eCommerce Order Fulfillment 101 – a "how to guide" of lean operational effectiveness

Sponsored by:

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Agenda

- Retail ≠ eCommerce
- Origin of “lean” processes in manufacturing
- Push vs. Pull in the Distribution Center
- When is “Pull” ideal
- What are the barriers?

Retail Push vs eCommerce Pull

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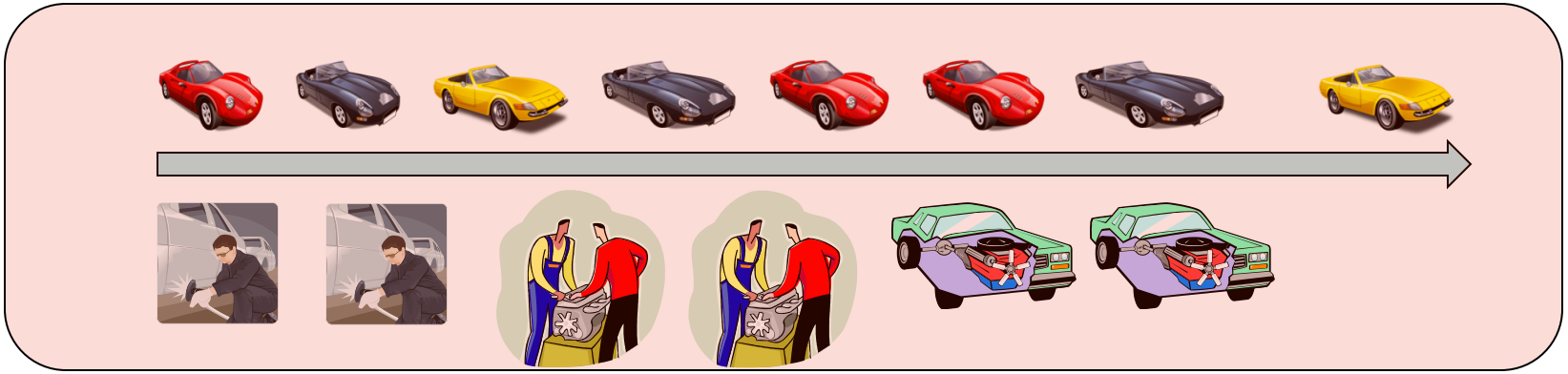
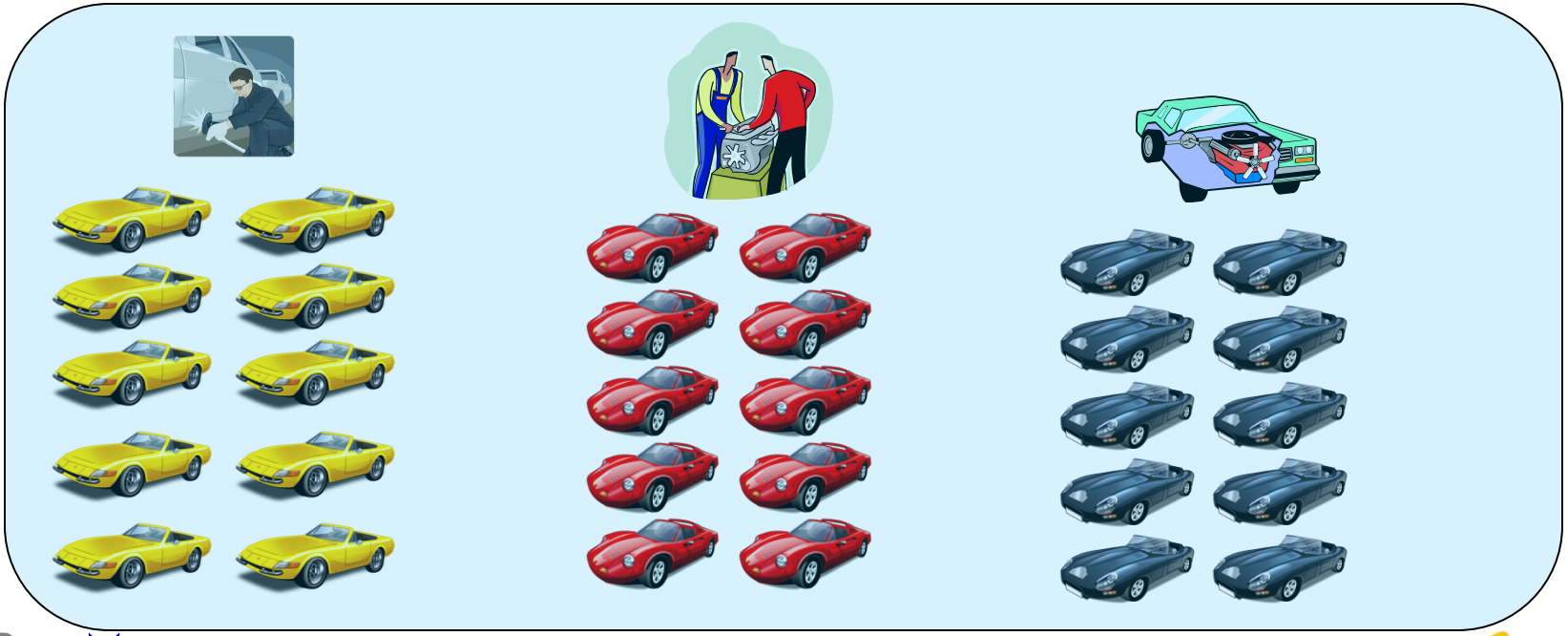
Origin of Lean in Manufacturing

