

Right-sized Packaging on Demand and PPWR regulations.

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Packsize International, Inc.



Right-sized Packaging On Demand® Comparison

Same products, same number of packages

Industry-standard Packaging



1



Manual
Processing

2



Labor/Cost
Intensive

3



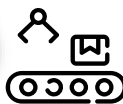
Throughput
Limitations

VS.

Right-sized Packaging On Demand®



1



Need Based
Right-sized
Automation

2



Major
Labor/Cost
Reductions

3



Capacity
Matches
Requirements

The Freight Challenge & Impact of Right-Sizing

Right-Sizing Delivers Proven Results Across The Distribution Industry

Results From a 20 Million Parcel Audit



42%

Reduction in
Cubic Volume

31%

Increase in
Fill Rate

80%

Less
Void Fill

€ .70

Average Saved
Per Order

42%

Trailers Used
Per Year

PACKSIZE AT A GLANCE

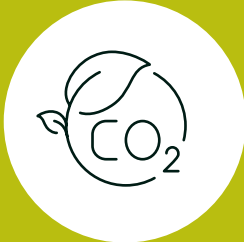
Global Multinational tech company delivering
Right-sized Packaging on Demand®
systems, software, and automated workflow solutions



SMART
Packaging
for a Healthy
Planet®



374M
Right-sized
Boxes in 2024



125 M kgs
Saved CO2
Emissions in
2024



4000+
Unique Solutions
Supported
Worldwide



300+
Engineers
Serving
Customers
Globally



Embracing our Mission

Smart Packaging for a Healthy Planet

- **Sustainable**
Promoting eco-friendly practices
- **Modular**
Flexible and customizable to fit diverse needs
- **Adaptive**
Adjusts dynamically to product dimensions
- **Reliable**
Proven consistency with high-quality performance
- **Technological**
Leverage advanced technology and innovative design

When Do You Need to Right Size?



Why Companies Right-Size Packaging

Benefit and Areas of Impact

Competitive Advantage (Flexibility & Agility)



Minimize
Inventories



Increase
Packaging Speed



Minimize
Damages



Improve Customer
Satisfaction



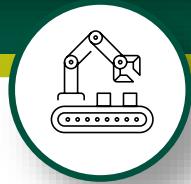
Optimize
Space



Ramp
Sustainability



Decrease
Waste



On Demand
Production (JIT)



Improve
Packaging



Reduce Box
Management

Customer Satisfaction (Gains & Efficiencies)



Less
Corrugated



Shipping
Savings



Reduce
Void Fill



Reduce
Infrastructure



Fewer FTEs
Required

Risk Reduction (Packaging Impact)

Pain Points Across the Supply Chain

Packaging, the often-forgotten frontier of the supply chain, hides inefficiencies with outdated methods. Packsize provides innovative solutions to streamline operations and optimize logistics effectively



1



48%

Increased influence to adopt a more sustainable supply chain

2



57%

Of businesses having trouble hiring and retaining qualified workers

3



20%+

Increase in corrugate costs since 2020

4



5.9%

Increase in base carrier rates with surcharge increases of 20%+

* Data from survey by MHI Industry Report, UPS 2024 rate increase documents, and corrugated pricing index

Another reason to right-size.... PPWR Compliance



Are you ready for PPWR?

Key Facts

- Amends the Packaging and Packaging Waste Directive from 1994
- Regulations are binding on all Member States
- It applies to all packaging and packaging waste used or placed in the European market
- Affects all economic operators

#PPWR

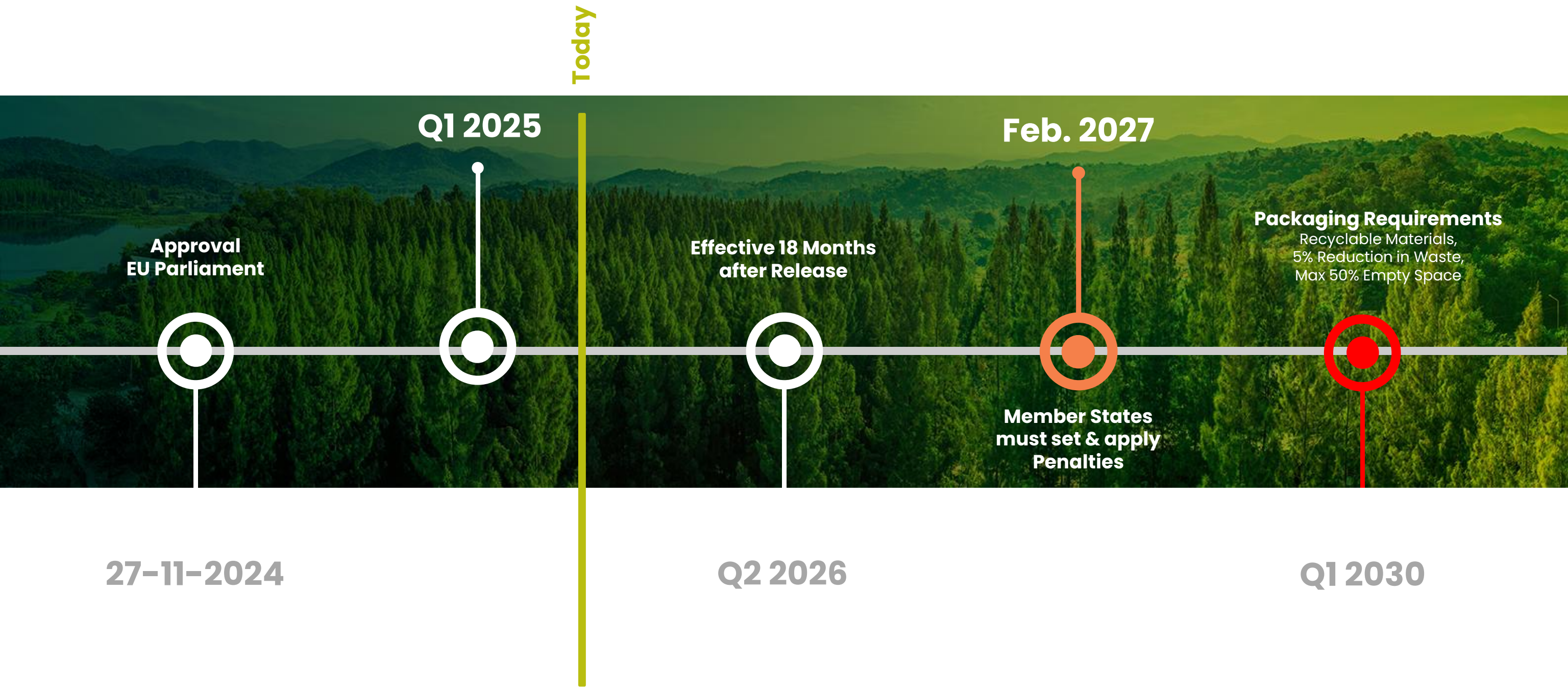
Are you ready for PPWR?

