

HARPAK **ULMA**

Adding Value is our Business

How Automation Equals Labor Savings for the Tortilla Industry

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Agenda

- Introduction to Harpak-ULMA
- Facing Today's Labor Challenges
- How Automation can help
- What a Fully Automated Tortilla Line Looks Like and How It Can Lead To Substantial Labor Savings
- Return on Investment
- An Insider's View
- Summary

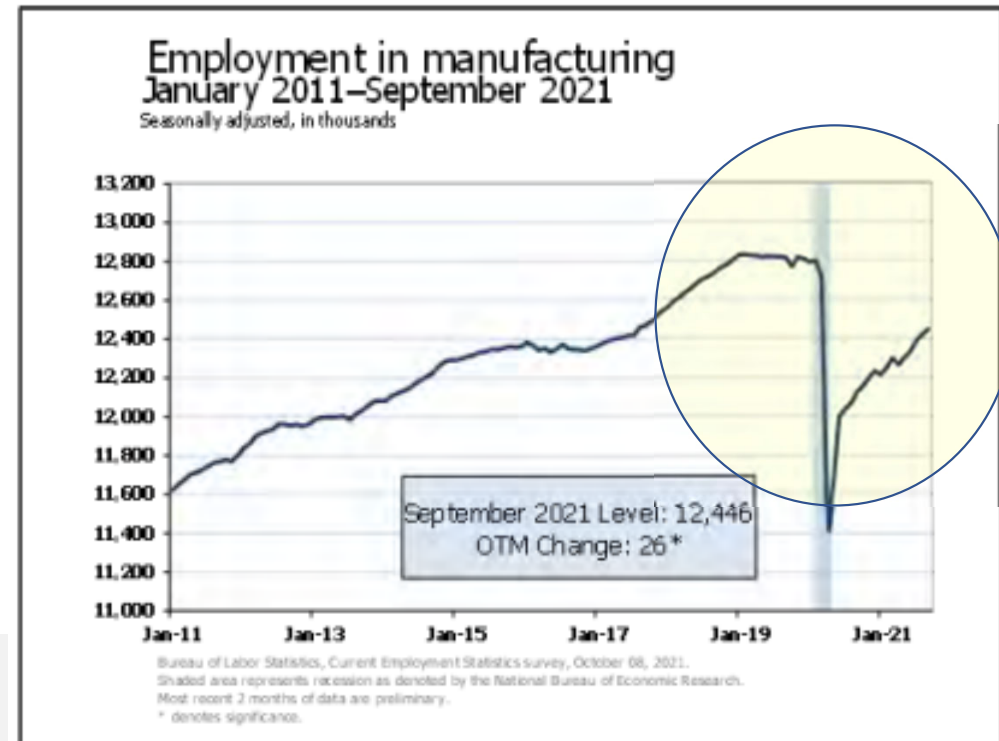


Facing Today's Challenges

Staffing is Scarce...

National Association of Manufacturers Survey

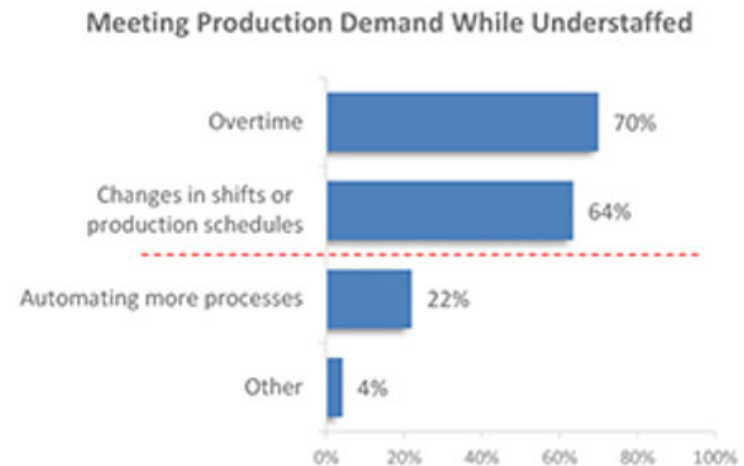
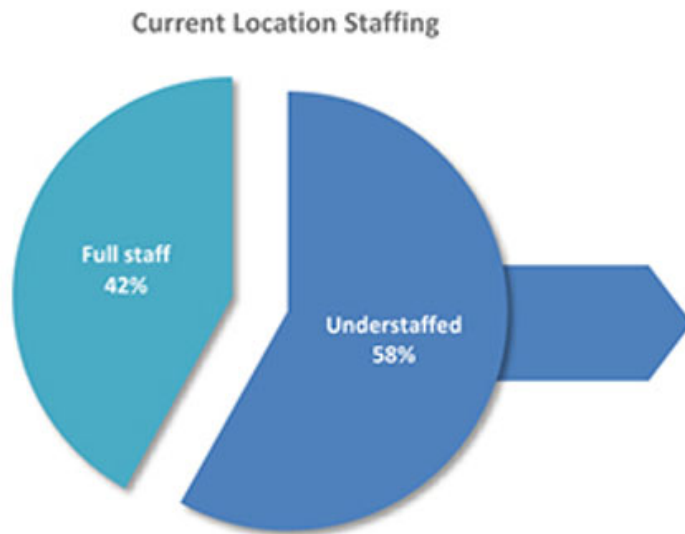
- *“Attracting and retaining a quality workforce constitutes one of the top challenges facing the manufacturing industry.”*
 - Exacerbated by the aging of the manufacturing workforce and retirement– 25%+ age 55 or older.
 - 97% of survey respondents report being aware of the issue, and 78 % indicate that they are very or somewhat concerned about this change.
-
- Many resources per line needed
 - Task complexity is higher
 - Wasted labor



Facing Today's Challenges

Staffing and Production Demand

More than half of the respondents report that they are understaffed. Understaffing issues are mainly addressed with overtime followed by changes in shifts or production schedules.



n=118

¹"Don't know" responses removed for analysis purposes

Turnover

**\$630
BILLION**

Overall cost of
employee turnover
in the U.S.



33%

of an employee's
annual salary

The cost of replacing
an employee who
resigned

Why are people leaving?

Employers say → Better opportunities

Employees say → Job dissatisfaction

This means that employers can keep their
employees from leaving!



