



INNOVATING IN LOGISTICS

LEADING THROUGH DIGITALIZATION

**DHL LIFE SCIENCES AND HEALTHCARE
CONFERENCE
MIAMI | 19 JUNE 2019**

GINA CHUNG,
HEAD OF INNOVATION AMERICAS, DHL

HAYTHAM ELHAWARY
CEO, KINETIC

AL DEKIN
SVP, LOCUS ROBOTICS



GROWTH STRATEGY

Disruption Starts with Unhappy Customers, Not Technology

by [Thales S. Teixeira](#)

JUNE 06, 2019

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WHAT TO READ NEXT



If Your Managers
Employees Won't





Growing Labor Shortage



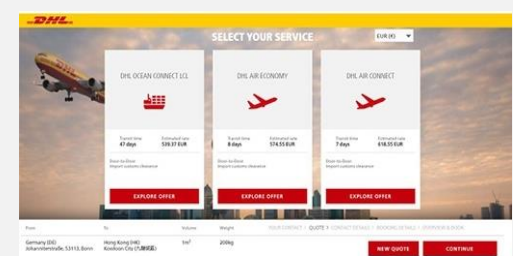
**At the center of
digitalization: People**



Future Logistics Workforce



Digital Consumer and Industries



Digital Logistics Services

Source: US Trucking Association, Statista, *Statista Estimate, DHL Global Forwarding



We apply a **customer-centric approach** to innovation

DHL Innovation Center, Chicago (Coming September 2019)



DHL Innovation Centers

A platform to understand our customer's challenges and hub for digital transformation.

Source: DHL Trend Research



DHL Logistics Trend Radar

Translating the voice of our customers into key trends that drives our innovation agenda.

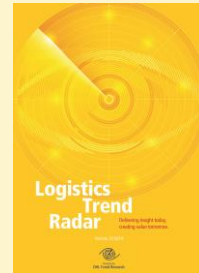
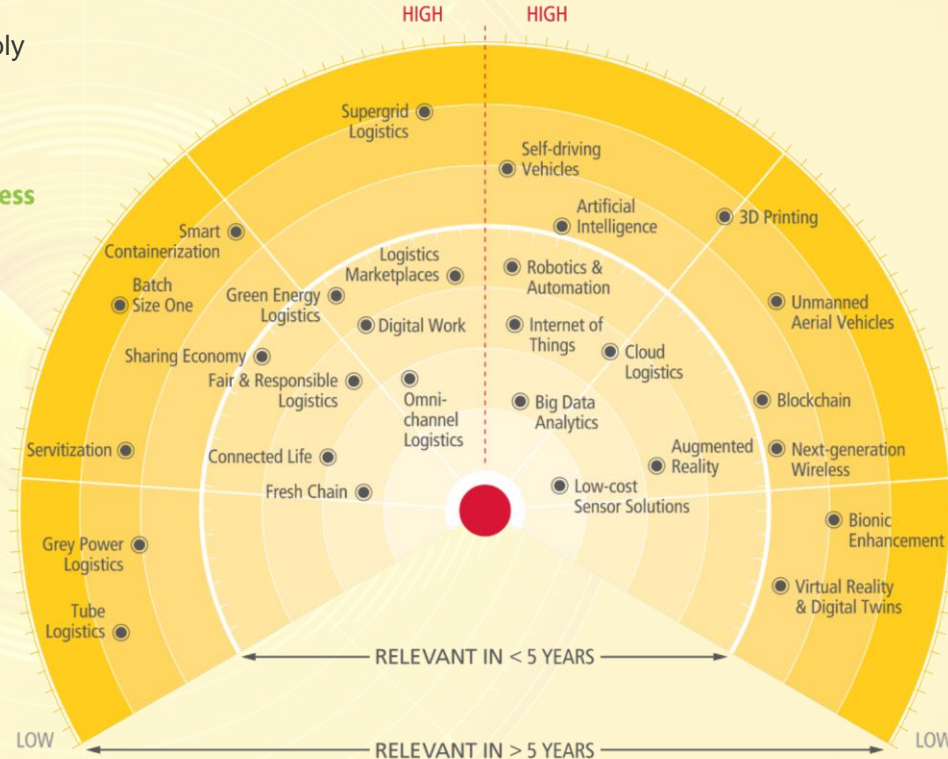


DHL Logistics Trend Radar 2018/2019

+10,000 opinions from supply chain leaders, industry innovation partners, and academia

