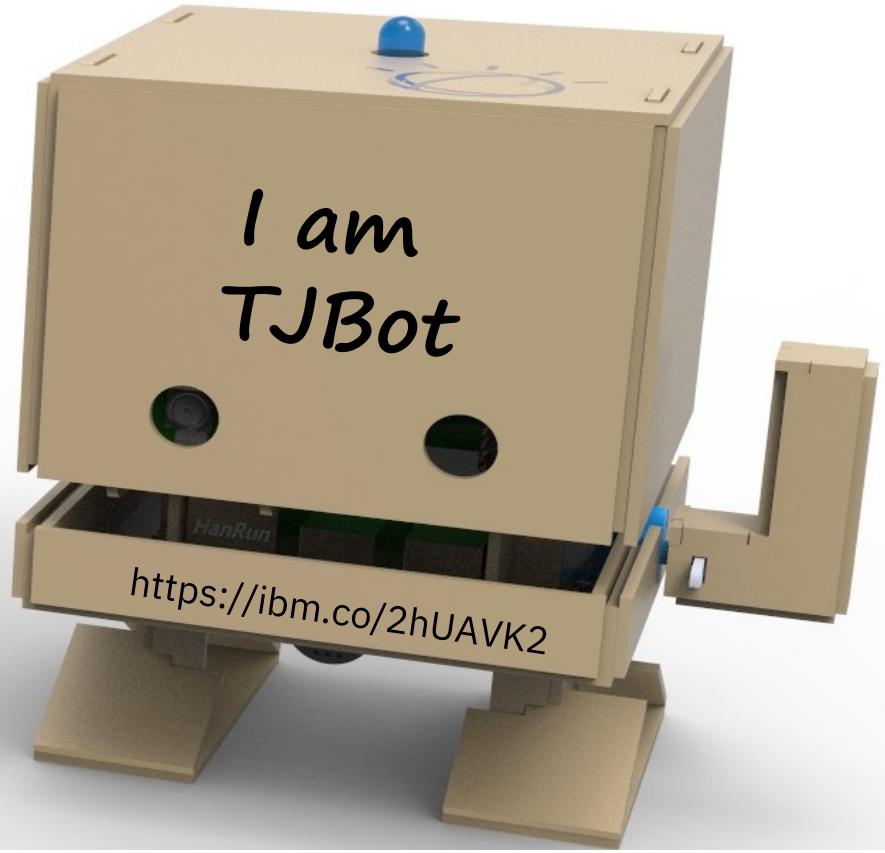
Say “Hello” to Watson on the Shopfloor

AI and Cognitive Manufacturing in Action



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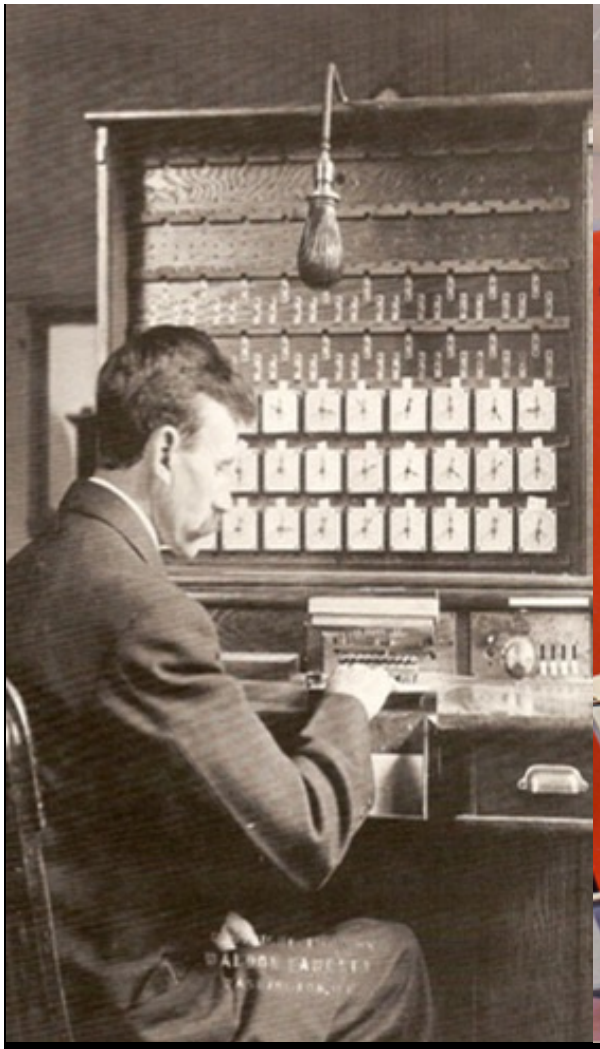
