

# **eCommerce Flexibility Needed**

Presented by:

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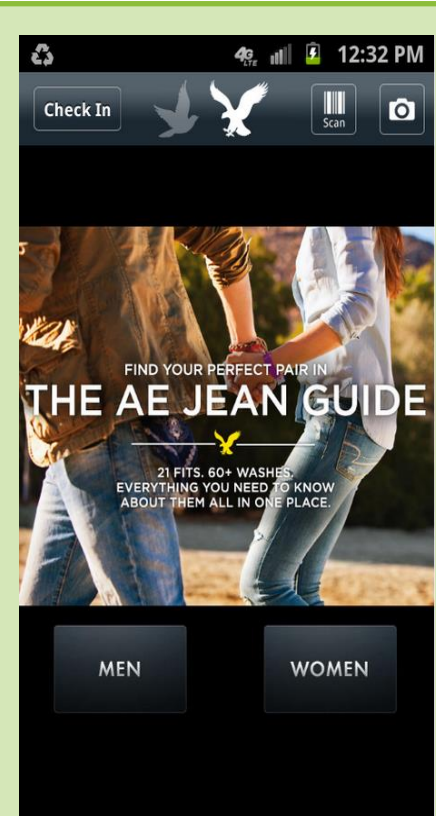


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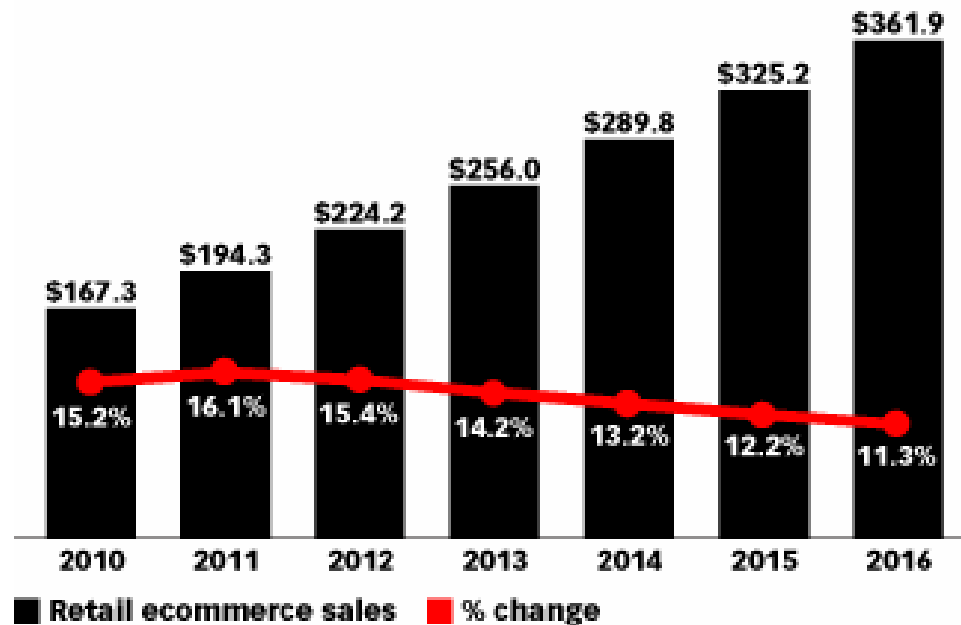
# Evolution of the Consumer



# eCommerce Will Continue to Growth

## US Retail Ecommerce Sales, 2010-2016

billions and % change



Note: eMarketer benchmarks its retail ecommerce sales figures against US Department of Commerce data, for which the last full year measured was 2011; excludes travel and event tickets

