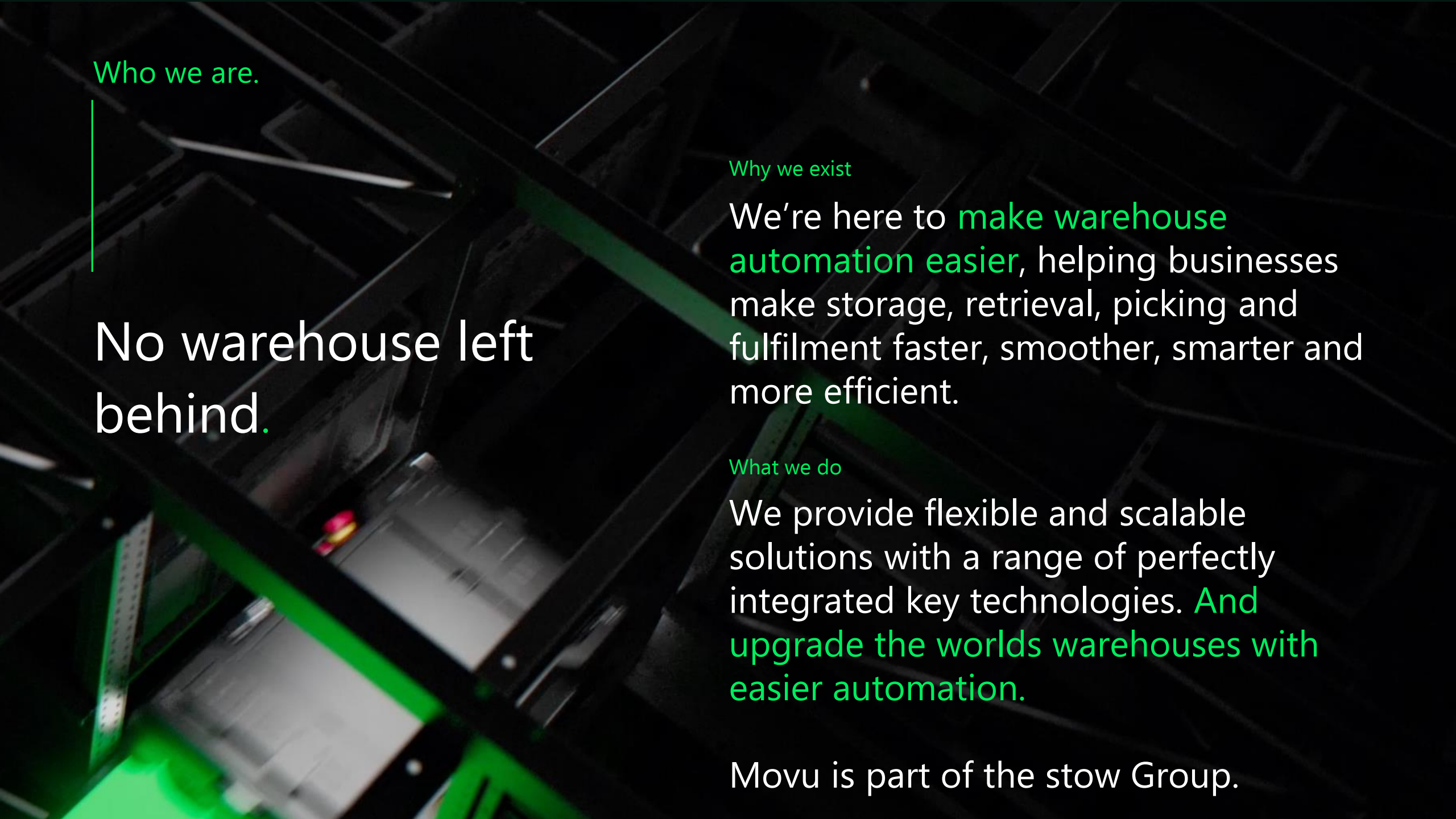


Düsseldorf, 11. 10 2023

Welcome.

Novu™



Who we are.

No warehouse left  
behind.

Why we exist

We're here to **make warehouse automation easier**, helping businesses make storage, retrieval, picking and fulfilment faster, smoother, smarter and more efficient.

What we do

We provide flexible and scalable solutions with a range of perfectly integrated key technologies. **And upgrade the worlds warehouses with easier automation.**

Movu is part of the stow Group.

