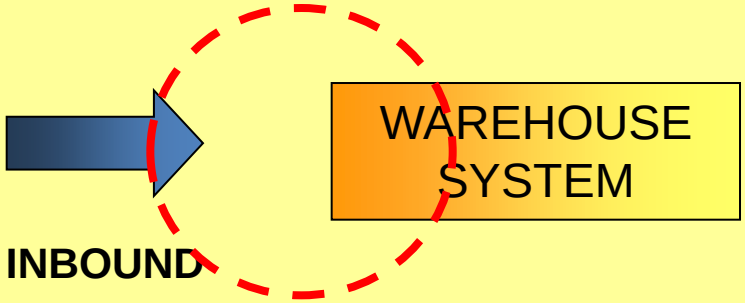
# RECEIVING AND PUTAWAY PRINCIPLES

**There are a lot of solutions of warehouse basic activities that could be involved.**
**From simple, live labor to fully automated warehouses, without presence of humans from receiving to shipping.**

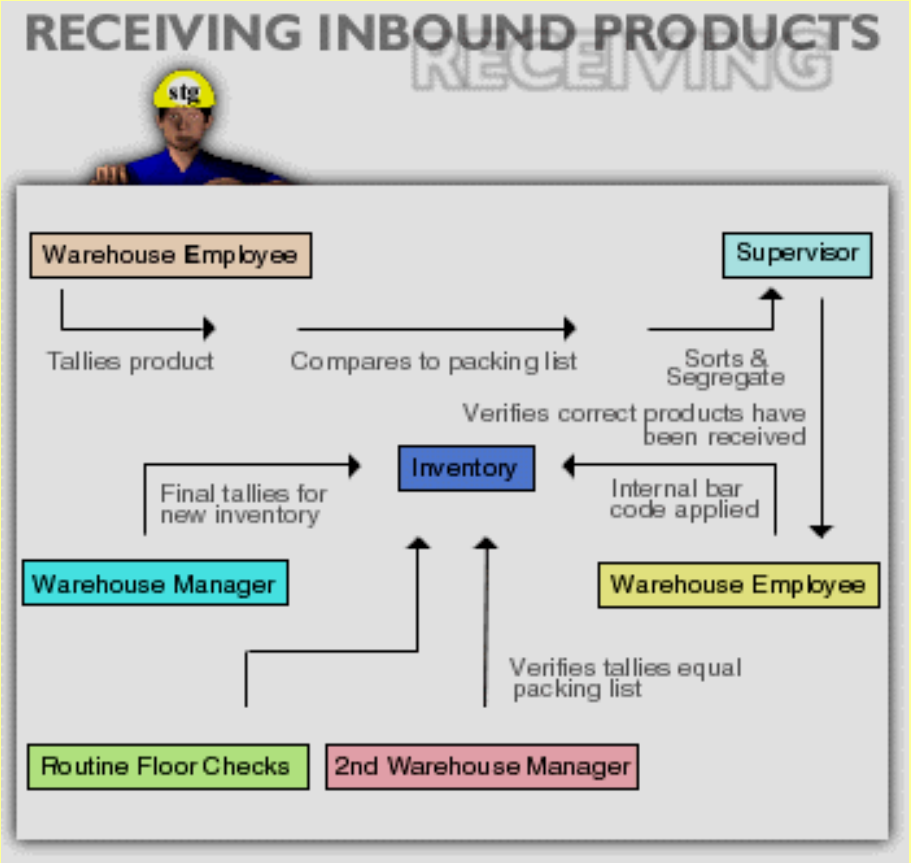
**Here, we are consider some options for simplifying and streamlining traditional receiving and putaway activities.**