Source: Work Institute, 2020; Emplify, 2020

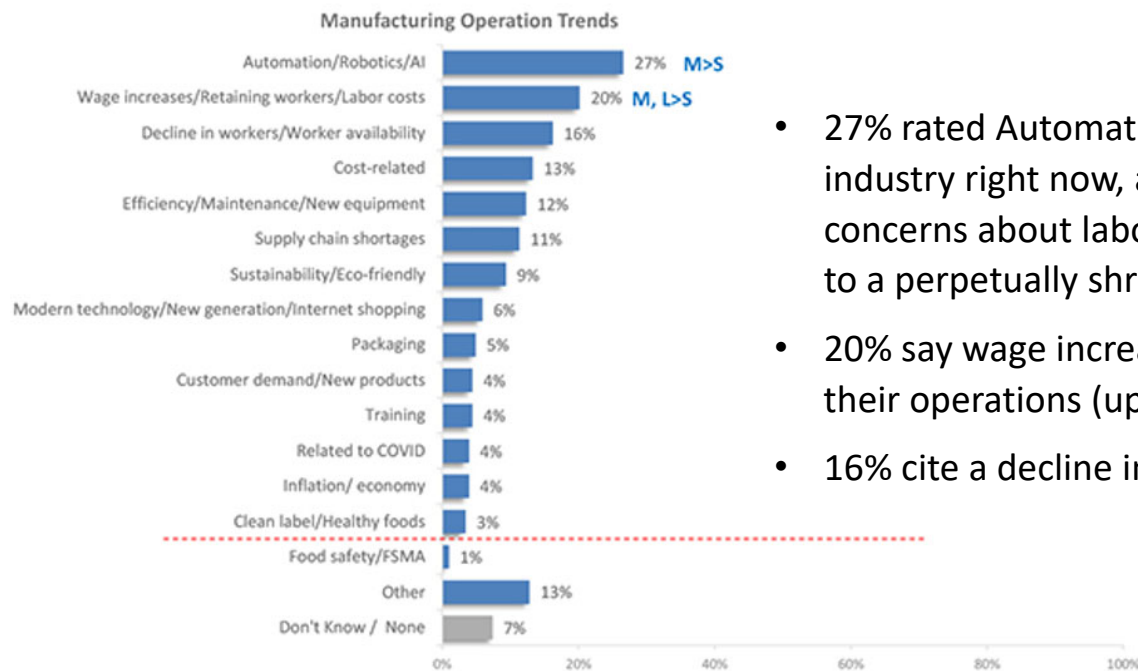
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REVIEWS FOR BUSINESS

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Facing Today's Challenges

Trends that Change Manufacturing Operations

Automation/Robotics/AI is the top trend that respondents expect to change manufacturing operations in the next 5 years, followed by wage increases/retaining workers/labor costs.



- 27% rated Automation/robotics/AI as the number-one trend in the industry right now, and (perhaps predictably) right behind it, are concerns about labor, since automation is seen as a possible remedy to a perpetually shrinking labor pool:
- 20% say wage increases/retaining workers/labor costs are impacting their operations (up from 14% last year)
- 16% cite a decline in workers/worker availability.

n=200

Significant differences at the 90% confidence level are noted when a company size is statistically higher than the FIRST LETTER of that company size
Note – "S" Small companies (Up to 500 employees) | "M" Mid-size companies (501-5,000 employees) | "L" Large companies (Over 5,000 employees)
Differences considered significant between response options using a 90% confidence interval are indicated by

