RULES OF THE CIRCLE (RoTC)
CASE STUDY – Distribution Center

VISION

Improve flow.
Flow happens in value streams.
Organize and align everything by value stream.

Teams outperform groups.
Teams perform when they are small, empowered, and self-directed.
Teams should be a mile deep (a value stream deep) and an inch wide,
*   not a function wide and a inch deep*

Many small beats one big.
Break big problems into many small problems.
Eliminate complexity.

- Robert Simonis

GOAL

Empower teams with fast feedback and information from the processes and customers and make them responsible to improve results

… use the Rules of the Circle (RoTC)

- Start and end close together
- Do not cross
- Make smaller
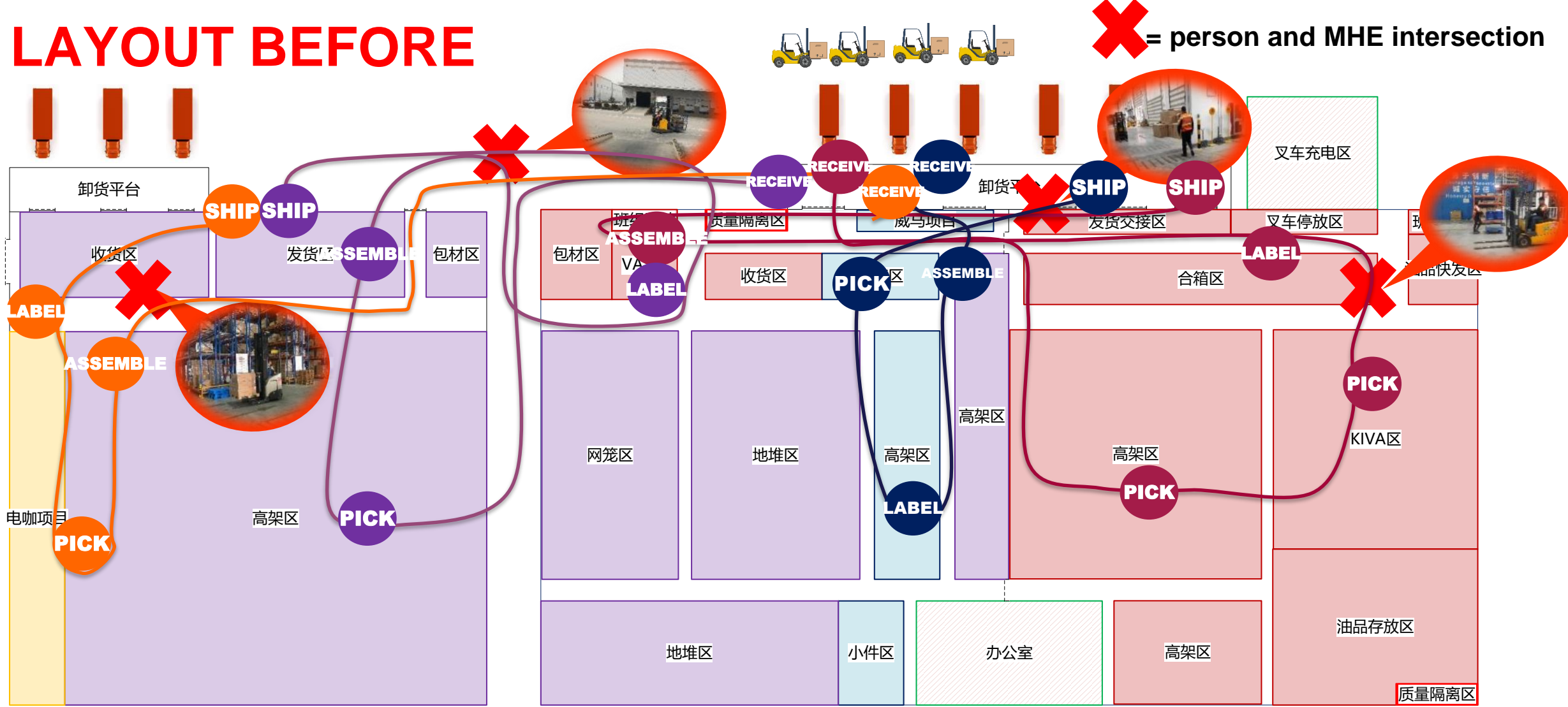- It's not a circle
- Smooth