Social & Business Trends

Technology Trends

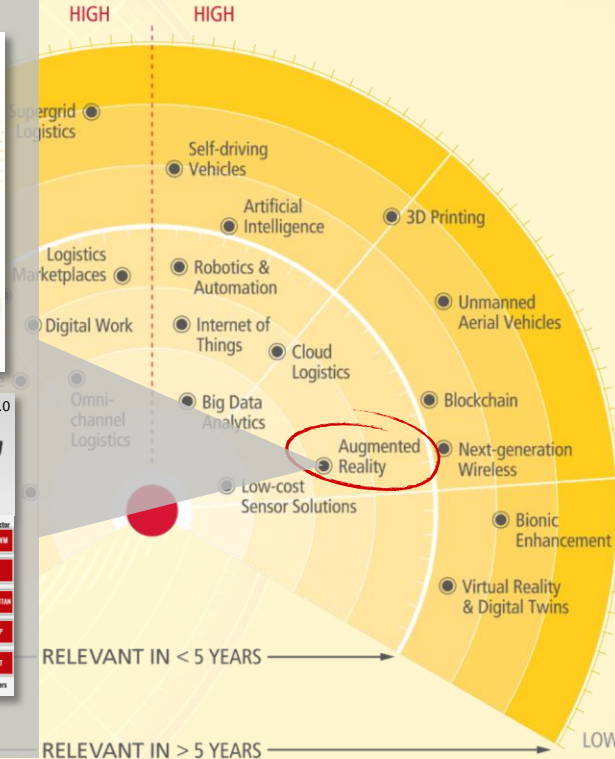
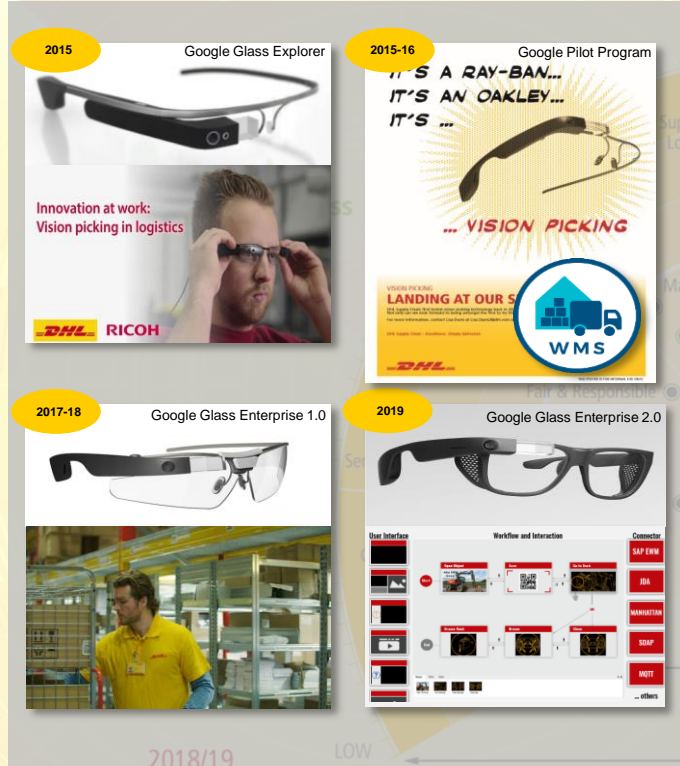


logistics.dhl/innovation

Source: DHL Trend Research

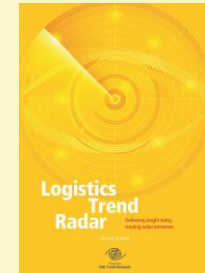


DHL Logistics Trend Radar 2018/2019



↑ **HIGH:** Creates new (potentially disruptive) ways of doing business

↓ **LOW:** Provides incremental improvement opportunities



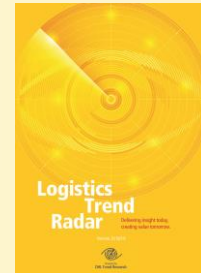
Source: DHL Trend Research



DHL Logistics Trend Radar 2018/2019



Technology Trends



logistics.dhl/innovation

Source: DHL Trend Research

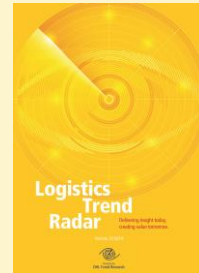
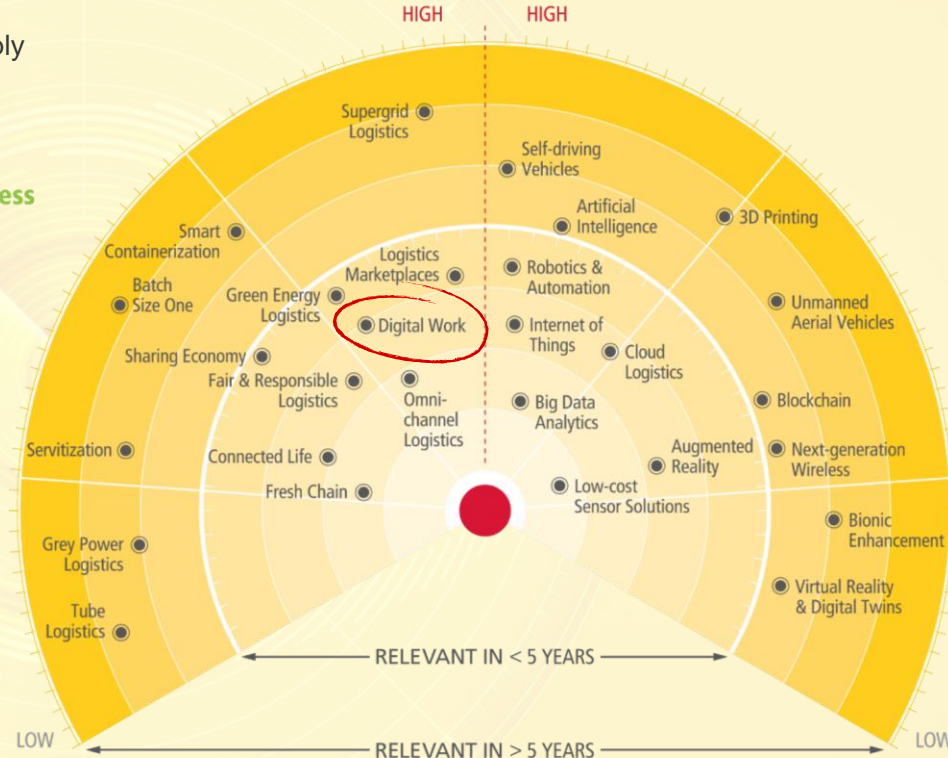


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logistics.dhl/innovation

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KINETIC

HAYTHAM ELHAWARY, Ph.D
CEO AND COFOUNDER

**LOGISTICS OPERATIONS ARE BECOMING
INCREASINGLY COMPLEX**





WE BELIEVE THAT A **CONNECTED WORKFORCE
WILL BE SAFER AND MORE PRODUCTIVE**







Hard Hat
1930s

Eye
Protection
1910

Ear Protection
1960s

Safety
Vest
1960s

Hand
Protection
1950s



MUSCULOSKELETAL INJURIES

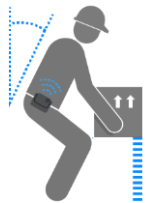
\$15.1BN

annual costs for manual material handling
related injuries in the US.

