

Bridging Technologies Using Singulation & Sortation

Sponsored by:



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Bridging Technologies Using Singulation & Sortation

- **Sortation System**

- Sortation is the process of inducting and separating products to specific destination lanes with the purpose of arranging product for a better means of distribution to increase productivity with items in high volumes and multi-destinations.

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Sortation Technology- A lot to see here at ProMat !



Sweeper/Pusher



TranSorter



Bombay



Pop-up Wheel



Tilt Tray



Crossbelt



Narrow Belt



Shoe Sorter

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Sortation Capacity

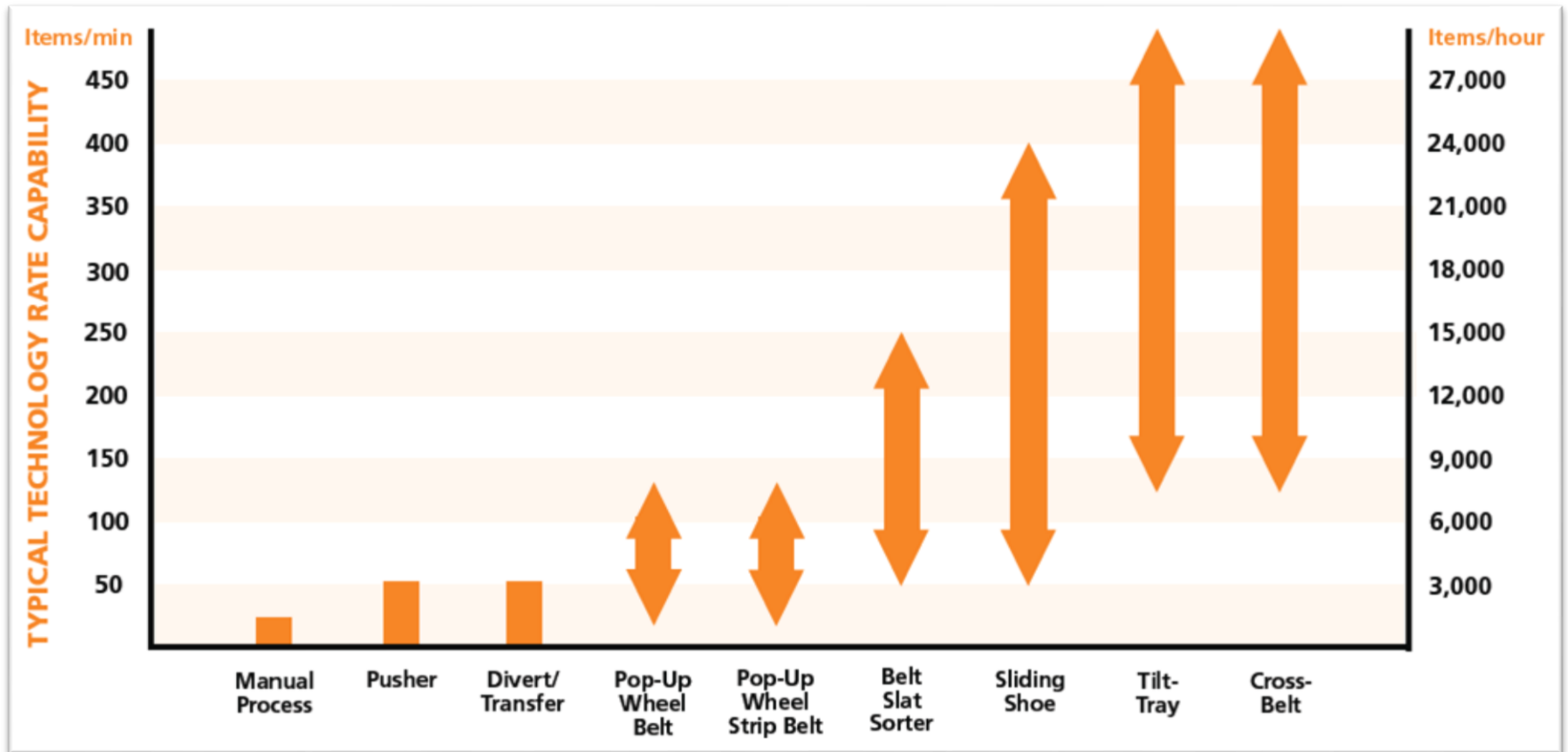
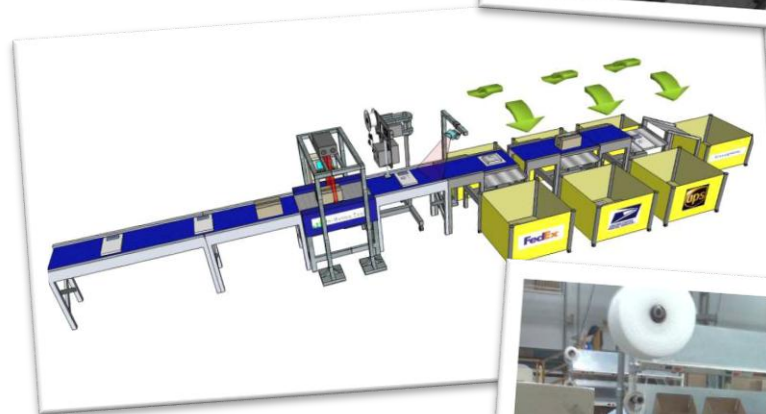