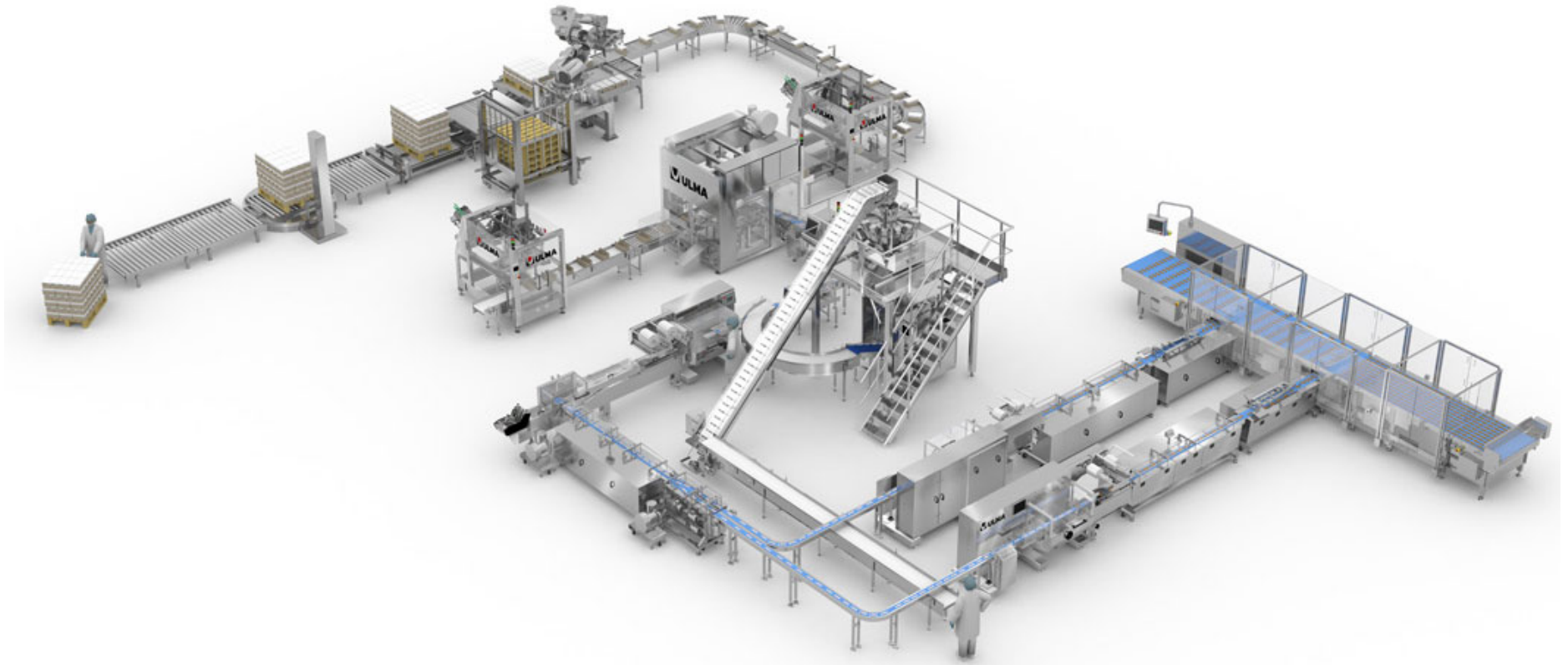
How manufacturers responding



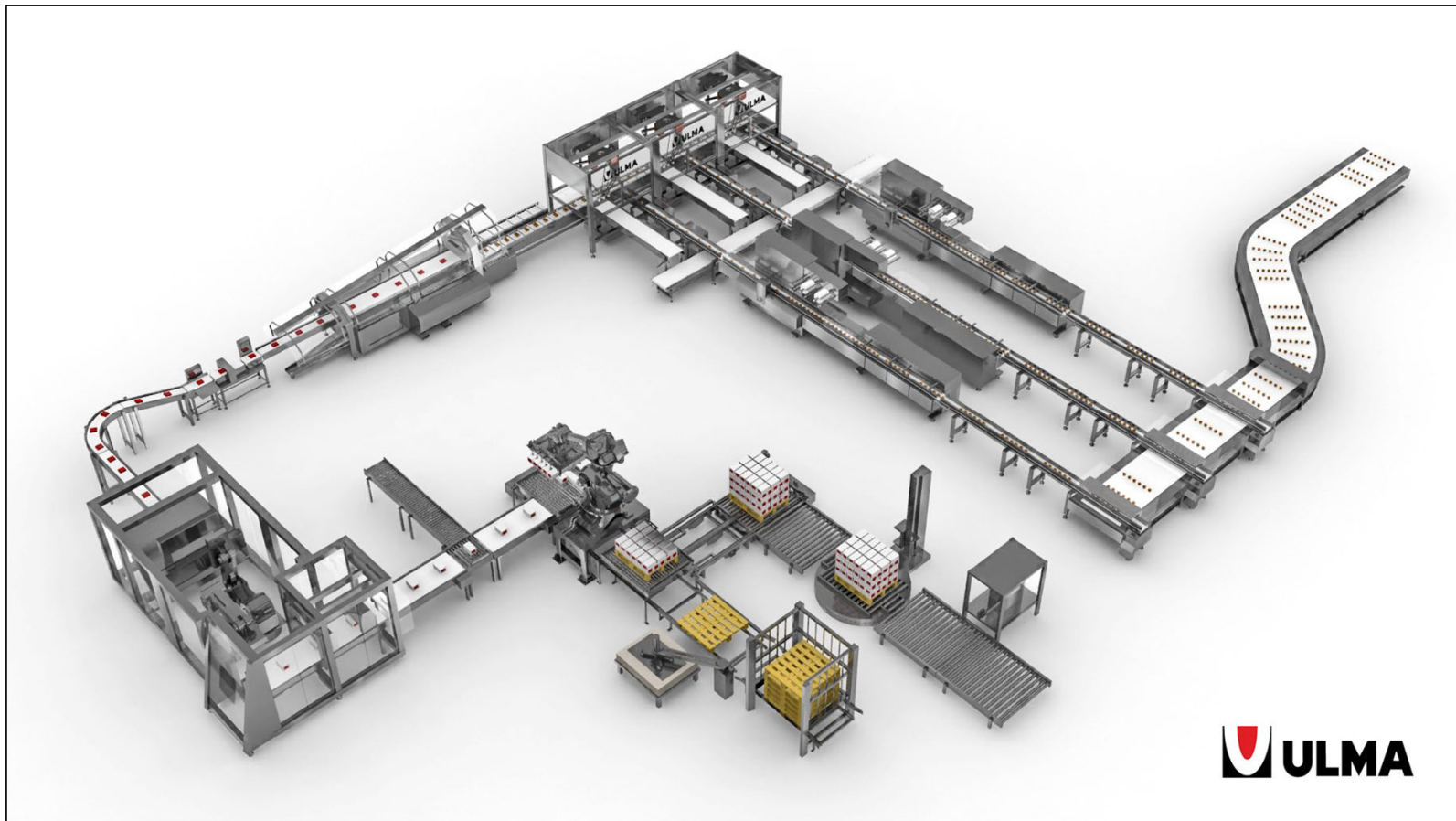
How they are handling workforce woes points to where the industry is likely heading:

- While 70% added overtime for existing employees (the same as last year), changes in shifts or production schedules increased from 56% to 64% compared to 2021,
- Automating more processes jumped to 22%, up from 14% last year.
- While the labor shortage isn't going away, processors that continue investing in Automation, line flexibility, and smart technology can close that gap a little more each year.

How can Automation help?



How can Automation help?



 **ULMA**

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Primary Packaging

Feeding of Packaging Lines

- A critical first step in any automated packing process
- The feeding/ loading strategy will be gated by three primary attributes:



Robotic Pick and Place

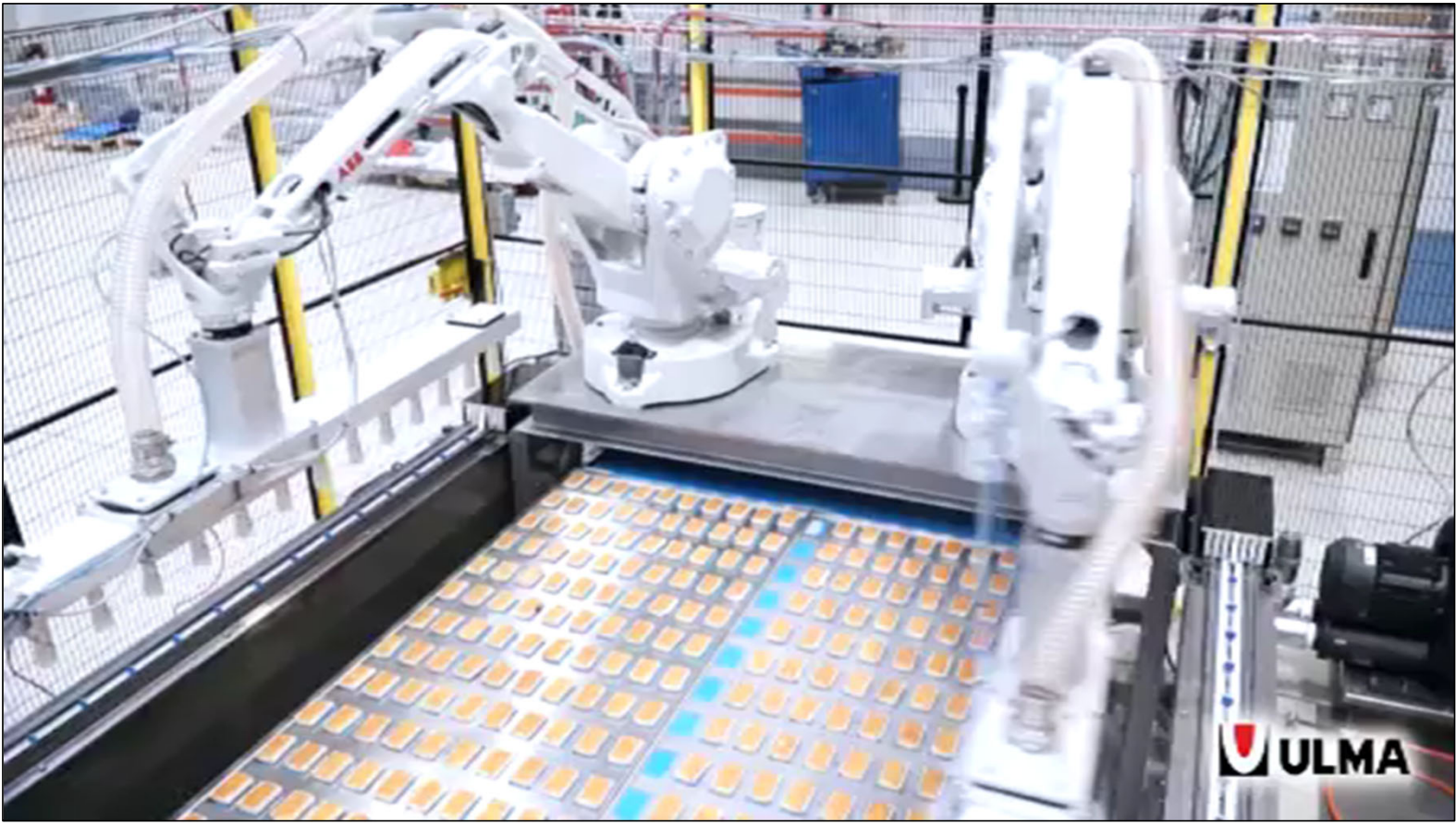
Packaging Applications:

- Depalletizing
- De-Casing
- Infeed Handling
- Raw Food Handling
- Primary Packaging
- Secondary Packaging
- Mixing (Combo/Rainbow Packs)
- Palletizing
- General Material Handling
- Full-line and Integrated Solutions

Robotic automation removes or reduces the human element when it's used to load products into a packaging machine, creating labor savings and productivity gains that justify the associated expense.



Aligning, Loading & Flow Wrapping

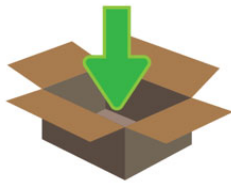


Secondary Packaging

End-of-line Case Packing Automation

- Protects the product's primary packaging in-transit
- May be the first thing a customer sees as a retail shelf presentation.
- Manual labor at this stage often requires substantial space for workstations and materials storage
- Automated equipment at the end of your packaging line can reduce required warehouse space

Types of Case Packing:



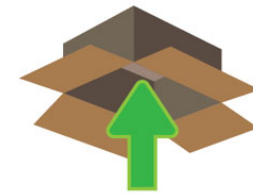
Vertical/Top Load
Case Packing



Horizontal/Side Load
Case Packing



Wrap-around
Case Packing



Bottom Load
Case Packing

Case Packing System



Palletizing

- Rarely seen by the customer
- Visual appeal is not a factor
- Used to improve the transportation of products in bulk from producers to retail or storage/distribution centers
- Provides protection during shipping and storage, allowing more inventory to be moved with easier handling
- Shipping and storage environments can be harsh
- Tertiary packaging is aimed at optimizing footprint and in-transit protection