A recent study shows that more than 68% of packages are currently out of compliance with PPWR.

- 1. Reduce Empty Space**
 - Effective in 2030, the empty space ratio in all packaging must be below 50%.
 - Right-sized Packaging reduces total packaging size by 40% on average, and minimises empty space.
- 2. Use Recyclable Material**
 - PPWR mandates that all packaging must be recyclable.
 - Corrugated cardboard from Packsize is sustainably sourced, and recyclable.
- 3. Eliminate Packaging Waste**
 - Packaging waste reduction targets are
 1. **5% by 2030**
 2. **10% by 2035**
 3. **15% by 2040**
 - Right sized packaging minimises packaging waste by more than 25% by minimising corrugated waste and eliminating unnecessary void filler.
- 4. Stay Tuned on PPWR**
 - Scan the QR code for the latest information on right-sized packaging and its relation to PPWR.



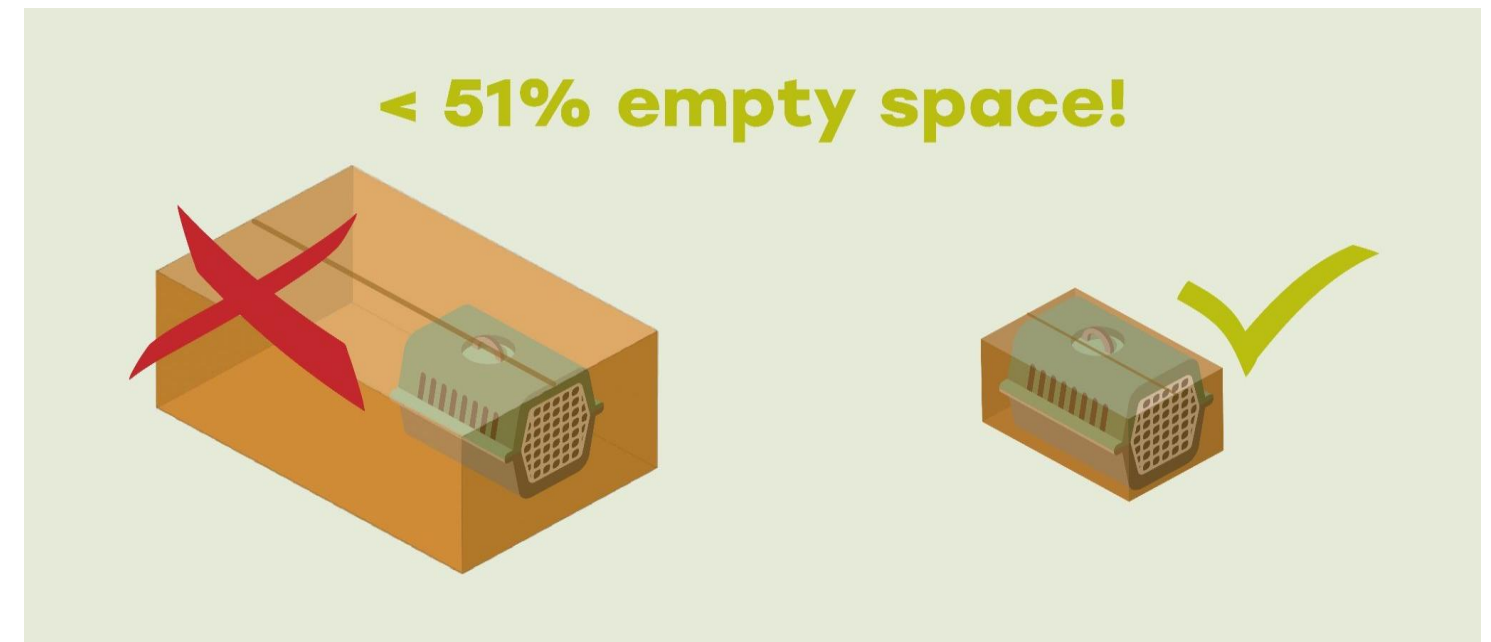
PPWR – Key Deadlines



Main Provisions

Packaging minimisation (*Art. 10*)