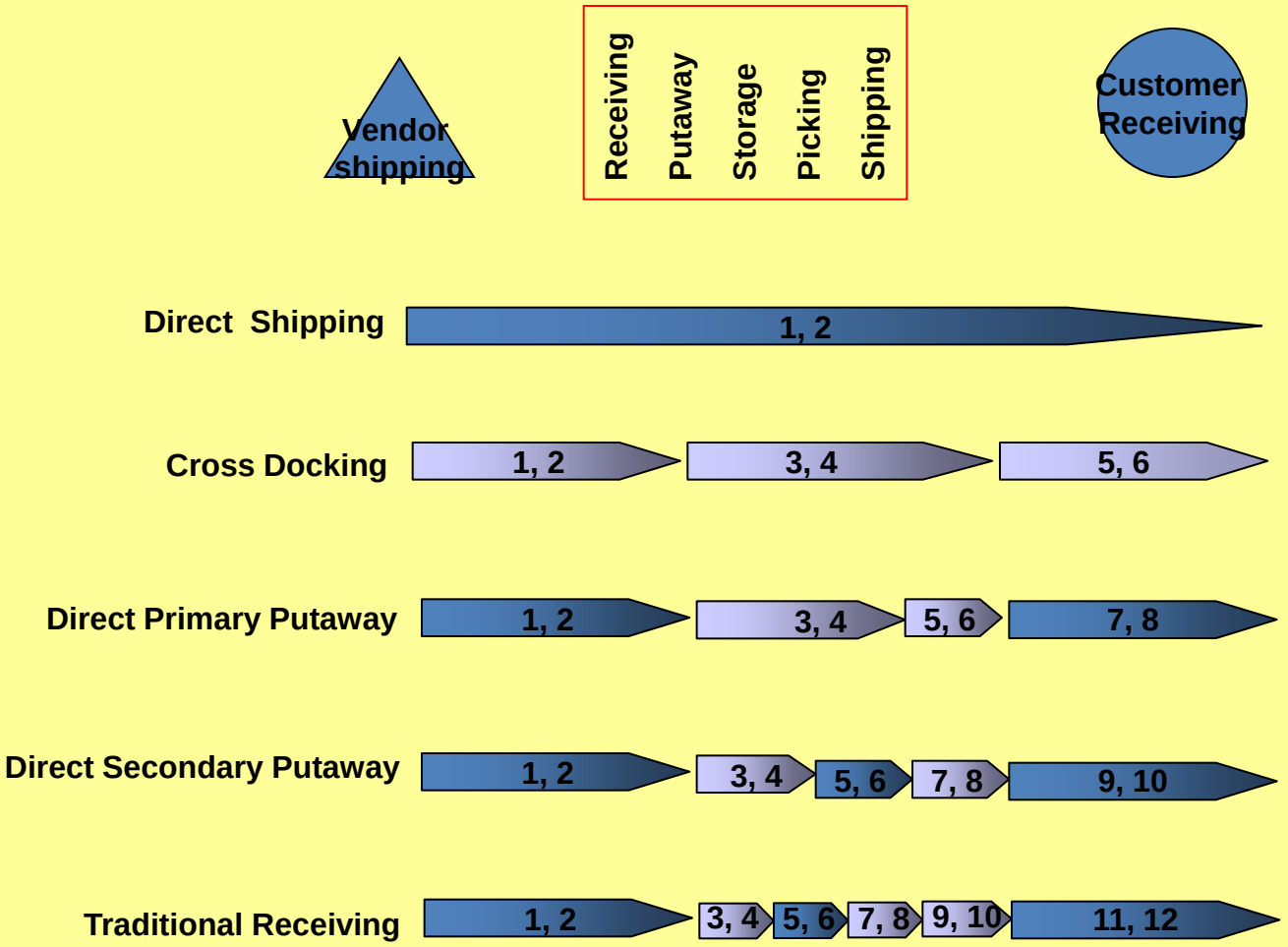
## RECEIVING

***Receiving is the setup for all other warehousing activities.***

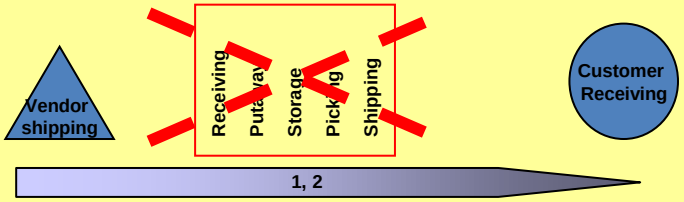
**The world-class receiving principles are meant to serve as guidelines for streamlining receiving operations. They are intended to simplify the flow of material through the receiving process and to insure the minimum work content is required. Minimizing work content, mistakes, time, and accidents is accomplished in logistics by reducing handling steps.**



## Figure illustrates the *number of handling steps* that can be achieved by applying different receiving and putaway practices.