… to Align Processes

- Physical layout
- Equipment
- Organization
- Metrics and KPI
- Accounting

… and improve Metrics

- Safety
- Quality
- Cost
- Delivery / Service
- Environment
- Morale

LAYOUT BEFORE

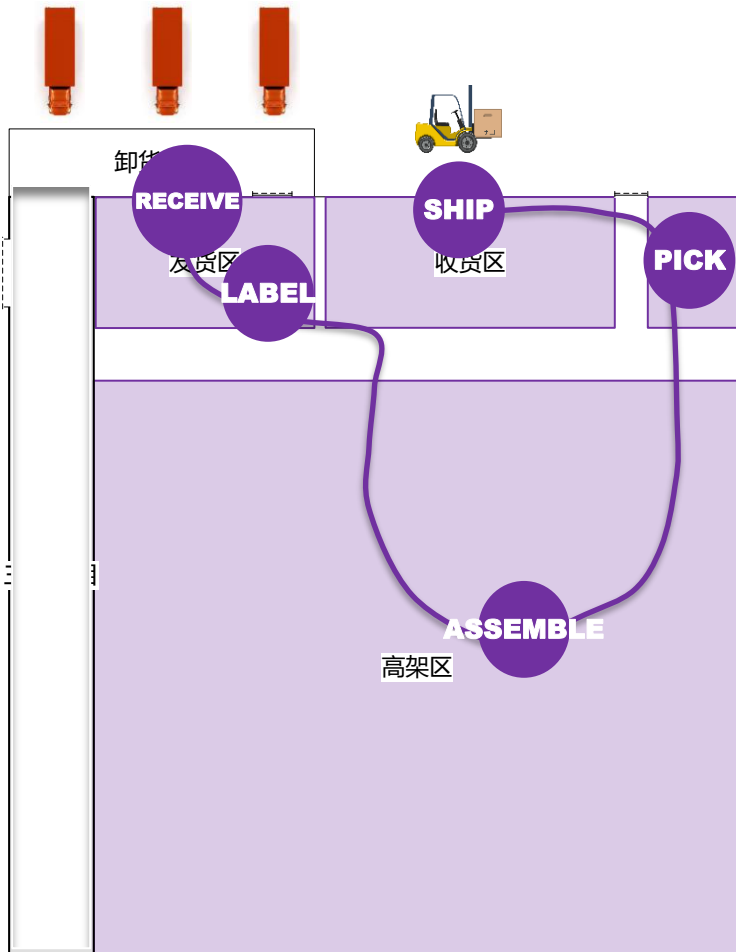❌ = person and MHE intersection

Client A – Automotive

Client B1 – Industrial Wholesale