Chart Courtesy of Intelligrated

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Main Applications

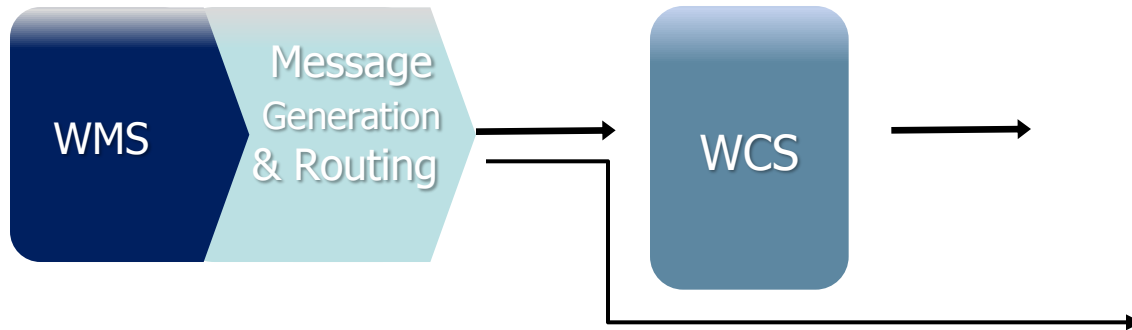
- **Order Fulfillment**
 - E-tail / Retail to support Batch Picking
 - Wave Pre-sort
 - Inbound Put away Sort
- **Shipping**
 - End of Line Sort to Carriers
 - Ship to Stores / Routes
- **Returns Processing**
 - Sort by Disposition