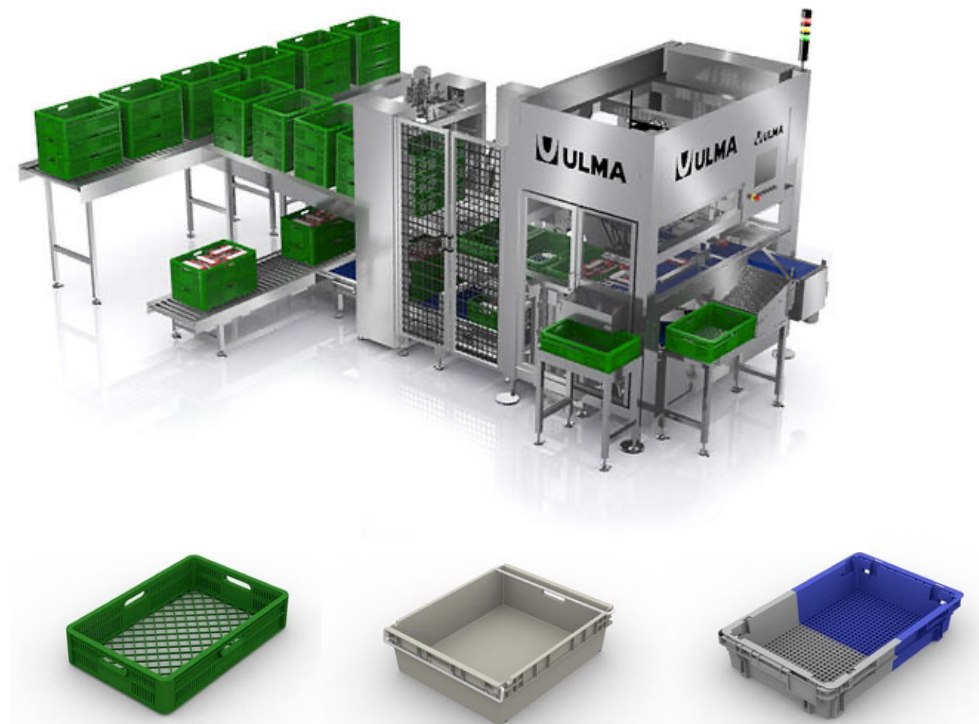


Palletizing and Stretch Wrapping



Basket Management

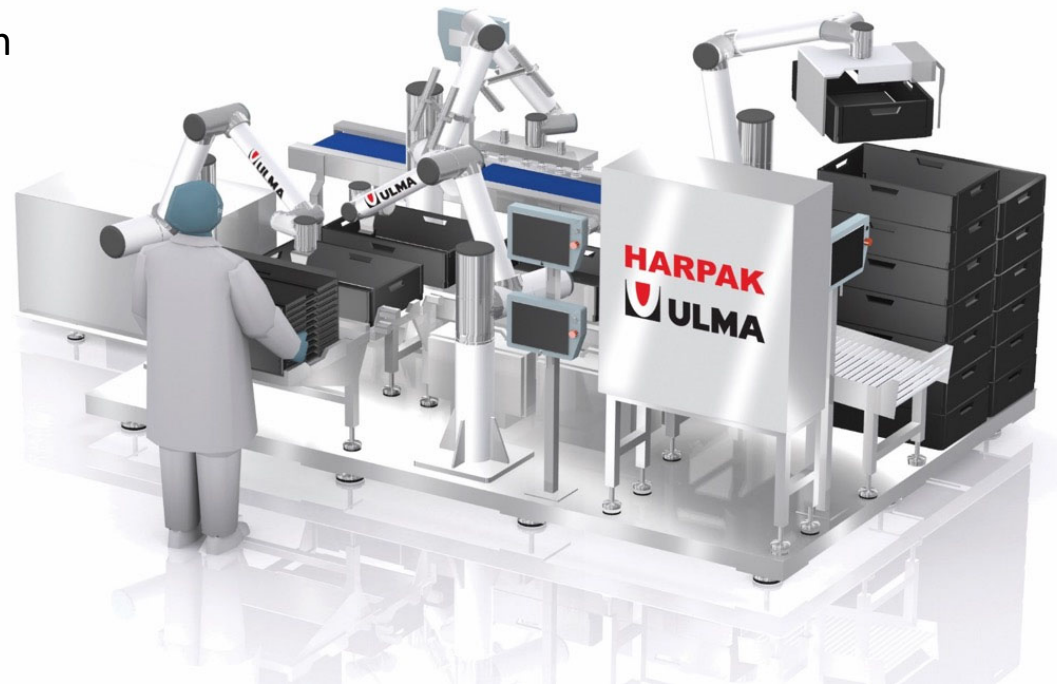
- Reusable plastic containers
- Stacked, foldable totes are de-palletized, de-stacked, opened using a multiformat opener (or rejected as unopened), distributed, and delivered to the packaging process.
- Totes are then collected, prepared/cleaned, and conveyed for set up again.
- An automated system increases reliability and throughput, reduces long-term costs, and provides ergonomic improvements that enhance workplace safety.



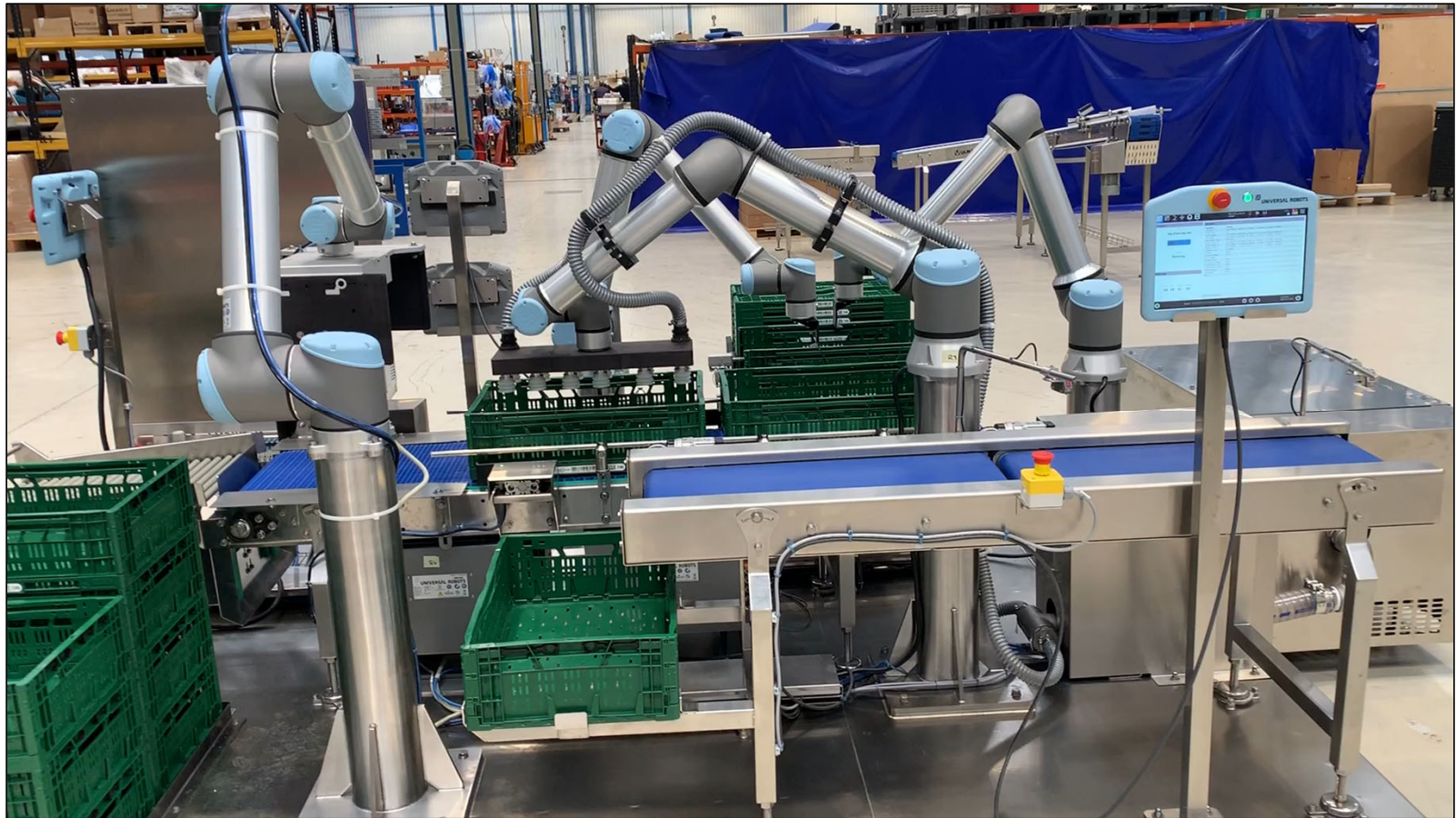
Collaborative Robots

Collaborative Robots

- Affordable, flexible, safe robotic automation
- Investments previously difficult to justify now make economic sense.
- Work side-by-side with humans
- Flexible to move between production lines
- Full compliance with safety regulations
- Utilize machine learning, vision and AI
- Smart sensors analyze errors and troubleshoot



