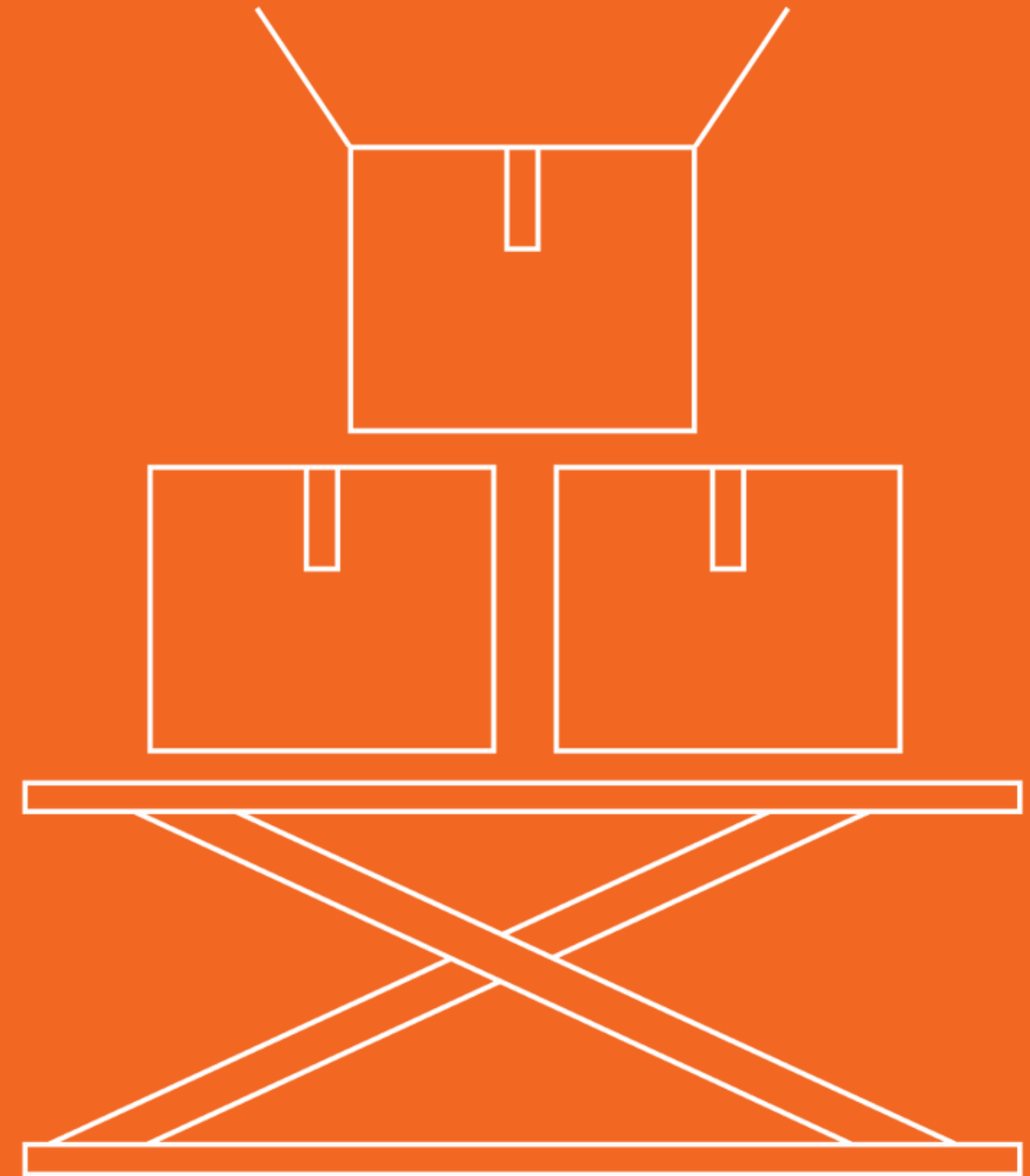


Integrated Product Development

# IFDA PalletMate

Team:

Tianyang Lei, Varsha Sankar, Jasveen Kaur, Weiyi Zhang,  
Sumairha Mumtaz Choudhary, Monica Louis