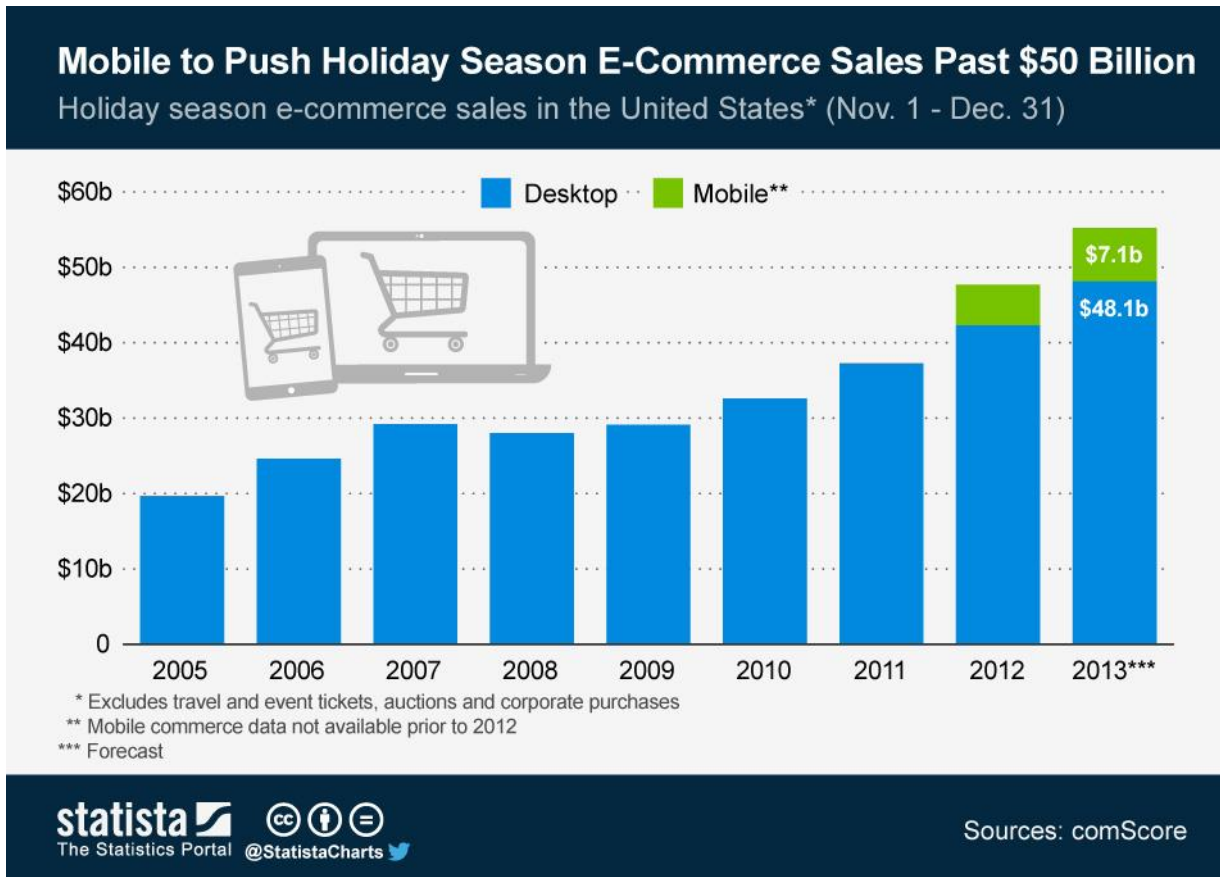
Source: eMarketer, March 2012

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[www.eMarketer.com](http://www.eMarketer.com)