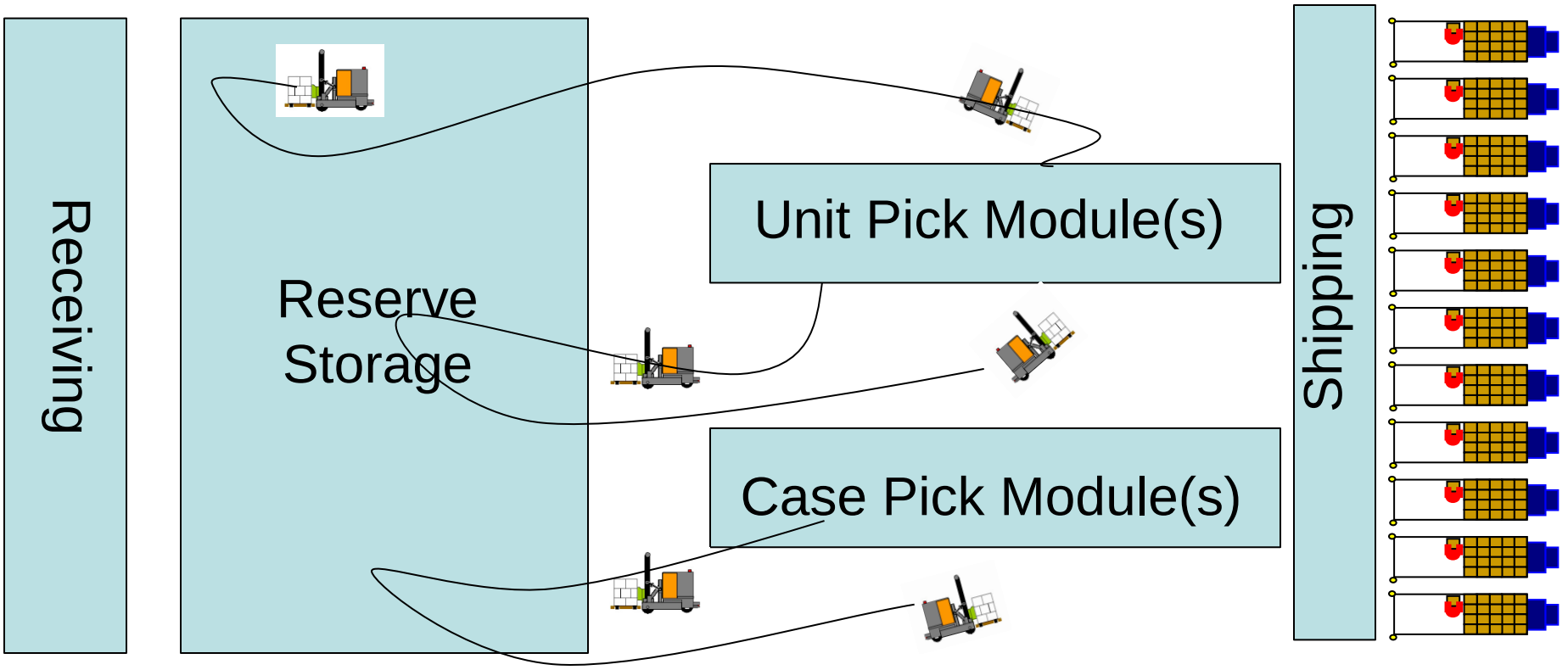
"Time waste differs from material waste in that there can be no salvage. The easiest of all wastes and the **hardest to correct** is **the waste of time**, because wasted time does not litter the floor like wasted material." ~Henry Ford