1,000,000

strain and sprains per year.

KINETIC WEARABLE TECHNOLOGY



WEARABLE DEVICE
FOR WORKERS



REAL-TIME FEEDBACK
FOR WORKERS



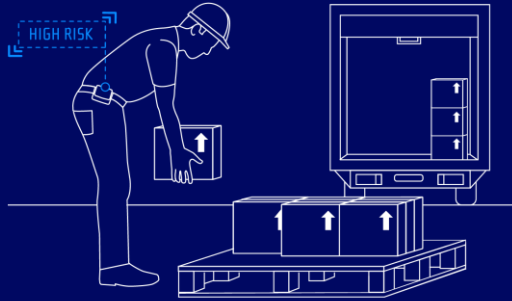
DATA ANALYTICS
FOR MANAGEMENT



HOW IT WORKS



MEASURED RISK FACTORS



BENDING



TWISTING



REACHING

CASE STUDY

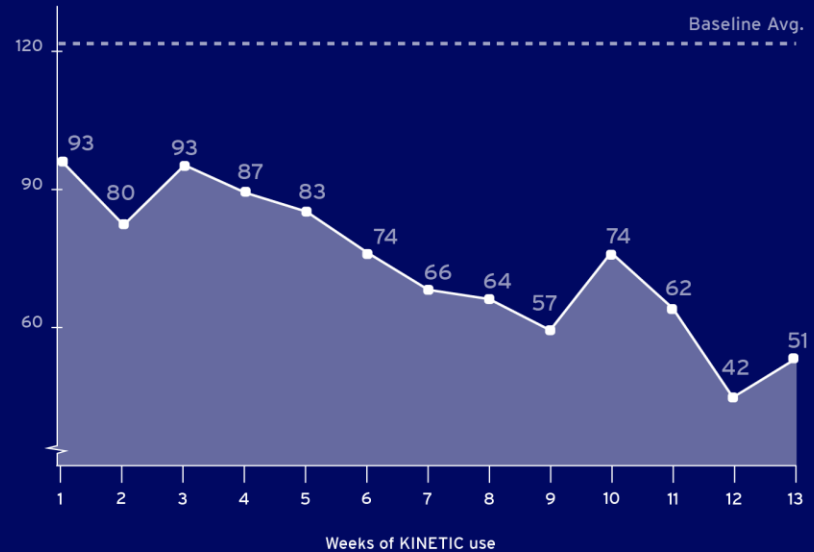
59%

Reduction in daily high risk postures per worker.

56%

Of workers experienced less back pain after using KINETIC REFLEX.

DAILY HIGH-RISK POSTURES PER WORKER





“TOUGH TO CORRECT MYSELF, BUT
MY BODY FEELS BETTER.”

“BEATING EMILIO’S SCORE WAS
THE REASON I CAME IN TO
WORK TODAY.”



KINETIC



CONTROL

RESULTS: KINETIC GROUP SHOWED...



