SOLVE FOR X.

Preparing to Automate: How to Evaluate Your Operations

Presented by:

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PROMAT 2017
McCormick Place | Chicago
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What you will learn

- In-depth, pre-implementation steps to evaluate your operations
- Real life examples of how evaluating your current business structure helped two companies implement an AS/RS

Westfalia's AS/RS is proud to be trusted by:

BREAKTHRU BEVERAGE GROUP

PBG

SARGENTO

BUFFALO TRACE KENTUCKY STRAIGHT BOURBON WHISKEY

THE GLENMORE DISTILLERY

FAGE

About the presenter

Westfalia
OUR INNOVATION YOUR SOLUTION

Aaron Corcoran, Account Executive

Over **20 years experience** in material handling and logistics with leading companies:

Grenzebach, KUKA, Engineering Services Group, WolPac

Specializing in **Food / Beverage** industries

Where to start?

What's your 80/20?

You have 1,000 SKUs

- 200 account for 80% volume
- 800 account for 20% volume but are taking up space

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What to Consider?

What's your **5-year and 10-year** plan?

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Data Analysis: Capacity vs. Capability

Design Considerations for AS/RS

1. Are you out of multiple facilities, out of space or utilizing outside storage?
2. What requirements are needed?
3. How much inventory must be stored in design year?
4. How many SKUs does inventory comprise?
5. What's your 80/20?
6. How many units per hour enter/exit?
7. How has your business changed?
8. How many hours/shifts is the operation active?
9. What are the operational cost savings?

Small Facility | Low SKUs

Use existing space density yields: 6,432 pallet positions

	Input	Calc w/Spacing
Pallet Width (Inches):	40	50
Pallet Length (Inches):	48	51
Pallet Height (Inches):	72	72
Pallet Weight (LBs):	2999	
Length Available (Feet):	300	67
Width Available (Feet):	160	32
Height Available (Feet):	24	3
Number of Crane Aisles:	2	
Pallets/Level:		2,144
Total Pallets:		6,432
Total Square Feet:		48,000

- Non-optimal facility flow.
- Free up some floor space for other use.
- Cooler expansion, addition of SKU's, etc…
- Timeline: 12-14 months

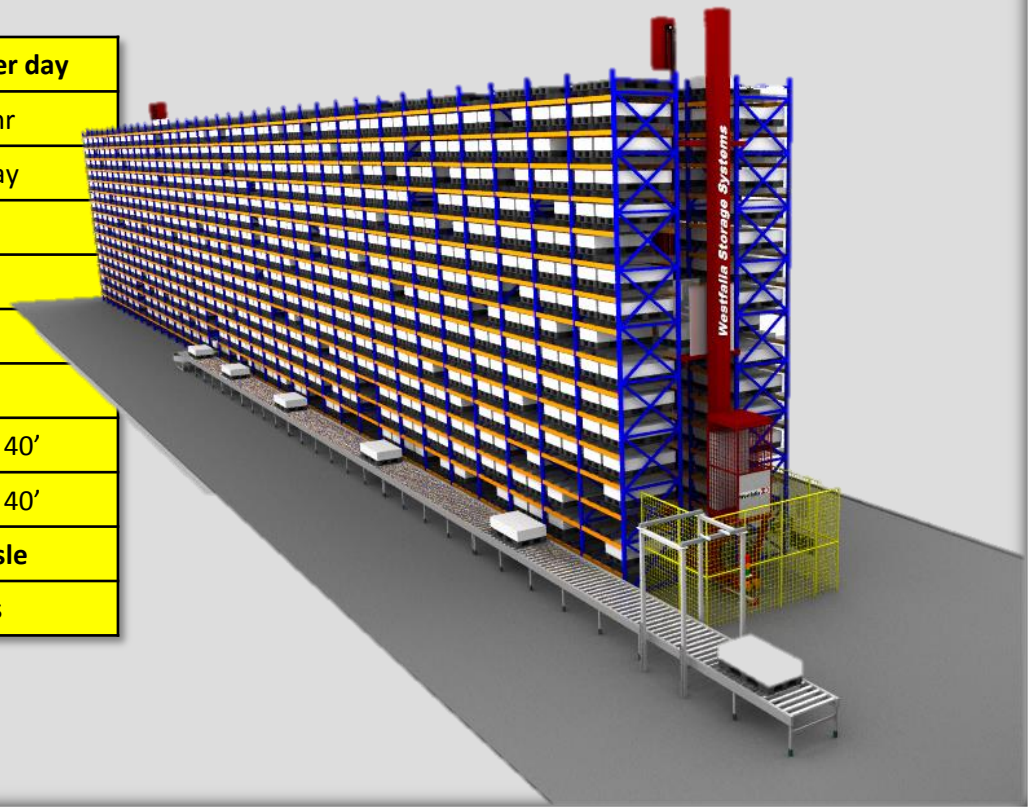
New facility add-on yields: 6,030 pallet positions