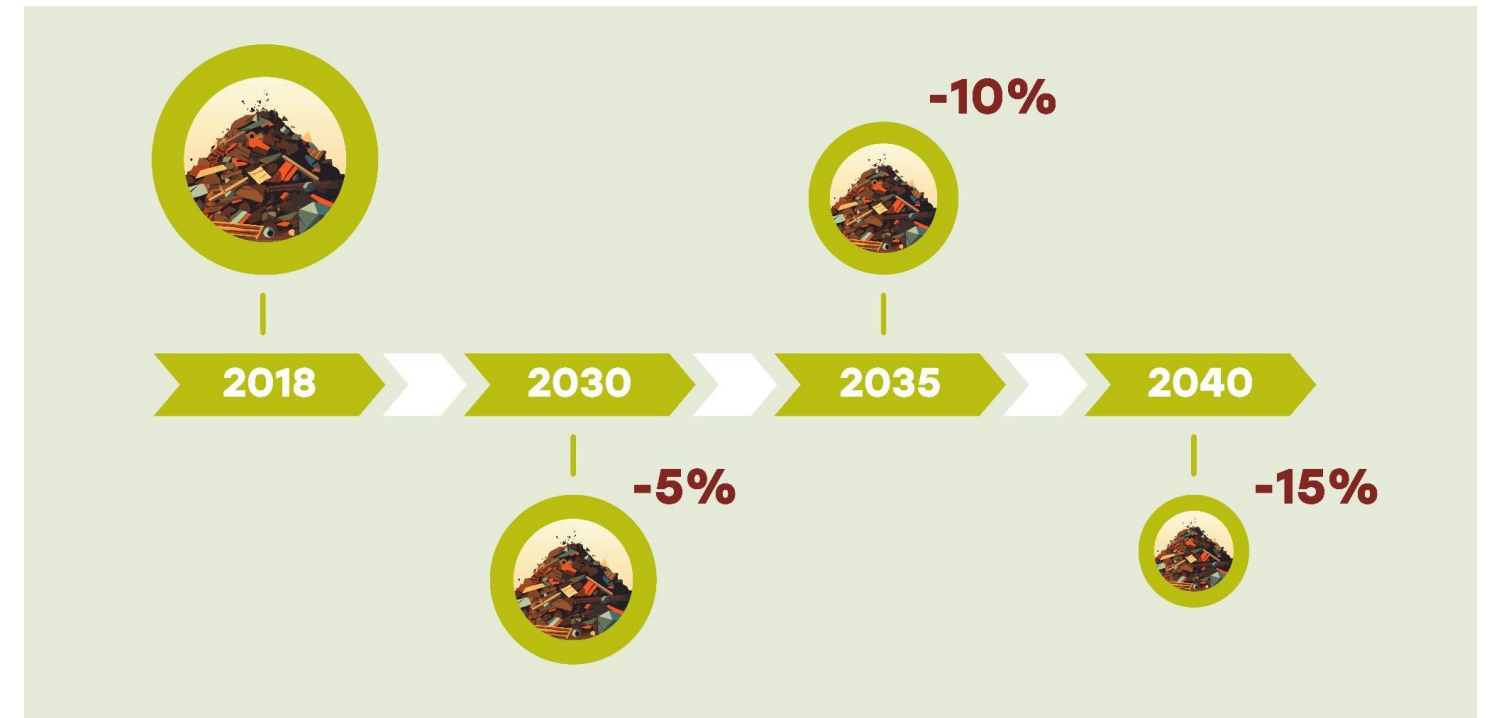
- “By **Jan. 2030**, the manufacturer or importer shall ensure that the packaging placed on the market is designed so that its **weight and volume is reduced to the minimum necessary**”
- By **Feb. 2027** (24 months after EiF) European Standard organisations are tasked “to prepare or update harmonised standards laying down the **methodology for the calculation & measurement** of compliance with the requirements concerning packaging minimisation”
- **Manufacturers** have to document compliance with the regulation in technical documentation



Main Provisions

Excessive packaging (Art. 24)

- By **Jan. 2030** economic operators need to ensure the empty space ratio does **not exceed 50%**
- By **Feb. 2028**, the methodology to calculate the empty space ratio is to be defined in implementing acts (IAs) by the Commission
- Applies to grouped packaging, transport packaging & e-commerce packaging