## *Direct Shipping*

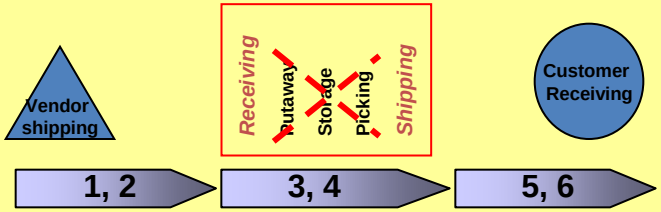



**For some materials*, the best receiving is no receiving in warehouse*.**
**Vendors *bypass our warehouse completely* and ship directly to the customer. Hence, all the labor, time, and equipment normally consumed and all the mistakes and accidents that often occur in the warehouse are eliminated.**

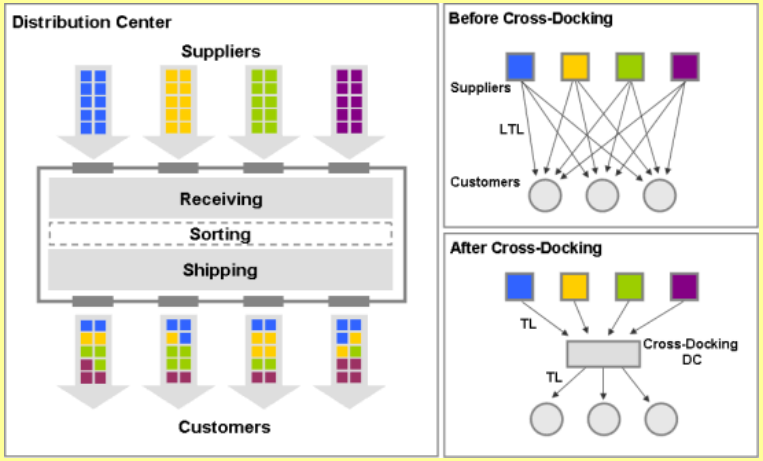
**Every justifiable direct shipment should be aggressively pursued. Opportunities for direct shipping include large, bulky items, made-to-order items, and combinations of items for which the regular shipping *volume occupies at least a full truckload (TL)*.**

**For example, the *food industry* also adopting more direct shipping. More and more food and consumer products manufacturers are making and assembling store orders at their factories for direct delivery to their retail customers' store locations (for example milk and some products of milk…) .**

## *Cross Docking*

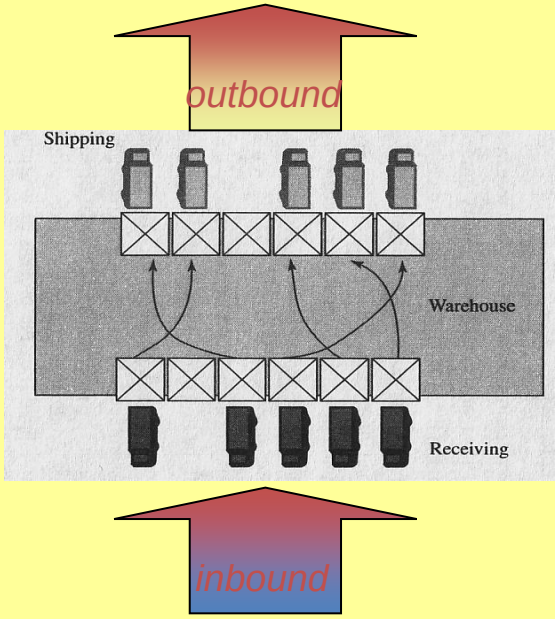



When material cannot be shipped direct, the next best option may be cross-docking.