# Meet the Team



Monica

Sumairha

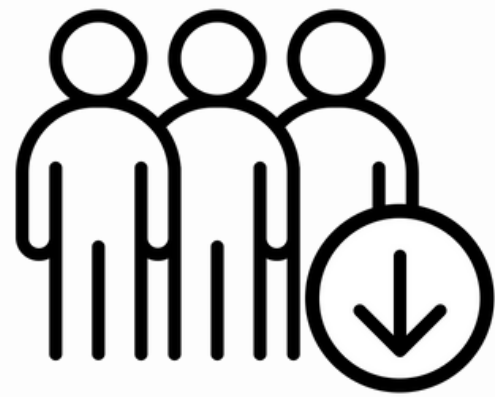
Tianyang

Weiyi

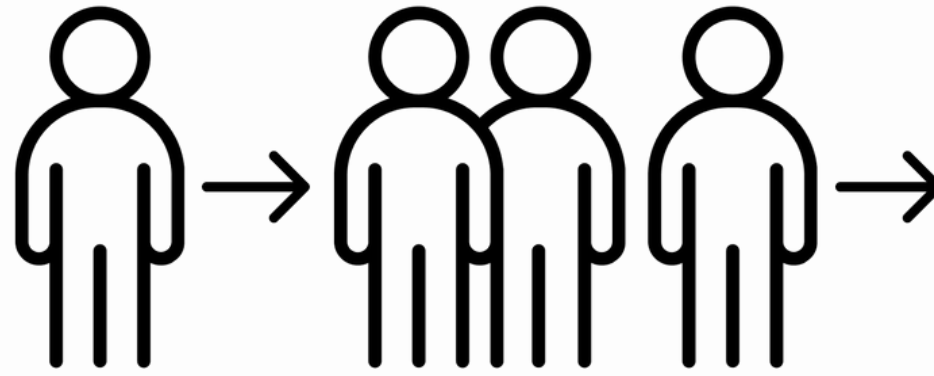
Varsha

Jasveen

# 01 Problems the industry is facing



Staffing Shortage

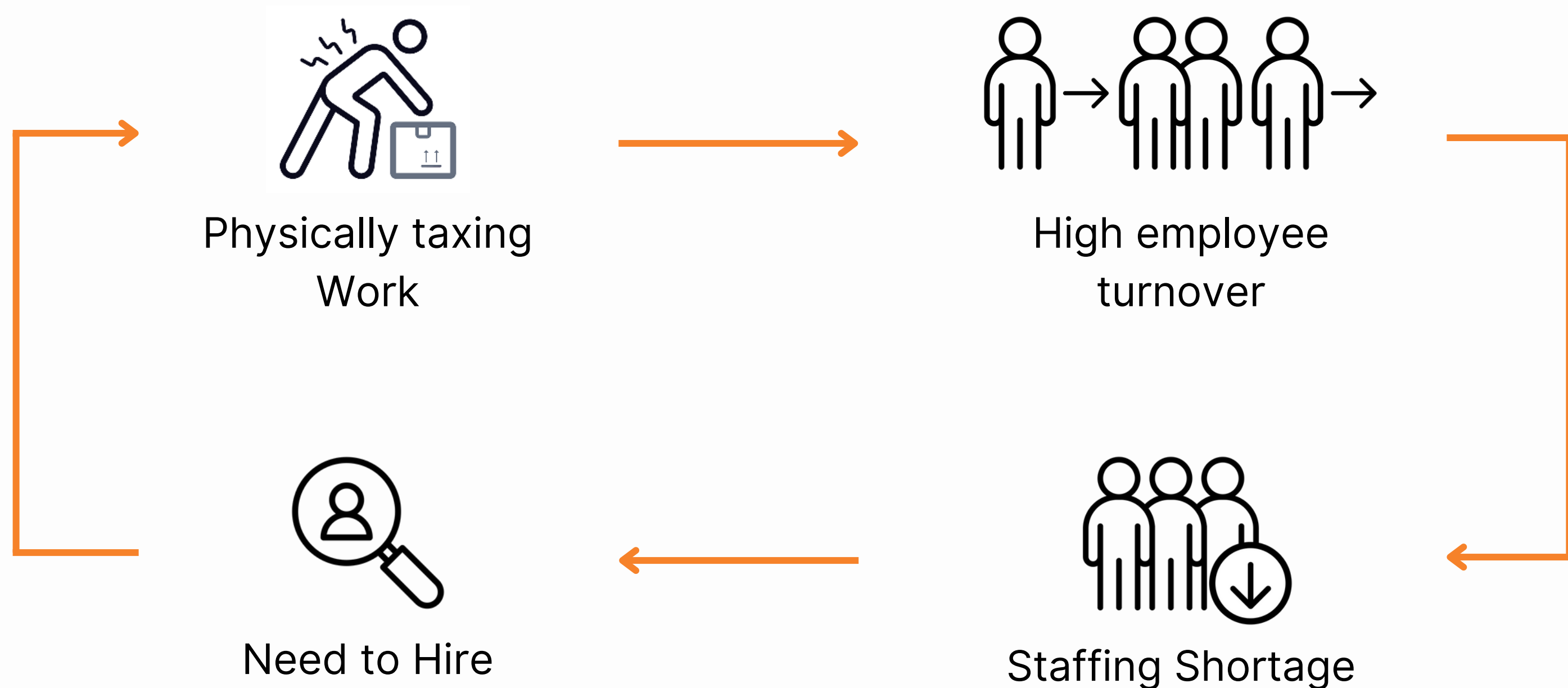


Employee Turnover



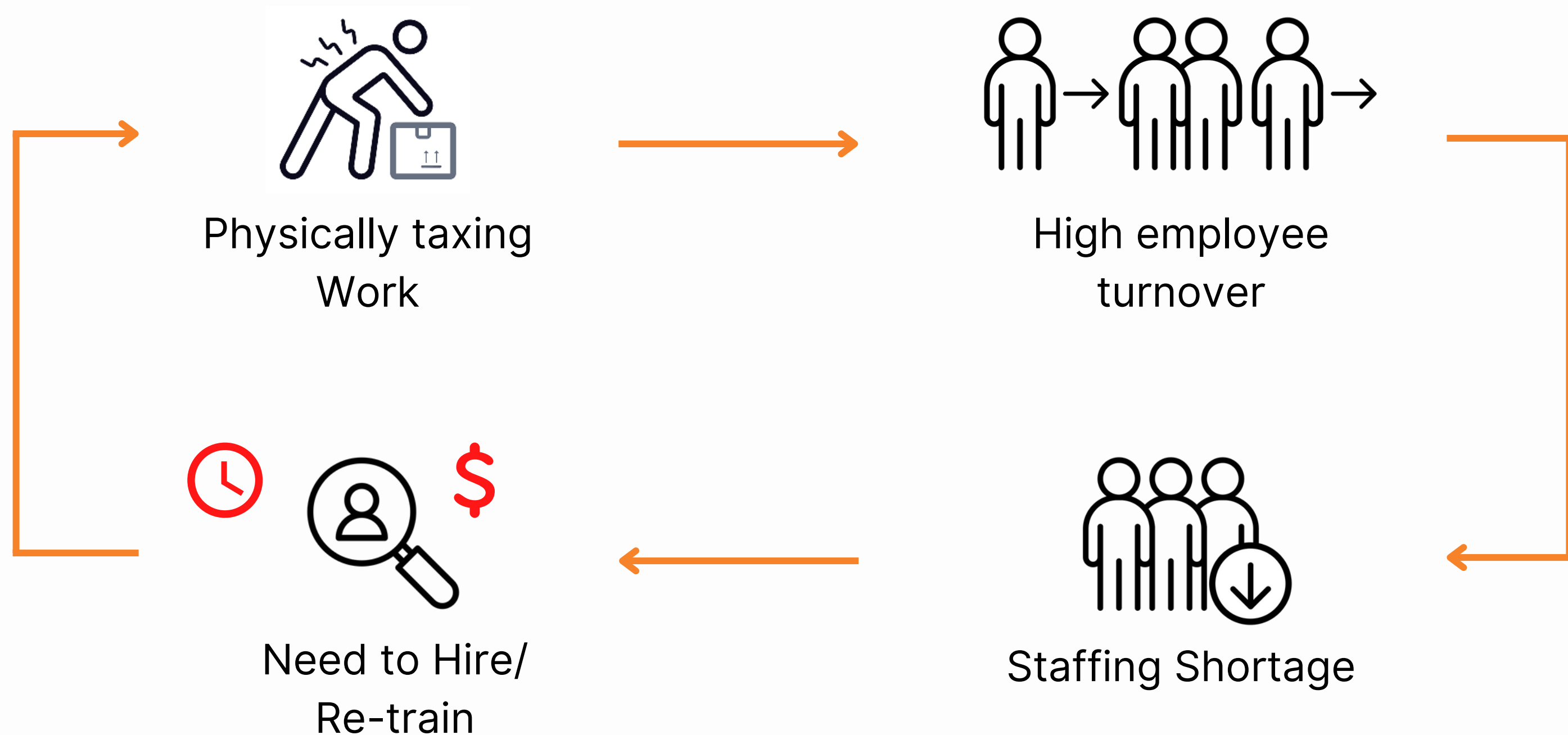
Physically Taxing Work

# How do they affect the warehouse?





# How do they affect the warehouse?



# Different types of food warehouses....



Automatic



Semi-automatic



Manual



# Different types of food warehouses....



Automatic



Semi-automatic



Manual

# Why Manual Warehouses?



Shift in industry



Insufficient Capital



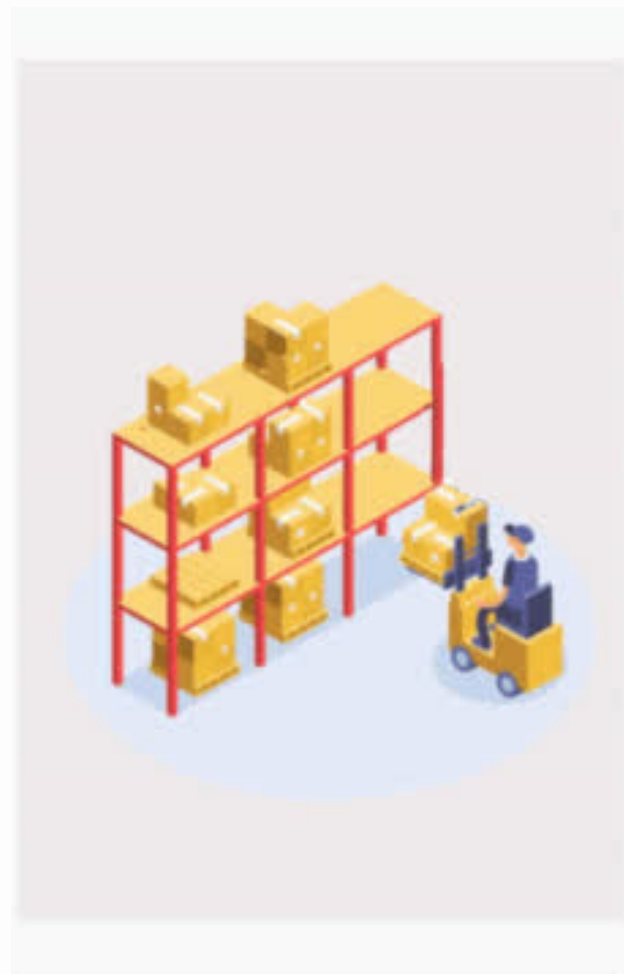
Competitive Advantage



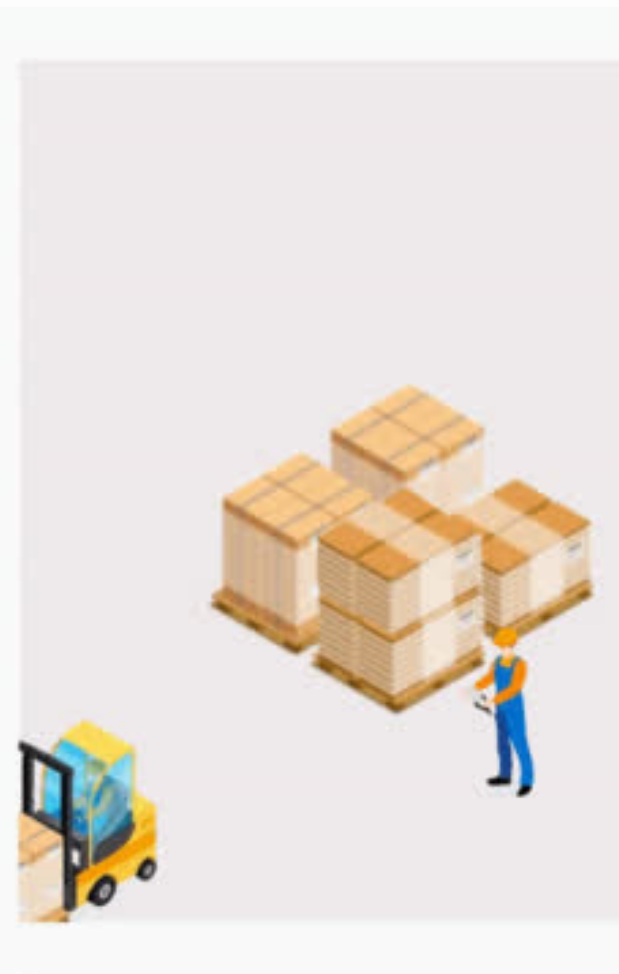
# Roles of workers in a warehouse



Selector



Replenisher



Put-Away