Impact of PPWR

% of Boxes outside EU Regulation

Standard Pre-Made Boxes



Height Reduction 1D



Packsize Right-Sized 3D



+ 60%

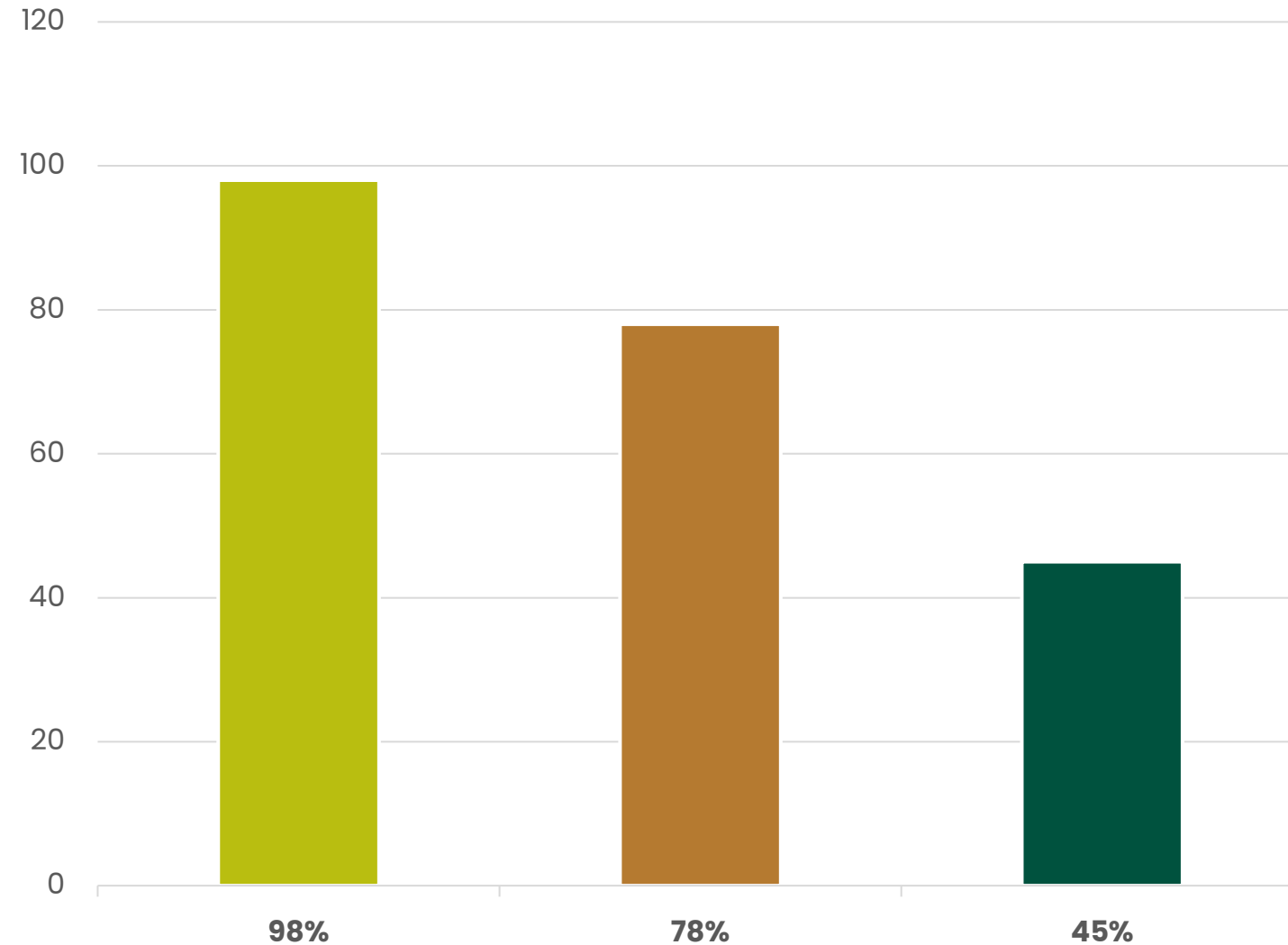
+ 50%

< 5%

Empty Space

PPWR Compliance

Standard footprints or right-sized 3D

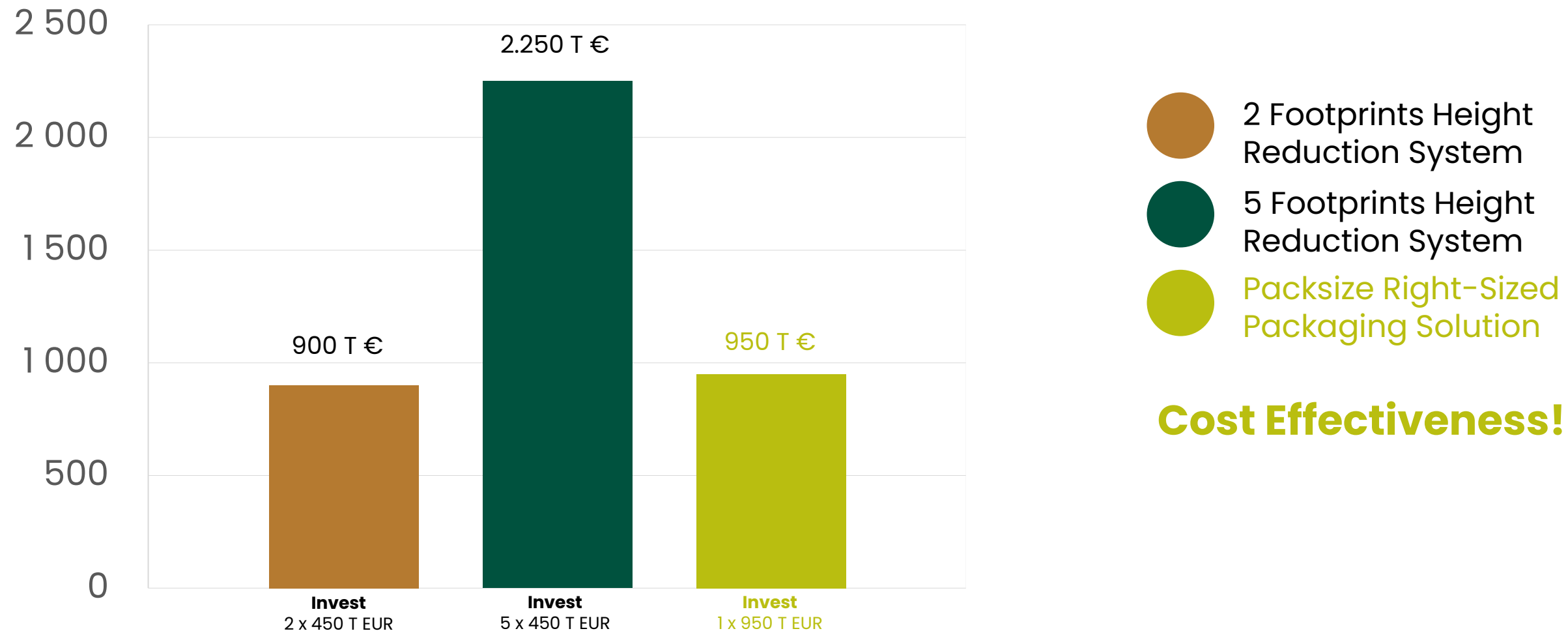


-  Packsize Right-Sized Packaging Solution
-  2 Footprints Height Reduction System
-  5 Footprints Height Reduction System

More than 5 different footprints are necessary!

How to reach EU Packaging Regulation?

Invest Comparison for 500 boxes/hour, 2 shifts



Real-World Results of Right-Sized Packaging

Technology

EM7



Up to 200/hr

- Non-Sort & Non-Conveyables
- Over Boxing
- Single Piece Flow Manufacturing

IQ



Up to 225/hr

- Micro Fulfillment
- Light Manufacturing
- Batch Production

X4



Up to 300/hr

- Micro Fulfillment
- Pick to Box/Tote
- GTP Integration

X5



Up to 600/hr

- Pick to Box/Tote
- GTP Integration
- Pick to Cart/AMR
- Pick to Conveyor

X6



Up to 1,500/hr

- Pick to Box/Tote
- GTP Integration
- Pick to Cart/AMR
- Pick to Conveyor

X



Up to 1,020/hr

- Batched Picked Single Unit Orders
- Discrete Order Picking Into Totes
- High Velocity Fulfillment