# AS/RS Market

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Cubic Solutions  
Density



3D solutions  
Flexibility



Shuttle Solutions  
Performance



AMR Carrier solutions  
Low investment



AMR rack picking solutions



Stacker Crane Solutions  
Special goods

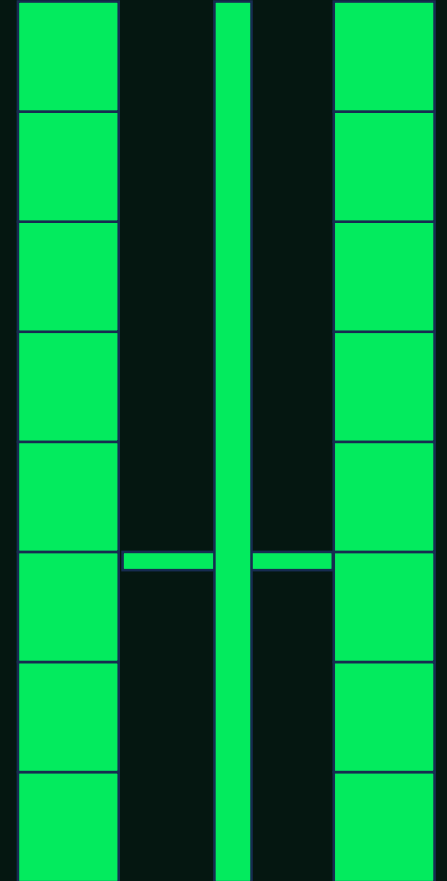
## AS/RS Market: Stacker Crane Solutions

### Advantages

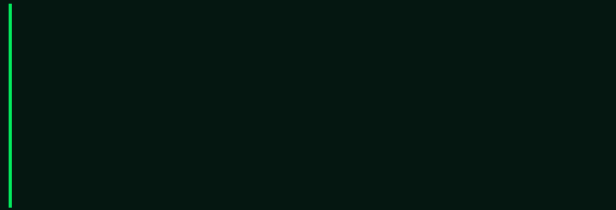
- Handling of oversized goods and nonstandard loading devices
- Handling of high weight goods

### Disadvantages

- Not scalable in performance and hard to scale in capacity
- Low redundancy and high maintenance effort



## AS/RS Market: Shuttle Solutions

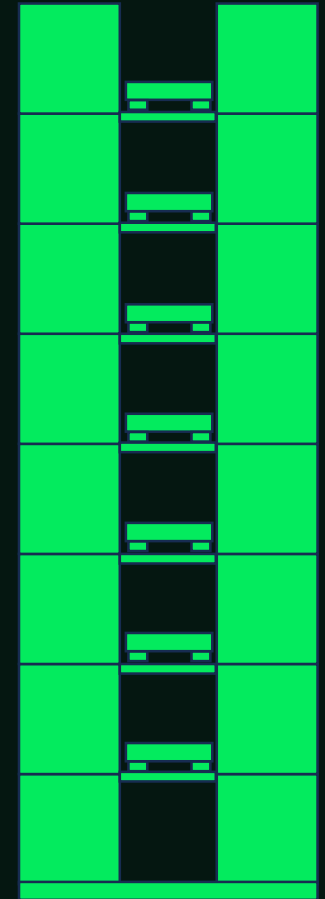


### Advantages

- Highest performance technology on the market
- Wide variant of applications possible (order buffering, sequencing, ect.)

### Disadvantages

- Complex technology mix (Shuttles, lifts, conveyers) leads to high initial costs - specially for small solutions and
- Low redundancy and high maintenance effort



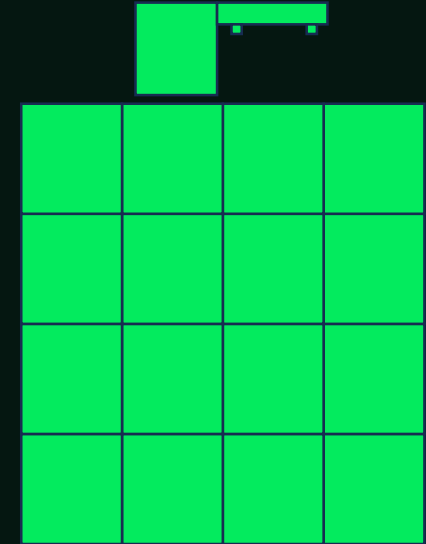
## AS/RS Market: Cubic Solutions

### Advantages

- Most dense technology at the market
- Easy scalable in performance and capacity and redundant

### Disadvantages

- Limitation in applications like sequencing and order buffering ect.
- Limitation in ABC curve and SKU structure changes



## AS/RS Market: AMR Carrier Solutions

### Advantages

- Cheapest technology on the market
- Very fast to implement

### Disadvantages

- Low density and limits in space utilization
- Limitation in achievable performance connected to available space