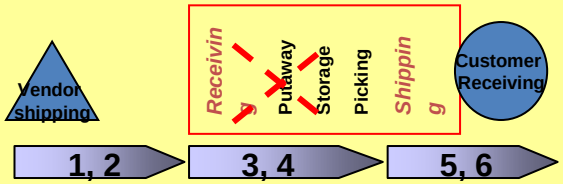



In cross-docking:

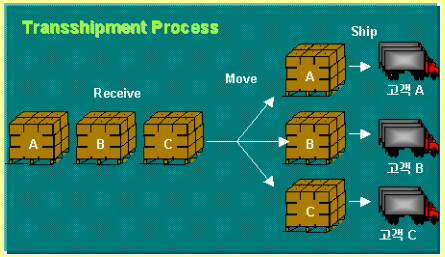
- *Loads are scheduled for delivery into the warehouse from vendors*
- *Inbound materials are sorted immediately into their outbound orders*
- *Outbound orders are transported immediately to their outbound dock*
- *Receiving staging or inspection is not required*
- *Product storage is not required.*



## *Cross Docking*




The ***traditional warehousing activities*** involving receiving inspection, receiving staging, putaway, storage, pick location replenishment, order picking, and order assembly ***are eliminated***. Certain containerization and communication requirements must be met before high-volume cross-docking can be implemented.

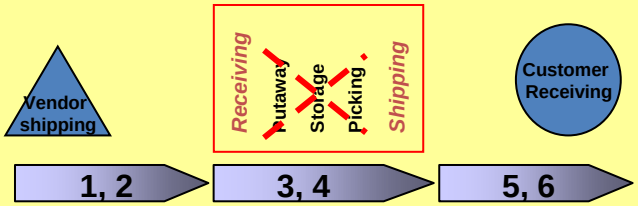



**First**, *each container and product must be automatically identifiable* through a bar code label or RF tag.

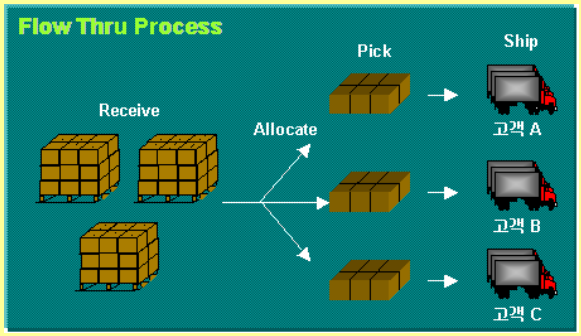
**Second**, loads *must be scheduled into the DC and assigned to dock doors automatically*.

**Third**, *inbound pallets or cases that will be cross-docked should contain only a single SKU* or be preconfigured for their destination to minimize sortation requirements.

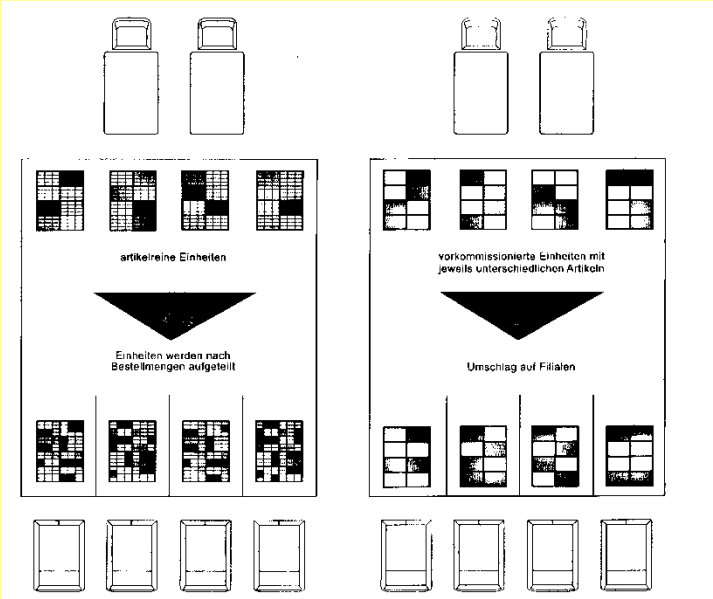
## *Cross Docking*




**Also, cross Docking is used *for broken case materials flow*. This occurs order picking in transferring zone, what means that the process is more complicated.**