62% REDUCTION IN
INJURY RATES

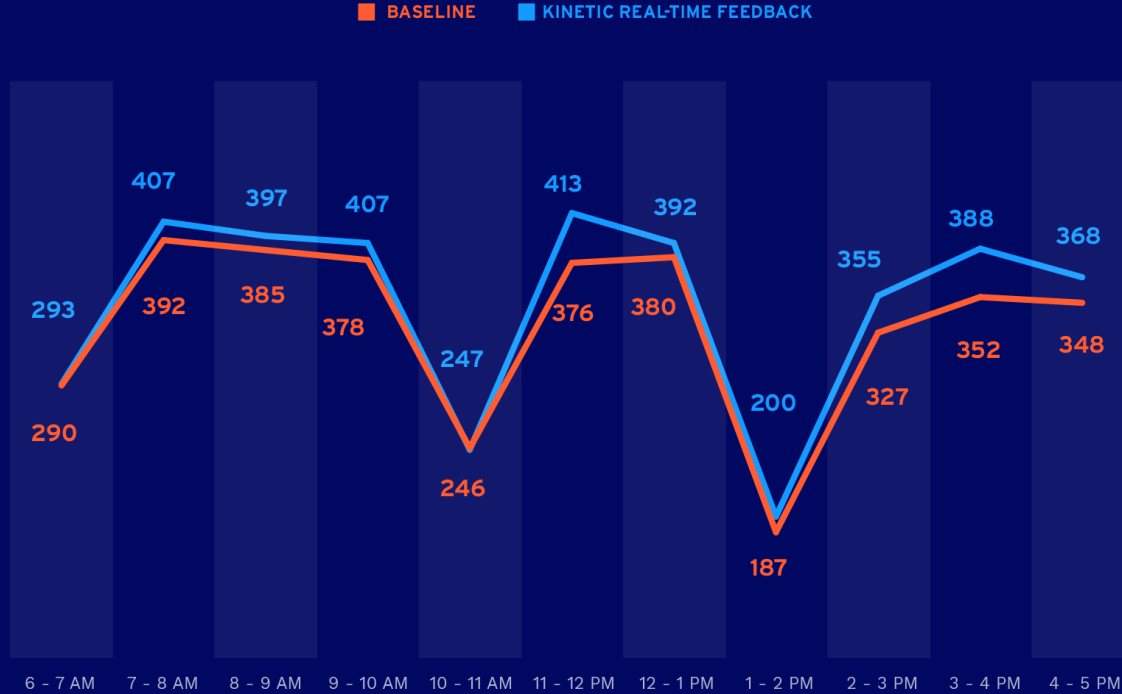


46% REDUCTION
IN CLAIMS COSTS



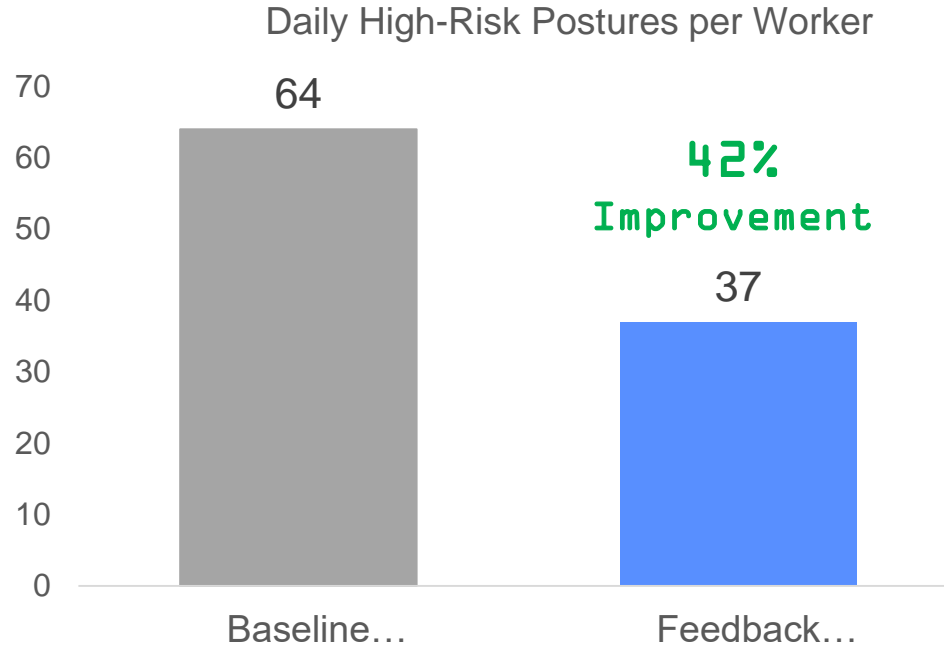
5% INCREASE IN
WORKER PRODUCTIVITY

PICK RATES ARE 5.2% HIGHER WITH KINETIC

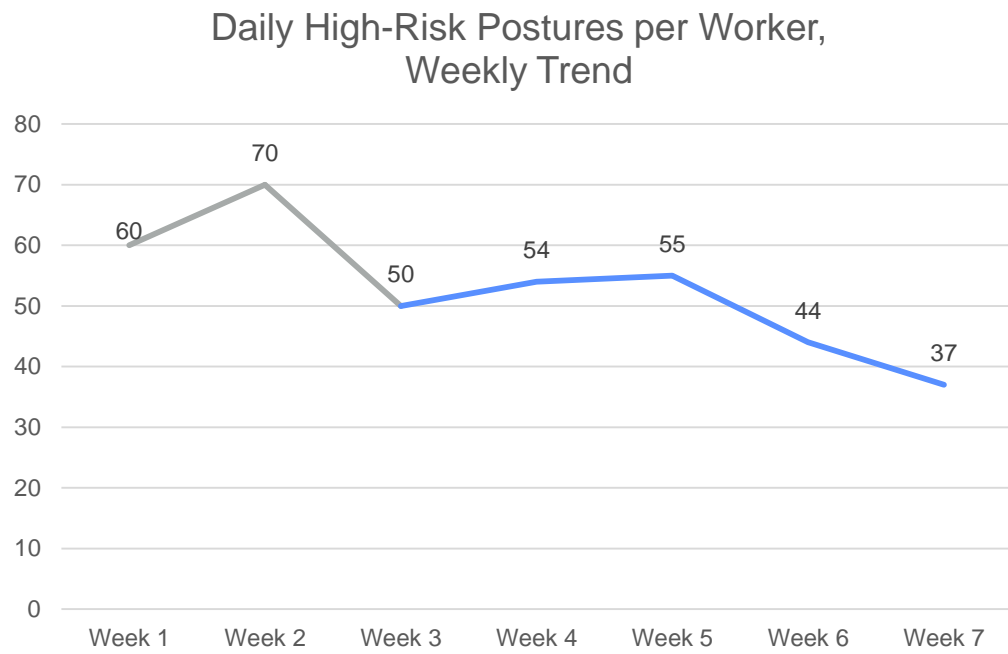




DHL EXPRESS DEPLOYMENT



DHL EXPRESS DEPLOYMENT





"I did 42 high-risk postures the first day which was bad.

Then I decided to change my habits.

Then I got 20, then 10, then 3. I'm doing much better now."



"I really feel that if you catch on to your high-risk postures at the beginning of the day, it carries over even outside of work."



"I came in to work today to keep my number 1 spot.

No one's going to beat me."

SO WHAT'S NEXT
FOR A CONNECTED WORKFORCE?



