## **THIJS HULSTMAN**

Global IT Director DHL Accelerated Digitalization

## Implement Innovations in Operations here and now!





## Realizing the Potential of Supply Chain Digitalization Welcome



### Agenda

- Today's reality: Introduce DHL Supply Chain Accelerated Digitalization Program
- Technologies: Deep-dive in selected technologies most relevant for Automotive Supply Chains to understand benefits and implementation requirements
- Q&A and next steps



## Realizing the Potential of Supply Chain Digitalization Disruption of the Logistics Industry

### The Digital Transformation now also puts the logistics industry on the brink of disruption



Source: DHL Supply Chain, Accelerated Digitalization Program Team

Point on digitalization journey



## Realizing the Potential of Supply Chain Digitalization Industry 4.0: The Automotive Industry Gets Connected

#### Key Use-Cases



Al and Data Analytics Generate insights from data, incl. predictive maintenance, AI-driven demand forecasting



### Flexible Automation

Leverage robotic solutions to improve productivity, quality and safety



#### Connectivity

Connect relevant info to the right people in real time by e.g. augmented reality, digital performance management



**Improved Productivity** 

**Key Benefits** 

Increase process speed, equipment effectiveness and reduce operating costs, downtime and quality issues



#### Enhanced Flexibility and Agility

Make it easier to scale up and down capacity and add new products



#### **Improved Customer Experience**

Increase customer satisfaction by enhanced operational capabilities and new services e.g. track & trace

Source: DHL Supply Chain, Accelerated Digitalization Program Team; https://www.mckinsey.com/businessfunctions/operations/our-insights/how-digital-manufacturing-can-escape-pilot-purgatory



## Realizing the Potential of Supply Chain Digitalization Accelerated Digitalization: Program Structure

## Our Accelerated Digitalization program enables us to accelerate the deployment of effective technologies to a wider number our sites





## Realizing the Potential of Supply Chain Digitalization Excerpt of current Technology Portfolio

## Our sites and customers have different needs; We therefore strive for a balanced portfolio with high impact and high scalability technologies





## Realizing the Potential of Supply Chain Digitalization AD Footprint in Turkey and Automotive Sector Globally

• Assisted Picking Robots • Wearable Devices • Wrapping Robots • Design and Simulation • Robotic Process Automation • Inventory Management Robots • Labour Planning Growing number of opportunities for Accelerated Digitalization technology deployments in Turkey and the Automotive sector globally



Source: Accelerated Digitalization Collaboration Hub



## Realizing the Potential of Supply Chain Digitalization Technology deep-dives

### Key technologies for Automotive Sector



Source: DHL Supply Chain, Accelerated Digitalization Program Team



## Realizing the Potential of Supply Chain Digitalization Technology deep-dive 1 – Assisted Picking Robots (Bin-Focus)

Applicable

Notapplicable

#### Description

Assisted Picking Robots improve picking productivity by moving autonomously to workers & reducing the picker travel time



#### Impact

#### Processes

- Reduce picker travel time
- Optimize travel routes
- Minimize worker fatigue
- Productivity
- 30% 180% increase in Units picked per hour
- 80% decrease in training time

Source: DHL Supply Chain, Accelerated Digitalization Program Team





## Realizing the Potential of Supply Chain Digitalization Technology deep-dive 2 – Goods-to-Person Robots

Notapplicable

Description	Site Profile
Goods-to-Person Robots <b>reverse the</b> <b>picking process moving goods to</b>	Pickin
Impact	# SKU
<ul> <li>Processes</li> <li>Primary: Picking</li> <li>Secondary: Put-away</li> </ul>	Storaget
<ul> <li>Productivity</li> <li>Up to 200% increase in picking</li> <li>Up to 50% increase in put-away</li> </ul>	Avg. lines pe

Site Profile			
Picking	Item	Case	Pallet
# SKUs	<5K	5к-10к	>10K
Storagetype	Racks	Shelves	Ground
Avg. lines per order	<5	5-10 10-20	>20

Source: DHL Supply Chain, Accelerated Digitalization Program Team



## Realizing the Potential of Supply Chain Digitalization Technology deep-dive 3 – Indoor robotic transport (Pallet-Focus)

#### Applicable

Notapplicable

#### Description

Autonomous pallet transport complements manually operated forklifts to increase picking and put-away productivity



#### Impact

#### Processes

- Reduce travel distances
- Safety & ergonomics
- Consistency (24/7)
- Productivity
- 2,5–3,5h saved on travelling time (per shift/robot)

Source: DHL Supply Chain, Accelerated Digitalization Program Team





## Realizing the Potential of Supply Chain Digitalization Technology deep-dive 4 – Indoor robotic transport (Bin-Focus)

Applicable

Notapplicable

#### Description

Autonomous guided vehicles that take over the task of transporting items/trolleys in the warehouse



#### Impact

#### Processes

- Reduce travel distances
- Safety & ergonomics
- Consistency (24/7)
- Productivity
- 2,5-3h saved on travelling time (per shift/robot)

Source: DHL Supply Chain, Accelerated Digitalization Program Team





## Realizing the Potential of Supply Chain Digitalization Technology deep-dive 5 – Wearable Devices

Notapplicable

#### Description

Wearable Devices replace paper pick lists and/or RF scanners and increase efficiency, speed and safety of picking process



#### Impact

#### Processes

- Increase employee satisfaction
- Maintain picking accuracy with less scans
- Enable higher degree of flexibility and safety
- Productivity
- 10-20% increase in picking productivity

Source: DHL Supply Chain, Accelerated Digitalization Program Team



Site Profile			
Picking	Item	Case	Pallet
# SKUs	<5K	5к-10к	>10K
Storagetype	Racks	Shelves	Ground
Avg. lines per order	<5	5-10 10-20	>20

## Realizing the Potential of Supply Chain Digitalization Accelerated Digitalization as part of our long-term strategy



Source: DHL Supply Chain



# **ASK QUESTIONS**