Collaborative Robots



How Automation can help the Tortilla Industry

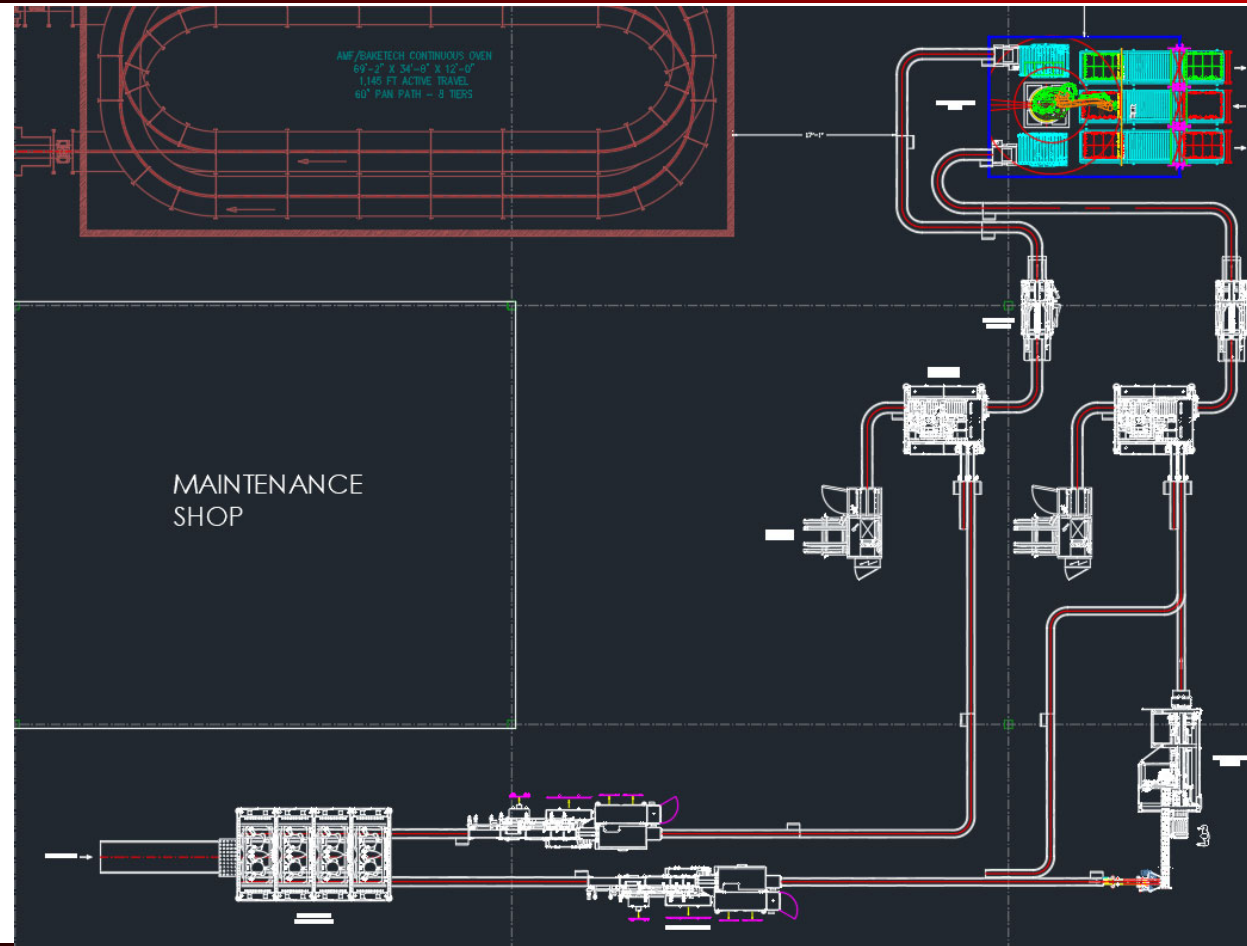


- Tortilla industry is highly dependent on labor
- Typically, high speed lines that require lots of manual processes like stacking
- Existing stacking methods are expensive and have a large footprint
- Increased demand with reduced workforce availability

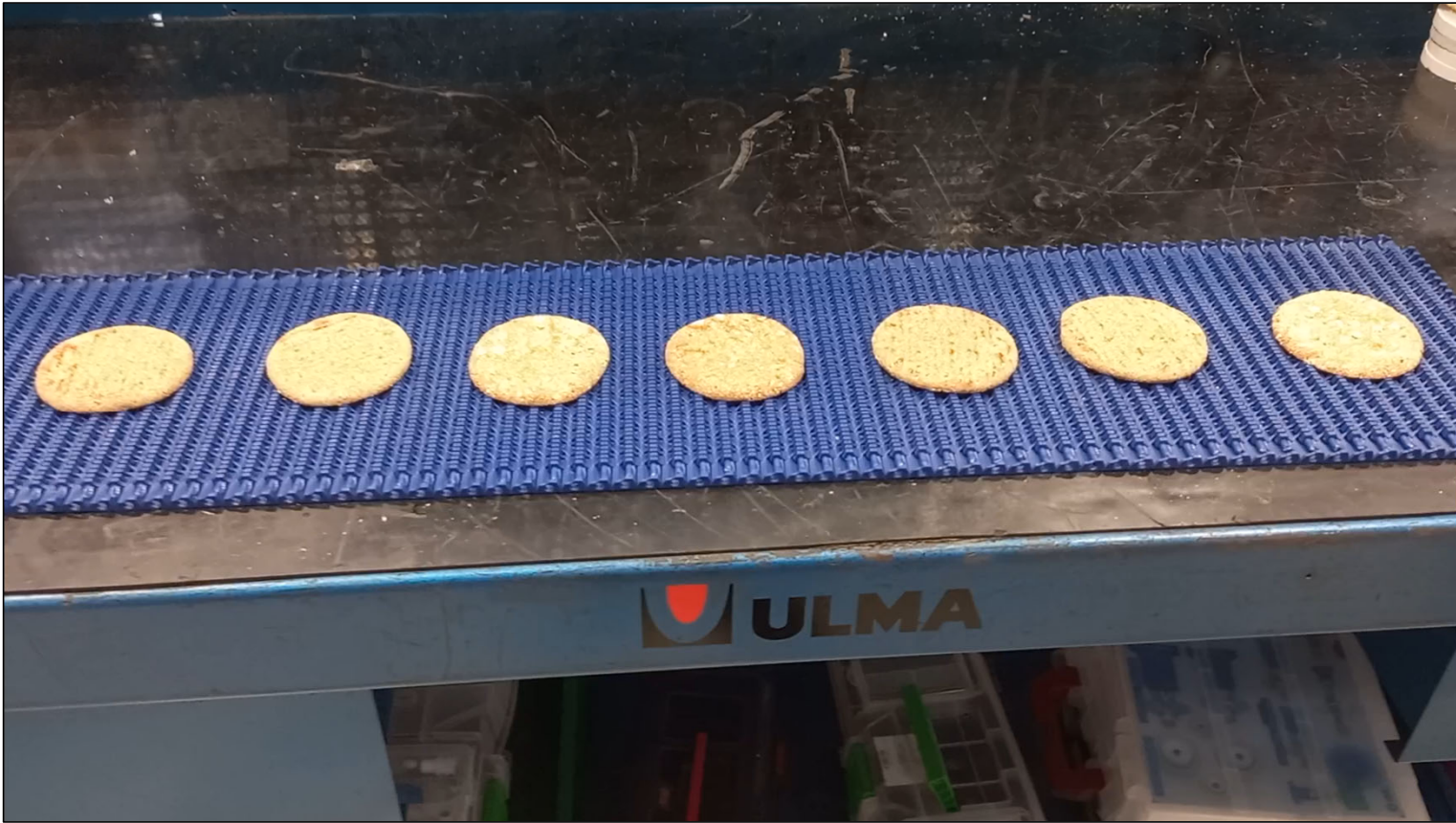
Fully Automated Tortilla Line

What can a fully automated tortilla line look like?

