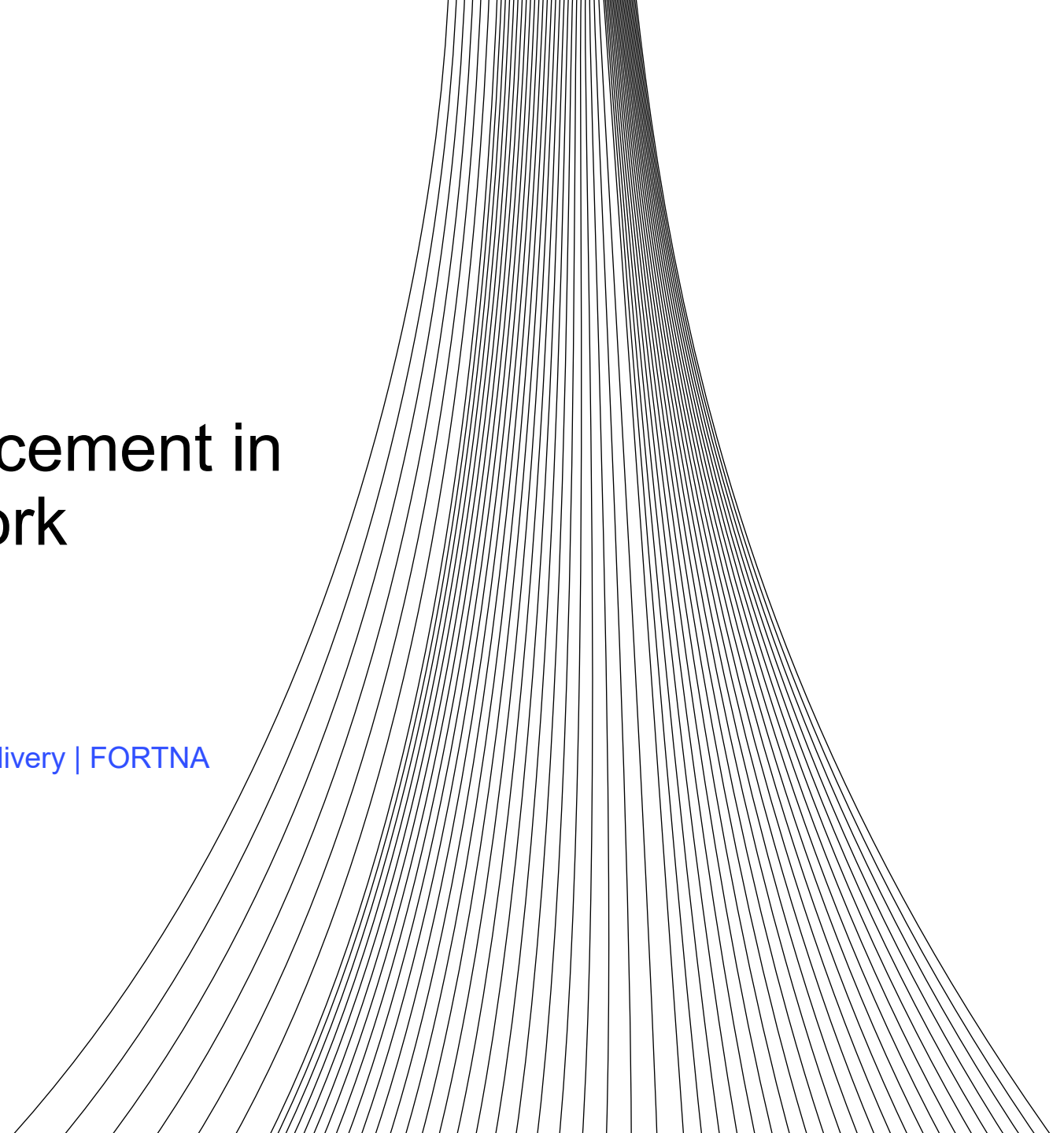
FORTNA

October 22, 2024

Optimize Inventory Placement in your Distribution Network

World Slotting Day 2024

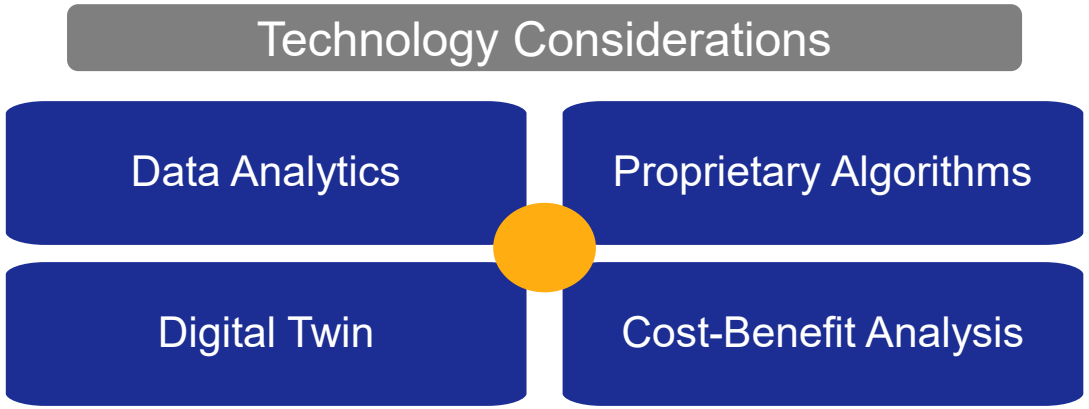
Presented by:
John Riccio | Solutions Architect Global Software Delivery | FORTNA



Why Slotting?

Prioritize inventory placement

- Minimize travel, picking and replenishment costs
- Reduce bend and reach injuries for employees
- Improve space utilization and reduces replenishments
- Improve pick path sequence quality, reducing damage
- Improve throughput at peak to meet SLAs
- **Fast, proven, implementation methodology**



Rapid Payback of Slotting Moves

- **Increased Picking Productivity**:
  - Due to reduced travel times – **10%**
  - For break pack operations – **12%**
- **Increased Replenishment Productivity**:
  - Full case operations – **10%**
  - Break pack operations – **15%**
- **Reduced Damages** – **40%**

FORTNA

The Three Goals of Slotting

#1 Build Sequence Quality

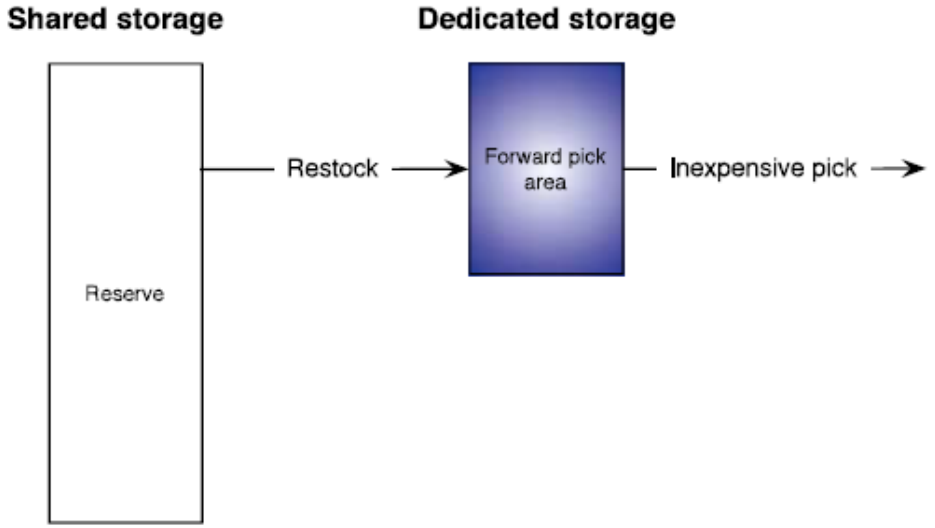
- In manual picking operations, sequencing SKUs by decreasing weight, height, density, or packaging type can minimize damages, increase trailer cube, and meet SLAs
- Family Grouping may be essential for efficient putaway and retail friendly pallets shipped to the end customer
- Build friendly sequencing can reduce labor in pallet rebuilding costs and reduce bottlenecks in the pick path