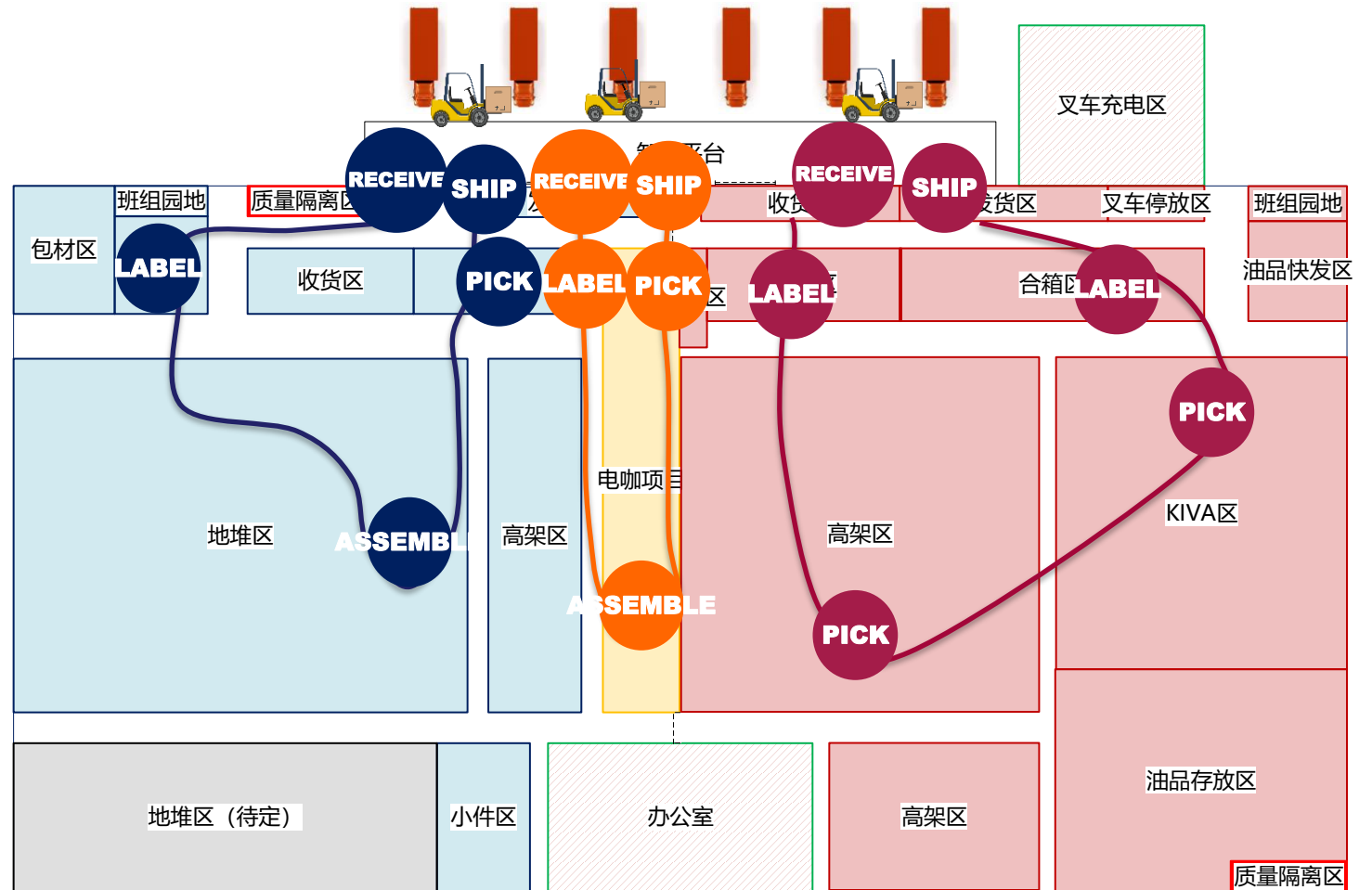
Client C - Industrial

Client B2 – Industrial Retail

LAYOUT AFTER

Client B1 –
Industrial Wholesale

Client C -
Industrial

Client A –
Automotive

Client B2 –
Industrial Retail

⚙️ **Organize physical layout by value stream, or customer, or order type**

BEFORE
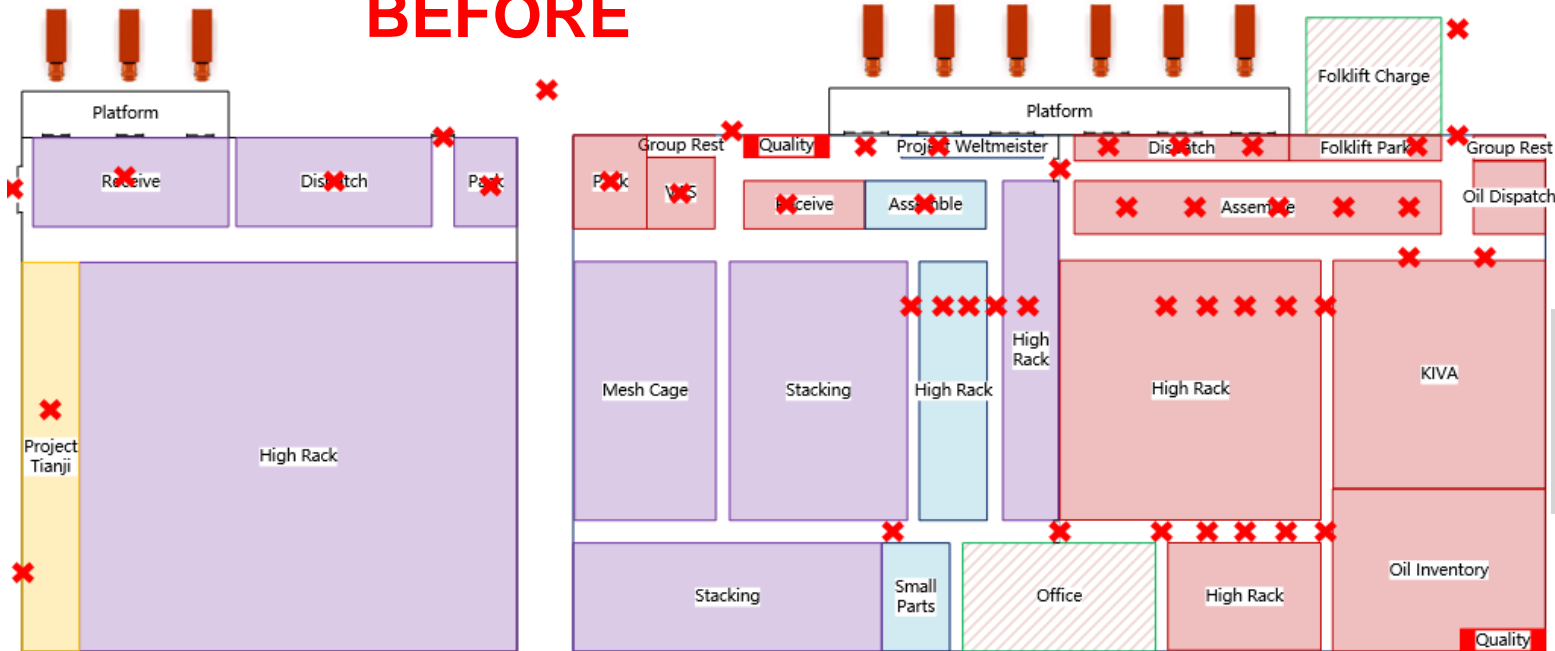
SAFETY FIRST!