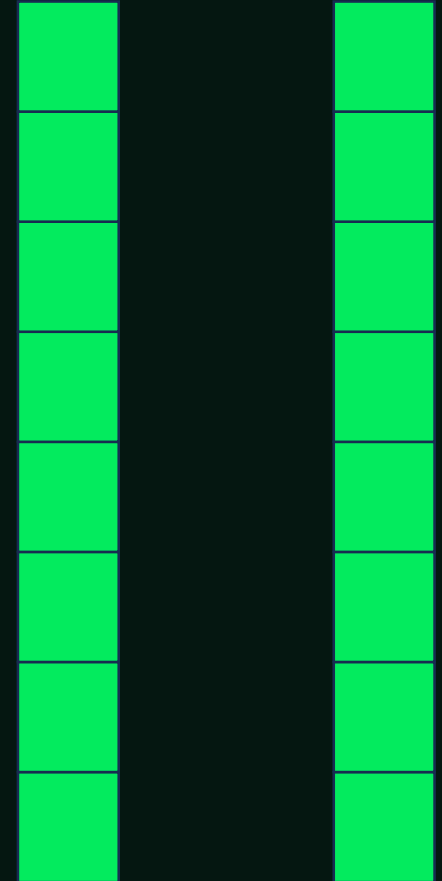
## AS/RS Market: AMR rack picking solutions

### Advantages

- Cost effective technology on the market
- Good performance achievable

### Disadvantages

- Limits in space utilization
- Limitation in achievable performance connected to available space





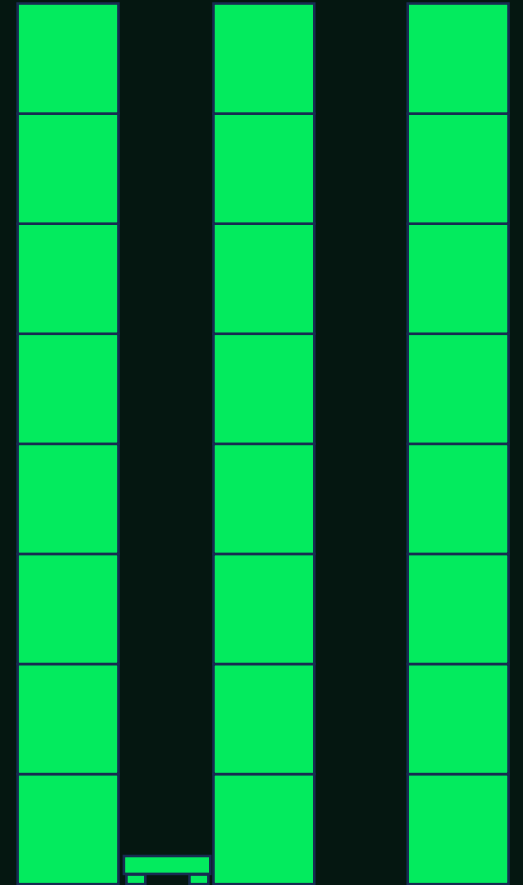
## AS/RS Market: 3D shuttle solutions

### Advantages

- High performance with high redundancy
- High flexibility to add applications and adapt internal processes (order buffering, sequencing, ect.)

### Disadvantages

- Normal space utilization when performance is very high
- Higher infrastructure because of rack infrastructure



## AS/RS Market: What's needed to decide for a technology?

### Questions to keep in mind:

- How experienced am I with automation?
- What data is available?
- How is my business developing?

### Information to target technologies:

- Material master data
- Order profile
- Future expectations

### KPI's for decision making:

- ROI – Return of Investment
- TCO – Total cost of ownership
- Technology must be able to adapt to changes!

Movu escala: Fast and simple robotic goods-to-person system.

Movu escala is a next generation 3D robot that can move in 3 dimensions to retrieve the right bin before delivering it to the fulfilment station for picking in sequence.



**Movu** escala: Fast and simple robotic goods-to-person system.



**Up to 6**

Storage containers deep



**All kind**

Standard bins



**50kg**

Payload capacity



**Up to 650x450**

Euro bins handled



**24/7**

Operating



**Up to 12.5m**

Height

Movu eligo: A self-learning robot for piece picking.

Movu eligo is an AI driven robot for fully automated bin picking, from a single-SKU source bin into multiple mixed-SKU destination bins. Integrates seamlessly with Movu escala.



# Movu eligo: A self-learning robot for piece picking.



**2kg**

Max load



**600 items/hr**

Pick rate



**24/7**

Run-time



**Up to 30cm**

Pick items dimension



**>99%**

Pick accuracy



**AI**

Intelligent handling

Movú<sup>TM</sup> escala

Movu.

No warehouse left  
behind.

