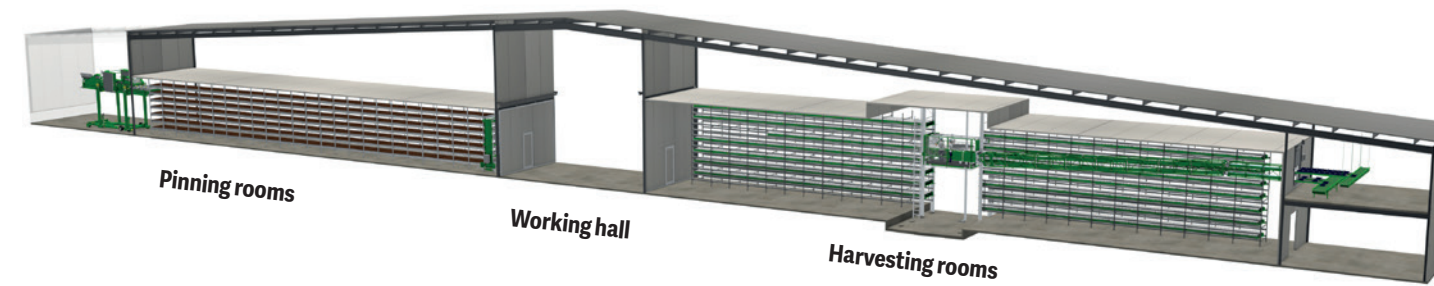
Proven technology was the basis for developing our drawer system. A system where we split the growing into 2 stages: pinning rooms and harvesting rooms. The dedicated pinning rooms keep the focus on the job. Production schedules are carefully coordinated, optimising the pinning and harvesting process and maximising the return on the investment in automation. Working with two stages is also more hygienic and prevents diseases. Once the pinning room is filled, the cycle starts. After  $\pm$  2 weeks the bed with pins are easily transferred to the harvesting rooms where pickers focus on harvesting only.

## AUTOMATED HARVESTING

In collaboration with Mycionics, we implement fully automated solutions for mushroom harvesting up to the packhouse. These add-ons are optional.

- Mycionics' pointer system creates an optimal interaction between robot and human, improving harvesting efficiency, reducing training time for new pickers and minimizing picking errors. Next to that, big data offers real-time information about the mushroom bed, including: size, microclimate, growth rate and quality, adding invaluable insight to the cultivation process.
- Mycionics' robotic picker, working in tandem with human efforts, harvests mushrooms at high speed. It boosts productivity but also reduces reliance on human labour, resulting in increased crop yields and superior quality at a reduced production cost.
- Christiaens' mushroom packer and box conveying system revolutionize the packaging process. It efficiently places mushrooms into containers and transports them for packing and shipment preparation; bringing consistency and efficiency to the packaging process.

**A game-changer in your farm productivity!**



## THE DRAWER SYSTEM

### THE HIGHLIGHTS

#### PINNING ROOM

- Minimum of people needed
- Easy filling & cleaning
- Proven air flow for optimal control