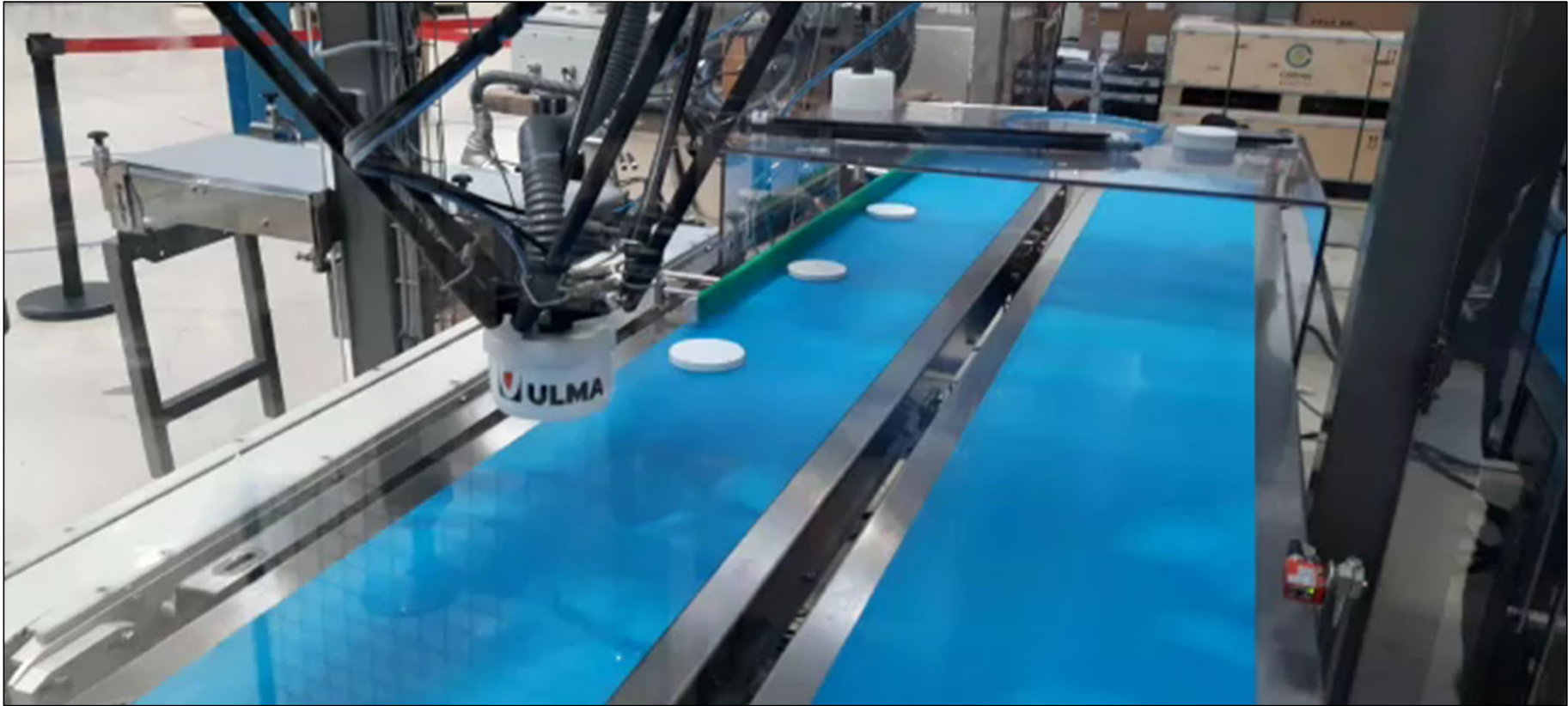
- Stacking
- Flow wrapping
- Retail cartoning
- Case packing
- Palletizing