KINETIC

KEEPING YOUR WORKFORCE MOVING

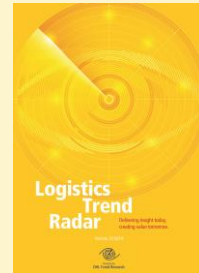
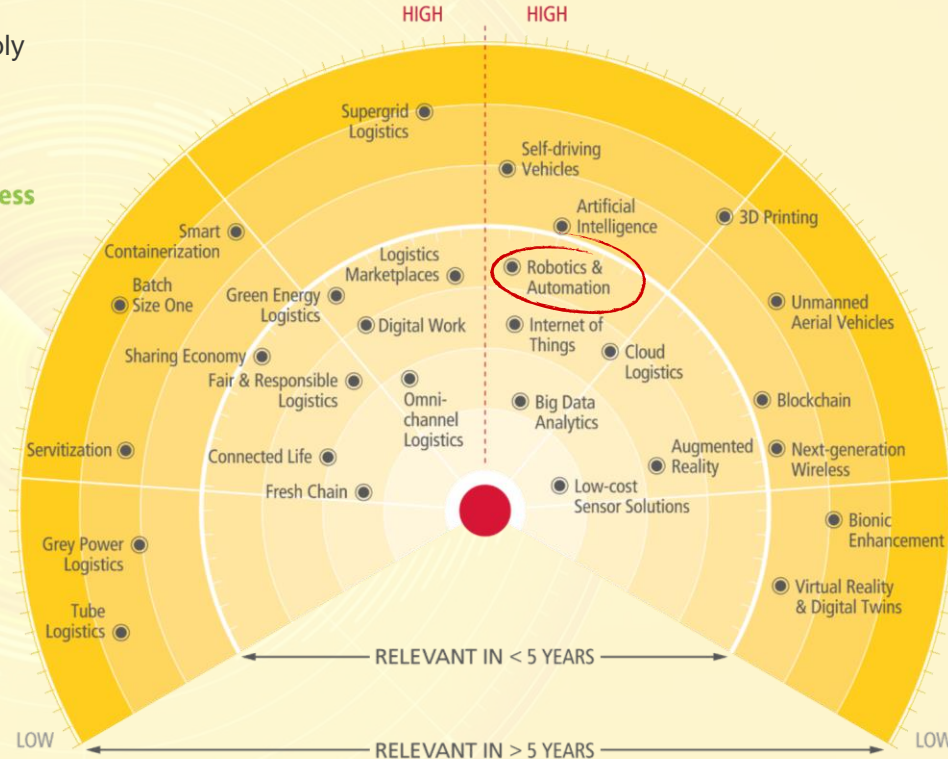
HAYTHAM ELHAWARY, CEO AND COFOUNDER

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Technology Trends



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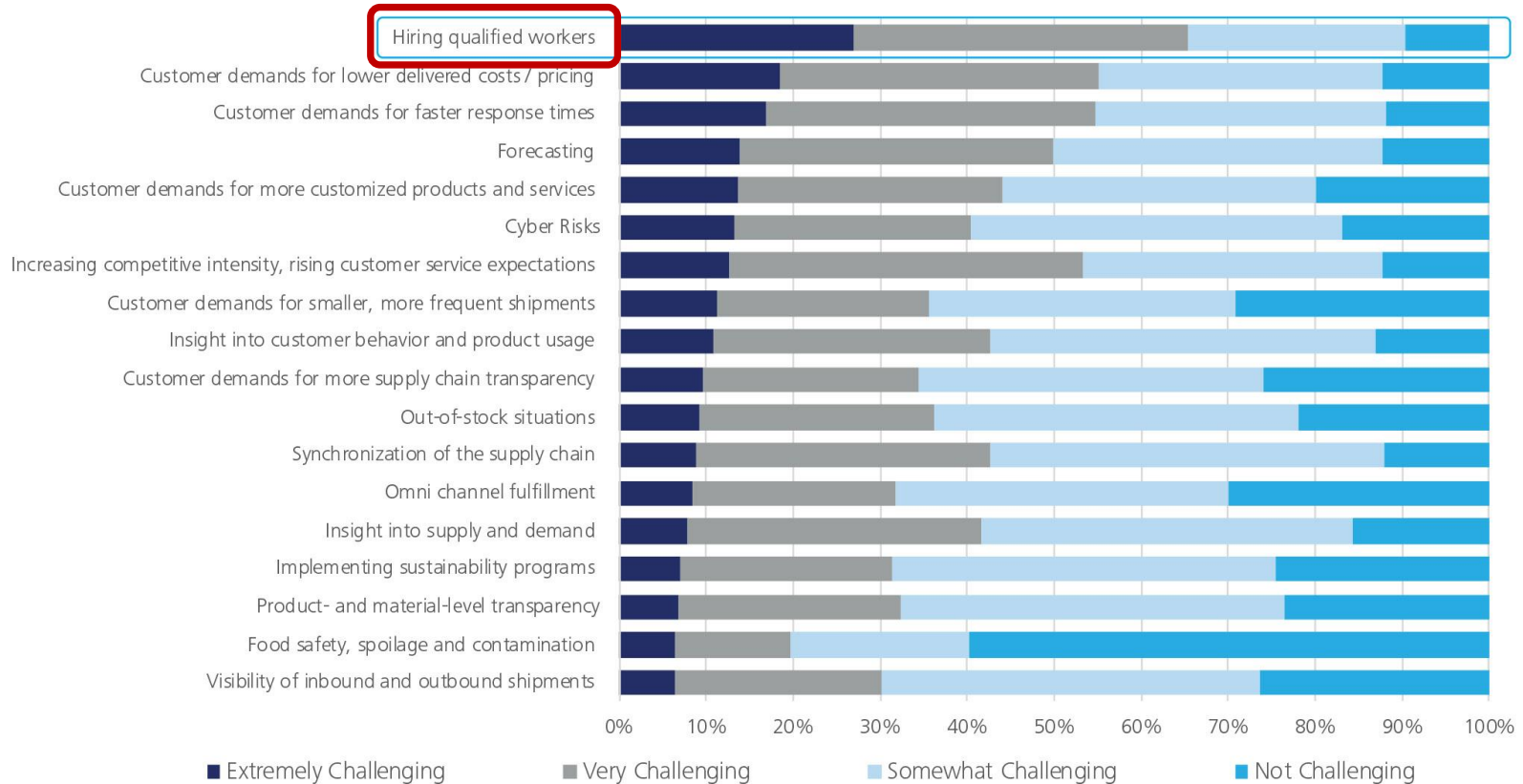