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Controls and Software

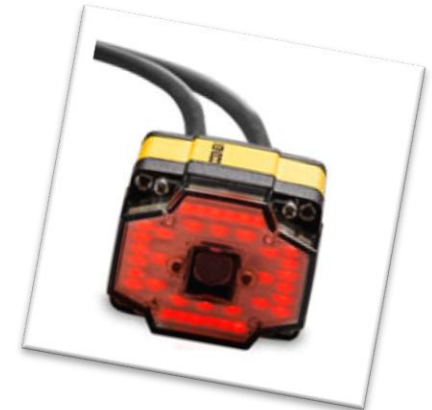
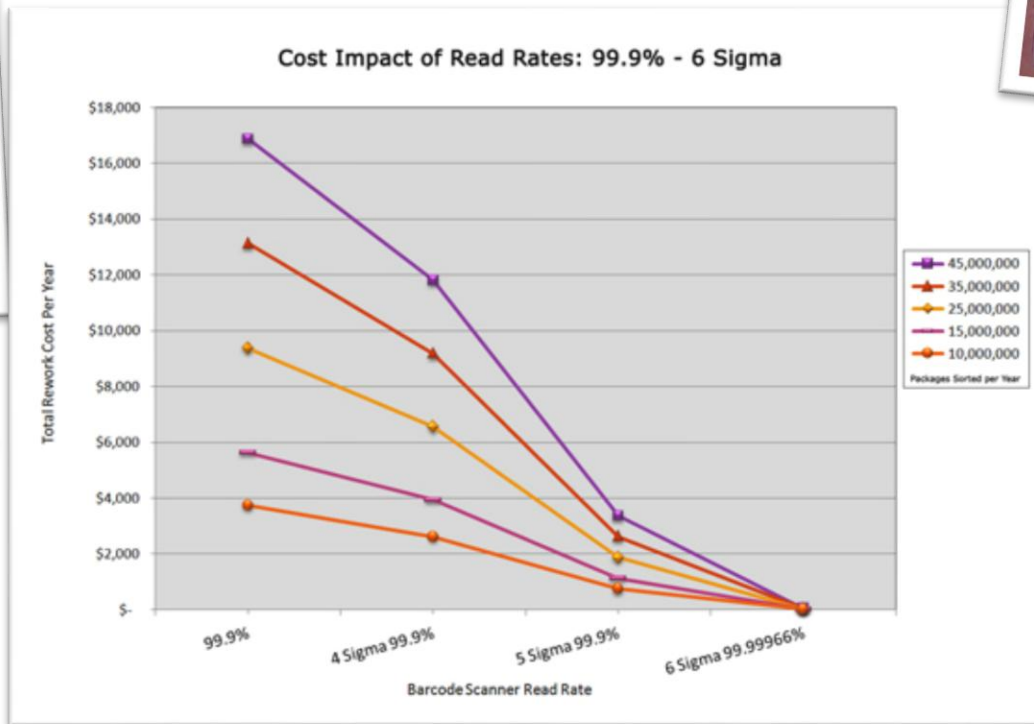
- Involve the IT group from beginning
- Consider a WCS to work with your WMS
- Develop function specification
 - Data analysis
 - Interface requirements



Connection interfaces (TCP/IP, Active MQ, SAP remote call, etc.)

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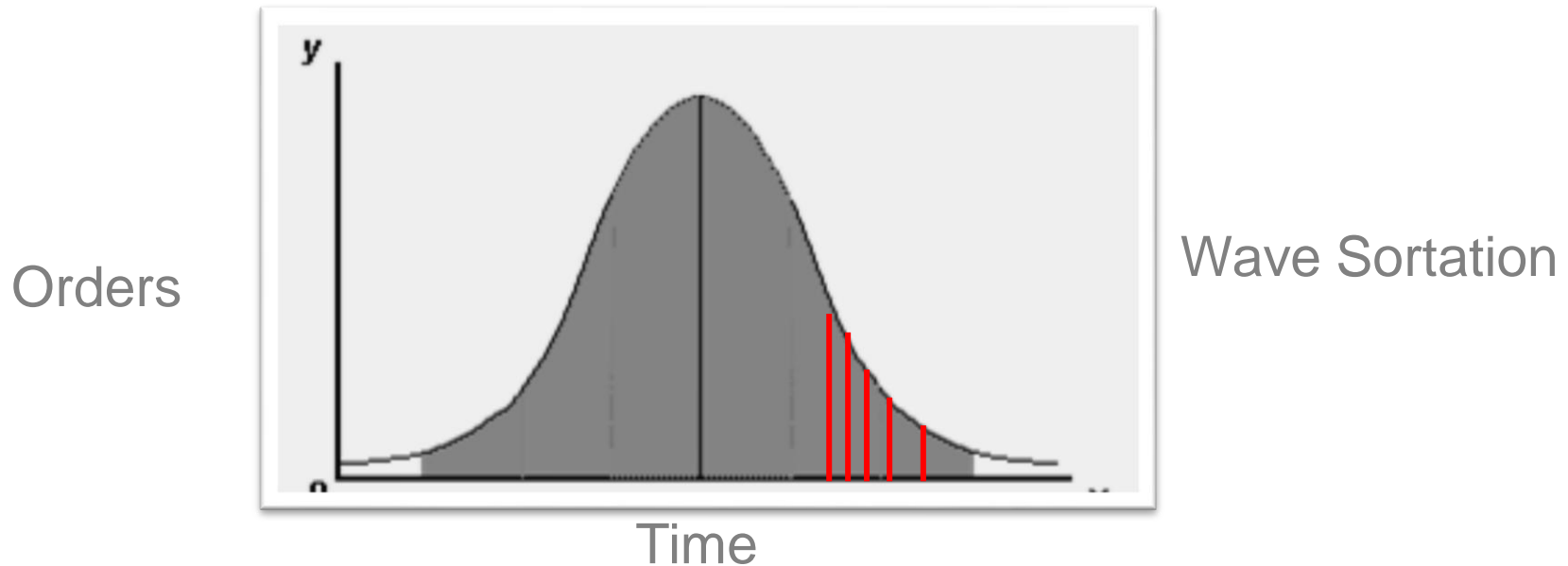
- **Item Detection and Scanning**
 - Invest in Best of Breed Technology