CVP IMPACK®



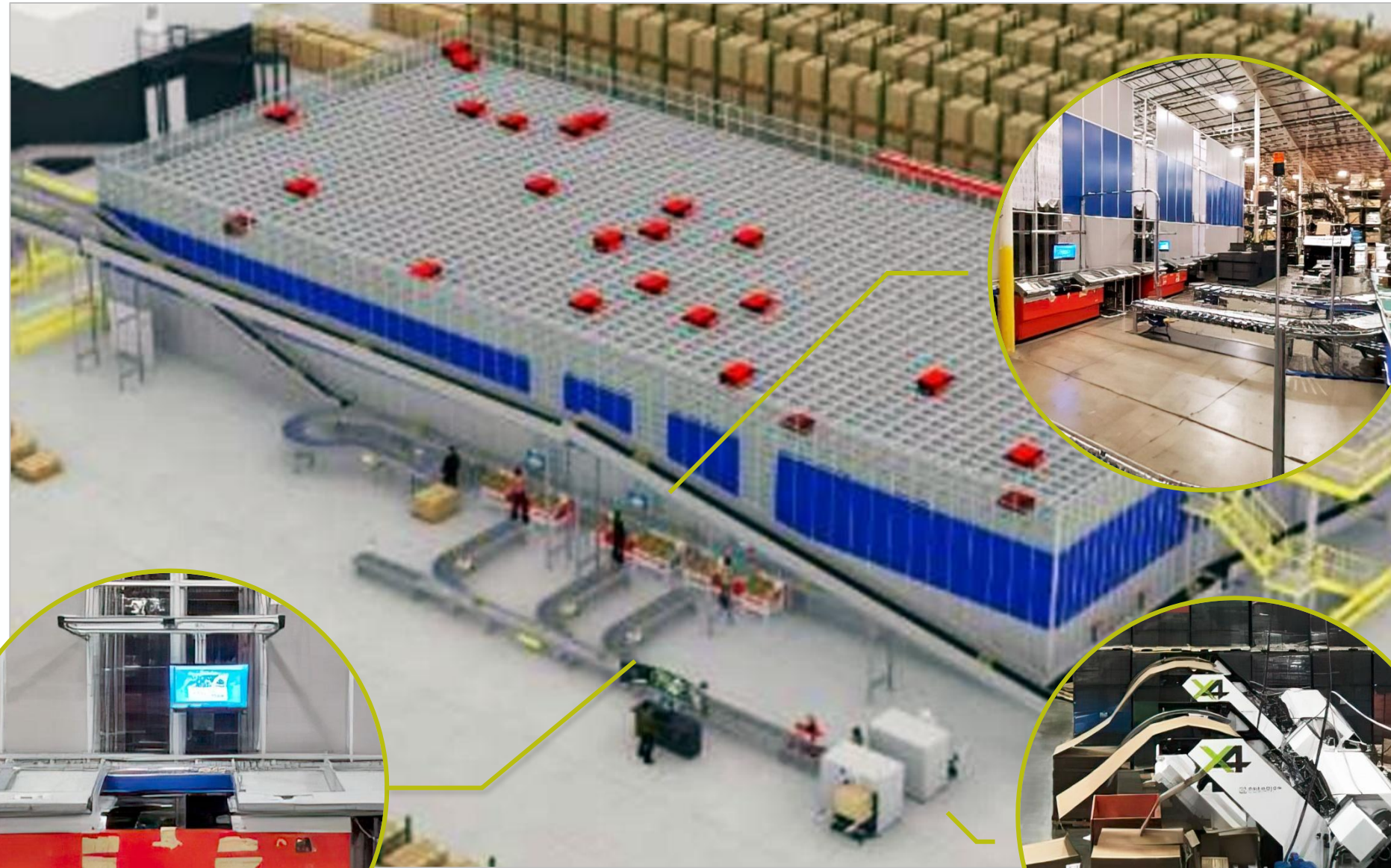
CVP EVEREST®

Impack	Everest
Last	Last
Full	Full
Fully Automated Cut, Crease, Induct, Pack, Seal	Fully Automated Cut, Crease, Induct, Pack, Seal
425	935
500	1100
Modified FEFCO 201	Modified 302 (lid) and 452 (tray)
615 x 535 x 400	615 x 535 x 400 mm
239 x 180 x 100 mm	240 x 180 x 28 mm
High Velocity Fulfillment	High Velocity Fulfillment
Singles and Multis	Singles and Multis
	Mail slot compatible