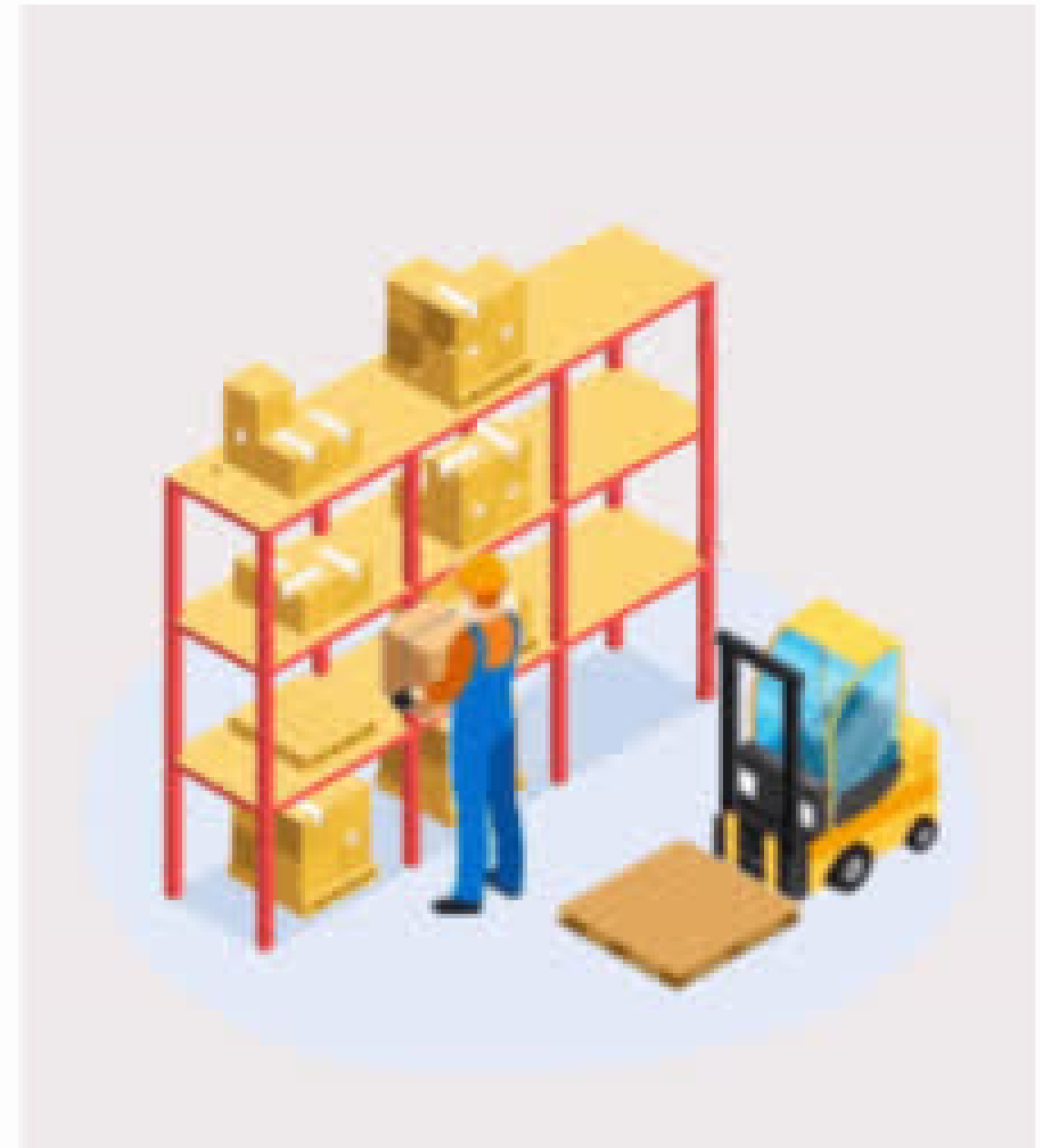
Receiver



Manager

# Why focus on the selectors?

- Entry point of the career
- Most physically-taxing
- Highest turn-over rate
- Odd working hours





Selectors

Who

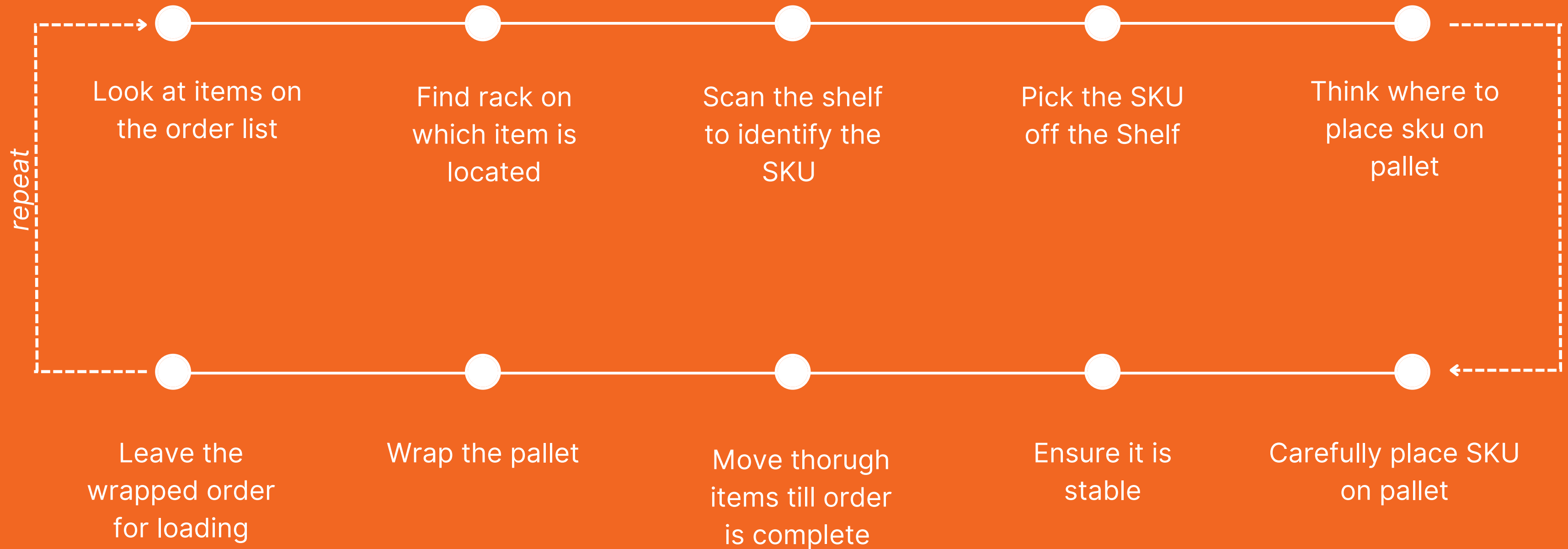
Manual  
Warehouses

Where

?

What

# The selection loop





“ **Stacking is definitely the most difficult job**, because you not only need to consider what the product is, but how to manage items for different stops. ”

“ It was especially hard when I first started selecting. You need to remember what items may come next for the clients, so that you can **prepare and stack items better.** ”





“ *Things might just fall when the stacking doesn't go well.* ”



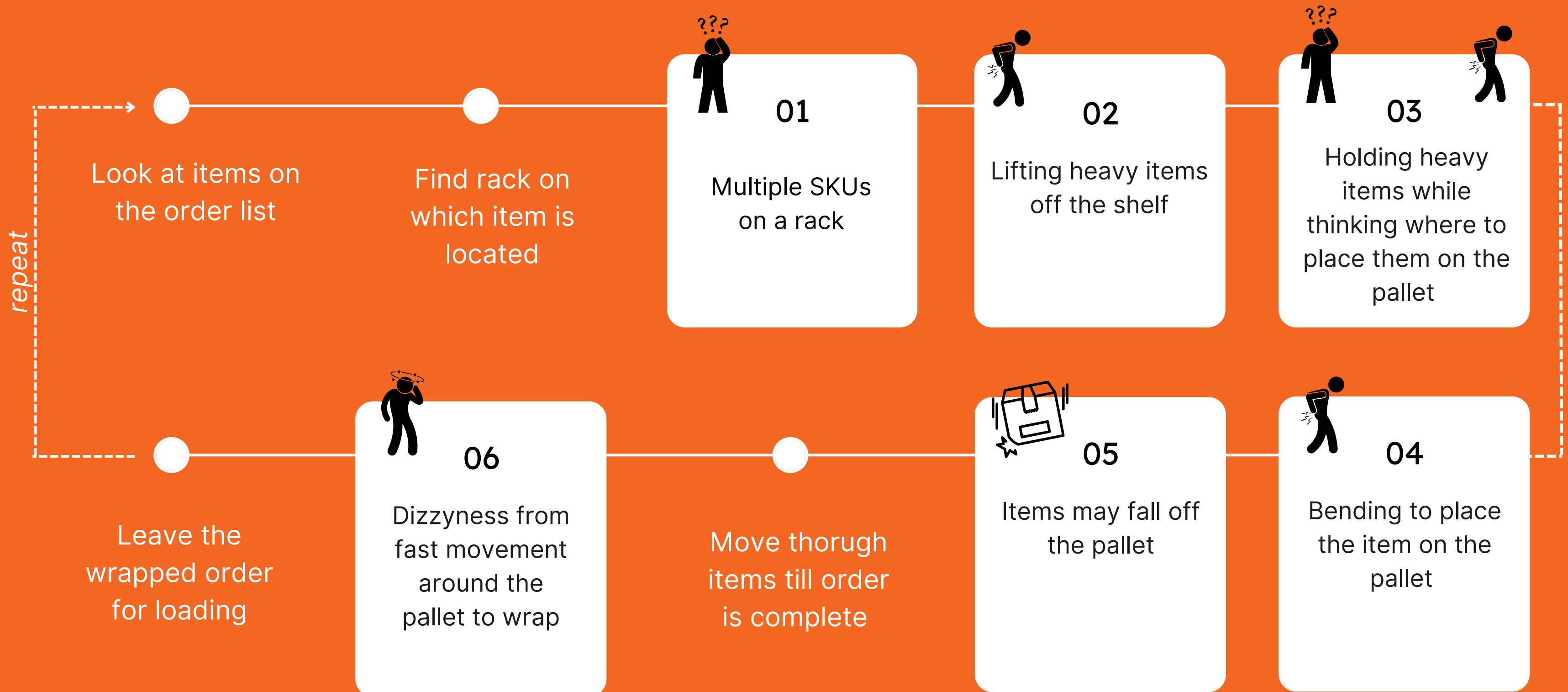




“ It happens a lot that I **cannot stack them properly** and **need to keep rearrange** them on the pallets. ”