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Constraints and Challenges in Sorting

- Synching Pick Waves with Sort Waves
- Optimizing Picking for uninterrupted processing
- Waiting on items to arrive to complete sort wave
- Number of Available Sort Destinations
- Physical and Budget constraints



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- **Optimizing Sortation in Fulfillment**
 - Wave Optimization Software
 - Waveless Batch Picking to organize flow to sorter
 - “Pull” versus “Push” orders through system
 - Wave Buffering between Picking and Sortation
 - Mechanical devices such as Flipper Doors & Wave Dividers
 - Wave Overlapping on Sorter
 - Based on ‘N’ number of free destinations
 - Continuous sorting becomes possible

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- **Singulation Conveyor**

- Receiving bulk packages in random order including packages of side by side article which packages are discharged in a single file singulated stream.

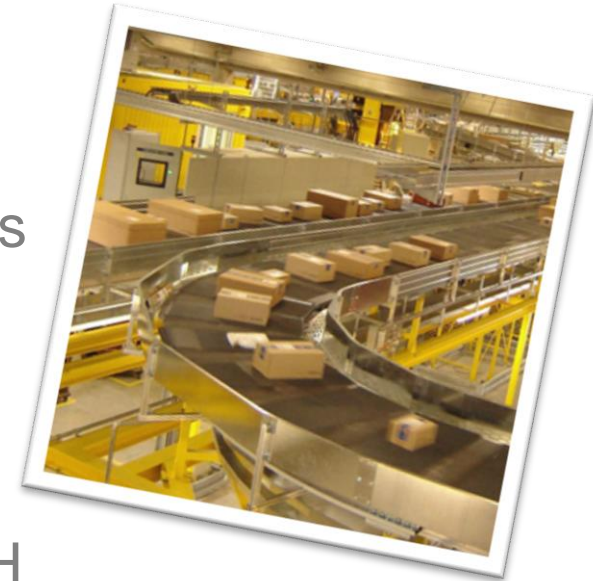
- **Warehouse and Distribution**

- Recover revenue lost in shipping large, lightweight packages

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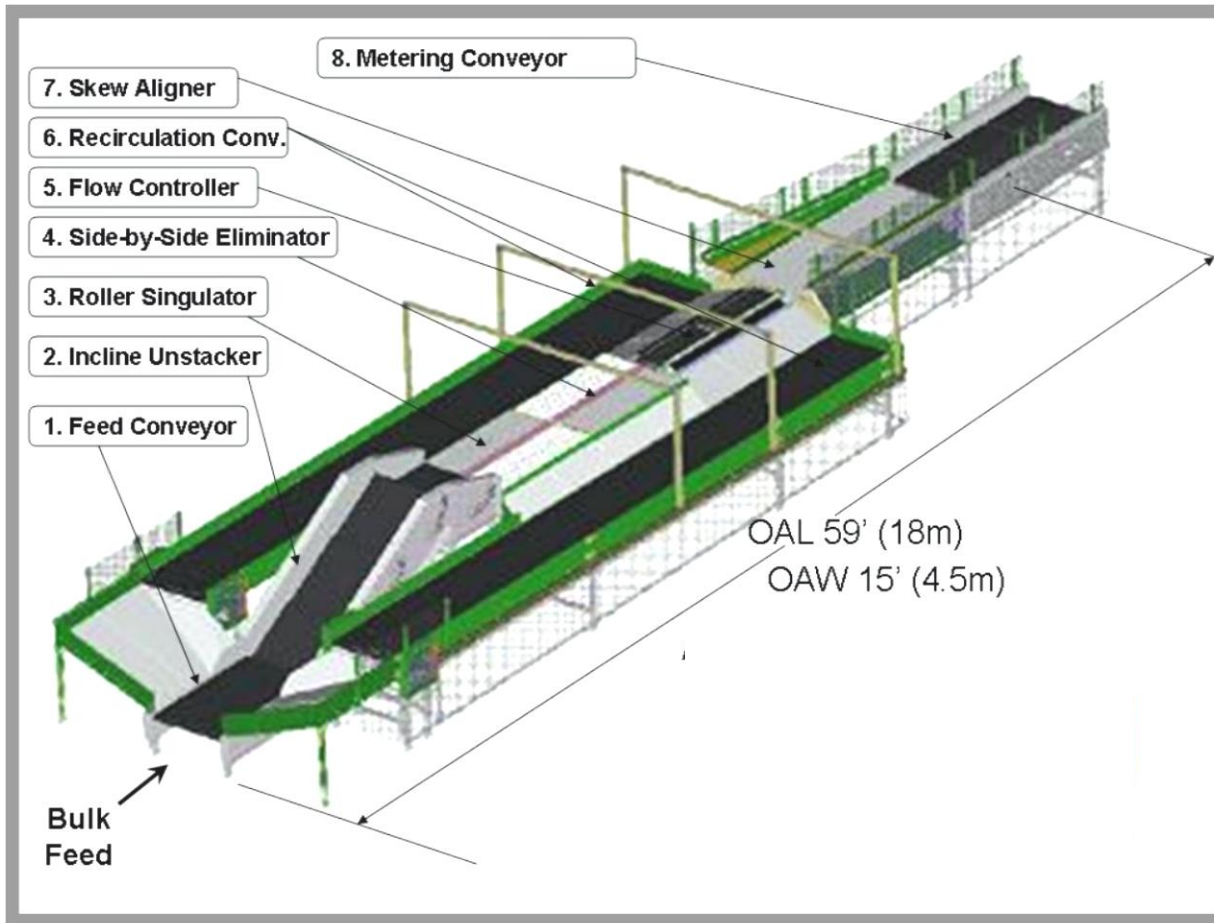
- **Singulation**

- No manual intervention
- Handles a wide array of product such as flats, polybags and cartons
- Buffer surges by leveling package flow
- High performance for 3D mix
- Throughput capacity of up to 8,000 PPH



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- Singulation



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• Singulation Applications

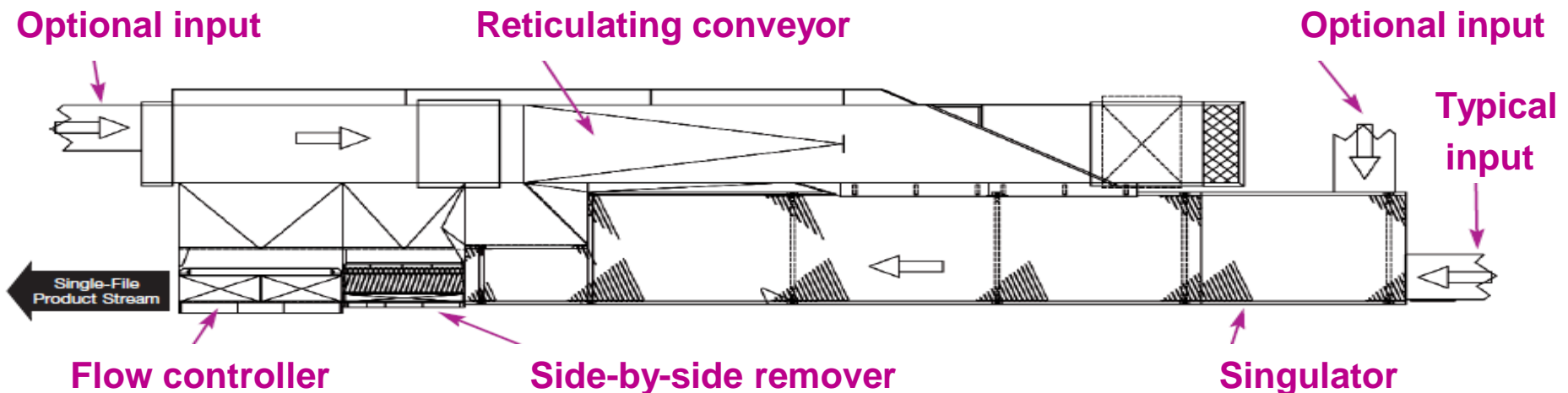
- Baggage handling (Airport)
- Letters, envelopes
- Parcels, boxes