The Introduction of Lean





PUSH Based Distribution



IN
Full Trailer & LTL

SUPPLIER – FTL & LTL

OUT
Full Trailer & LTL

BIG BOX RETAILER

PULL Based Distribution

Receiving

Random Carton Storage

Order Assembly

Packing & VAS

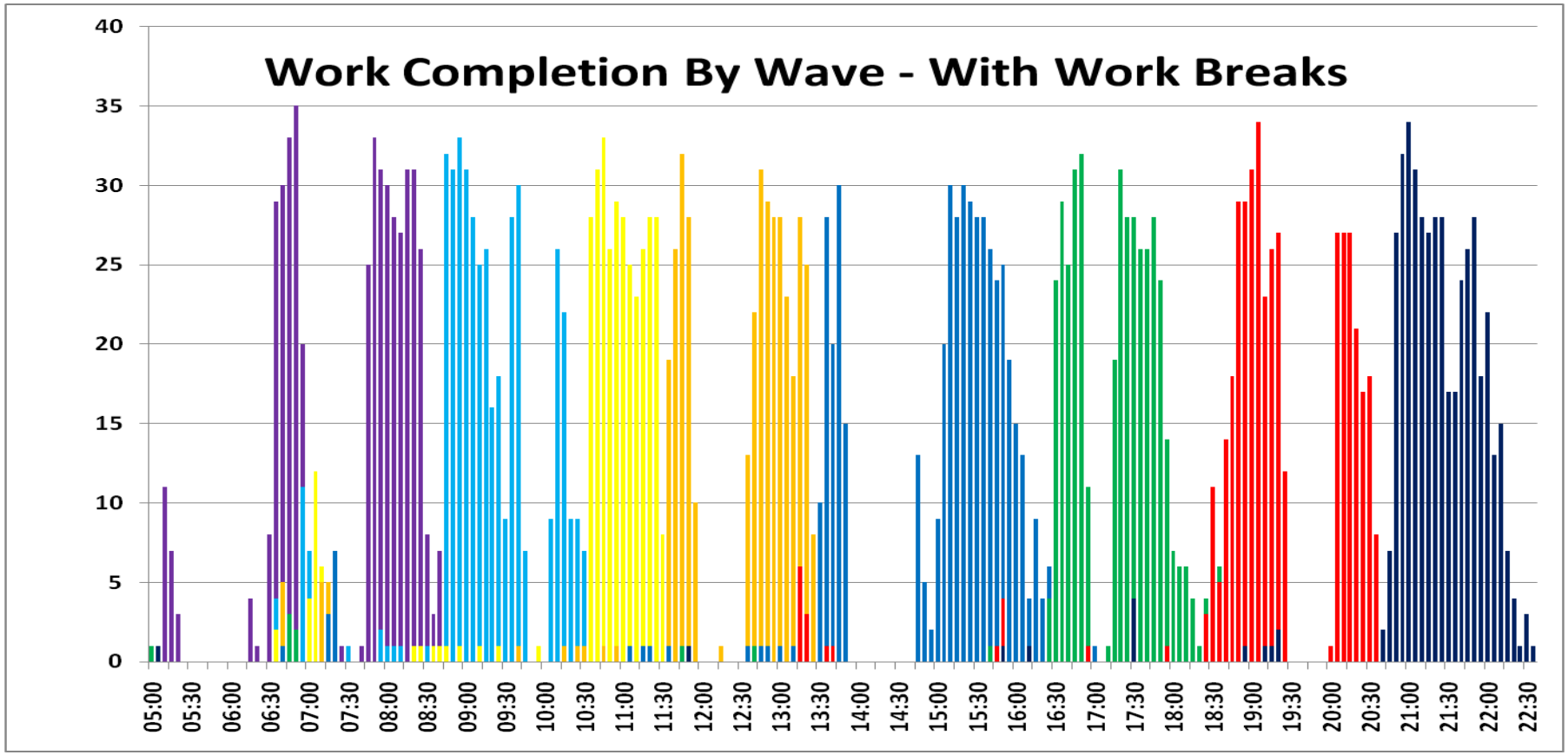
Manifesting

Shipping

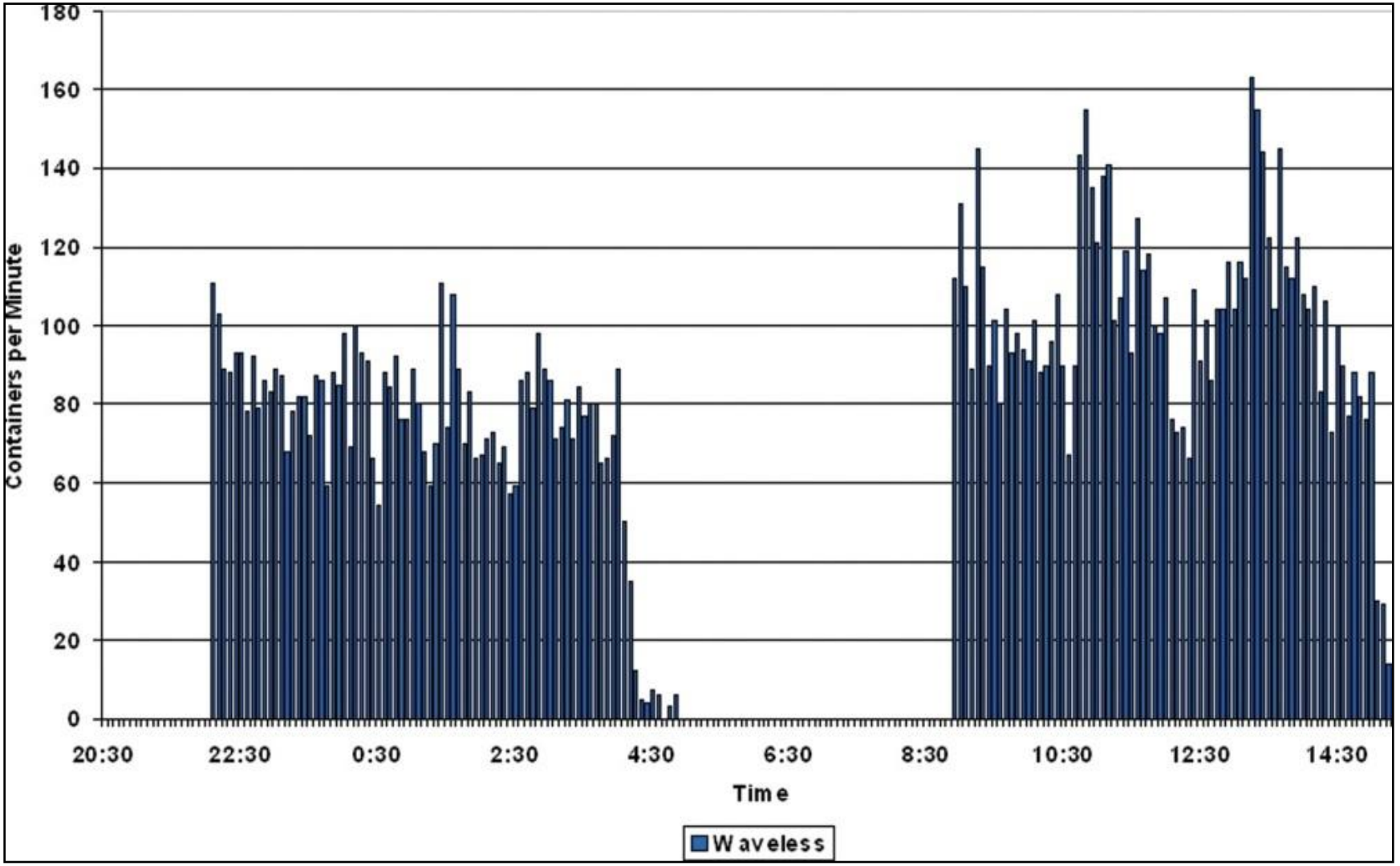
IN
Full Trailer & LTL

OUT
Individual Parcels

The Pitfall of Waving



The Benefit of Lean



Retail Push vs. eComm Pull

Traditional: Push/Wave

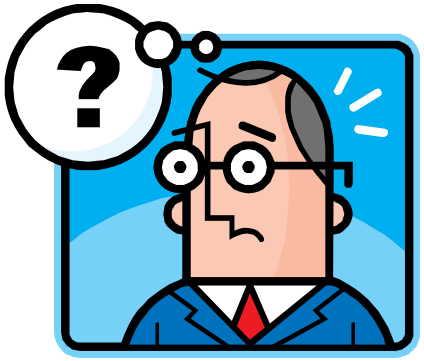
- Chunks of work are planned for and managed; replenishment, picking, packing & shipping
- The beginning and tail of a wave are least productive
- Balancing labor with volume and product is difficult and seldom optimal
- Warehouse management, control, picking and ship systems are often separate applications
- Production is based upon fallible, static plans
- Goals are pre-determined based upon management systems capabilities.
- Slugs of work are “pushed” through the facility requiring the subsequent buffering of WIP
- Exceptions are “pushed” out of the normal process for resolution – a silo

eCommerce: Pull/Lean

- Work is systemically released as orders are completed
- Real-time data is shared across sub-systems providing a continuous flow of work to the DC labor
- Warehouse management, process control, exception handling, and ship systems are a continuous application
- Production is based upon dynamically controlled objectives
- Production output is controlled by optimal utilization of all resources
- Identification and handling of exceptions is integral to the process
- Units of work are “pulled” through the facility maintaining business rules
- Business rules & exceptions aren’t obstructed by the mountain of work ahead in the queue

When is Pull ideal?

- High amount of active items
- Large number or destinations/orders
- Unpredictable order volumes
- Varying degrees of business rules and priorities



What's taking the DC so long to implement a total lean solution?

- Lean has been implemented in silos
- Our information systems don't really work in concert
- The ReBirth of eCommerce
- Lack of lean experts for our industry

Path Forward

"It takes great effort to follow the rules of a pull system ... thus a half-hearted introduction of a pull system brings a hundred harms and not a single gain." ~Taiichi Ohno, Toyota

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