#### HARVESTING ROOM

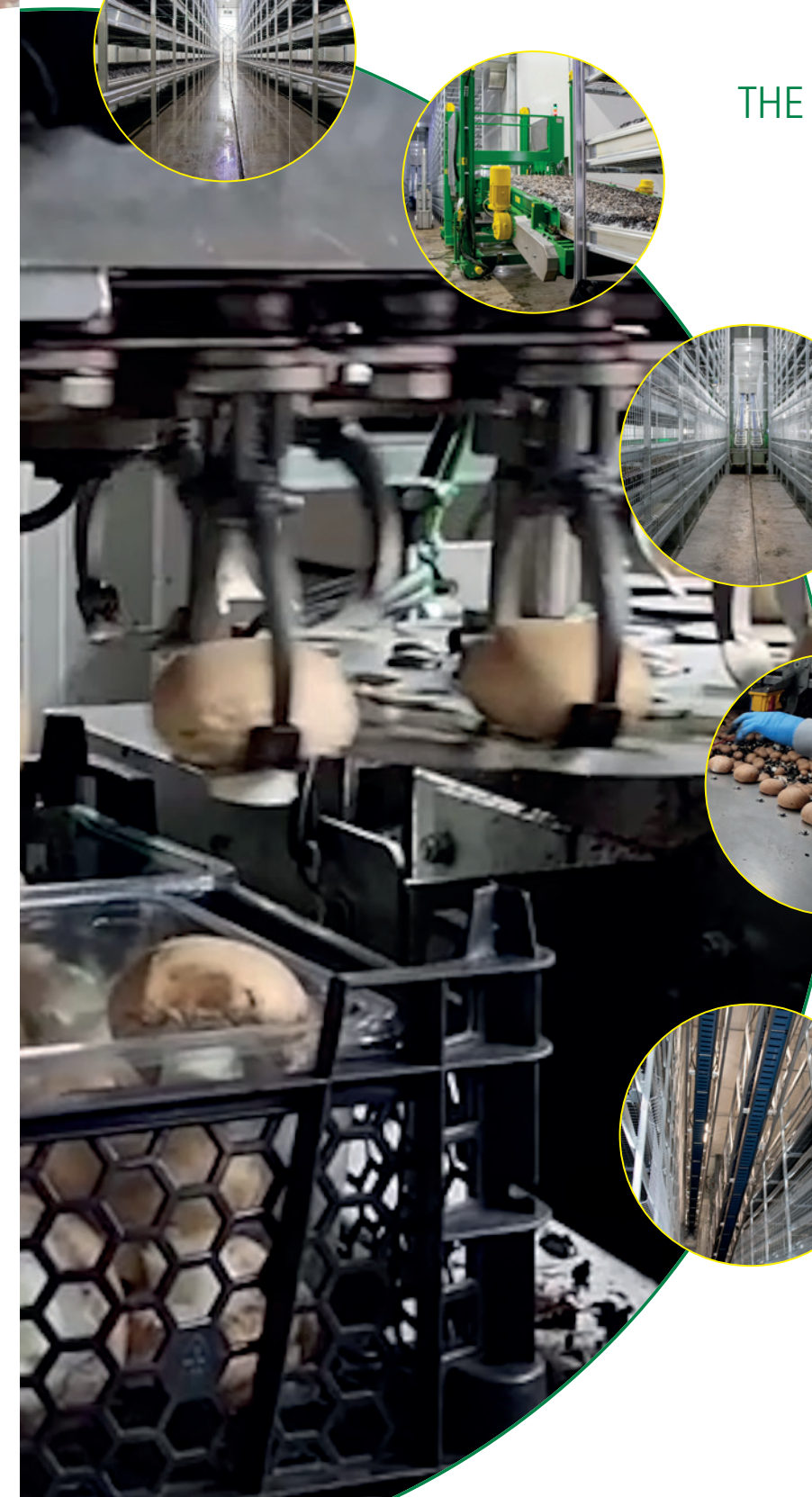
- Easy to use and maintain
- Harvesting focus: multiple harvesting with both hands
- Harvesting disc for optimal harvesting and stamp cutting
- Optional: integrated, automated harvesting solution

#### CONVEYORS TRANSPORT

For empty boxes from the central packaging area to the platforms

#### FILLED BOXES

Automatic weighing and transport to the packaging area



### MAXIMISE YOUR HARVESTING PERFORMANCE

- Pickers harvest with two hands
- Eliminate picker tasks like logistics and cutting
- Guaranteed double harvesting efficiency: tested and proven
- Mechanical stamp cutting increases production with 3-4%
- Easy moving beds for optimal harvest selection
- Multiple harvesting the same area
- Optional: robotic harvesting

### MINIMISE YOUR MAINTENANCE

- Developed with a focus on low maintenance; only 1 motor per shelf row
- Required technology is intelligently minimised
- High-end materials: from motors to bearings, from chains to shelving
- Minimal amount of sensors and other components
- Open structure makes cleaning and maintenance easy and pleasant

### SAFETY & ERGONOMICS

The drawer system ensures maximum safety. The picker is on top of the work and has a stable, solid picking platform with a wide cage on both sides. It is safely designed and approved for your employees. The open harvesting area with good lighting gives an optimal overview of the tasks as well as communication with your team members on the platform.

### SUSTAINABLE & FUTURE PROOF

The drawer system allows all kinds of sustainable and future proof developments:

- Make or build your farm to produce (almost) climate neutral
- Use big data solutions to predict growth, optimise the harvest and scan for diseases
- Automate processes wherever possible, think of: automatic cleaning after emptying and watering the casing soil
- Pointer system boosts efficiency, while reducing training and minimizing picking errors
- Robotic picker harvests mushrooms at high speed; reduces reliance on human labour
- Mushroom packer and box conveying system efficiently places mushrooms into containers and transports them for packing and shipment preparation

**Turnkey, advanced harvesting systems or equipment? We are happy to discuss which solutions fit your needs.**