

More Than The Robot

How new fulfillment solutions empower employees
and drive efficiency at Lockheed Martin

Presented by:

Corey Cook, Lockheed Martin

Jerome Dubois, 6 River Systems



POWERED BY **POSSIBILITIES.**

6 RIVER SYSTEMS



powered by  MHI

Agenda

- What drove Lockheed Martin to invest in the most recent advancements in fulfillment technologies
- Lockheed Martin's unique requirements and challenges
- Collaborative robotics in the defense supply chain of the 21st century
- The faster fulfillment story
- Future vision

BUT FIRST.....

A LITTLE FUN

POWERED BY POSSIBILITIES.



TOM CRUISE
TOP GUN
MAVERICK
6.26.20

NEW TRAILER

POWERED BY POSSIBILITIES.

LOCKHEED MARTIN

SPACE SYSTEMS



MISSILES AND FIRE CONTROL



AERONAUTICS



ROTARY AND MISSION SYSTEMS



POWERED BY POSSIBILITIES.

So Why Top Gun???



Lockheed Martin maintains the U.S. Air Force's Industrial Product-Support Vendor (IPV) contract which manages all supply chain items for production depot maintenance activities at the 3 primary USAF Air Logistics providing worldwide engineering, maintenance and logistics management for all USAF fighters, transports, missiles and munitions.

Jet Fighters = Parts! A lot of parts!



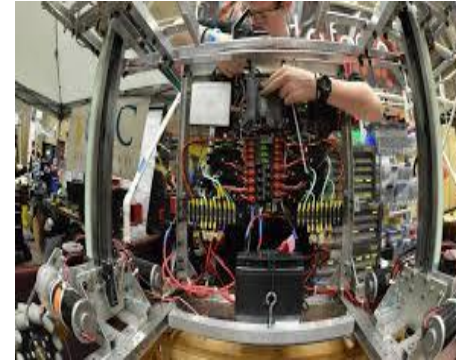
616,350,000 parts



POWERED BY POSSIBILITIES.

Lockheed Martin Supply Chain Challenges

- Complex dynamic work environments
- Significant security requirements
- Workforce personnel issues
- Non-standardized processes
- Inventory validity issues
- Inconsistent productivity
- Poor metrics definition capability





Leading The Way To Faster Fulfillment

2015

founded by ex-Kiva executives

30+

customers globally

50+

sites under contract in US,
Canada, and Europe

170+

employees

+1M

units fulfilled every week



part of leading global
commerce company Shopify

POWERED BY POSSIBILITIES.



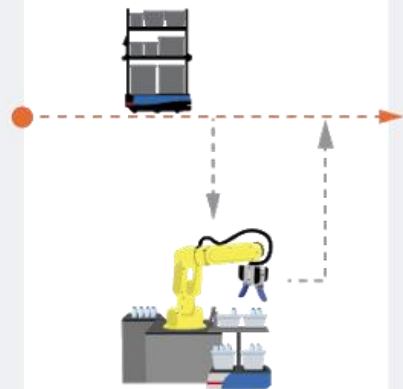
Design Fundamentals

*It's about your **associates** and your **operations***

Empower the operator	We believe people play the central role in successful operations
Enhance every scan	Improve operations with intuitive products built on an intelligent platform
Flexibility then productivity	Our products provide continuous value while adapting to change
Data informed decisions	We use data as the foundation, then apply common sense

1 INDUCT

Smart allocation groups similar work to reduce associate travel. Autonomous loader places the totes for the assignment onto Chuck.



FAST LANE
Fully automated picking.

2 MEET

Chuck eliminates the long walk by bringing the work directly to the associates in the active area.

3 PICK

Chuck leads the associates through their assigned tasks.