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• Singulation Systems

- Transforms bulk flow into a single sortable stream
- Controlled spacing for large volume sorting
- Properly gap packages to facilitate the downstream scan tunnel and sorter



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• Dimensioning

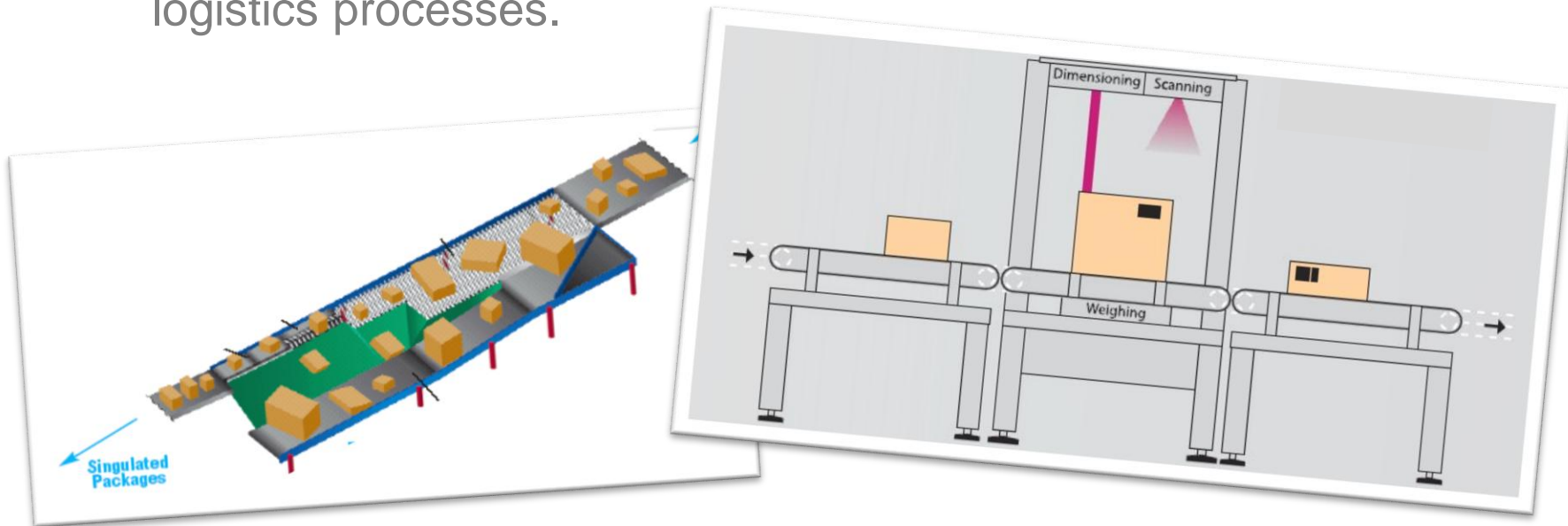
- Calculate package volumes - automate invoicing and revenue recovery
- Captured data optimizes logistical processes
- Volume measurement system measures all freight items for maximum dimensions in length, width, and height
- A single head sensor is used for rectangular packages