Box First Examples



OMNICHANNEL: AUTOSTORE



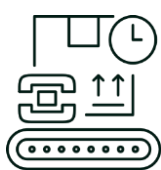
2 Conveyance
Routes Box
to a Port

1 X4 or X5 Provide
Right Size Boxes

3 Ports with
Packing Stations

ROUTING TO AUTOSTORE: Right-Size Non-Erected Box Solution

Ecommerce Fulfillment: Brownfield Project



366,719
Annual
Order
Volume

176 Cartons/hour
260 Production Days
7 Box SKUs

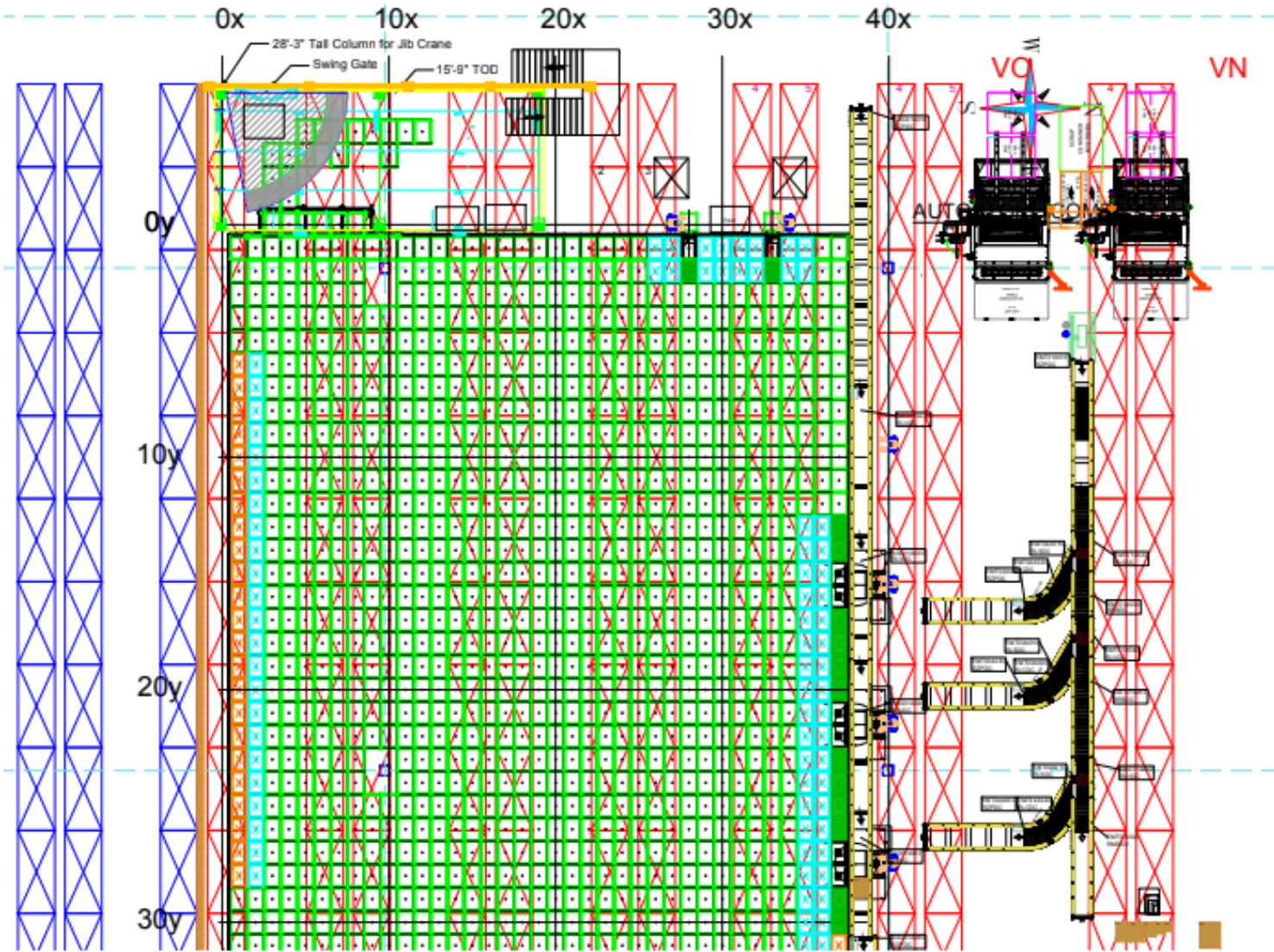


48%
Cubed Volume
Reduction



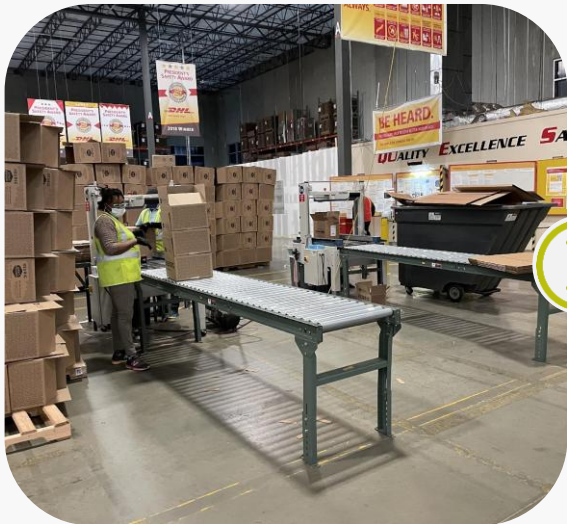
€687k
Net Savings
Year 1

€717k
Net Savings
Year 2



REDUCE PROCESSES: ERECTED BOX FIRST

1: Make Boxes



2: Stage Boxes



3: Place on Carts



4: Label Boxes



5: Add Dunnage



Reduce 5
Processes
DOWN TO 1

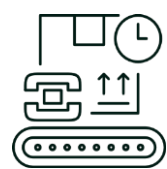
(Cart Loading)