“ It takes a **long time to practice** wrapping. ”

# Painpoints



*How might we improve the experience of ...*

# Repetitive physical labor for selectors



Picking

Stacking

Wrapping

*... in food distribution warehouses?*







# Why these?



## Picking

Physical Strain while picking items



## Stacking

Improper stacking causes accidents and loss of goods



## Wrapping

Physical Strain from running around the pallet



# 03

## Meet PalletMate!





# A product that makes...

## 01 Picking

# A product that makes...

**01** Picking

**02** Stacking

# A product that makes...

**01** Picking

**02** Stacking

**03** Wrapping

...hassle free

# Pallet lifting

*Height Adjustment for Picking*

**Extendable Scissor Jack**  
Support up to 1000lb of weight



# How does it help picking?

- ✓ Reduces physical strain
- ✓ Increases the speed of selecting
- ✓ Increases efficiency





# Protective curtain

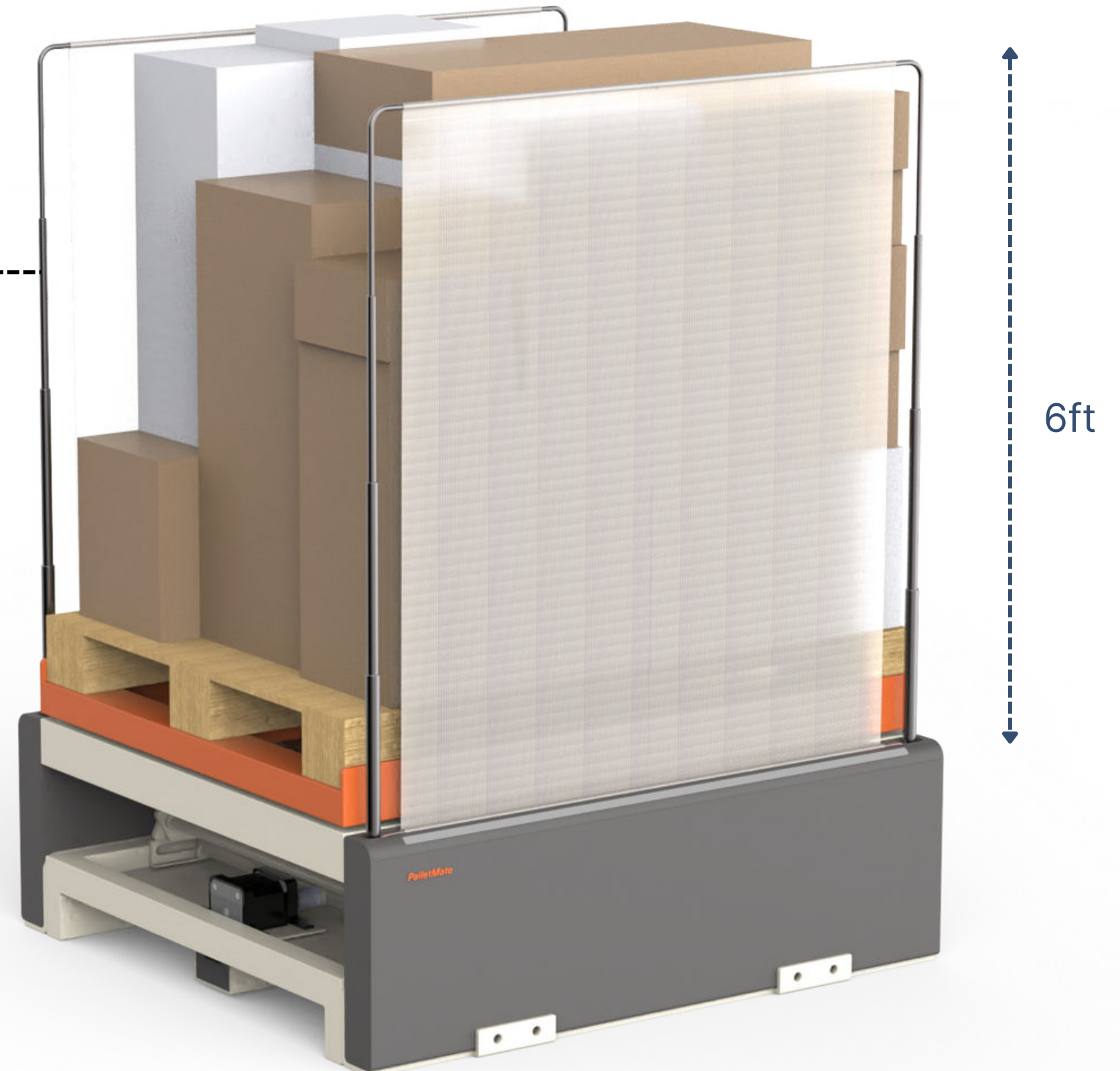
*Prevents Accidents During Stacking*

## Telescopic Poles

Extendable to cover stack heights

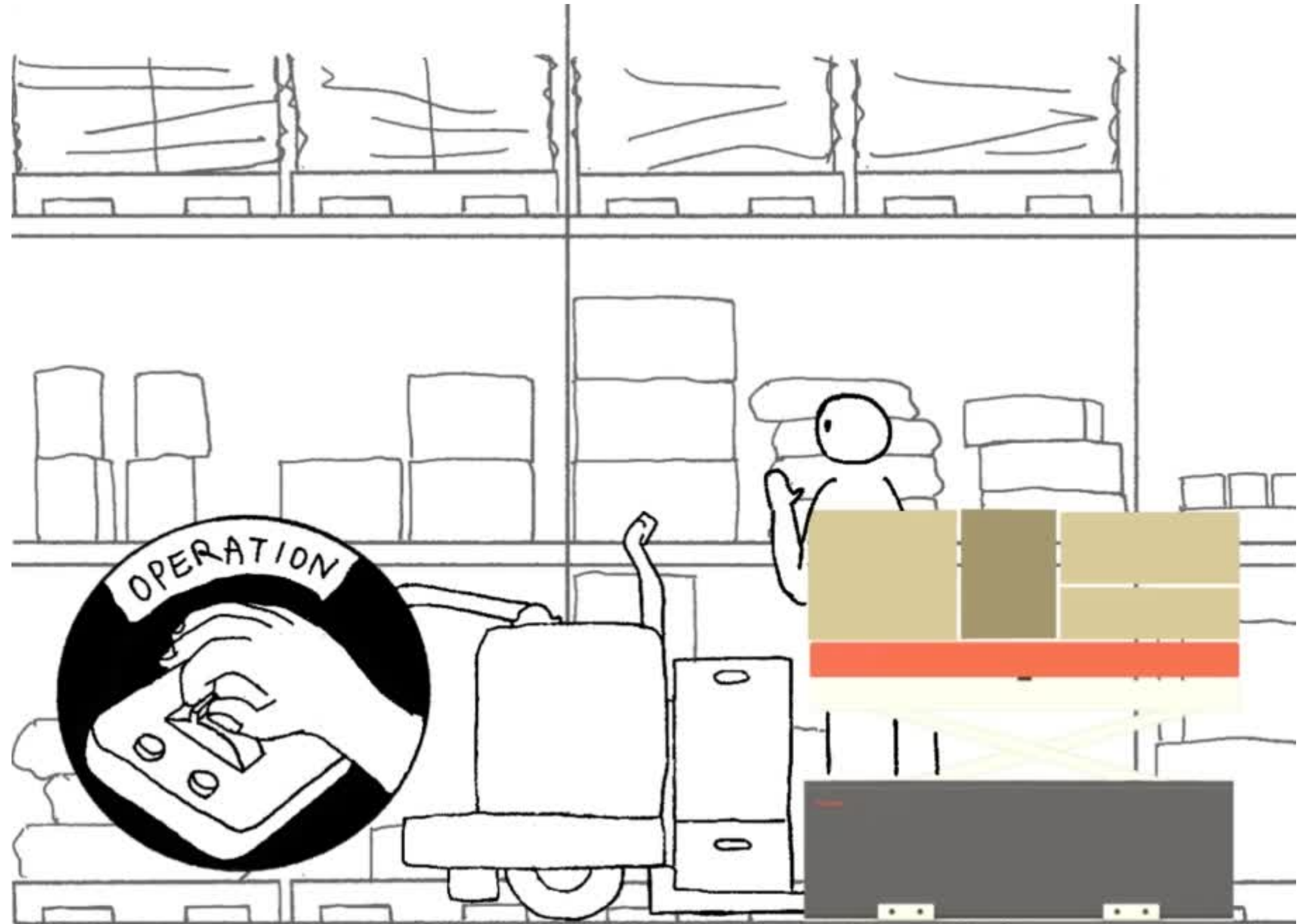


**Semi-transparent Nylon Mesh**  
Protects stacked items from both sides



# How does it help stacking?

- ✓ Ensures time isn't wasted on re-stacking
- ✓ Prevent items from accidentally falling
- ✓ Protect items from external obstacles