Intersections of people and machines			
Before	**After**	**Change**	
43	11	32	74.42%

AFTER

- Created shorter circular paths for material and operators

- Installed guard rails and crossing points to minimize intersections

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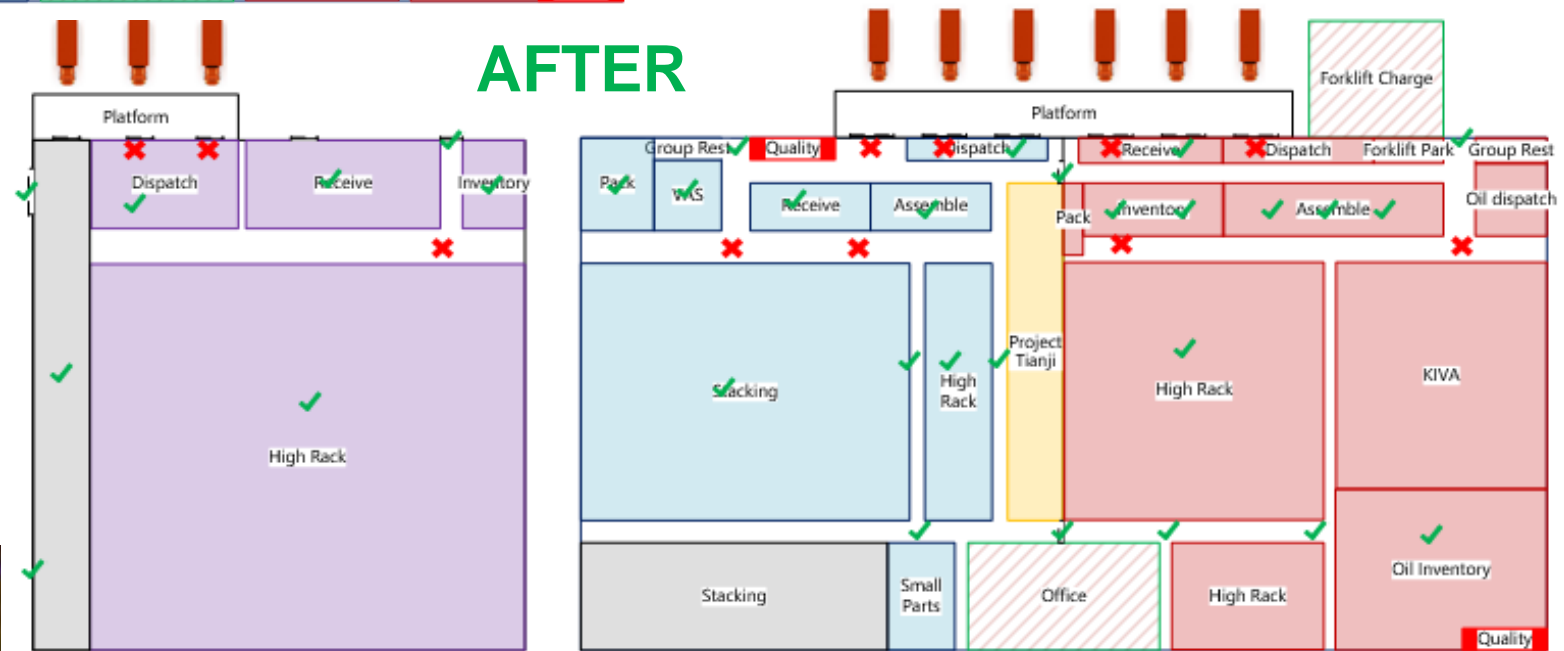
ORGANIZATIONAL STRUCTURE