How Chuck makes the task faster

- Directed
- Lights
- Images
- Scanner
- Hands-free

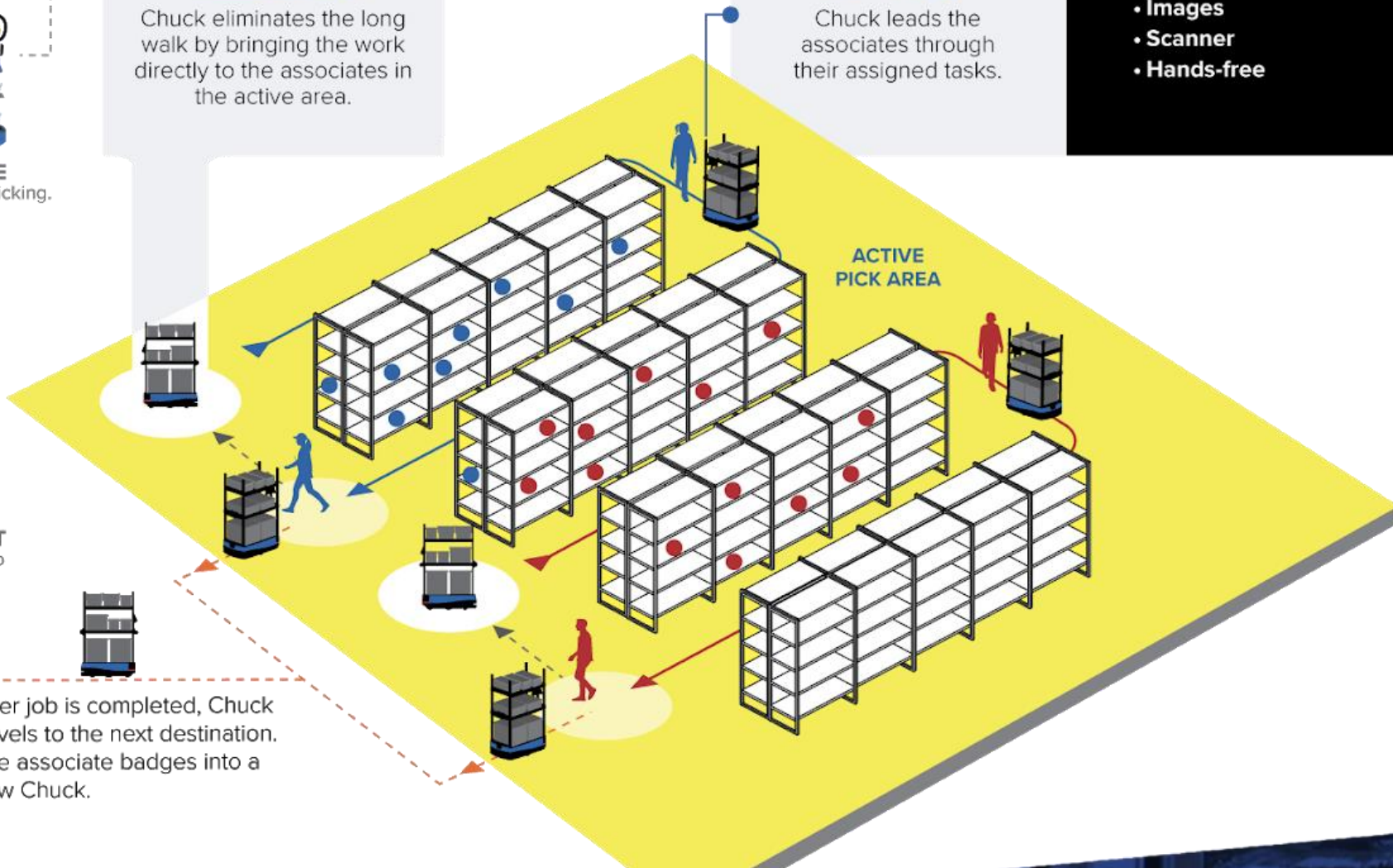
4 PACK

Inspect and pack orders for shipment. Chuck can sort exceptions and deliver completed assignments to different points across the warehouse.