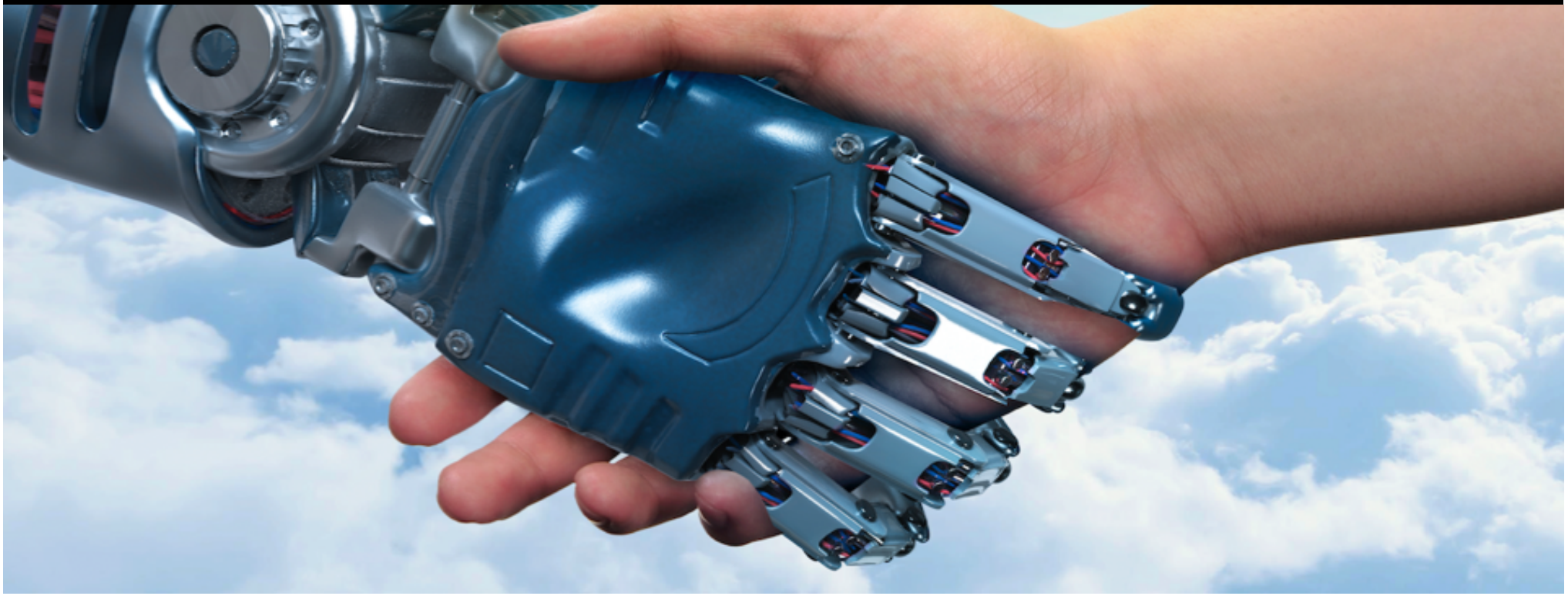
Director Automotive & Electronics
Member IBM Industry Academy

@CSCMP Benelux Roundtable - Robotics & AI in Logistics
Luxembourg, November Nov. 21st, 2017 / © 2017 IBM Corporation