Stacking



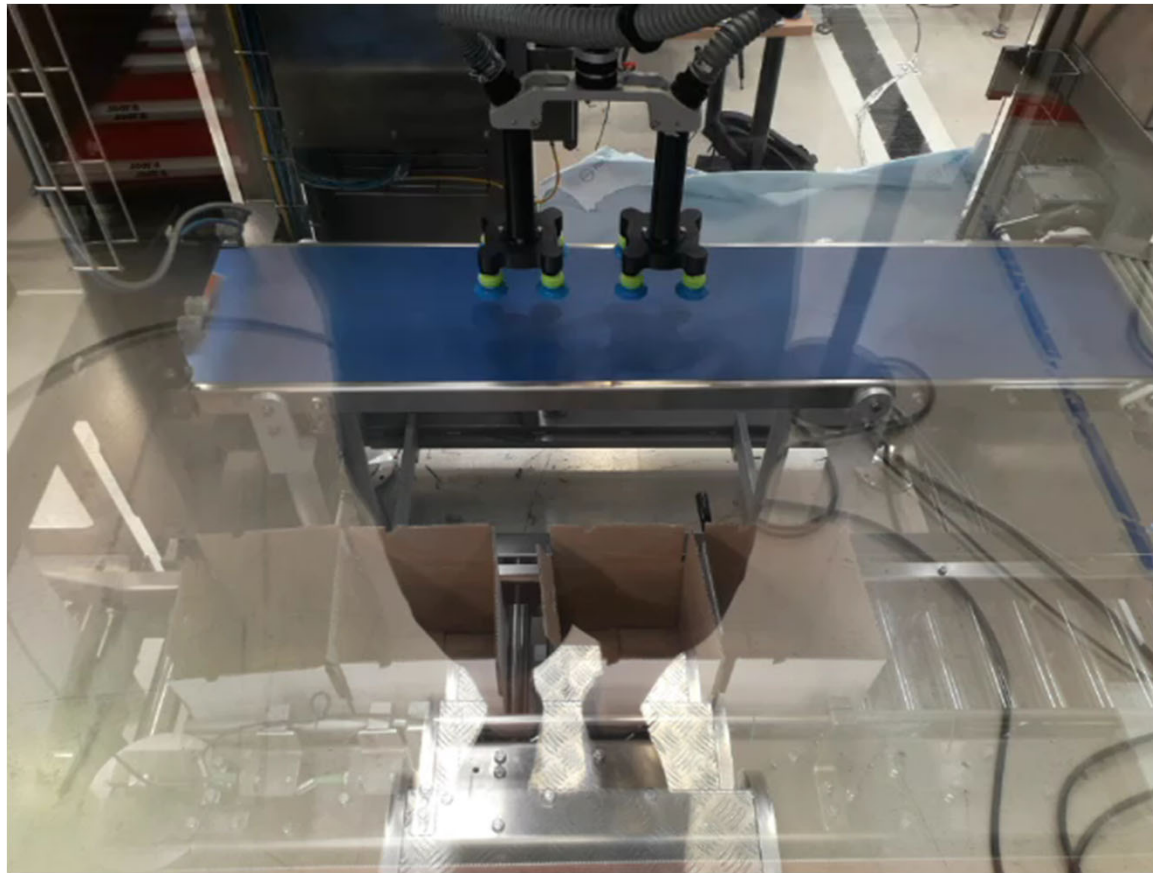
Stacking



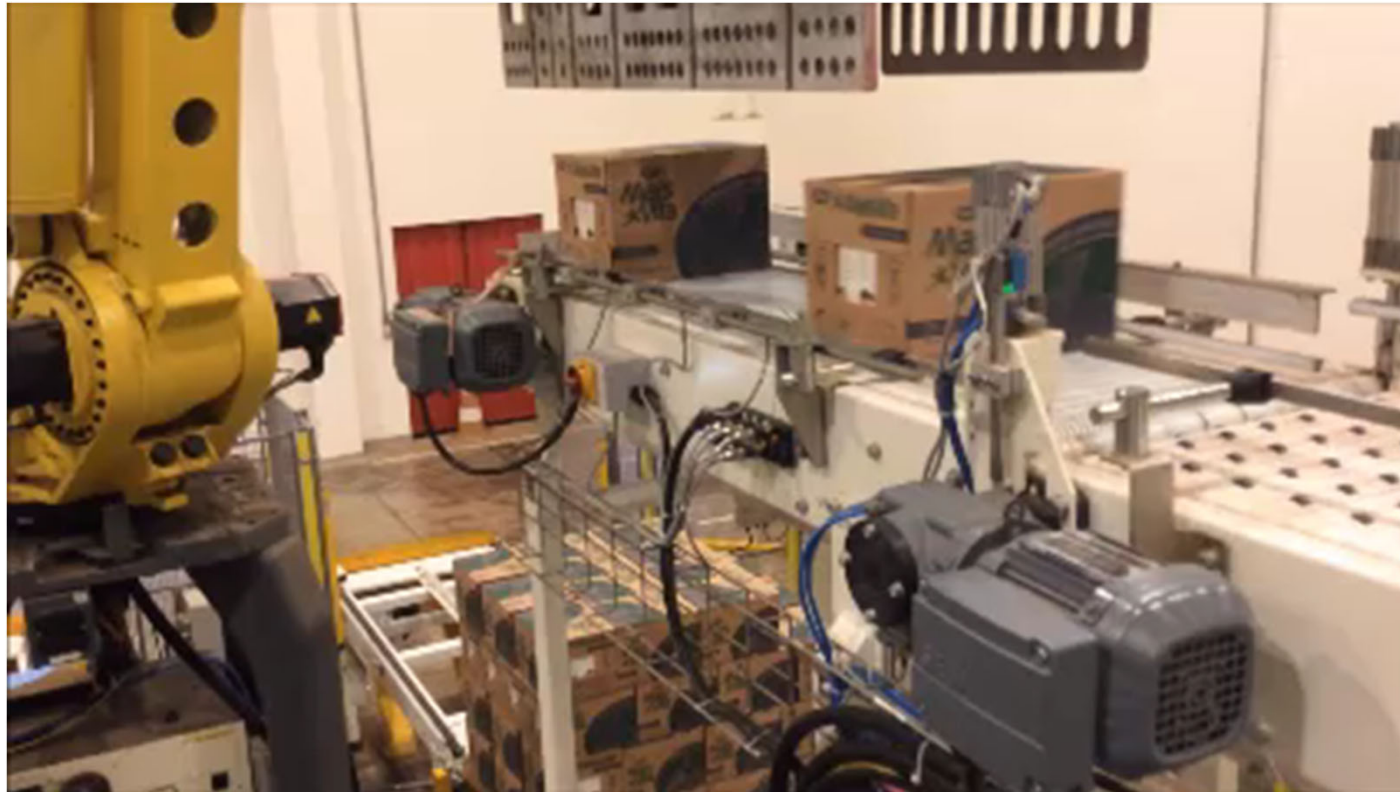
Flow Wrapping



Case Packing



Palletizing



Return on Investment

What kind of savings are we talking about?

Simple ROI calculation

- Capital cost – hard savings = payback period
- Typical line example
- 4 FTE @ 60k loaded per line per shift = \$240k year 1 shift only.

Indirect Factors Contribute...

- Training overhead reduced
- Recruitment reduced
- Ergonomic improvements = Safety
- Production efficiency
 - Less defects, less downtime, higher throughput

ROI

An Insiders View – Questions we ask..

Product Arrival

- is the key 1st question
- when is product control lost and where does it need to be gained back

Package Equipment Type

- Existing or new?
- Type (tray seal, flow wrap, thermoform)
 - This determines product placement

Product State

- Frozen, chilled, fresh
- Impacts gripping?

Controls Platform

- Drives integration/handshakes

Line Speeds

- Current?
- Desired?

Ancillary Equipment Used or Needed

- Product QA required?
 - X-ray, metal detect

An Insiders View - Considerations

Space Considerations

Restrictions vs process flow

No interruptions of
process flow

Safety considerations

Current footprint vs.
new footprint



Solution Flexibility

Scalability/transition to
other products

Variable speed capability
within tolerances

Pick up for down lines,
product changes, etc.



Throughput

Design to 15-20%
throughput uplift at peak

Keep robotic “clock-speed”
reasonable



Summary

- 1 Labor challenges will only increase!
- 2 Automation Technology has evolved to meet that challenge
- 3 You have options – match to your needs
- 4 Investment payback is typically <18 mos... on hard costs alone
- 5 Understand your specific needs
- 6 Consider the big picture – future needs

Questions?

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