Can Humans Work With Robots?

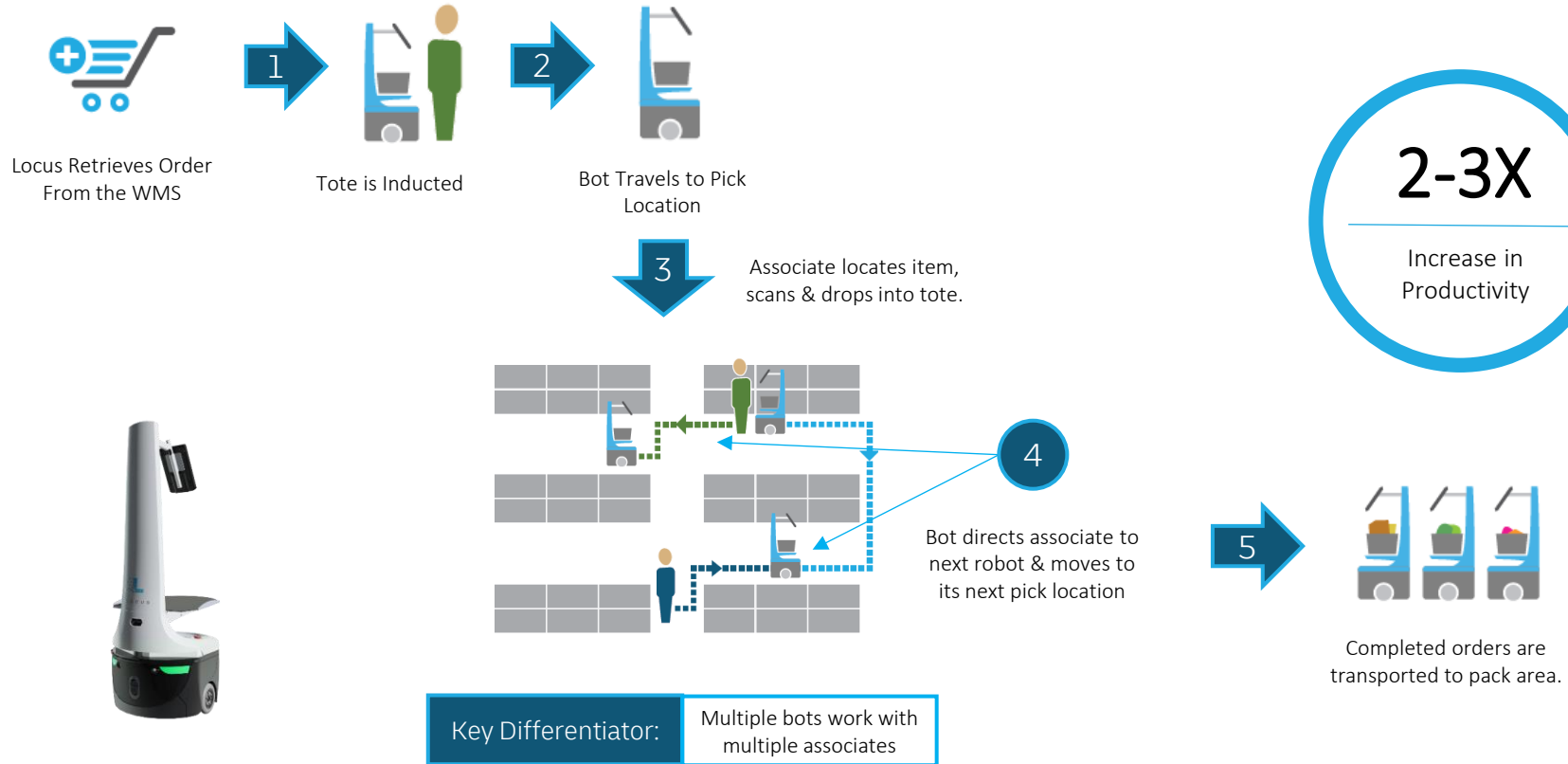
Al Dekin
Co-Founder, SVP Sales



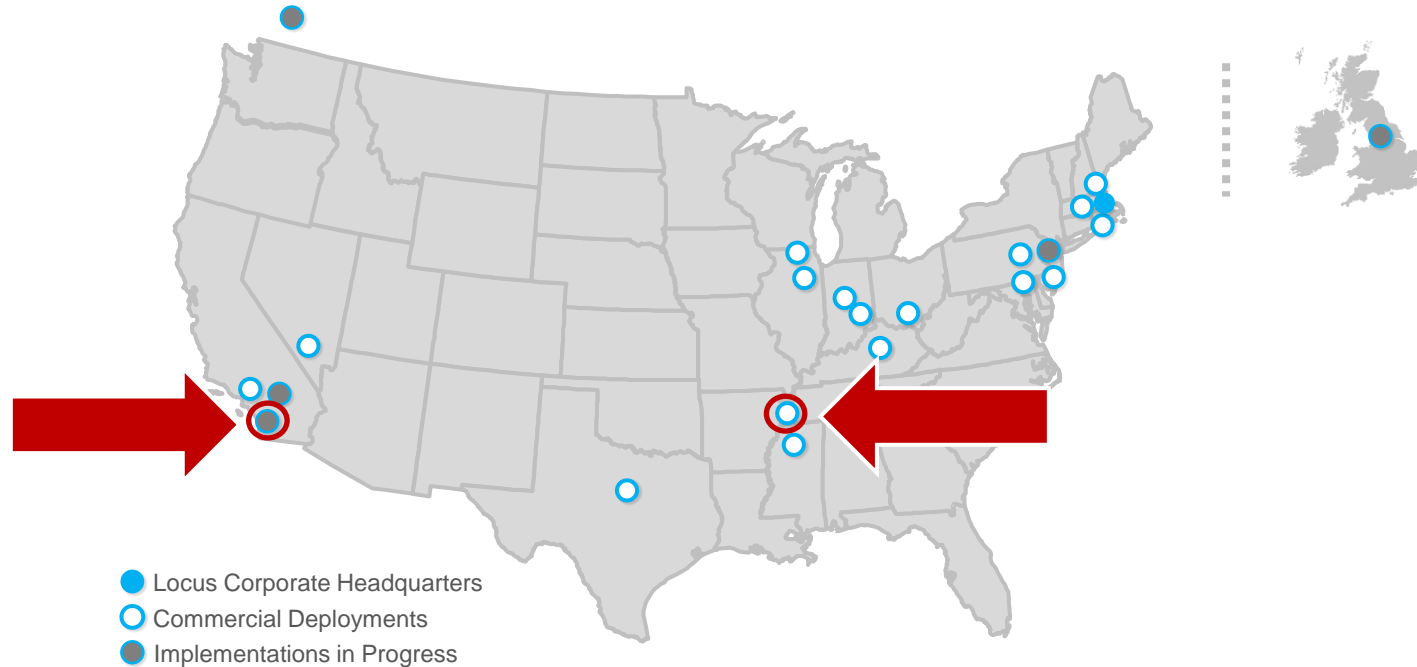
2019 MHI ANNUAL INDUSTRY REPORT - TOP COMPANY CHALLENGES