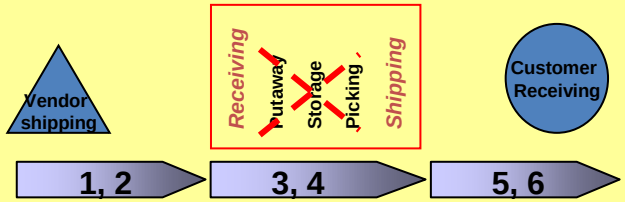



**INBOUND**
**Greater vehicles are used**

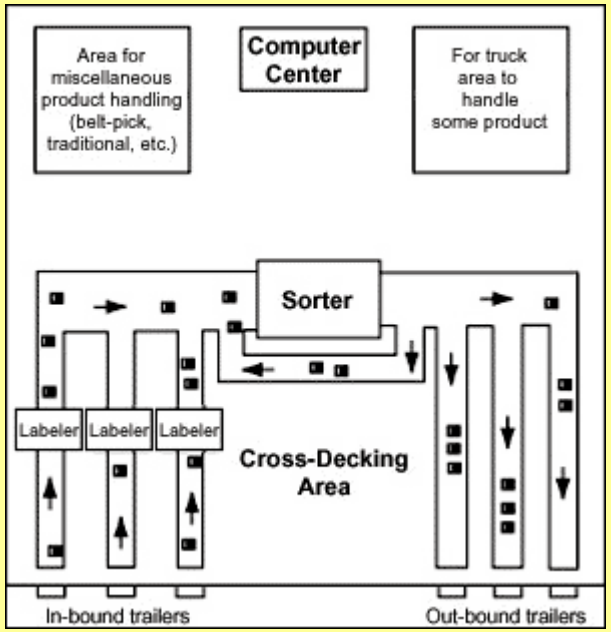



**OUTBOUND**
**Small(er) vehicles are used**

## *Cross Docking*




**Cross docking has become commonplace in warehousing because of its impact on costs and customer service. For example, app. 75% of food distribution involves the cross docking of products from supplier to retail stores. Eliminating the transfer or putaway of products reduces costs and the time goods remain at the warehouse, thus improving customer service level.**



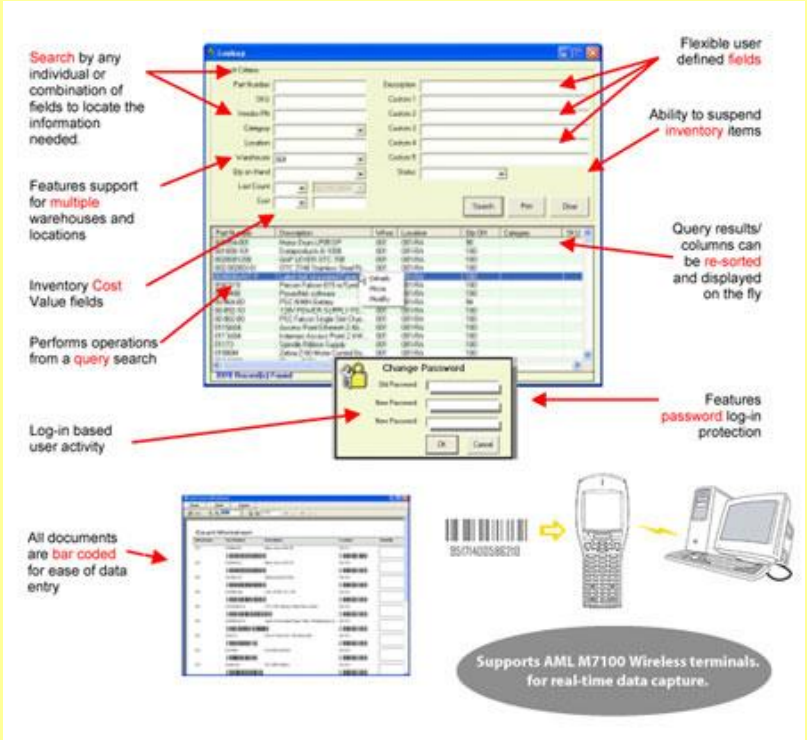
**Cross docking** ***should be considered as an option by firms meeting two or more of the following criteria*****:**