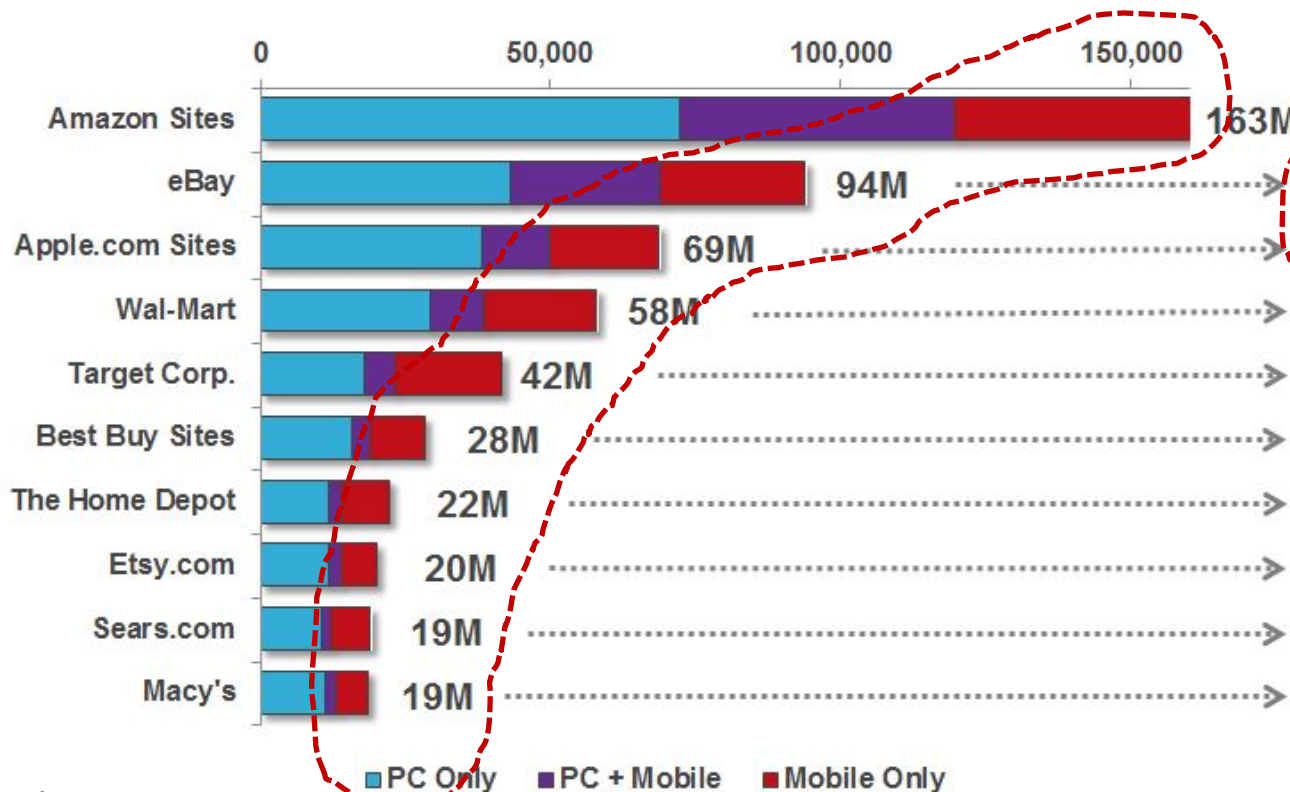
# Mobile is large driver in growth



# Room for Mobile Growth

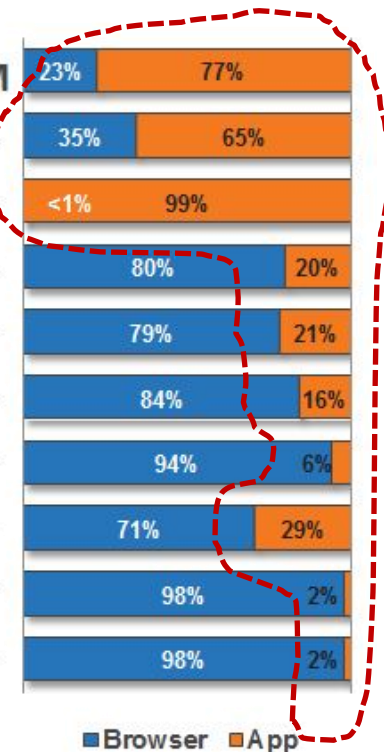
**Selected Leading Retailers: Total U.S. Digital Population Unique Visitors (000) by Platform**

Source: comScore Media Metrix Multi-Platform, U.S., September 2013



**% of Time Spent – Browser vs. App**

Source: comScore Mobile Metrix, U.S., Sep-2013



# Dynamic Marketing

NEW YEAR. NEW #AEOSTYLE.  
25% OFF NEW ARRIVALS THRU 1.1 AT AE.COM W/CODE 97C71641

SHOP MEN | SHOP WOMEN | SHOP SHOES | DETAILS

AMERICAN EAGLE OUTFITTERS **ae** AEO FACTORY

Sign In | Create Account | AERewards | My Favorites | Feedback | USD | My Bag: 0

AMERICAN EAGLE OUTFITTERS

What can we help you find?

MEN | MEN | RE | S | CL | ANG | ETC

Track Order | Find A Store

**ALL JEANS UNDER \$30** SHOP MEN SHOP WOMEN

#AEOSLIM  
#AEOSUPERSUPERSTRETCH

25% OFF NEW ARRIVALS + FREE SHIPPING | ALL JEANS UNDER \$30 | AEO CLEARANCE

FREE SHIPPING ON EVERYTHING! DETAILS | MY BAG: 0 ITEMS | \$0.00

LOG IN | MY H&M | SHOPPING BAG | CHECKOUT

STORE LOCATOR | CUSTOMER SERVICE | ORDER FROM CATALOG | SIGN UP FOR EMAILS

United States | All prices in USD

H&M

H&M LIFE | LADIES | MEN | KIDS | HOME | SALE

ONLINE & IN-STORE  
DAY AFTER CHRISTMAS SALE  
FROM \$5  
Valid today only!

SHOP NOW

MUST-HAVES  
TUBE TOP  
\$5.95

FINAL SALE  
NEW STYLES ADDED  
- UP TO 70% OFF

SHOP NOW

Check In

Hello, Brandon 25 AEREWARDS points

AEREWARDS

79369890252189

GET MORE POINTS!  
Earn Points. Get rewards from all the brands you shop.

MY DEALS

AEO CREDIT CARDS

# SKU Synergies

Does velocity based slotting work in eCommerce?