BEFORE
ORGANIZATION BY DEPARTMENT

AFTER
ORGANIZATION BY VALUE STREAM

Distribution Center MANAGER

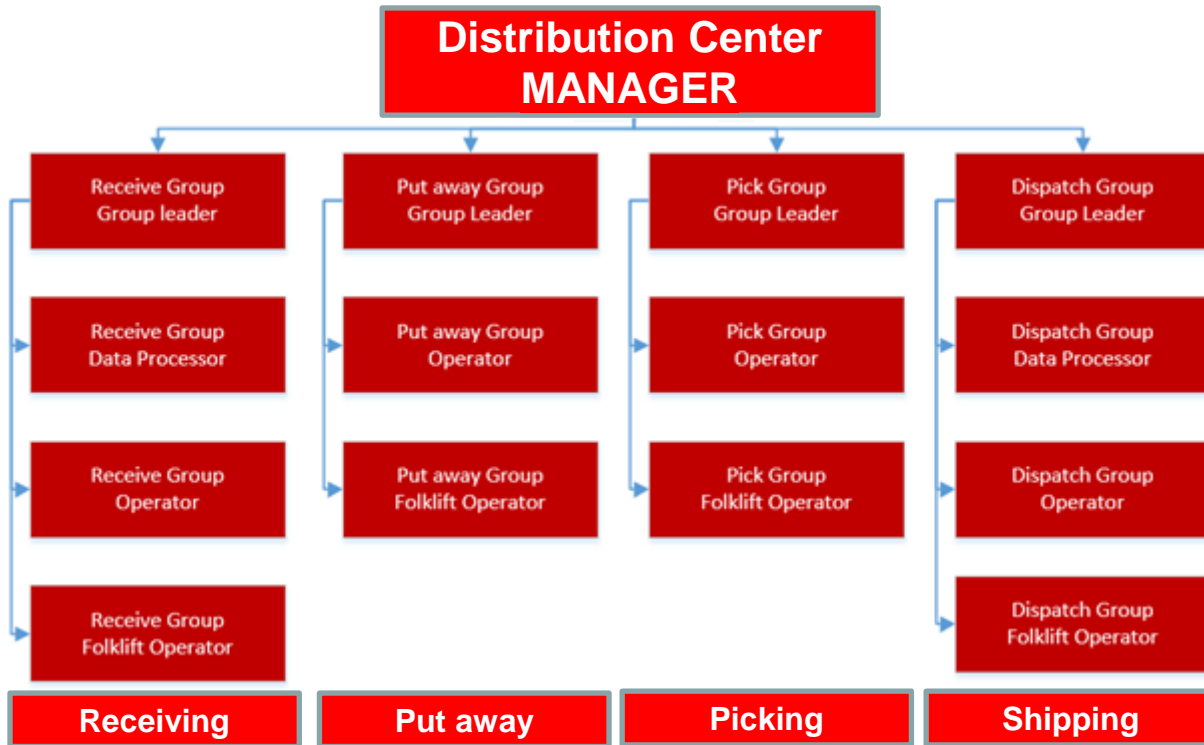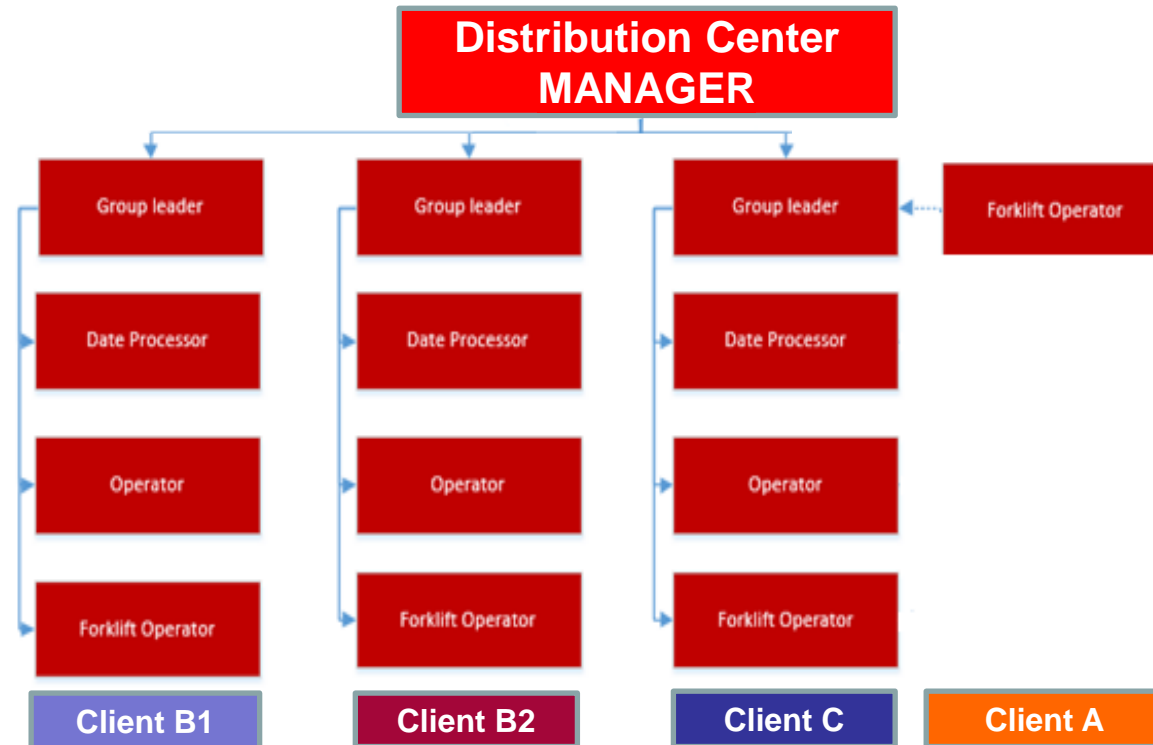| Receive Group Group leader	Put away Group Group Leader	Pick Group Group Leader	Dispatch Group Group Leader
Receive Group Data Processor	Put away Group Operator	Pick Group Operator	Dispatch Group Data Processor
Receive Group Operator	Put away Group Folklift Operator	Pick Group Folklift Operator	Dispatch Group Operator
Receive Group Folklift Operator			Dispatch Group Folklift Operator