The Three Goals of Slotting

#2 Space Utilization

- Target period time-based holding for forward pick slotting assignments can optimize replenishment cycles and reduce labor costs
- Current available storage capacity along with item cubic velocity are used to calculate ideal target holding periods unique to each item
- Storage Type Analysis can assess current state vs ideal slot sizes to support greenfield layout design or retrofit re-racking initiatives

8.3. HOW MUCH OF EACH SKU TO STORE IN THE FAST-PICK AREA?



Theorem 8.1. *To minimize total restocks over all skus $j = 1, \ldots, n$ in the forward pick area, the fraction of available storage space devoted to sku i should be*

$$v_i^* = \left(\frac{\sqrt{f_i}}{\sum_{j=1}^{n} \sqrt{f_j}} \right). \qquad (8.5)$$

John J. BARTHOLDI, III [1]
Steven T. HACKMAN

FORTNA

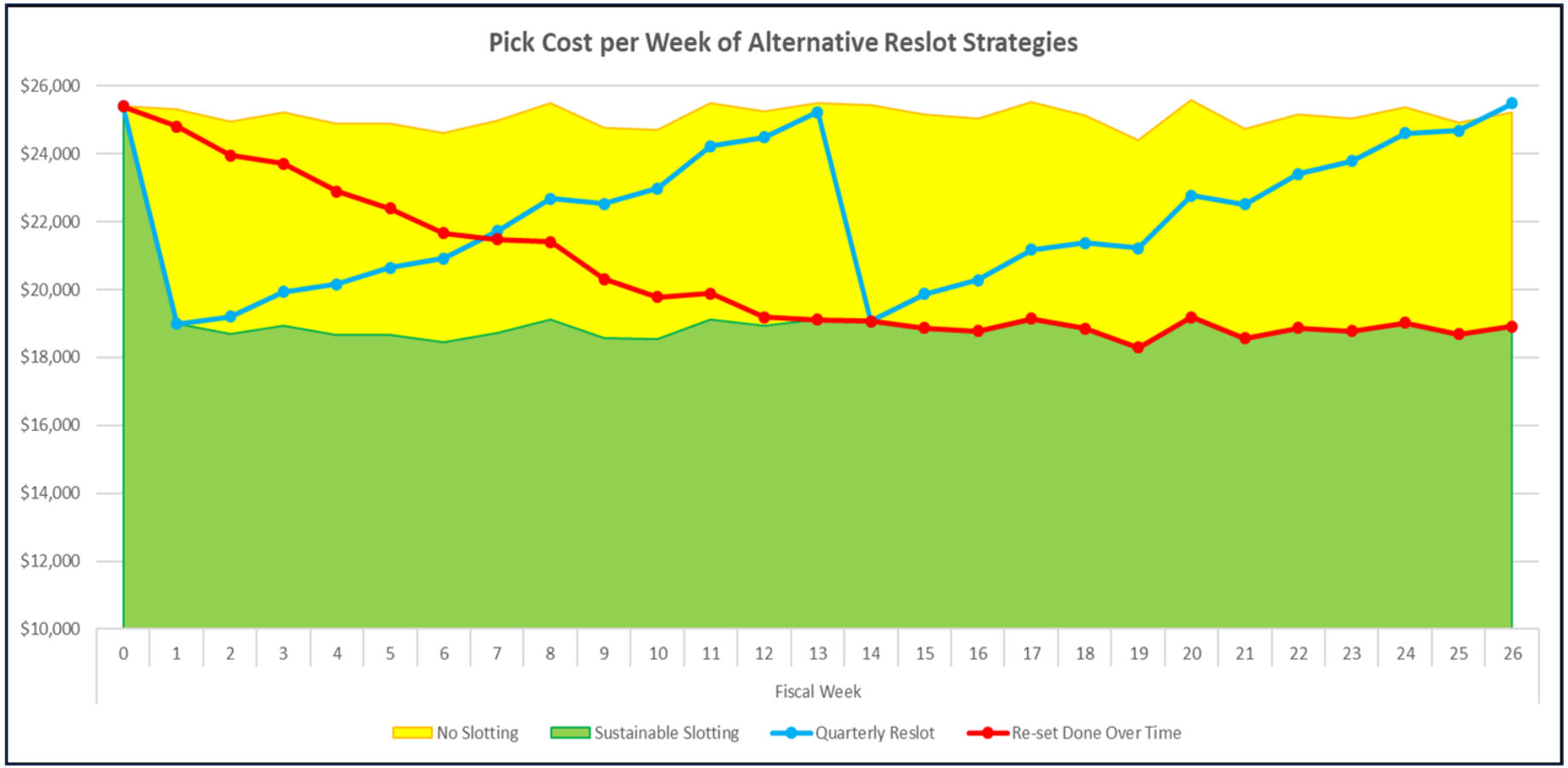
The Three Goals of Slotting

#3 Picking Productivity

- Average Pick Cost calculations produce ideal slot sequencing to reduce horizontal and vertical travel
- Order affinity and group proximity constraints can further improve pick density and shorten pick paths
- Labor Efficiency calculations optimize the selection of eligible items for automation to reduce manual labor while maximizing space in ASRS modules
- Moves cost benefit evaluation will identify the highest priority moves to deliver rapid ROI

Sustainable Slotting

- With periodic resets, warehouse operating costs increase after a large reslot (blue line)
- By making minimal maintenance moves, near perfect slotting and maximum cost savings are sustained (green optimal cost)



FORTNA

Results Achieved through Slotting

Third Party Logistics Company with DCs in 10 Countries

- Reduced travel by **15%**
- Optimal results were achieved by slotting by family groups, then resale groups, then by decreasing case weight

Automotive Retailer & Distributor

- Increased picking lines per hour by **40%**