# Rotating platform

*Makes wrapping easier*

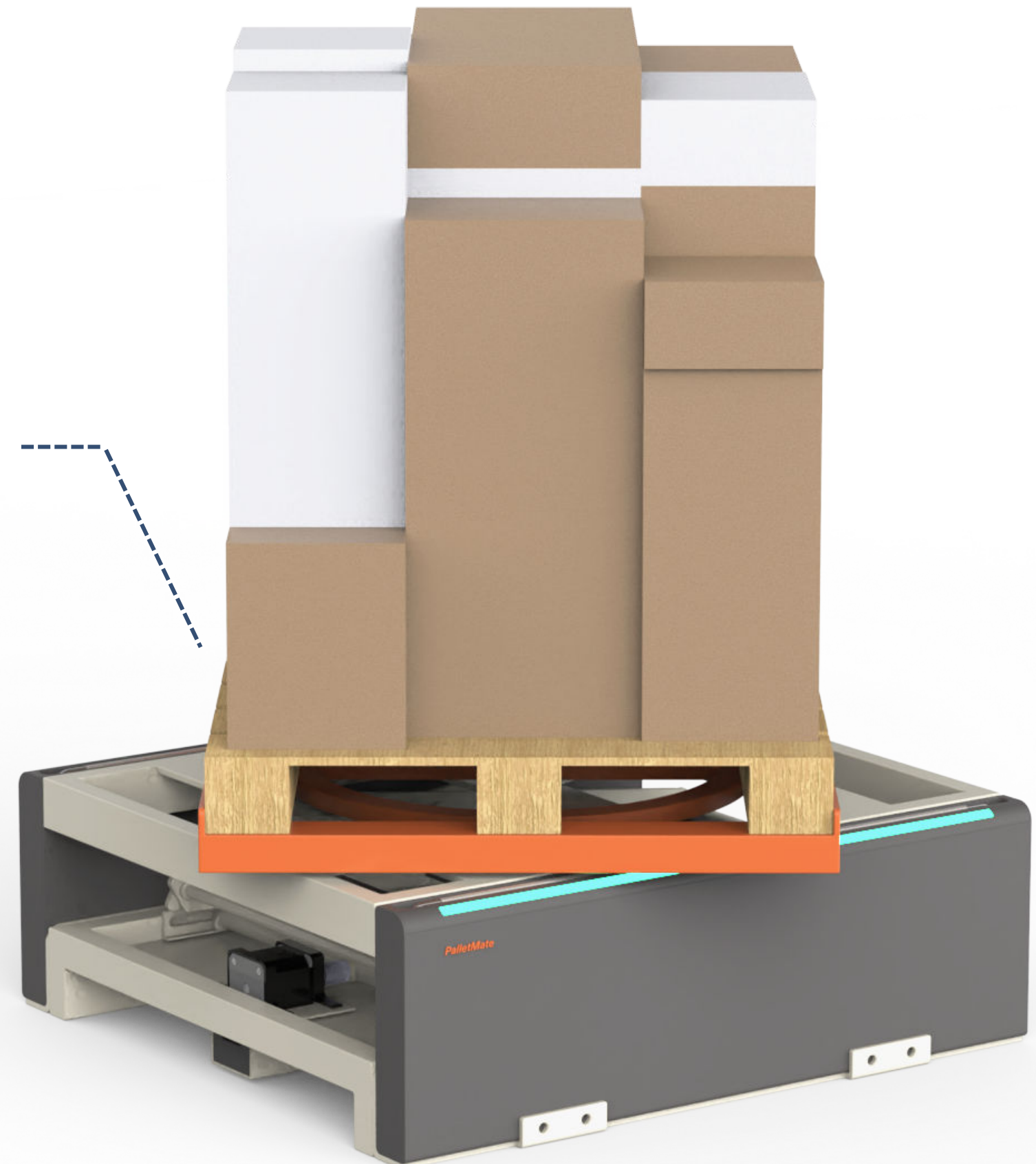


**Pre-set Rotation**

5 rotation in  
preferred speed

**LED Status**

Indicates ready  
to rotate





# How does it help wrapping?

- ✓ No longer have to run around the pallet
- ✓ No more dizziness caused by running around the pallet
- ✓ Reduces physical strain



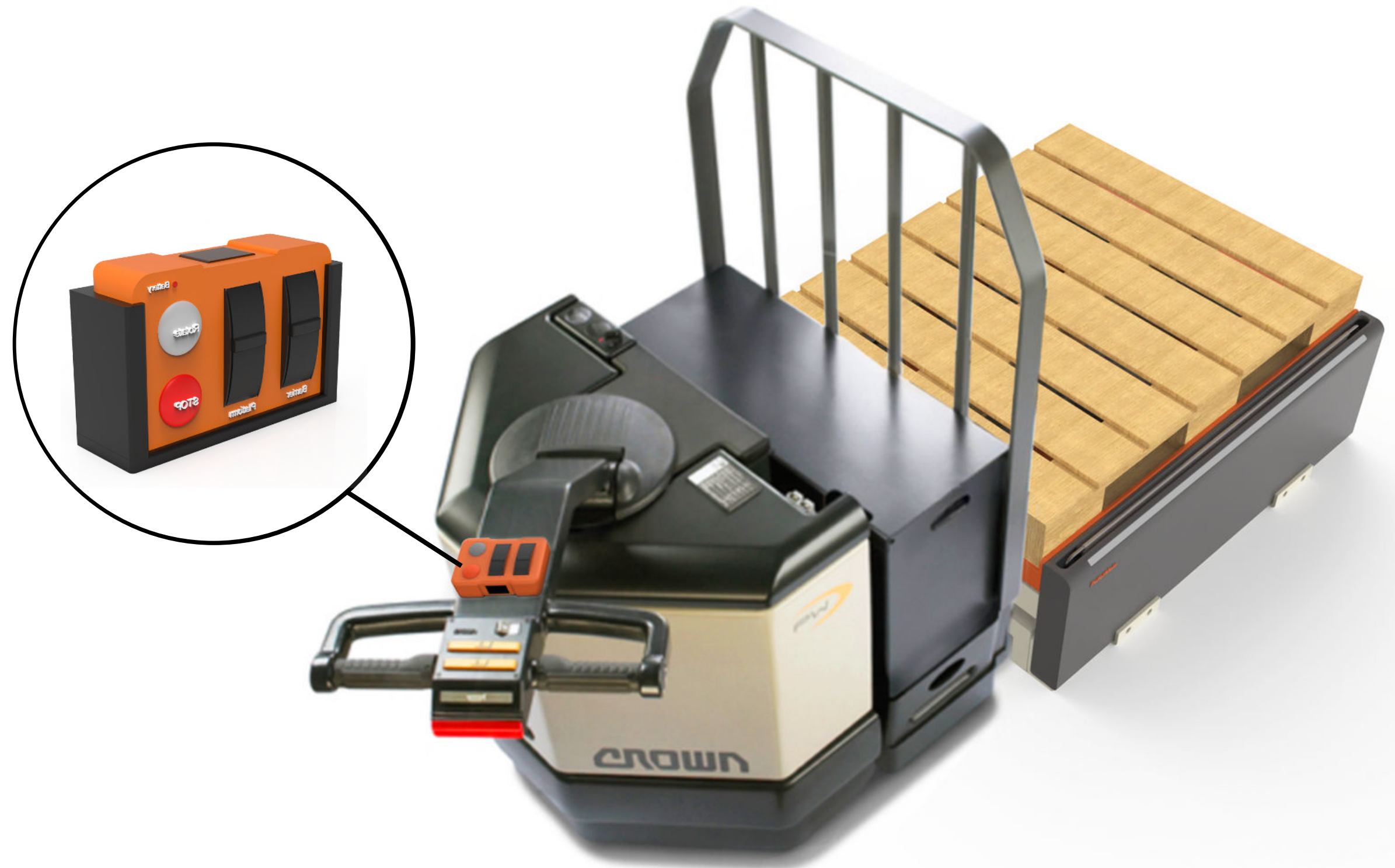
# PalletMate is...