Random Print Inside or Outside
of Shipping Box

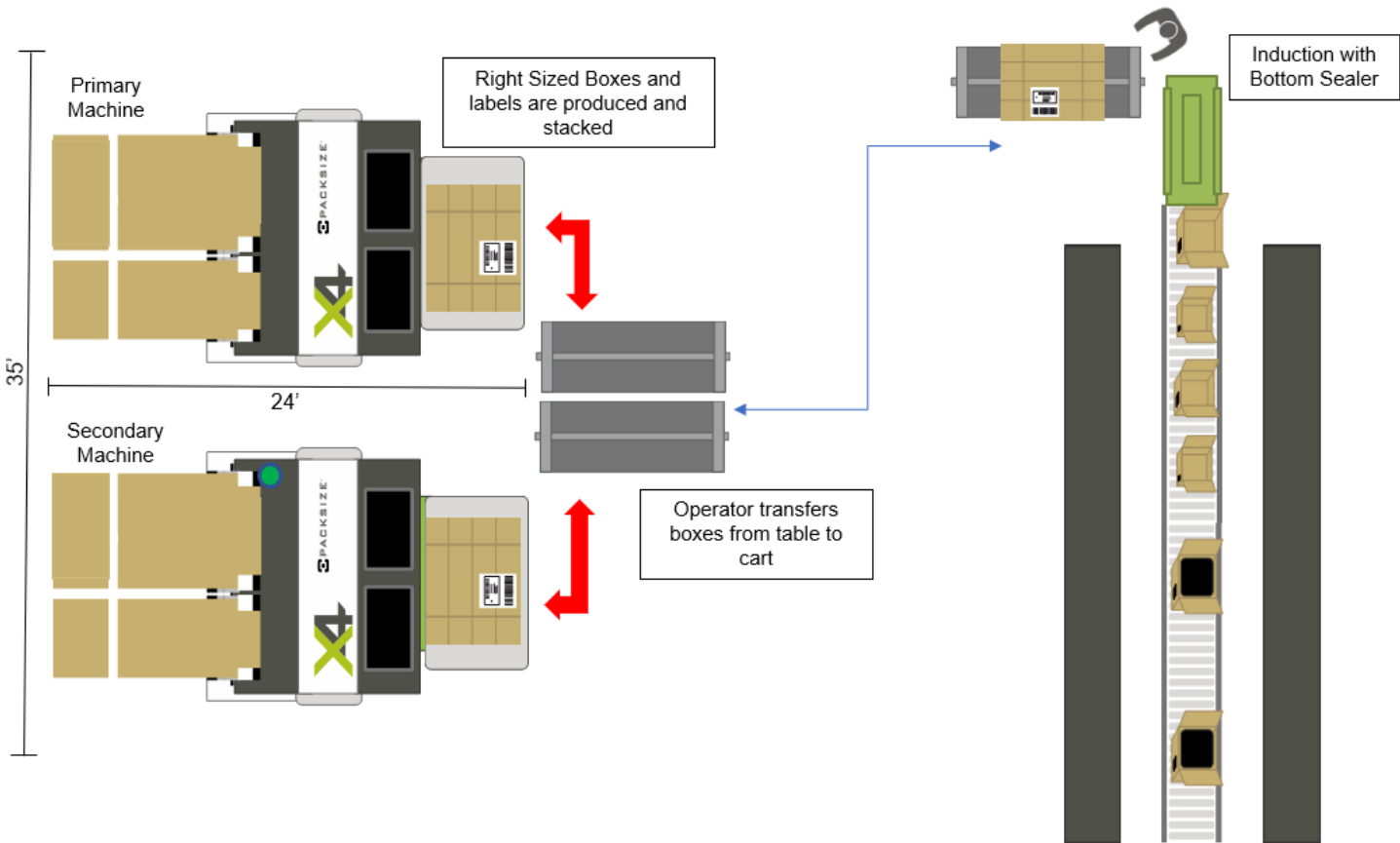
DTC CONVEYOR PICK TO CARTON

Ecommerce Fulfillment: Brownfield Project



771,000
Annual
Order
Volume

349 Cartons/hour
260 Production Days
5 Box SKUs



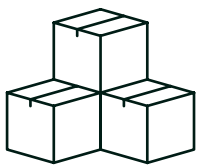
Customer Impact



Freight Savings
5.7% | €220k



Labor Savings
33% | €55k



Corrugated Savings
€57k

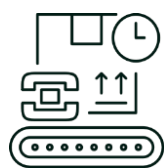


€316k
Net Savings
Year 1

€345k
Net Savings
Year 2

AUTOPARTS FULFILLMENT

Right-size Erected Box Green Field Site Project



707,000
Annual
Order
Volume

363 Cartons/hour
260 Production Days
34 Box SKUs



41%
Cubed Volume
Reduction

€228k
Void Spend
Reduction



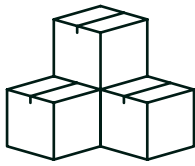
€1.2M
Net Savings
Year 1

€1.8M
Net Savings
Year 2

Customer Impact



Labor Savings
61s to 15s | €228k



Corrugated Savings
€275k

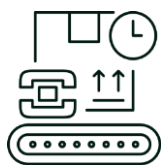


Box Last

Carton Wrap Around Technology

FOOTWEAR FULFILLMENT

eComm Corrugated Wrap Around Expansion Project



4.7M
Annual Order
Volume

577 Cartons/hour
360 Production Days
250 Pallet Positions



43%
Cubed Volume
Reduction



€698,507