MOBILE SORT
Sort batches into discrete orders.

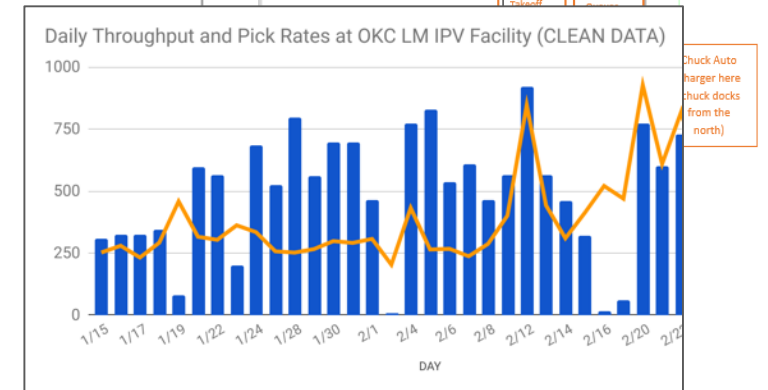
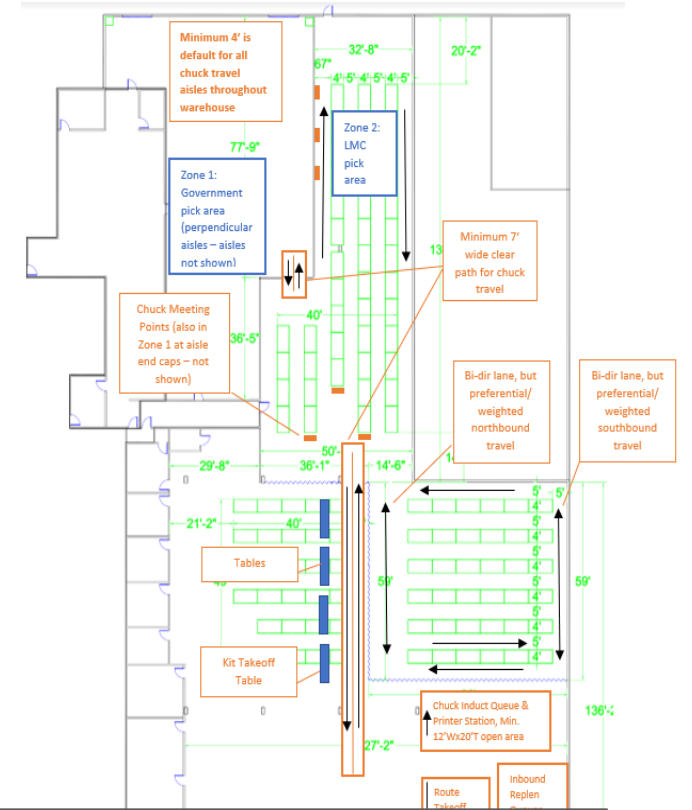
After job is completed, Chuck travels to the next destination. The associate badges into a new Chuck.



POWERED BY POSSIBILITIES.

Outcomes

- Ease of installation
- Defined & standardized the supply chain process
- Rapid training and worker acceptance
- Increase from 16 to 77 LPH in 6 weeks (481%)
- Inventory validity from 66 to 99.98%.
- ROI in 9 months with estimated savings of \$1.5M
- Developed a “Warehouse of the Future” for collaborative robotic supply chain R&D.



Future Vision - Flightline of the Future



POWERED BY POSSIBILITIES.

Autonomous Systems Roadmap



“Talk To Me Chuck!”



Thank You.

POWERED BY POSSIBILITIES.



For more information:

Corey Cook email: corey.a.cook@lmco.com

Website: www.lockheedmartin.com

Jerome Dubois email: jerome@6river.com

Website: www.6river.com

Or visit MODEX Booth #7489