Compatible with the  
current system



Intuitive manipulation at  
the finger tip



# Selector's reliable partner

AISI  
1020

Heavy-duty strength

120 Ah

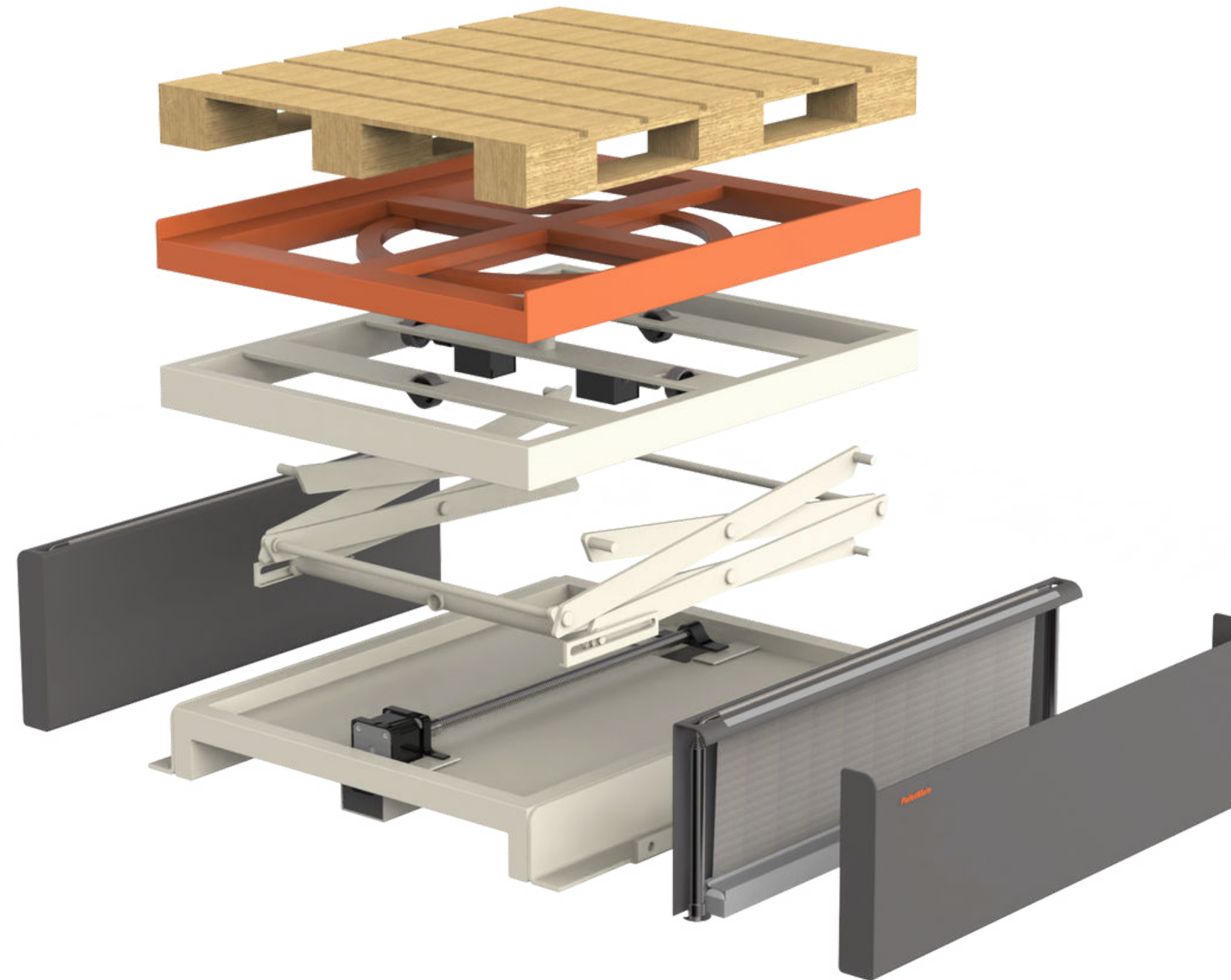
Higher capacity,  
less charging

24V DC

Compatible with  
other devices

Li-ion

Reliable power  
source

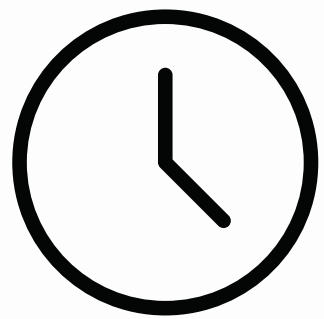




# The new experience



# Impact of using PalletMate



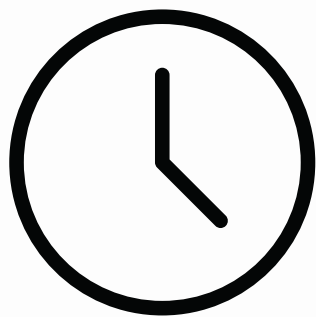
> 2000 hr

*saved per annum*



Increase in number  
of orders fulfilled

# Impact of using PalletMate



> 2000 hr

*saved per annum*



\$6,500

*saved per pallet mate  
per annum*

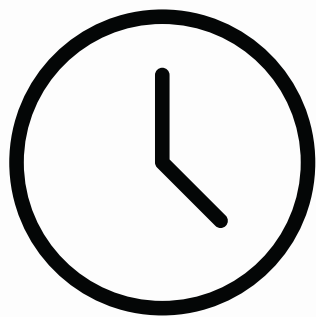


Increase in number  
of orders fulfilled



Reduced loss of goods due  
to accidents

# Impact of using PalletMate



> 2000 hr

*saved per annum*



Increase in number of orders fulfilled