Receiving	Put away	Picking	Shipping

Distribution Center MANAGER

Group leader	Group leader	Group leader	Forklift Operator
Date Processor	Date Processor	Date Processor	
Operator	Operator	Operator	
Forklift Operator	Forklift Operator	Forklift Operator	

Client B1	Client B2	Client C	Client A

⚙ **Create teams responsible for external customer satisfaction and able to control their work based on rapid feedback of the systems**

METRICS

<table>
<tr><td style="text-align:center;">BEFORE</td><td style="text-align:center;">AFTER</td></tr>
<tr><td>

- Metrics by department or function
- Examples:
  - Trucks unloaded per day
  - Pallets received
  - Dock to stock (available for picking) within customer metric
  - Picking productivity
  - Individual productivity trackers

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- Metrics for teams and value streams
- Examples:
  - Customer complaints
  - On-time delivery
  - Velocity – minutes from unload to stock
  - Team productivity

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Metrics are internally focused on parts or steps and do not consider or measure the complete system

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Metrics are external customer focused and drive teamwork through the complete system

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ACCOUNTING

BEFORE	AFTER

BEFORE

- Activity-based Costing (ABC) with activities such as inbound, outbound, and front office
- P&L at facility level
- Focus is on variance to budget
- Accounting is focused on reporting to corporate and justifying variances to budget
- "Overhead" is 50% of total cost and allocated to activities

Focus is labor spend and on working harder

AFTER

- Accounting for Lean / Lean accounting by value stream
- P&L for each team
- Focus is on reducing total cost
- Accounting is focused on giving teams actual cost and spend and to drive cost reduction
- Actual costs are associated with value streams and allocations are eliminated