	Input	Calc w/Spacing
Pallet Width (Inches):	40	50
Pallet Length (Inches):	48	51
Pallet Height (Inches):	72	72
Pallet Weight (LBs):	2999	
Length Available (Feet):	300	67
Width Available (Feet):	85	15
Height Available (Feet):	40	6
Number of Crane Aisles:	2	
Pallets/Level:		1,005
Total Pallets:		6,030
Total Square Feet:		25,500

- Optimized material flow.
- **Free up 50,000 square feet** of current floor space for operational growth and re-layout.
- Timeline: 12-15 months

Small Facility | High SKUs

Process/sequence	**1,100 units per day**
Throughput	100 moves / hr
Cycle time	70 sec. per tray
Density - positions	**2,304**
98% utilization	2,257
System size (feet)	6,348
Sq. ft. w/ loading dock	12,696
ASRS size	276’ x 23’ x 40’
Total Space	276’ x 46’ x 40’
Equipment	**2 cranes, 1 aisle**
Timeframe	12-18 months



Large Facility | High SKUs

AS/RS vs Conventional

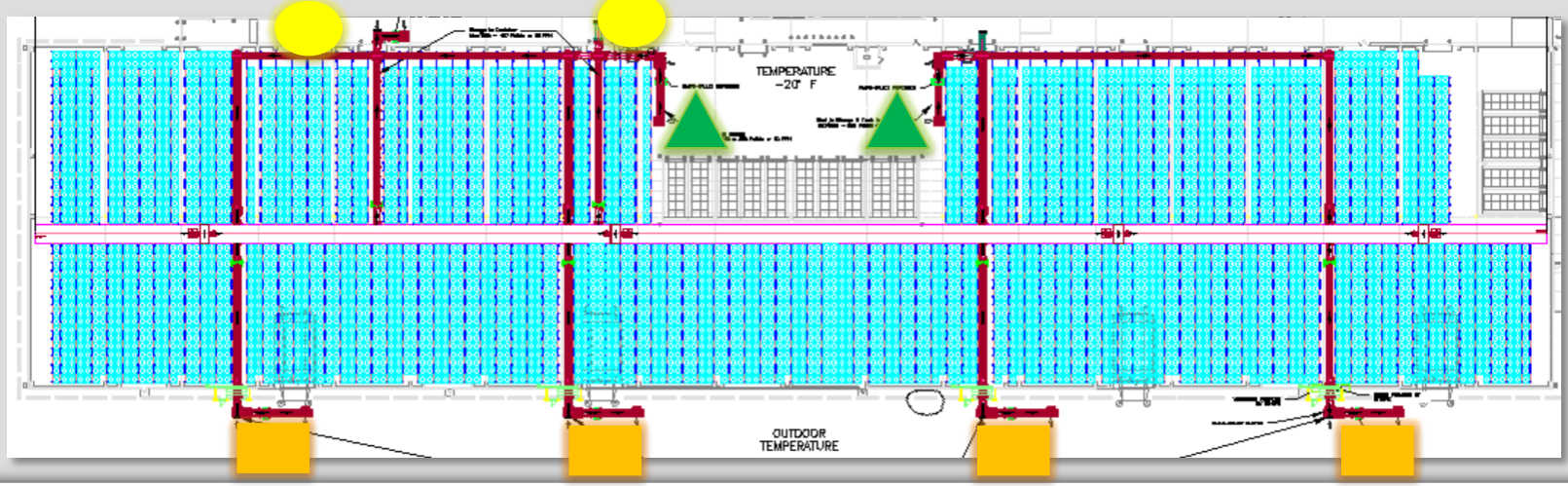
Item	AS/RS	Conventional
Capacity		
Floor Pallet Locations	0 ↓	88,464
AS/RS Rack Locations	87,750 ↑	0
Manual Rack Locations	10,800 ↑	9,936
Pallet Locations	**100,550** ↑	**98,400**
Building		
Sq. Ft. High Bay	126,200 ↑	0
Sq. Ft. Low Bay	69,500 ↓	602,000
Total Sq Ft.	**195,700** ↓	**602,000**
Throughput (pallets/day)		
Inbound	2,000	2,000
Outbound	2,000	2,000
Pallet Locations	**4,000**	**4,000**

Potential Savings

Item	AS/RS	Conventional
Labor		
Pallet Moves/Labor Hr Inbound	N/A ↓	18
Pallet Moves/Labor Hr Outbound	45 ↑	15
Total labor Hours Inbound	0 ↓	111
Total labor Hours Outbound	**44** ↓	**133**
Total labor Hours / Day	**44** ↓	**244**
Effective Labor Hours/Day/FTE	**7**	**7**
Total FTEs/Day (rounded up)	**7** ↓	**35**
Annual Labor Savings %	**46%**	**0**

Large Facility | Low SKUs

- **Total storage** - 24,188 Pallets
- **S/RMs** - 4 Tandem position S/RMs
- **Inbound from Blast and Trucks** – 615 Pallets/Shift capable and 462 max currently.
- **Outbound to Container Loading** – 420 Pallets/Shift capable and 416 max currently.
- **Outbound to Freighter Loading** - 2,280 Pallets/12 hr Shift capable and 2,310 max currently on a 12 hour shift when loading out 2 freighters.
- **Timeframe -** 15-18 months



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BREAKTHRU
BEVERAGE GROUP

High-Bay AS/RS

- 604,907 sq. ft. facility
- 22,470 pallet positions
- 1.3 million cases store in 110K sq. ft. system
- Store up to 10 deep
- 200 pallets per hour
- Top 780 SKUs stored and picked
- 8 integrated pick to belt modules
- Powered by a WES

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SARGENTO®

High-Bay AS/RS
- 2 tandem S/RM's
- 10 levels
- 8,806 storage positions
- 19,141 sq. ft.