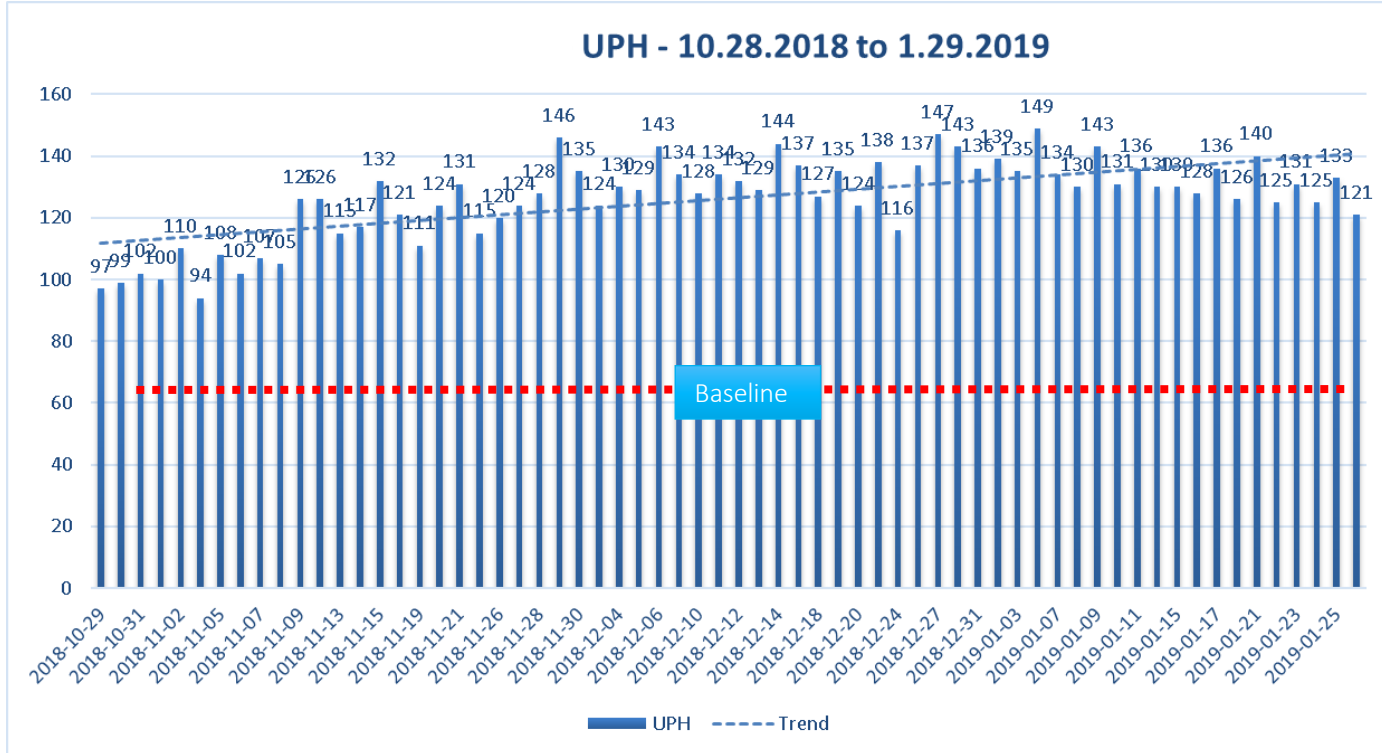
Significant Productivity Gains & Less Than 12 Month Payback



Critical Mass of Production Sites... Including Life Sciences.