- Uncovered replenishment issue and identified slot capacity for improved replenishment

Global Consumer Packaged Goods Company

- Completed 2 projects in 2 months
- Reduced travel by **19%**
- **3%** overall cost reduction

National Electronics Retail Distributor—Regional DC

- **68%** of SKU representing **98%** of hit velocity slotted in **43%** of travel path without congestion
- **23%** improvement in travel distance by order
- Pick labor reduced by **11%**, replenishment labor reduced by **23%**

Grocery & General Merchandise Distributor, Regional DC, Nationwide Australia

- Replenishment dollars reduced by **13%**
- Retail product grouping improved by **51%**

Top Fortune Listed Pharma Company with 50+ DC Network

- Reduced pick labor by **11%** in each pick area based on full reslot using velocity sequencing and golden zoning
- Completed “what-if” scenario analysis to reveal partial reslot (**20%** of moves)
- Reduced labor by **9%**

Regional Grocery Company

- Reduced total pick path by **10%**, picking labor dollars reduced by **3%**
- Separated caustics from edibles with separate pick paths
- Annual retail labor savings equivalent to **16** times investment

Global Health, Beauty & Home Care Products Company

- Improved picking productivity in case pick area by **14%**
- Improved picking productivity in each pick area by **24%**
- Reduced replenishments by **5%**

Multinational Furniture, Appliance & Home Accessories Retailer

- Improved picking productivity by **10%**
- Reduced replenishments by **5%**

Global Electrical Components Company

- Improved picking productivity by **31%**
- Reduced replenishments by **8%**

Questions?

Thank you

FORTNA OptiSlot DC™ software contacts:

For Technical Support:

John Riccio
Solutions Architect, Global Software Delivery
johnriccio@fortna.com

Linkedin.com/in/john-riccio-2770656

For Commercial Support:

Janine Renella
Director of Software Sales & Commercial Strategy
janinerenella@fortna.com

Linkedin.com/in/janinerenella

FORTNA

Thank you