\$6,500

*saved per pallet mate per annum*



Reduced loss of goods due to accidents



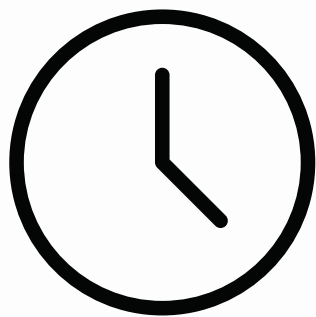
Physique

*Decrease in number of musculoskeletal injuries*



Improved efficiency and reduction in healthcare expenses

## Impact of using PalletMate



> 2000 hr

*saved per annum*

Increase in number  
of orders fulfilled



\$6,500

*saved per pallet mate  
per annum*

Reduced loss of goods due  
to accidents



Physique

*Decrease in number  
of musculoskeletal  
injuries*

Improved efficiency  
and reduction in  
healthcare expenses



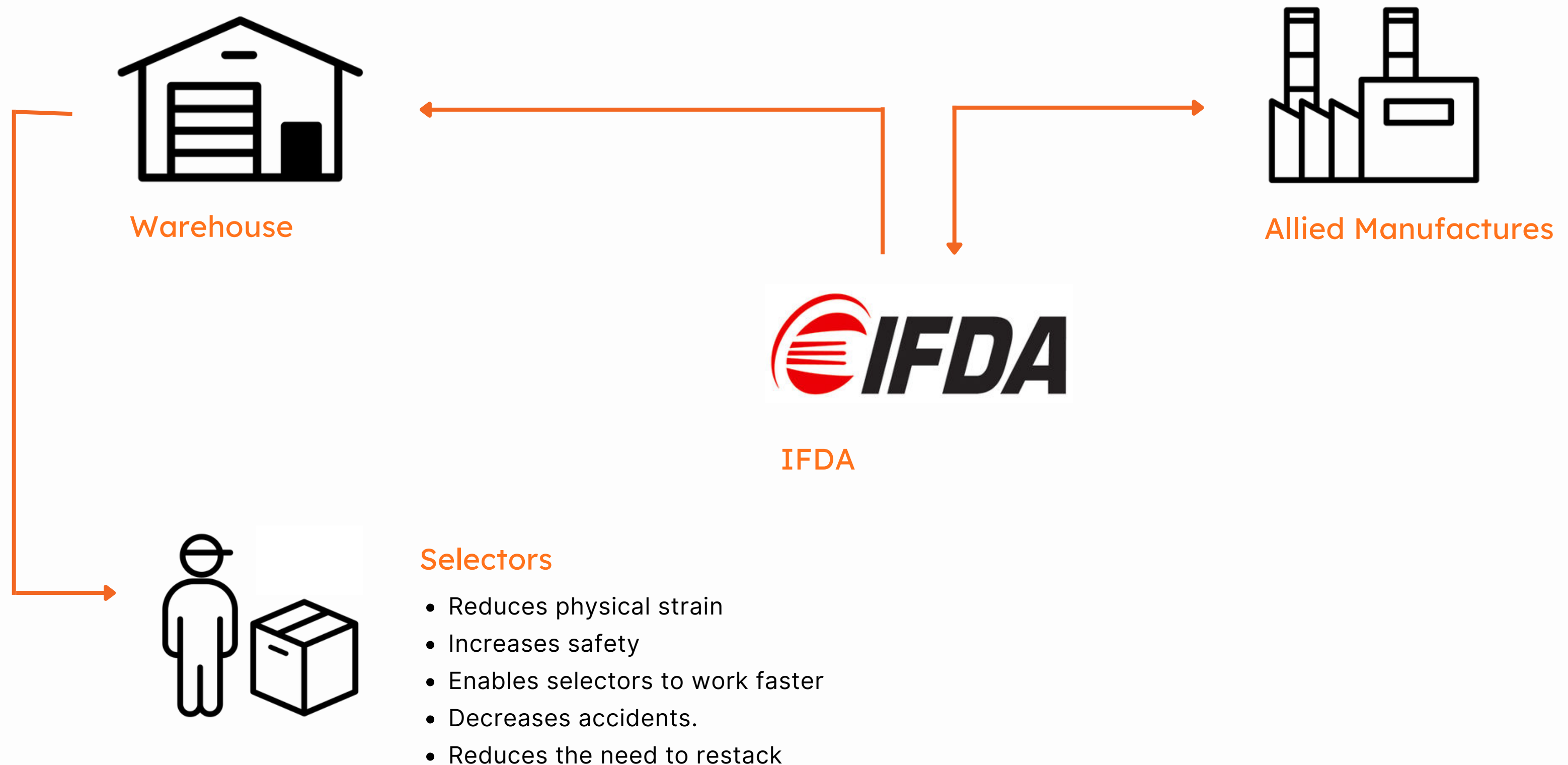
Retention

*Improve retention  
rate of workers*

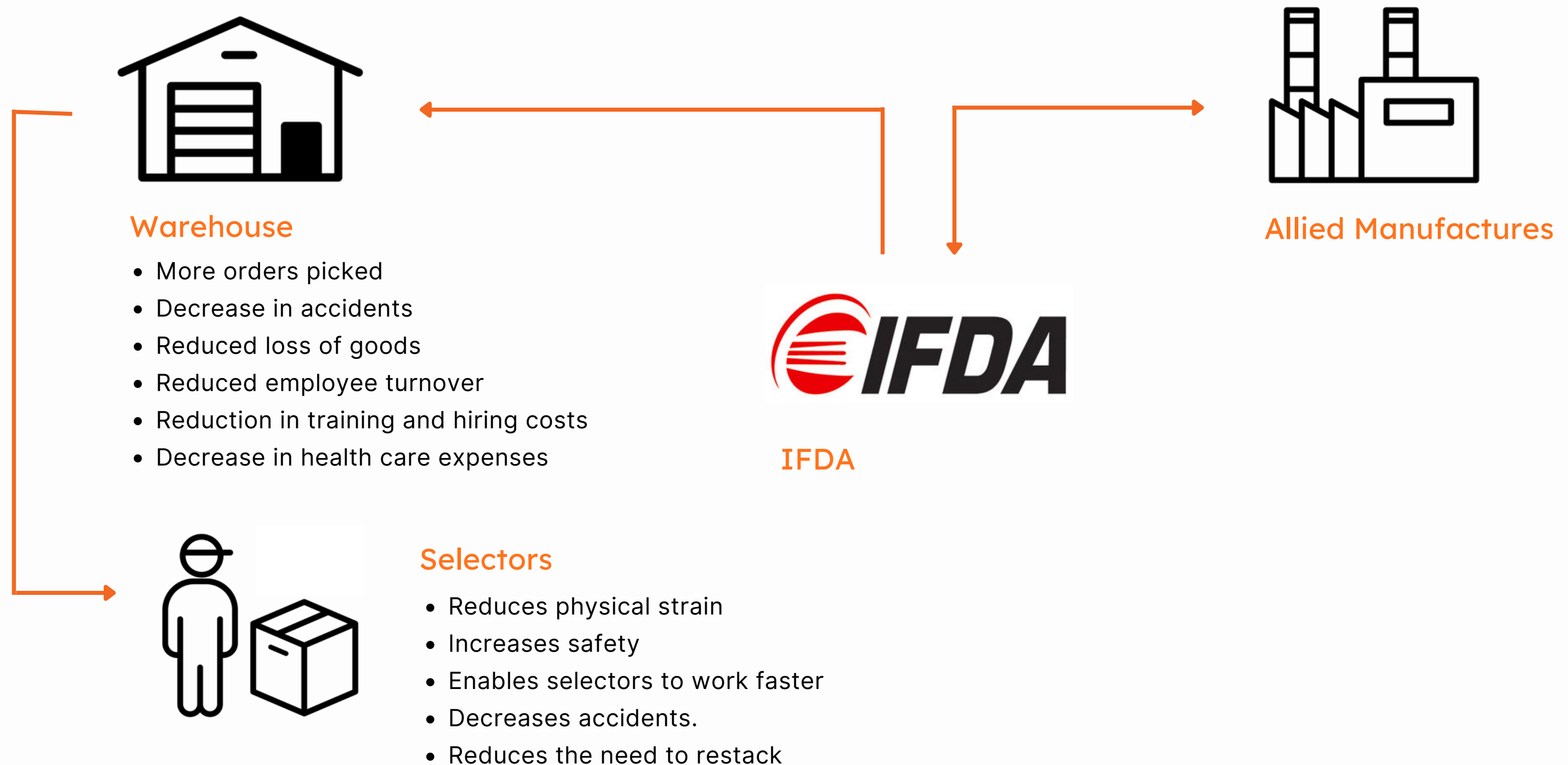
Decrease in costs for  
hiring and training new  
employees



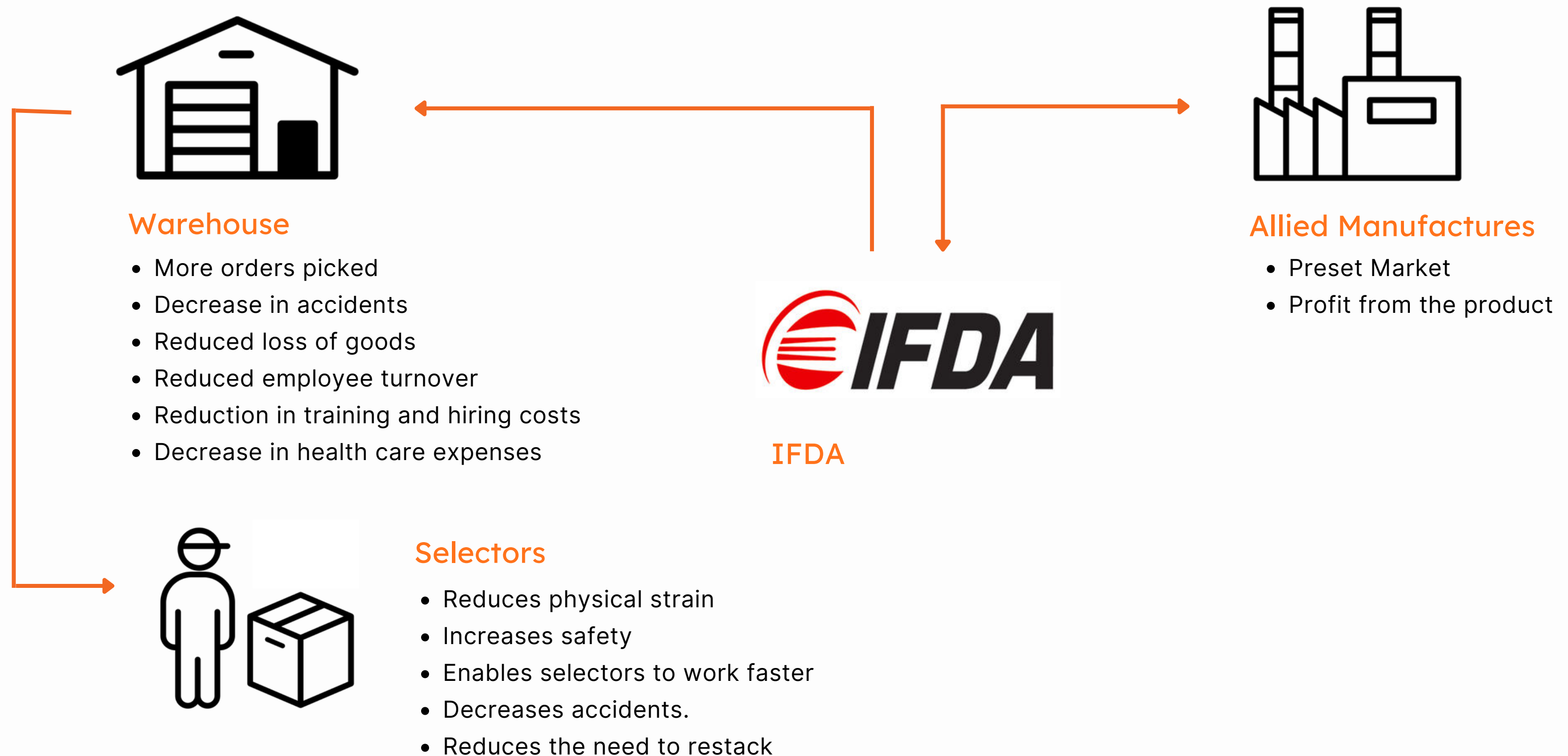
# Value created for IFDA and its Partners



