

Automate  
Warehousing

***Without Robots***

# Why Robots – Why Automate

- Quality – Accuracy
- Cost – Efficiency
- Speed
- Scale
- Other reasons

# Where are we

- 90% of warehouses worldwide are either entirely manual or have implemented only low-level automation
- Only 3 % of warehouses in Europe have Robots / Machines doing piece pick

# Advantages of Robots

- Don't take wrong decisions – one brain
- Work 24x7
- Repetitive task
- No HR issues
- Safety

# Disadvantages of Robots

- Cost – ROI
- Flexibility – different types of jobs
- Adapt – business environment changing fast
  - Sales Channels
  - Scale up / scale down – across years, across days
- Location and readability of barcode

# How To Automate without Robots

## Technology – Make Human Robots – One brain

- Serialization
- Track human actions – scan and logins
- Minimal human decision making
- Simple and Intuitive UI
  - No education /training required
  - Pen less, Paper less, Keyboard less
- No human to human communication

# How To Automate without Robots

## Technology – Make Human Robots

- Aid by photos / fonts
- Display performance
- Data and algorithms
  - Pick path
  - Storage location
- Monitor from anywhere

Make it simple for humans

# What can be achieved

- Very large warehouses: 200 k sq ft, 4 storey storage, storing 300 k pieces, dispatching 200 k per day at peak
  - Inventory and fulfilment accuracy of 99.9% +
- Highest storage efficiency
- Very high productivity
- Same day / next day delivery – 48 mins from order to pack
- No machine automation except simple conveyers, but lot of technology and instruments
- Even Amazon has not automated much in India : “Even in 50<sup>th</sup> warehouse , Amazon pushes forward with humans, not robots” – Sept 2018, Techcircle



THANK YOU

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