- **Inventory destination is known when received**
- **Customer is ready to receive inventory immediately**
- **Shipment to fewer than 200 locations daily**
- **Daily throughput exceeds 2000 cartons**
- **More than 70% of the inventory is conveyable**
- **Large quantities of individual items received by firm**
- **Inventory arrives at firm's docks prelabeled**
- **Some inventory is time sensitive**
- **Firm's DC is near capacity**
- **Some of inventory is prepriced**

## *Receiving Scheduling*

**True, premeditated cross-docking requires the *ability to schedule inbound loads to match outbound requirements on a daily or even hourly basis*. In addition, balancing the use of receiving resources - dock doors, personnel, staging space, and material handling equipment - requires the ability to schedule carriers and to shift time consuming receipts to offpeak hours.**

**Through *the Internet, EDI, and/or fax links,* companies have improved access to schedule information on inbound and outbound loads. This information can and should be used to *proactively schedule receipts* and to provide *advance shipping notice* (ASN) information.**



## *Prereceiving*

**The *rationale* for staging at the receiving dock, the most time and space intensive activity in the receiving function, is often *the need to hold material for location assignment, product identification*, and so on.**

**What is this?**
**glass, cloths, chemicals,**
…..?

Quantity?

Where to go?


**This information can often be captured ahead of time by having the information communicated by the vendor at the time of shipment via the Internet, EDI link, or via fax notification. *In some cases, the information describing an inbound load can be captured on a smart card, enabling immediate input of the information at the receiving dock*.**

**Load contents can also be communicated in RF tags readable by antennae located along major highways, at each receiving dock, on lift trucks, and/or conveyors.**
**Different techniques could be used to download the contents of an entire trailer load into a PC at a receiving dock.**

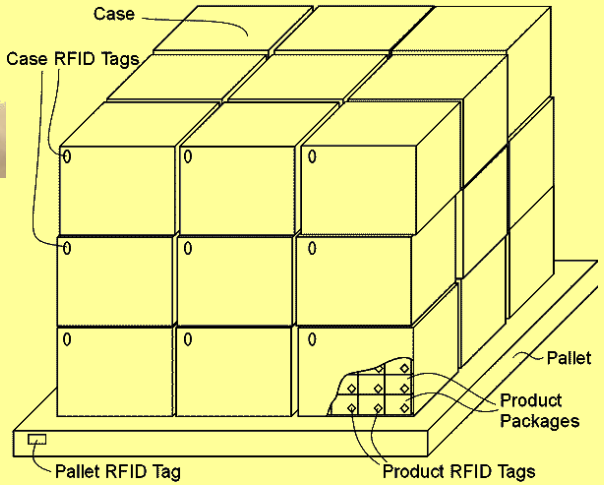
## *Receipt preparation*


**The most time we ever have available to prepare a product for shipment is at the moment it is received.** ***Once the demand for a product has been received, there is precious little time available for additional preparation*** **of the product prior to shipment. Hence, any material processing that can be accomplished ahead of time should be accomplished. Those preparatory activities include**:

- **Prepackaging in issue increments** – for example, quarter and/or half pallet loads are built at receiving in anticipation of orders being received in those quantities. Of course, this approach acquires adequate analyzes.

***Order quantity profiling, customers orders profiling …***

- **Applying necessary labels and tags**

- **Cubing and weighing for storage and transport planning** (especially important information about product which deal with warehouse design and operation decisions). Today this is typically known information via adequate IT. If its not, we usually require equipment, space, time, workforce  to fix them.