Locus Case Study - Medical Device Operation - >2x Improvement



- Baseline cart pick baseline of 65 UPH
- 60 Robots
- JDA WMS





DHL Supply Chain turning to robots to boost efficiencies

By: Paul Scott Abbott | Issue #665 | Mar 12 2018

Robots are doubling productivity in picking medical devices at a Memphis facility of DHL Supply Chain, which is looking for a significant increase in its use of robotics and other leading-edge technology solutions in e-commerce.

picked by the robots and the needed items are then put on FedEx. Kumar said, noting that a doubling of productivity already has been achieved in mid-2017. He said he believes productivity gains as high as 200% are possible with the units.

Orders that are placed in the evening are swiftly picked by the robots and the needed items are then put on FedEx planes and rushed to hospitals via next-day air, Kumar said, noting that a doubling of productivity already has been realized since the initiative began as a pilot project in mid-2017. He said he believes productivity gains as high as 2 1/2 times simply human capabilities are achievable with the units.

Adrian Kumar, vice president of solutions design for North America for DHL Supply Chain, sidles up to a LocusBot at the Retail Industry Leaders Association's gathering in Phoenix. (Photo by Paul Scott Abbott, AJOT) Not only is DHL Supply Chain anticipating increasing the presence of LocusBots at the Memphis installation from the current 36-unit contingent but is also looking to bring the high-tech piece-pickers to additional facilities where expeditious fulfillment of small orders that aren't overly cube-intensive is required. And other robotic solutions are being explored for use in picking larger items.

Because the robots are not bolted to the ground and are easily leased, it is relatively unproblematic to put more to use, Kumar said, commenting, "We can always just lease more robots."

Kumar, who is based at DHL Supply Chain's North American headquarters in Westerville, Ohio, said robots and other technological innovations will play an increasing role as shorter lead times of a day or less are demanded for small orders while the number of stock-keeping units, or SKUs, keeps growing.

"Technology is becoming extremely important because customer profiles are changing," he said. "Software technology allows speed to work on the floor, and hardware solutions like Locus allow faster picking. What we look for is the smart combination of hardware and software."







Can Humans Work
WITHOUT Robots?

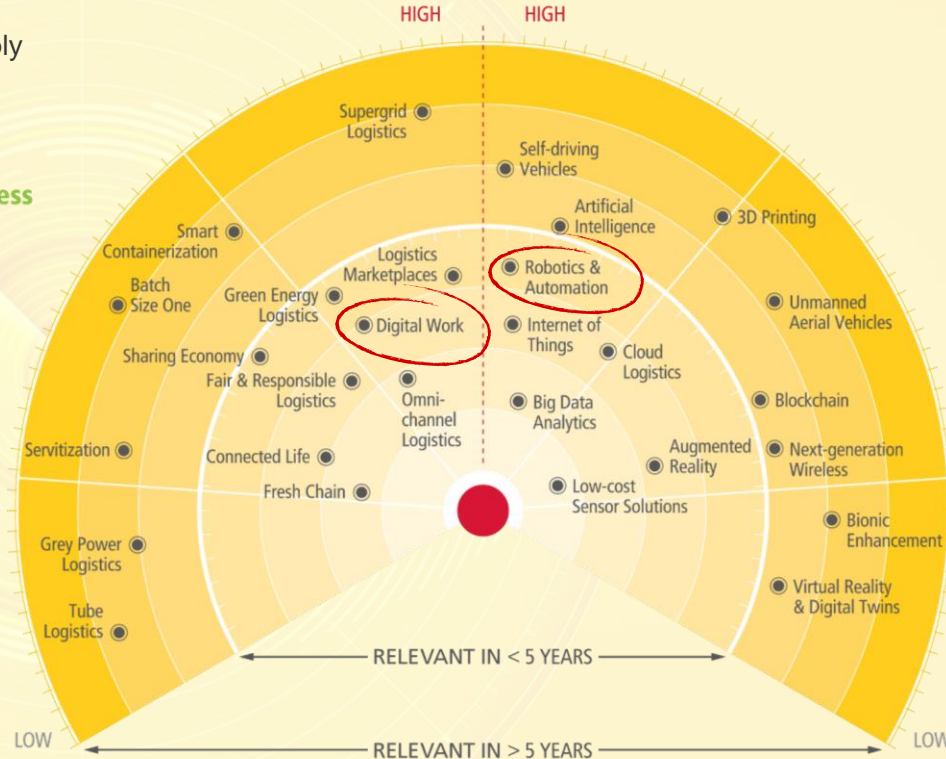


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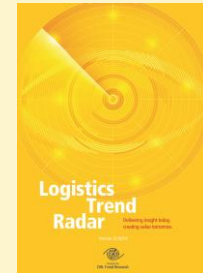
Social & Business Trends

Technology Trends



2018/19

Source: DHL Trend Research



logistics.dhl/innovation



The biggest future **impact on revenue** and EBIT growth is set to occur through the **digitization of supply chains.**

McKinsey & Company



Coming Soon...Your DHL Innovation Center



- Brand new 28,000 sqf. DHL Innovation Center located in Chicago, Illinois
- Purpose built to accelerate your digital supply chain transformation
- Engage in cutting-edge logistics innovation, industry workshops and events
- Grand Opening: 12 September 2019
- Contact your DHL customer manager to arrange a visit!