Net Savings
Year 1

€1.14M
Net Savings
Year 2

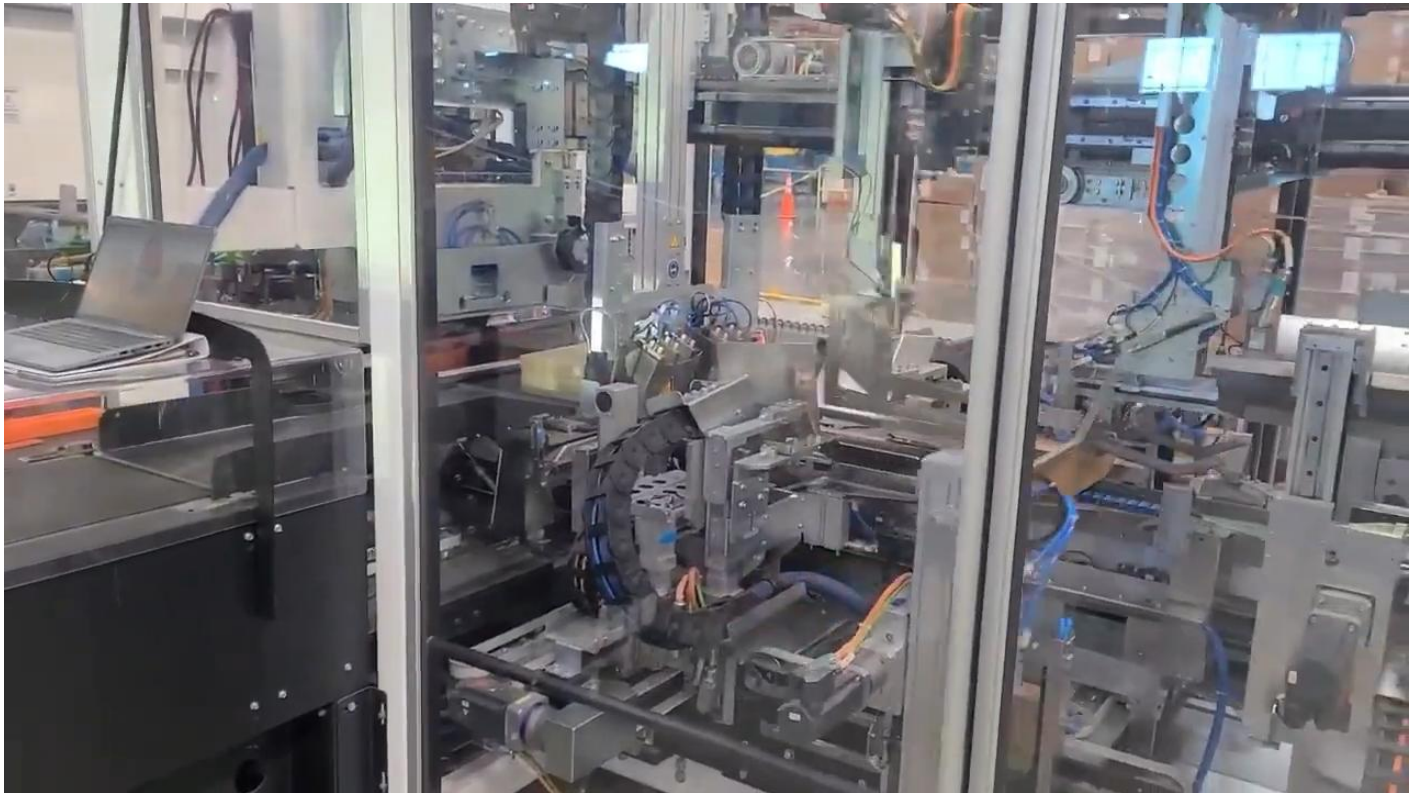
Customer Impact



Annual CO² Savings
1.7M lbs.

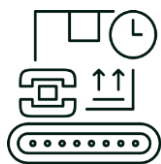


Labor Savings
71% | \$1.03M



Wrap Around: RETAIL FULFILLMENT

Layout



15.8M

Annual Order Volume

10.9 MM Total Singles
7.6MM Auto Singles



60%

Cubed Volume Reduction



€1.18MM

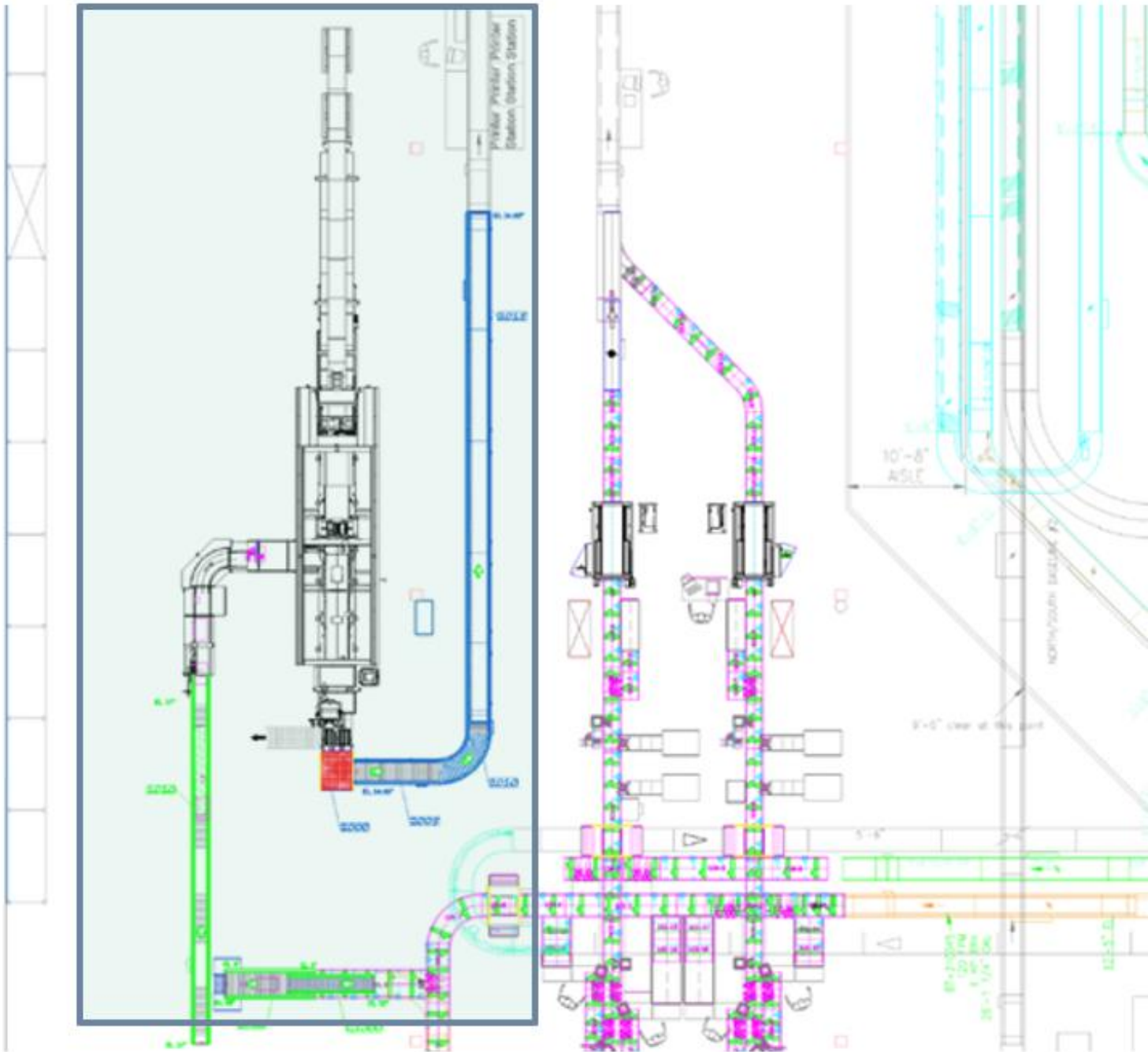
Net Savings Year 1

€1.73MM

Net Savings Year 2

Material Savings
34% | €398k

Labor Savings
59% | €201k



In Summary

Why do you need right-sized boxes?

Thinking ABOUT the box and right-sizing your packaging provides several measurable benefits to both you and your customer:



- ✓ Reduce material cost
- ✓ Reduce product damages
- ✓ Reduce freight expenses
- ✓ Improve customer unboxing experience
- ✓ Improve labor utilization
- ✓ Optimize warehouse space
- ✓ Integrate with leading warehouse automation

Which Solution Is Right For Me

Packsize portfolio



Questions?

Right-sized Packaging on Demand



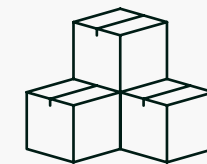
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Labor Savings



Corrugated Savings