Low-Bay AS/RS
- 2 tandem S/RM's
- 6 levels
- 5,992 storage positions
- 22,635 sq. ft.

Advanced Layer Picking and Automated Truck Staging
- 2 layer-picking gantry robots
- 245 layer pick positions
- 2 transfer cars
- 630 automated truck staging pallet storage locations

All powered by a WES

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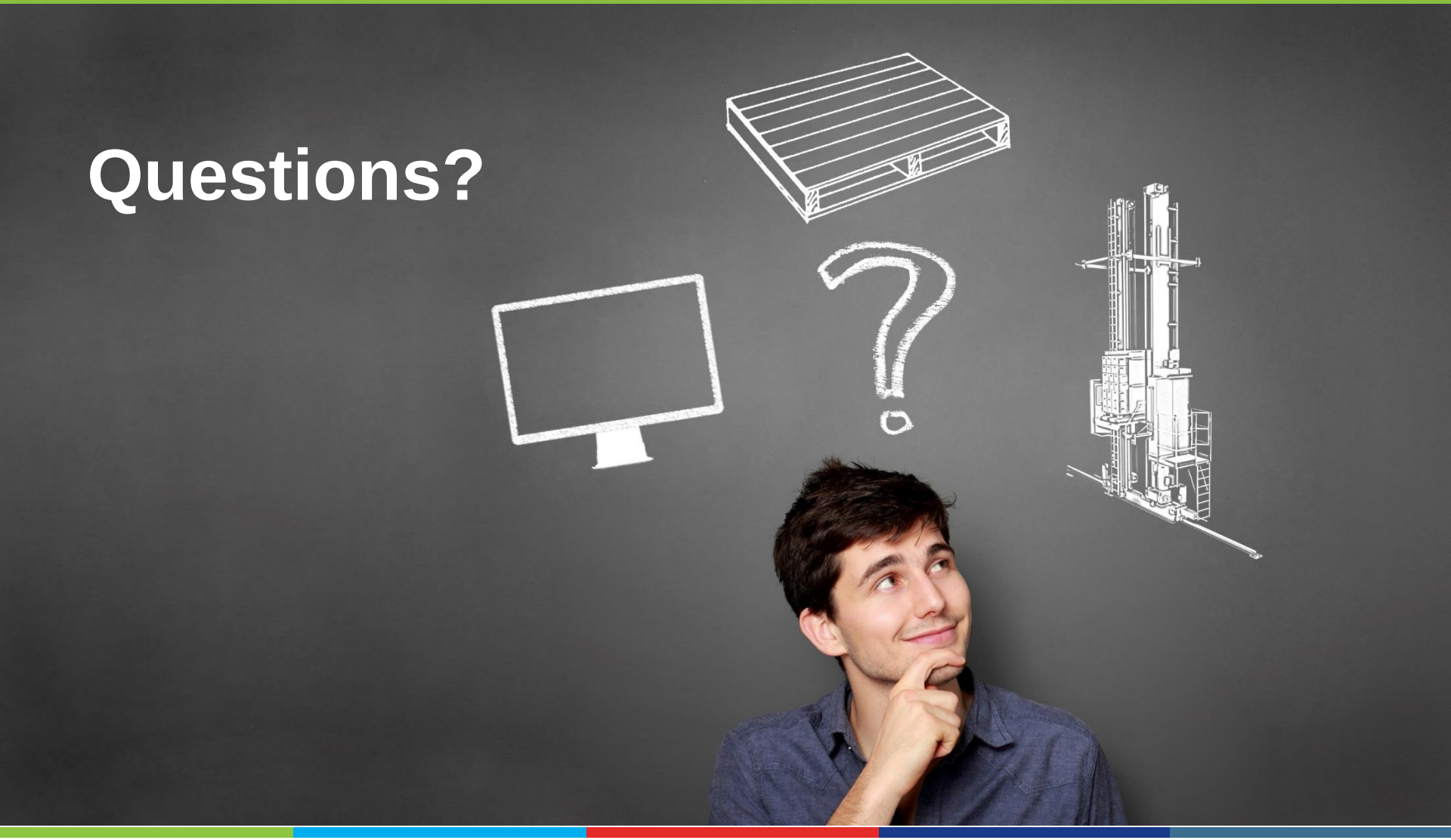
Questions?



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