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## PUTAWAY

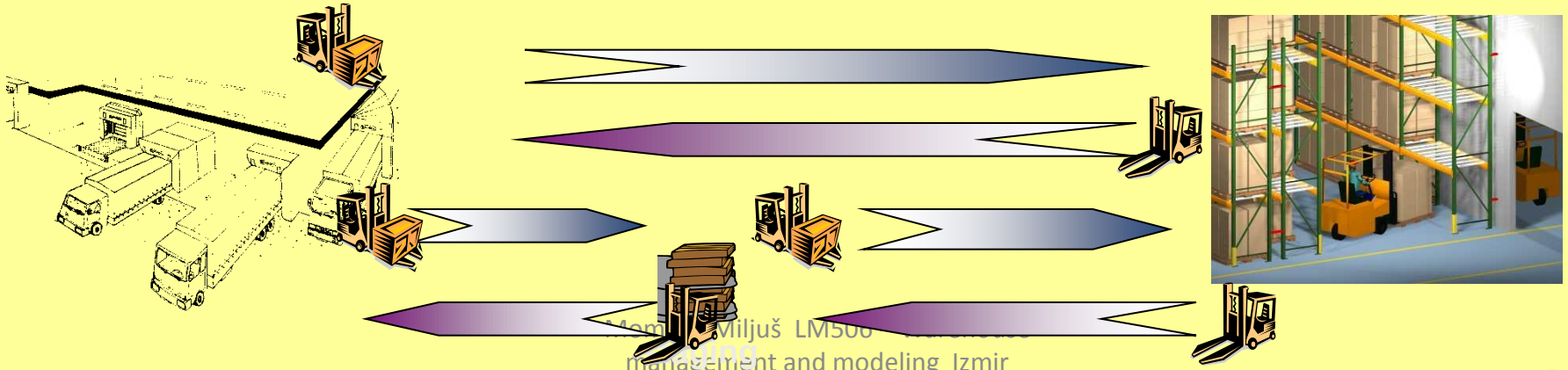
**Putaway is order picking in reverse. Many of the principles that streamline the picking process work well for putaway. In order, the world-class principles for putaway are:**

- ***Direct putaway***
- ***Directed putaway***
- ***Batched and sequenced putaway***
- ***Interleaving***

### Direct Putaway

***Putaway directly to primary or reserve locations.***

**It Is very interesting *if staging space could be excluded* from warehouse layouts. It could be possible to force warehouse operators to put goods away immediately upon receipt as opposed to the delays and multiple handlings that are characteristic of traditional receiving and putaway activities.**



**Vehicles that serve the dual purpose of truck unloading and product putaway facilitate direct putaway. For example, counterbalanced lift trucks can be equipped with scales, cubing devices, and online RF terminals to streamline the unloading and putaway function.**
**The world's most advanced logistics operations are characterized by automated, direct putaway to storage locations. The material handling technologies that facilitate direct putaway include roller-bed trailers and extendable conveyors**


## Directed Putaway

**Without control**, most putaway operators naturally choose **putaway locations that are easiest to locate, nearest the floor, nearest their friend**, …, using any criteria except where the putaway should be located to maximize storage density and operating productivity.
The *warehouse management system (**WMS**) SHOULD DIRECT* the putaway operators *TO PLACE EACH PALLET OR CASE IN THE LOCATION THAT MAXIMIZES LOCATION AND CUBE UTILIZATION, INSURES GOOD PRODUCT ROTATION, AND MAXIMIZES RETRIEVAL PRODUCTIVITY*.

## Batched and Sequenced Putaway

*Sort inbound materials for efficient putaway*

**As while order picking, inbound materials can and should be sorted for putaway by warehouse zone and by location sequence.**

## Interleaving and Continuous Putaway

*Combine putaway and retrievals when possible*

**To further streamline the putaway and retrieval process, they can be combined in a dual command to reduce the amount of empty travel by lift truck (or other vehicles).**
**The practice of interleaving should be extended to continuous moves within warehouse (usually involving WMS).**