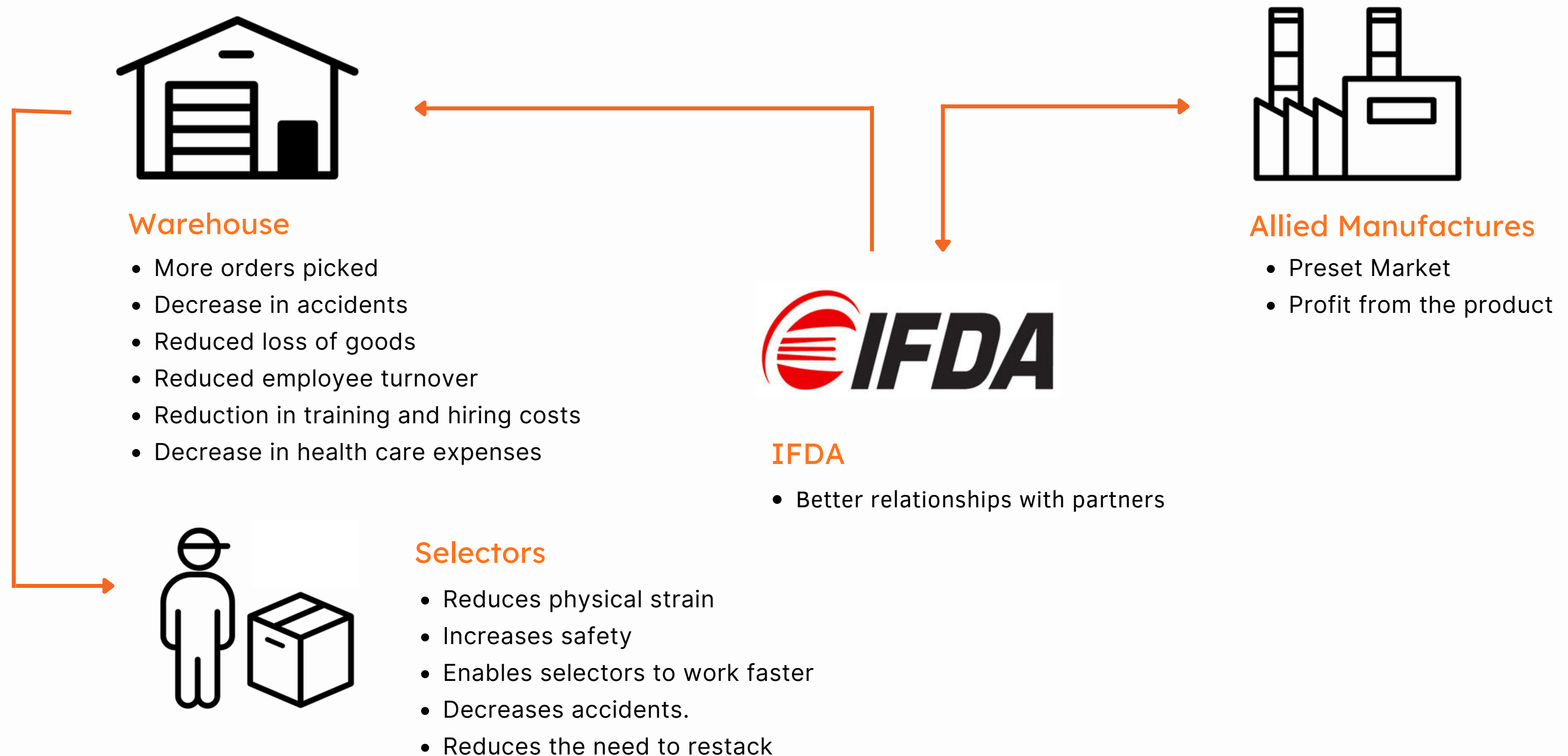
# Value created for IFDA and its Partners



# Value created for IFDA and its Partners



# Value created for IFDA and its Partners





# Who are the competitors?



**01** PalletPal Positioner



**02** PalletPal Walkie

# Who are the competitors?



## 01 PalletPal Positioner

- Helps wrapping
- Circular platform
- Price - \$2,807



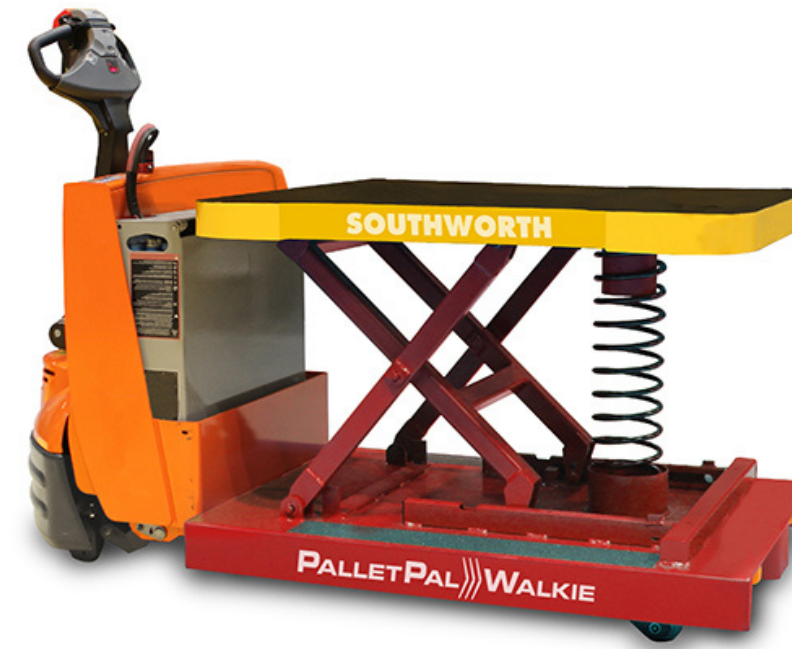
## 02 PalletPal Walkie

# Who are the competitors?



## 01 PalletPal Positioner

- Helps wrapping
- Circular platform
- Price - \$2,807



## 02 PalletPal Walkie

- Height adjustment
- Maximum height is 3 ft
- Height adjusted due to weight
- Price - \$3,444

# How is PalletMate better?



## PalletMate

- Height adjustment
- Maximum height is 6ft
- Height controlled using a remote
- Barriers that prevent items from falling
- Helps wrapping
- Price - \$3,800



# Marketing Palletmate

## Strategies



-  Bring awareness about the product

## Tactics



-  Conduct events

# Marketing Palletmate

## Strategies




-  Bring awareness about the product
-  Communicate the value

## Tactics




-  Conduct events
-  Provide product walk-throughs

# Marketing Palletmate

## Strategies

-  Bring awareness about the product
-  Communicate the value
-  Promote the adoption of pallet mate

## Tactics

-  Conduct events
-  Provide product walk-throughs
-  Collect data and conduct surveys

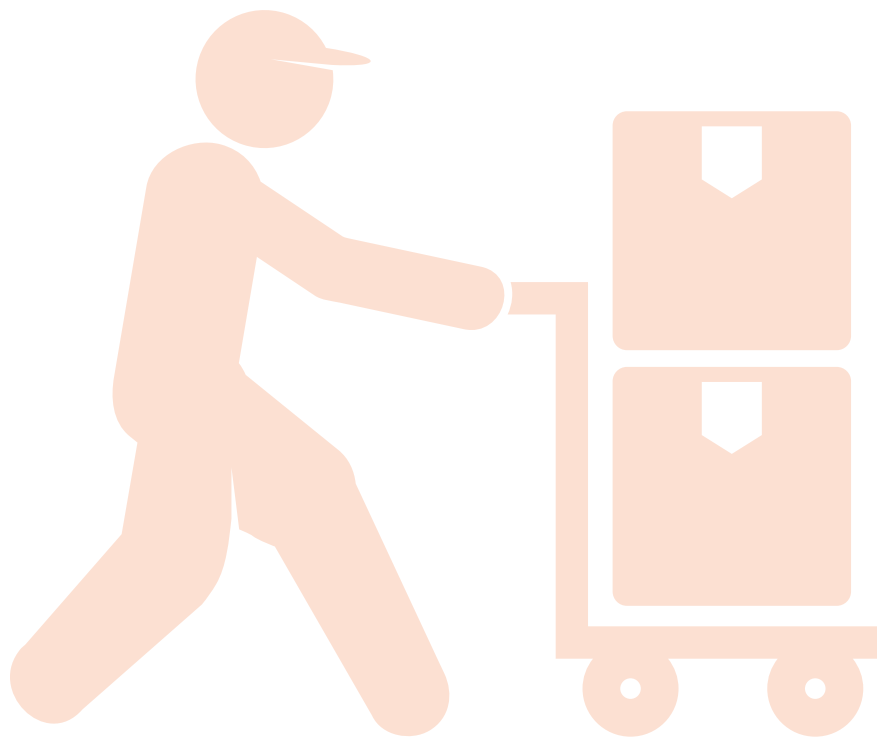
Check out our video





# Thank you!

Questions?



# Scan from your iphone..



你的段落文字

PS: wait for the file to download  
and then open :)