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• Scanning

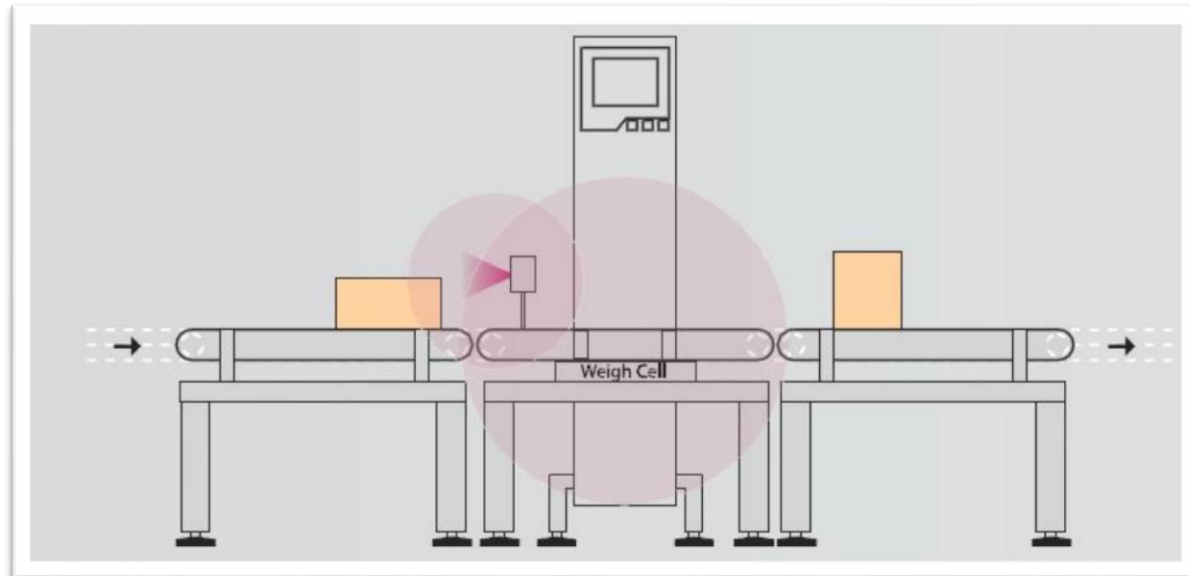
- Scanning is identification.
- Based on laser scanners, cameras and RFID-technologies
- The camera systems are the ideal solution in linear and 2-D code reading for all high-end applications in sortation, transport and logistics processes.



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• Weighing

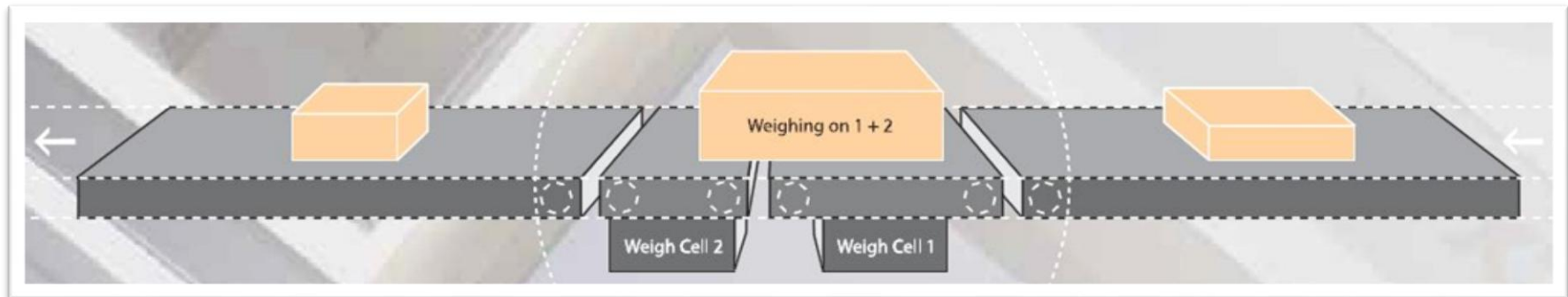
- There are many designs of checkweighers that incorporate metal detectors, x-ray machines, open flap detection, bar-coding.
- High performance checkweighers take over the task of precise and rapid weighing as well as transport with controlled, uniform speed.



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• Weighers

- Caseweighers at the end of the conveyor
 - Measure that the overall finished package is within its target weight
- Checkweighers at the beginning of the conveyer
 - Detect missing pieces of a kit i.e. cell phone package is missing a manual
 - Quality management



For More Information:

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