

# *What Level of Automation Makes Sense – An Incremental Approach*

**IF YOU SUPPLY THE SUPPLY CHAIN,  
YOU BELONG AT MODEX.**

**The greatest supply chain show on earth.**



**viastore** 

*Presented by:*

Myles Harmon

# Agenda

- Defining automation
- Automation scalability
- Automation examples
- Framework for automation justification



# Defining Automation

- What does "automation" mean to you?
  - The different perspectives and fears of the word “automation”
    - Too expensive
    - Inflexible
    - No ROI
    - Not right for my business
    - Etc.



# The Automation Scale

## Level 1

Conventional Picking with Process Improvements



- Implement new WMS
- RF Picking
- Voice Picking
- Labor Management

\$500K-\$1M

## Level 2

Mechanized Solutions



- Conveyor / Pick Modules
- Auto stretch wrap & label
- Layer Picking

\$2M-\$5M

## Level 3

Semi-Automated Solutions



- AS/RS high-density storage
- Conveyor
- WCS/WMS software

\$10M-\$15M

## Level 4

Fully-Automated Solutions



- AS/RS
- Conveyor
- Automated Layer picking and case palletizing
- WCS/WMS software

\$40+ Million

Low

High



# Level 1 Example

Replace paper pick tickets with Voice Picking



Before

After



## Key Features

- Improved safety - Eyes and hands free
- Increased productivity – Typically 15 – 20%
- Improved order accuracy – Up to 99.99%
- Improved inventory control – FIFO, LIFO, etc....
- Easy to train employees



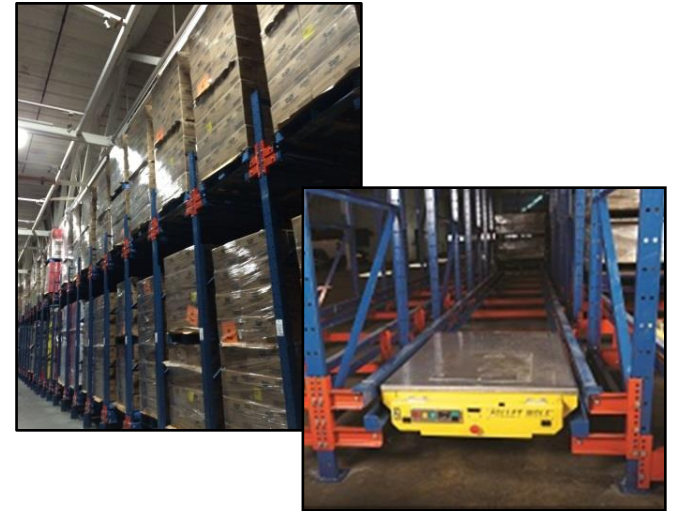
# Level 2 Example

Conversion of bulk stack warehouse to high-density drive-in racking with pallet moles for putaway/retrieval



Before

After



## Key Features

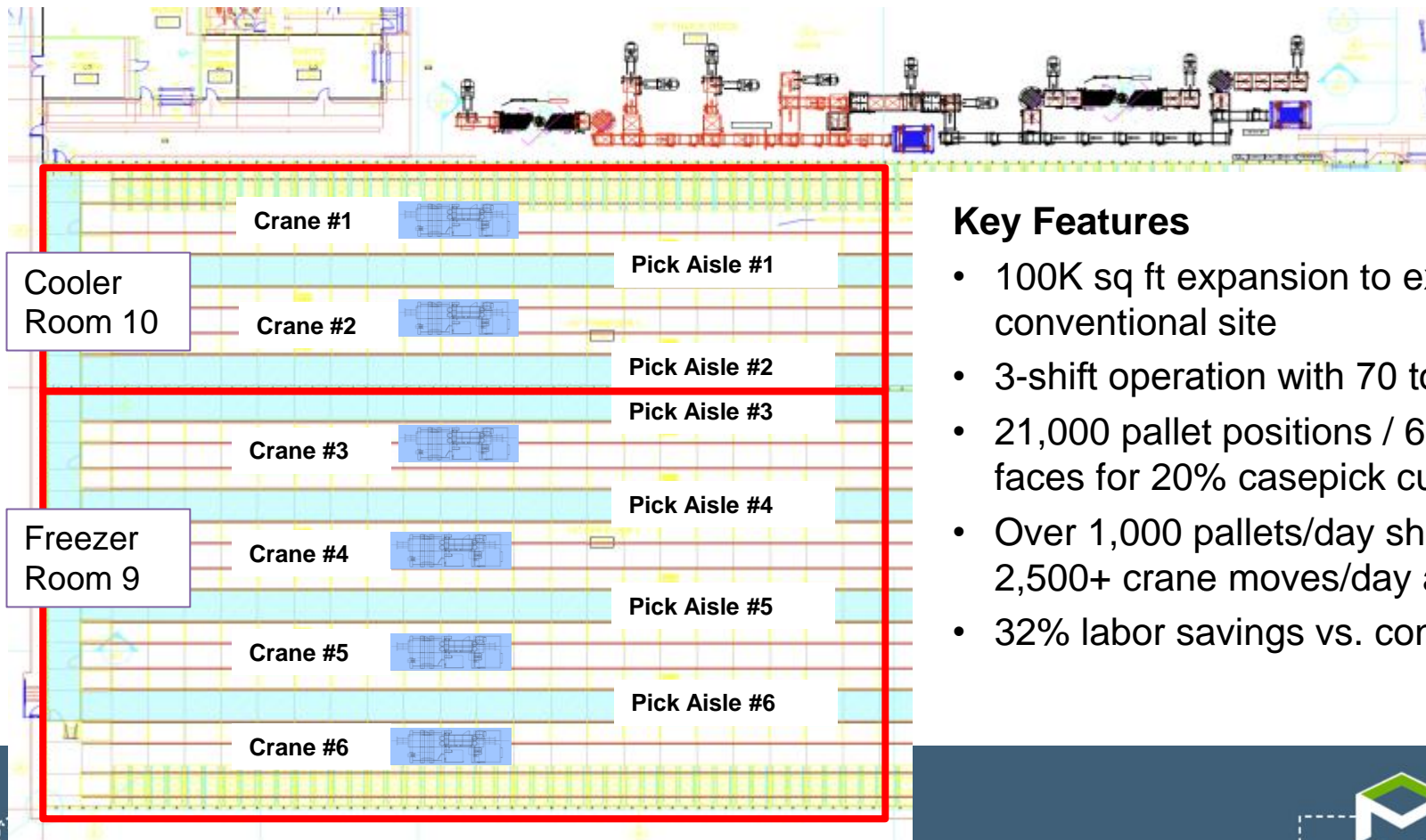
- 17 pallet moles in plant-attached warehouse
- 26K pallet positions (mostly 100" openings) in 250K square feet
- Business case included 20% productivity increase, reduction in product damage, and shuttle cost reduction by gaining 2,200 pallet positions onsite