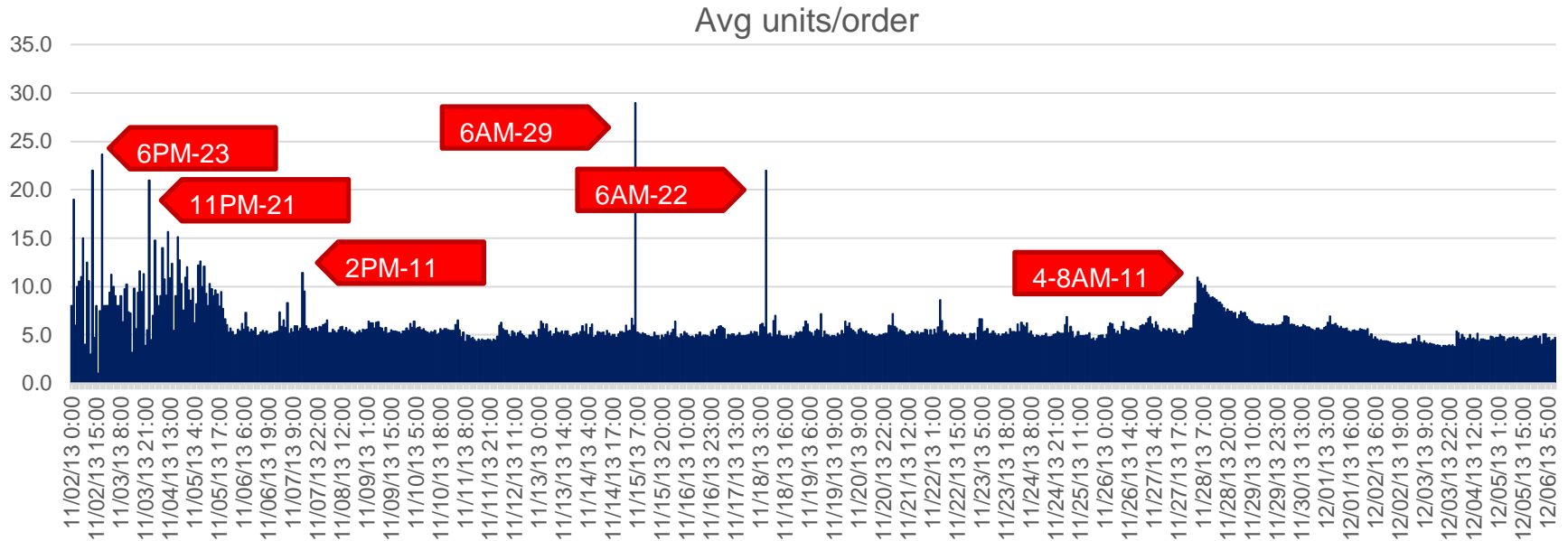


[Playstation 4, PS4 DualShock 4 Wireless Controller, Turtle Beach – Ear Force P4C Chat Communicator Gaming Headset, PlayStation Plus 1 Year Membership, NBA 2K14, FIFA 14, Madden NFL 25](#)



- Singles vs Multis
- Sortables
- Bulk

# Order Profile Volatility



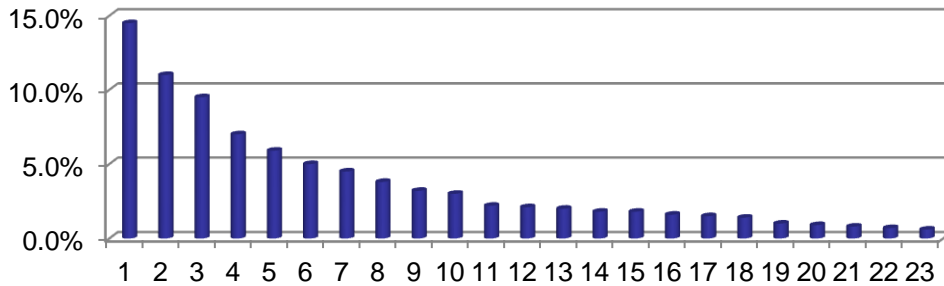
■ Avg units/order



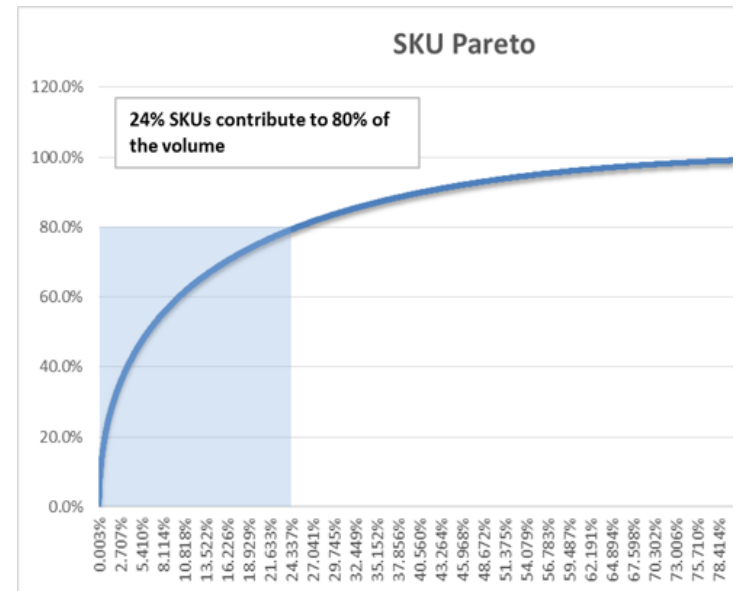
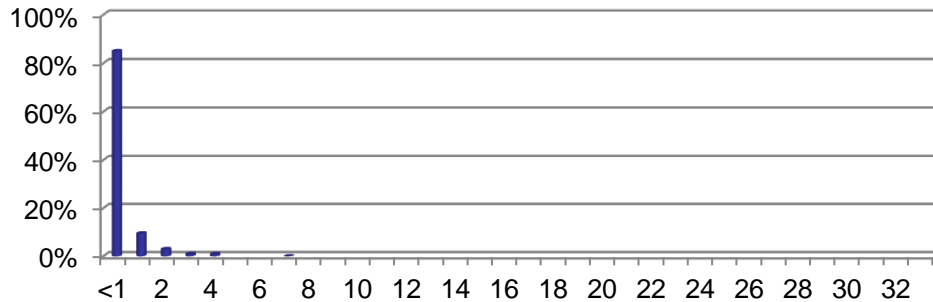


# SKU Consumption

Percent of Active SKUs With <1 Case Units Daily Usage @ 350,000 Daily Units



Overall Percent of Active SKUs By # Cases of Daily Usage @ 350,000 Daily Units



# Havoc on the “Wave-ologists”

Plan, Correct, Exception Monitor, Plan, Correct, Exception  
Correction, Plan, Correct, Exception Monitor, Plan, Correct



Source: WV Commerce Department Newsletter



# Plans & Design Rates

## Business Data

- Actual Order Data
  - Order Volume
  - Order Profile  
(Singles, Multis, Bulk)
  - Active SKUs
- Service Levels
- Shift Hours & Breaks
- Growth Projections



## Design Data

- Number/Availability of Personnel
- Machine Rate(s)
- Equipment Utilization (80%)
- Hours of Operation
- Projected UPH
- Distance of Travel vs SKU Facings