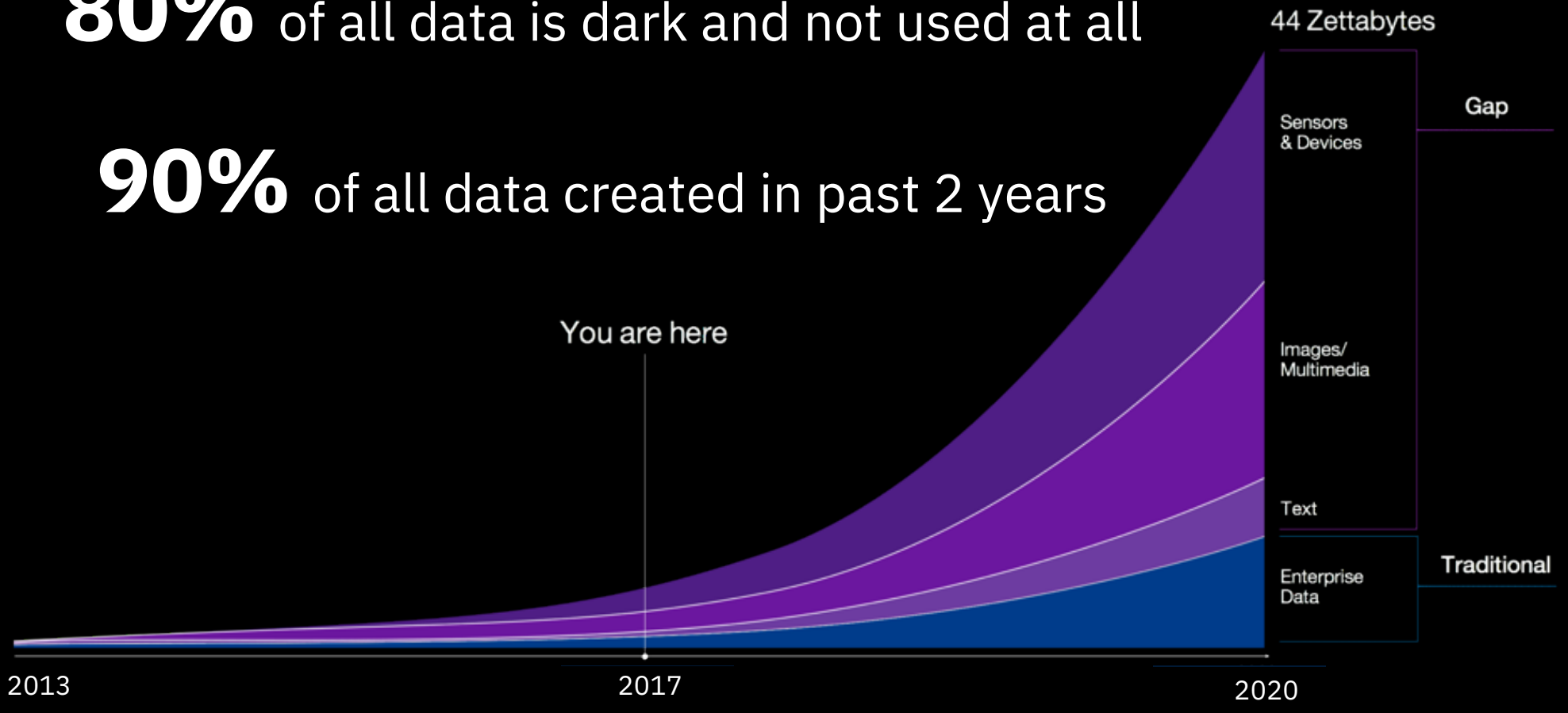
>1890 Tabulating 1960 Programmable >2010 Cognitive

AI Status – Why - Why Now?



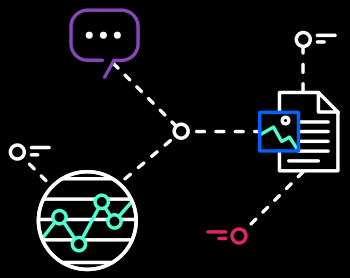
80% of all data is dark and not used at all