# Level 3 Example

High-bay ASRS design with 6 cranes, pick tunnels, conveyor loop feed/transport, print/apply and inline stretch wrap

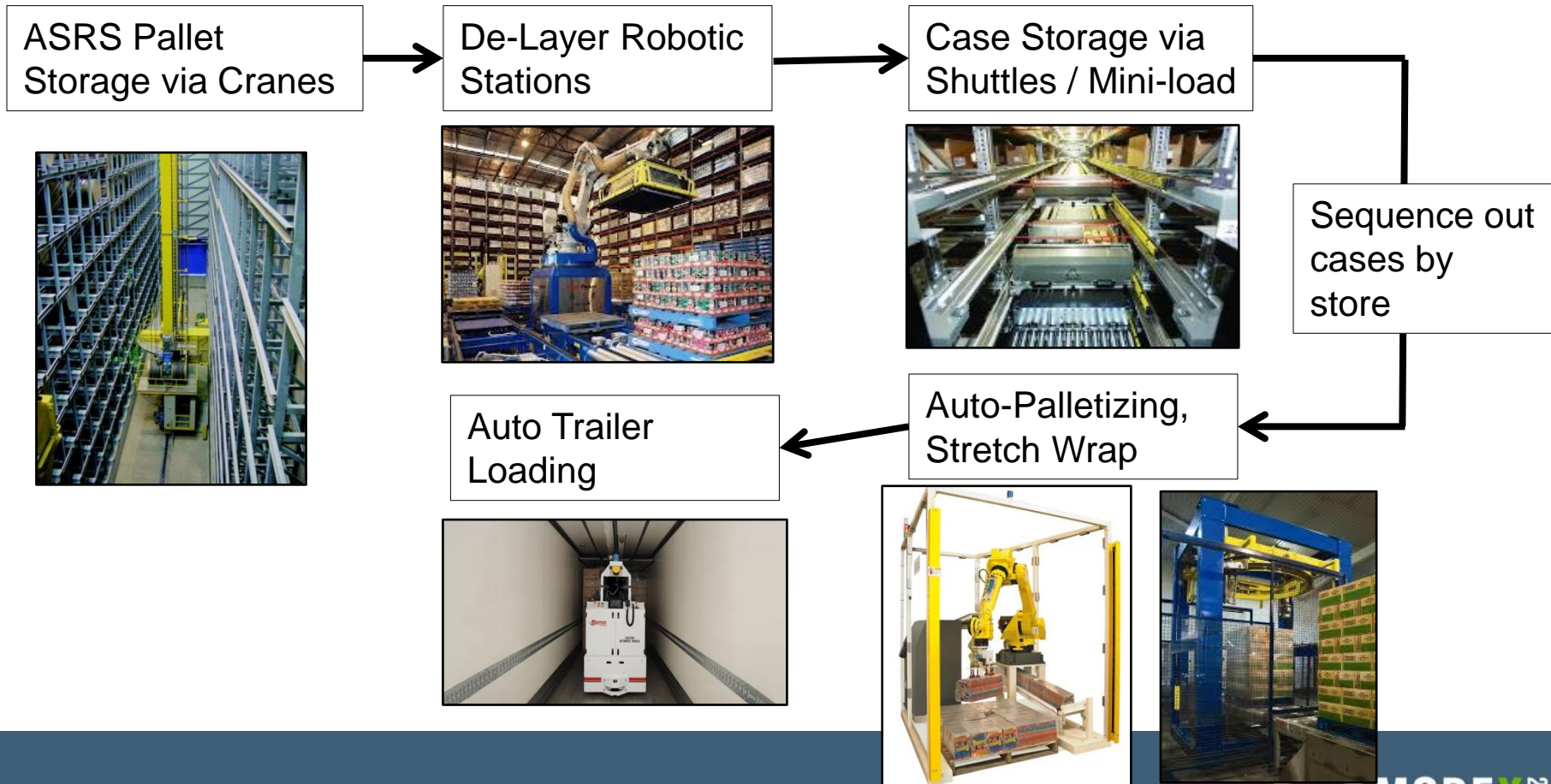


## Key Features

- 100K sq ft expansion to existing conventional site
- 3-shift operation with 70 total FTE's
- 21,000 pallet positions / 600 pick faces for 20% casepick customer
- Over 1,000 pallets/day shipped with 2,500+ crane moves/day at peak
- 32% labor savings vs. conventional

# Level 4 Example

Fully automated, mixed case palletization, 100% casepick for high volume retailer





# Automation Fact or Fiction?

Level 1 Implementations: >10,000

Level 2 Implementations: > 8,000

Level 3 Implementations: > 3,000

Level 4 Implementations: > 15



# Automation Justification Matrix

Criteria to Automate	Automation Level 1	Automation Level 2 <i>(includes Level 1)</i>	Automation Level 3 <i>(includes Levels 1&amp;2)</i>	Automation Level 4 <i>(includes Levels 1-3)</i>
<ul style="list-style-type: none"> <li>Process Improvements</li> <li>Improve order accuracy</li> <li>Increased operations efficiency</li> </ul>	<ul style="list-style-type: none"> <li>WMS with RF/voice directed picking</li> </ul>			
<ul style="list-style-type: none"> <li>1000 - 2000 Pallets per Day Received &amp; Shipped</li> <li>Need to ship mixed SKU pallets</li> </ul>	<ul style="list-style-type: none"> <li>WMS with RF/voice directed picking</li> </ul>	<ul style="list-style-type: none"> <li>Automated Layer Picking</li> <li>Mechanized horizontal transportation conv/AGV</li> </ul>		
<ul style="list-style-type: none"> <li>&gt; 2000 Pallets/Day in Receiving</li> <li>Case &amp; pallet order selection</li> <li>High labor costs/availability</li> <li>Cooler/freezer work environment</li> </ul>	<ul style="list-style-type: none"> <li>WMS/WMS inventory control and automation