# Brief Overview of Fulfillment Approaches

## 1) TRADITIONAL Solution Based

- Discrete Order Picking
- Zone Route
- Goods-To-Man
- Robotic

## 2) CONTINUOUS Process Based



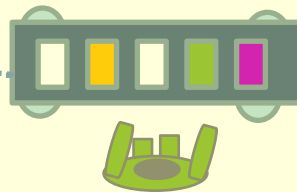
# Discrete Order Picking



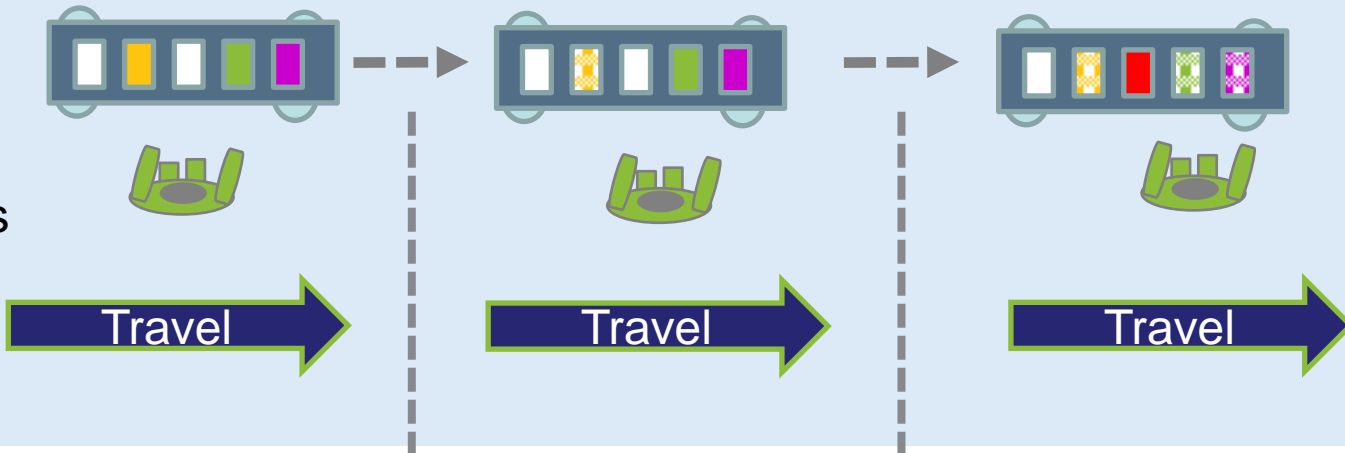
# Cluster/Group Picking



Discrete Cluster Pick



Cluster  
Pick & Pass



# Wave Based Zone-Route



# Goods-To-Man



Source: [www.Dematic.us](http://www.Dematic.us)