Focus is empowering teams to reduce total costs

RESULTS – Metric Improvements

Description	UoM	BEFORE	AFTER	Δ	% Improvement
Man/machine intersections	number	43	11	32	74.4%
Forklifts	units	17	14	3	17.6%
Average walk route	meters	501	109	392	78.2%
Average forklift route	meters	601	207	394	65.6%
Employees	number	37	32	5	13.5%
Productivity	LPH	10.04	13.11	3.07	30.6%

RESULTS - Productivity

Order lines picked per direct labor hour (LPH) monthly average
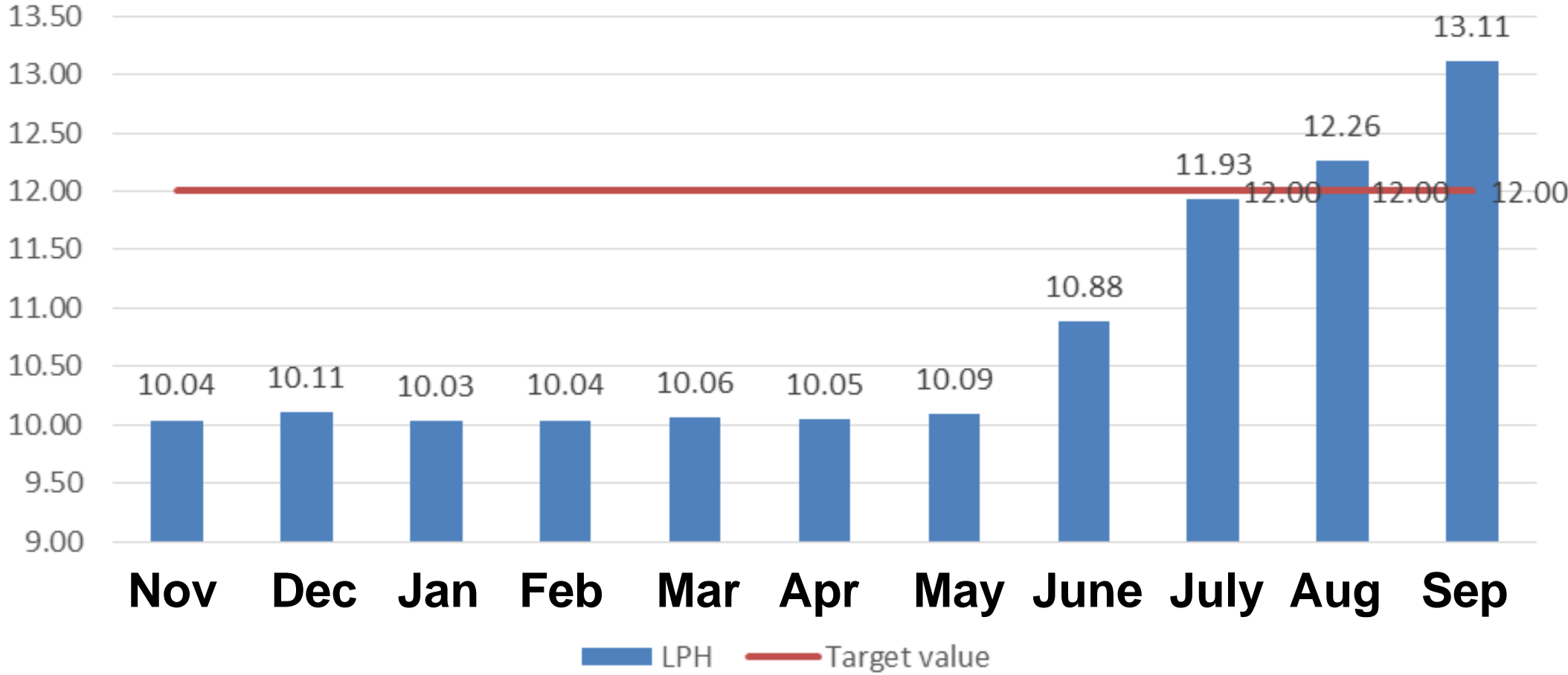
RESULTS - Financial

Description	UoM	BEFORE	AFTER	Δ	Annual Savings
Forklifts	units	17	14	3	$ 15,691
Employees	number	37	32	5	$ 87,014
					$ 102,705

- The same methods were applied to all 120 distribution centers in the company

- Profitability increased by approximately 30% (≈ 8.2 to 10.7%)

- Implementation was just 8 months

- Increased profit was realized ≤ 1 year after implementation and <u>without</u> capital investment