optimization</li> </ul>	<ul style="list-style-type: none"> <li>Automated Layer Picking</li> <li>Mechanized horizontal transportation conv/AGV</li> </ul>	<ul style="list-style-type: none"> <li>Automate Receiving, Put Away &amp; Pick slot replenishment (Hi-Rise AS/RS)</li> <li>“Goods to Person” product delivery</li> </ul>	
<ul style="list-style-type: none"> <li>High volume pallet &amp; case pick “Store Friendly” Order Sequencing</li> </ul>	<ul style="list-style-type: none"> <li>WMS/WMS inventory control and automation optimization</li> </ul>	<ul style="list-style-type: none"> <li>Automated Layer Picking</li> <li>Mechanized horizontal transportation conv/AGV</li> </ul>	<ul style="list-style-type: none"> <li>Automate Receiving, Put Away &amp; Pick slot replenishment (Hi-Rise AS/RS)</li> <li>“Goods to Person” product delivery</li> </ul>	<ul style="list-style-type: none"> <li>Fully Automated Random Case Unitizing &amp; Piece Picking</li> </ul>
<ul style="list-style-type: none"> <li>ROI Factors</li> </ul>	<ul style="list-style-type: none"> <li>Modest FTE reduction, reduce stock outs, improve inventory &amp; order accuracy</li> </ul>	<ul style="list-style-type: none"> <li>Order selection efficiencies, 10-15% FTE reduction, improve inventory &amp; order accuracy</li> </ul>	<ul style="list-style-type: none"> <li>Building construction savings, Order selection efficiencies, 25-50% FTE reduction, improve inventory &amp; order accuracy</li> </ul>	<ul style="list-style-type: none"> <li>Order selection efficiencies, &gt;50% FTE reduction, Store Replenishment efficiencies – high customer service levels</li> </ul>



# Q&A



## ***For More Information:***

Speaker email: [m.harmon@viastore.com](mailto:m.harmon@viastore.com)

Website: [www.viastore.com](http://www.viastore.com)

Or visit MODEX 2015 Booth 1439