# Goods-To-Man



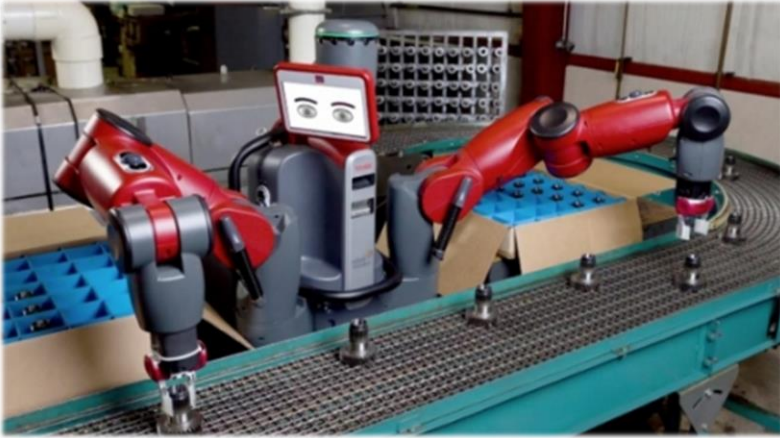
Source: Autostore



Source: Opex Corp



# Robotic



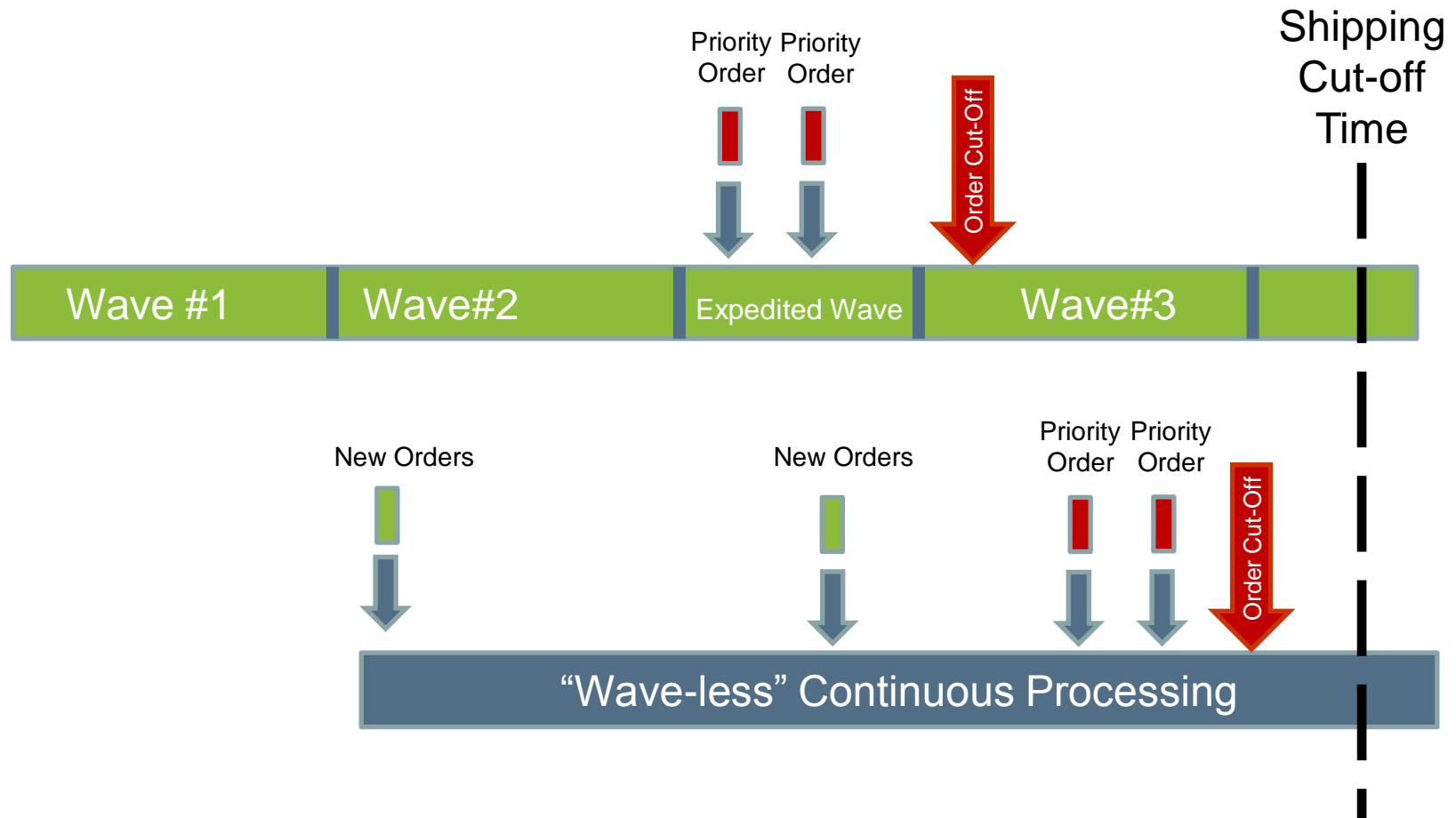
# Best of Breed = LEAN

- Continuous Process/Waveless
- No Waving Team
- Inventory Prepped for Sale at Time of Receipt
- All Inventory in Active Pick
- Not a silo'd technology solution ,i.e. voice
- De-Coupled Processes

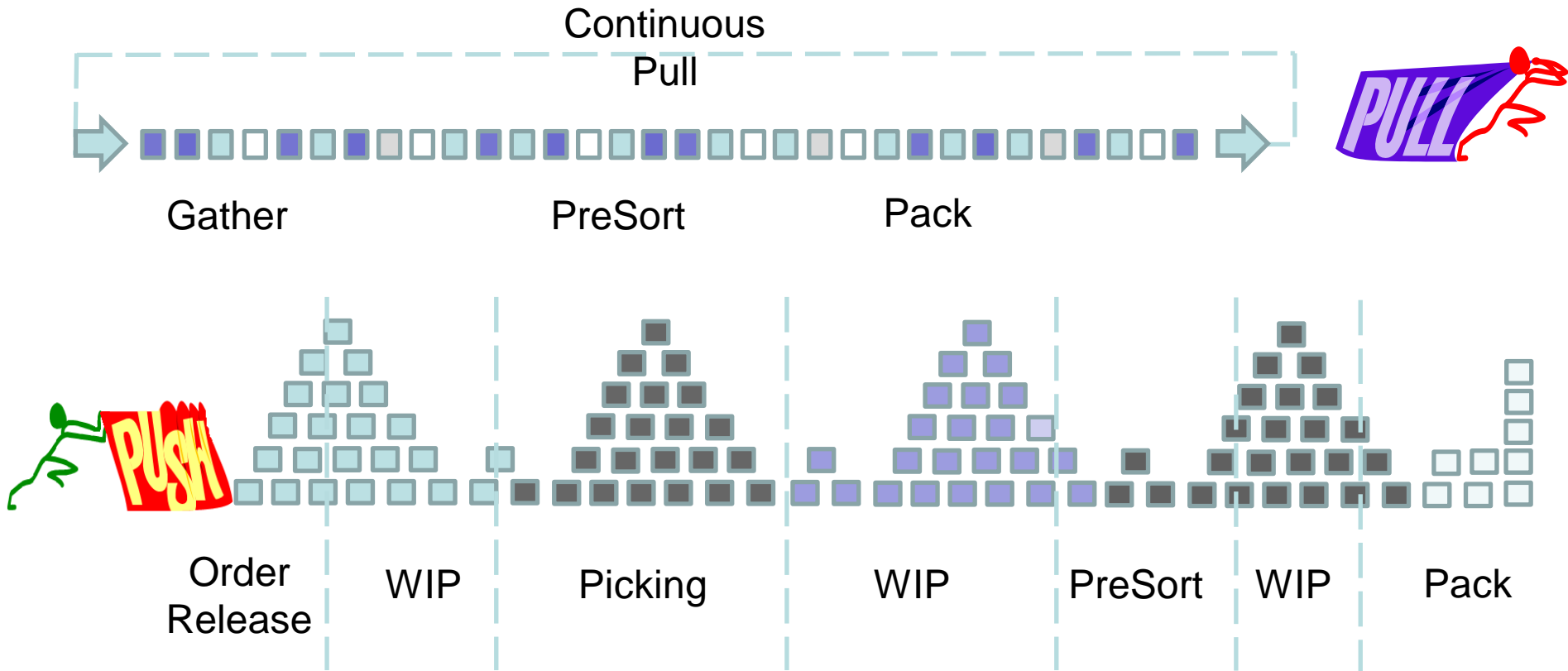
i.e. pack, dunnage, manifest, seal



# Continuous “Lean” Processing

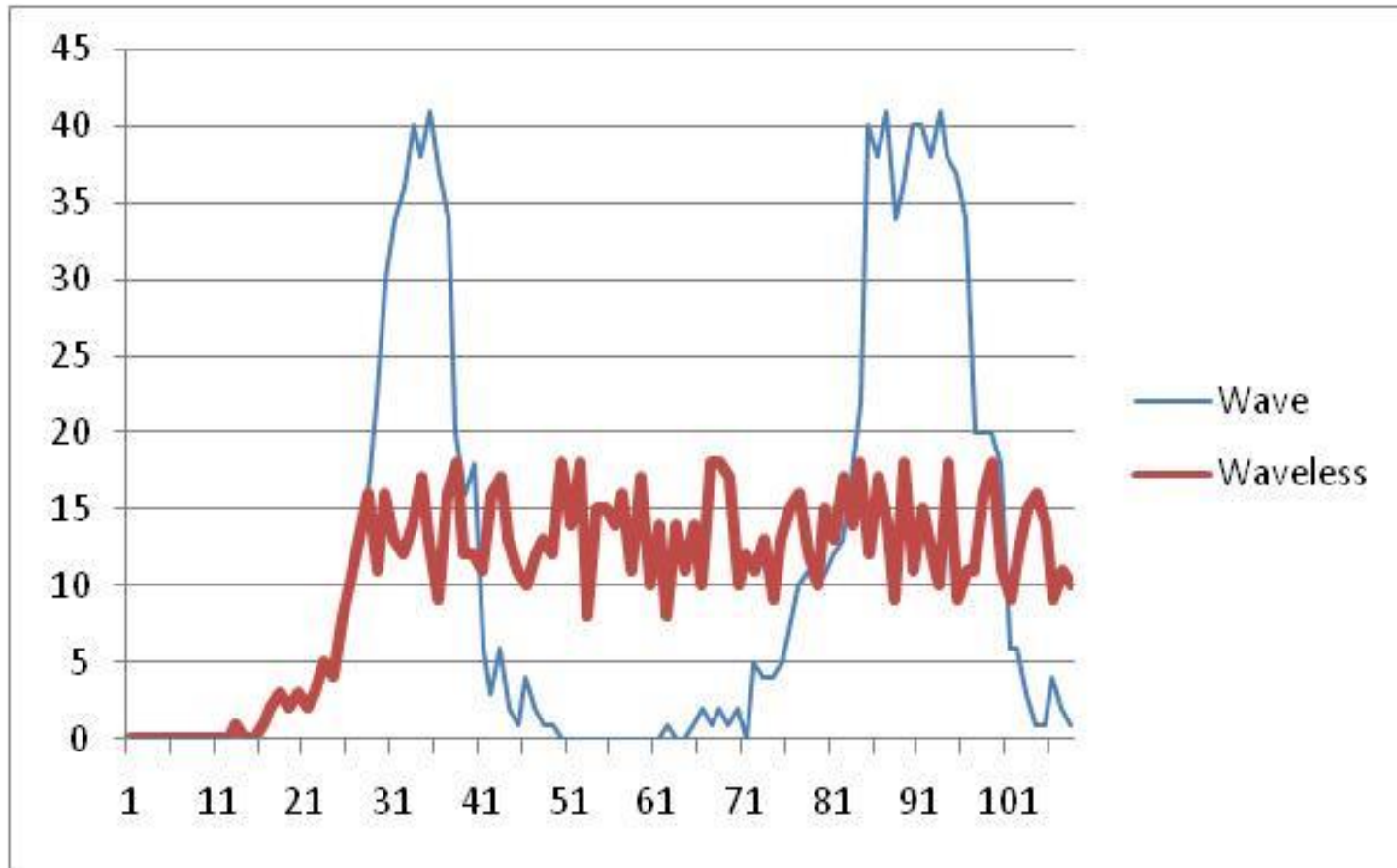


# “Lean” Pull Based

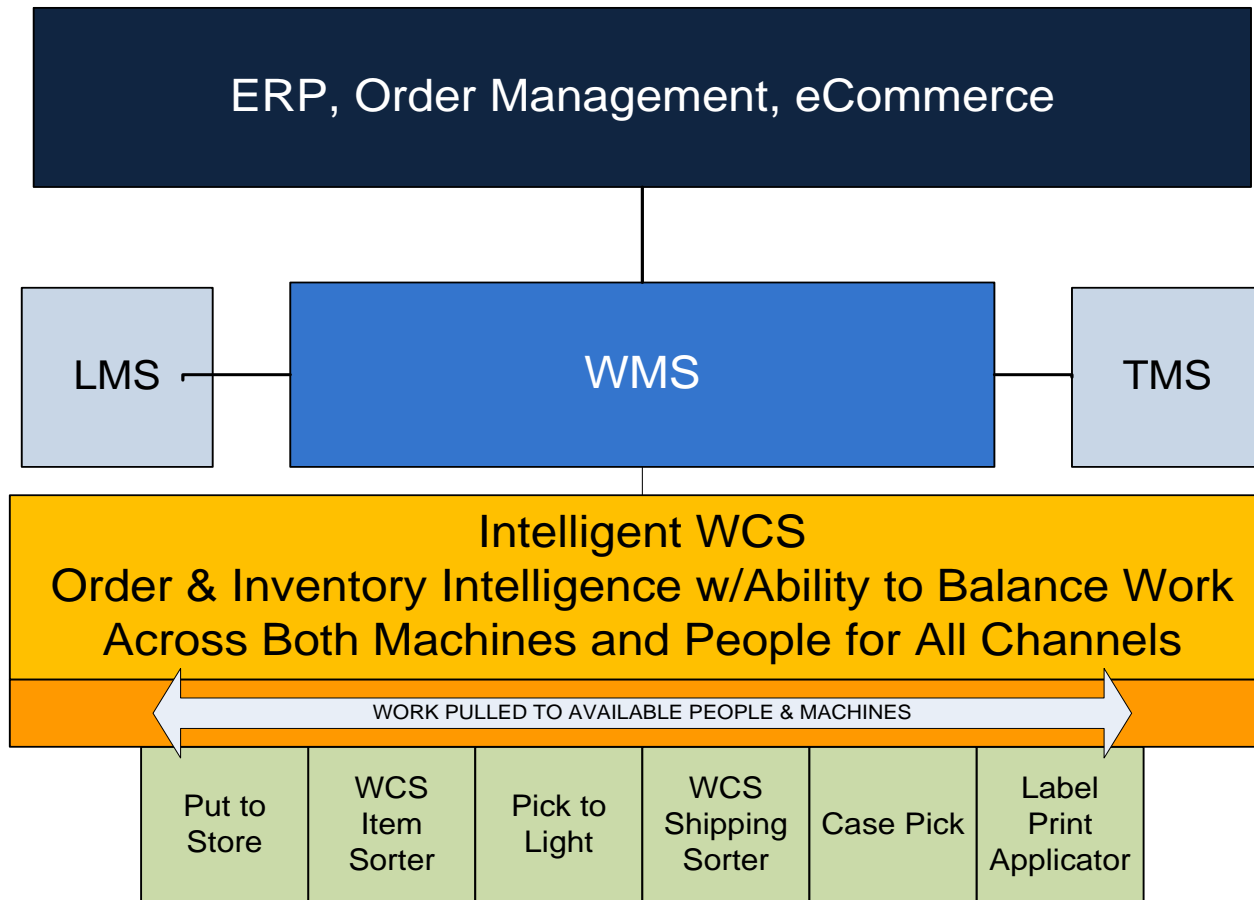


Work In-Progress (WIP) Causes:  
Inefficiency, More Touches, More  
Mechanization, More Management,  
Footprint++

# “Lean” Waveless Process



# The Intelligent WCS – One Engine



Synchronizes and Sequences work to “pull” work to available resource



# Continuous “lean” Process Benefits

## Capital

- Continuous “lean” processes have very little buffers
- Pulling work to available resources provides consistent flow & higher efficiency of automation lowering rate requirements
- Operation not constrained by technology based solution
- Flexible for growth

## Accuracy

- Ergonomic work cells achieving accuracy rates
- Incorrect orders = lost eCommerce customers
- Hard savings associated with each order error reduced

## Stockouts

- Replenishment is demand based, release for picking is carton based
- Stockouts are resolved in real time in a manner that is transparent to the operator

## Training

- Operators work simple decoupled processes, training is quick and easy
- Productivity goals are well maintained regardless of the turnover rate
- Easy, ergonomic work cells result in better moral, fewer new hires

## Order Cycle Time

- Orders are processed in a continuous flow
- Later order cut-off times = more captured sales
- Business rules are maintained
- Decreasing buffers reduces overall order cycle time, even faster turn for high priority orders



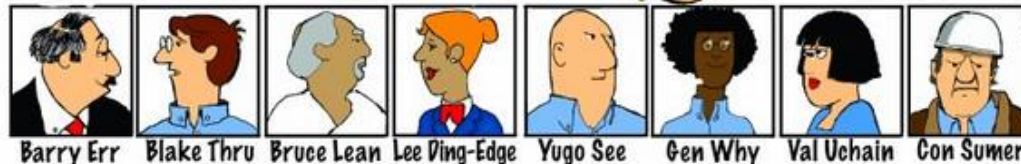


# Lean is the way of the future

## BARRIERS INC.



**VALUING LEAN TALENT, NOT!**



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