90% of all data created in past 2 years



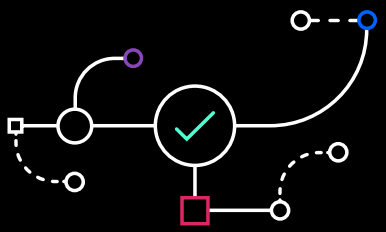
IBM

IBM Watson = AI + ML + DL



Understands

imagery, language and other unstructured data like humans

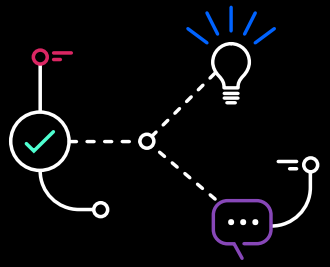


Reasons

forms hypotheses, infers and extracts ideas

Learns

With every interaction to sharpen expertise



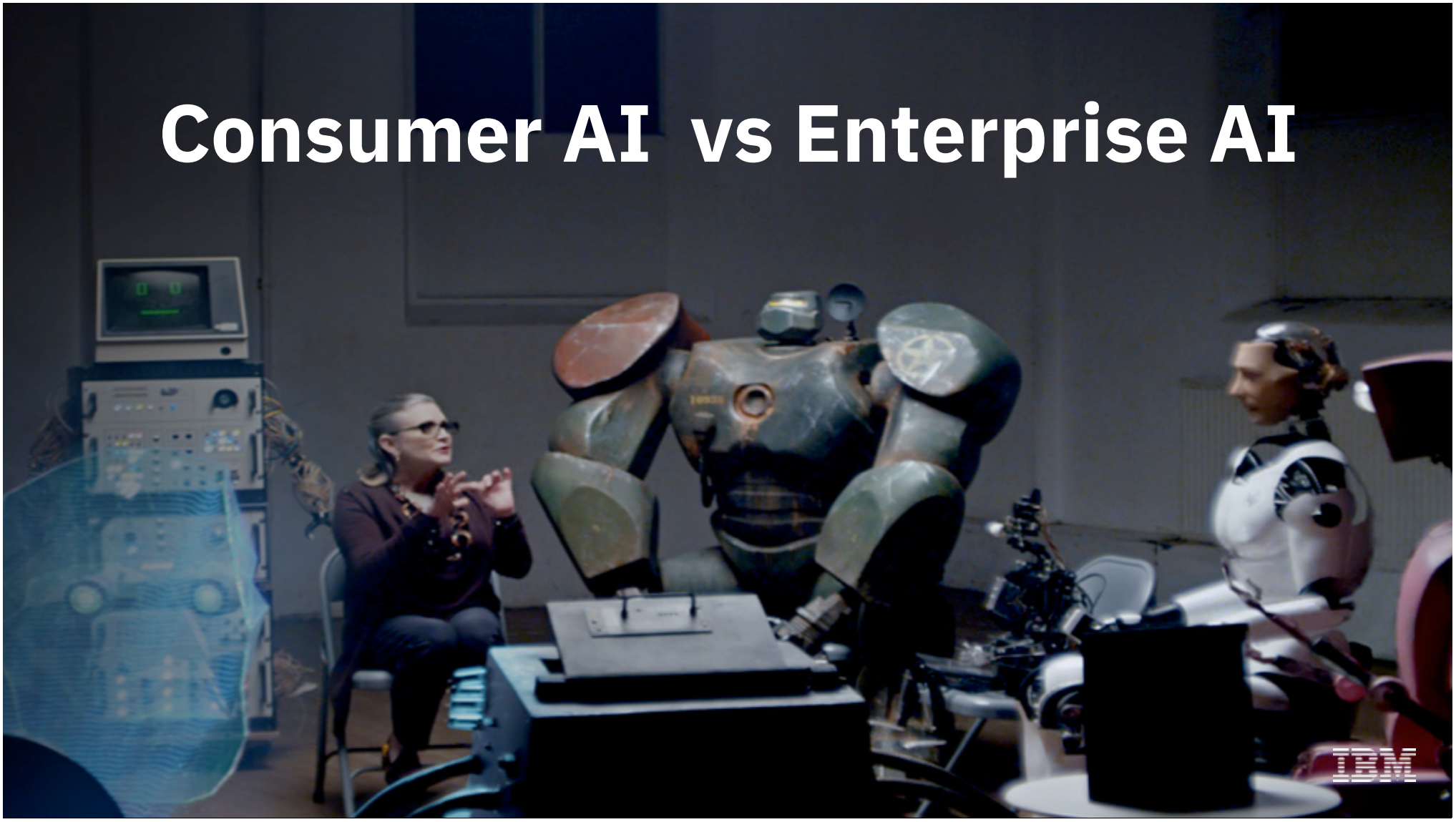
Interacts

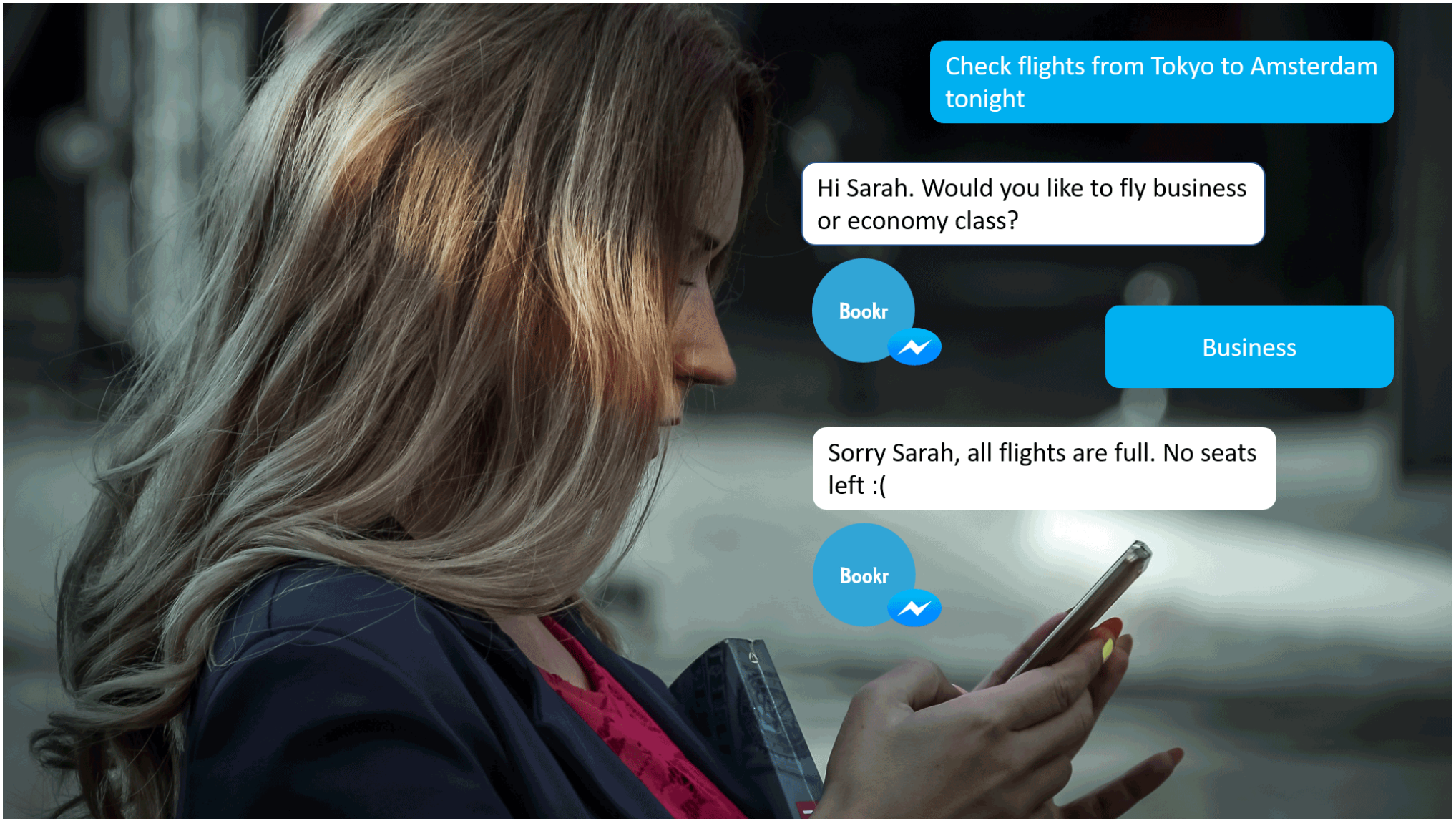
With humans through seeing, talking and hearing

IBM

Cognitive Health
SESAME STREET
Cognitive Education
Cognitive Driving
Cognitive Banking
Cognitive Law
Cognitive Hospitality
KIA
Cognitive Insights
Cognitive Gaming
Cognitive Retail
Cognitive Customer Care

Consumer AI vs Enterprise AI




Check flights from Tokyo to Amsterdam tonight
Hi Sarah. Would you like to fly business or economy class?
Bookr
Business
Sorry Sarah, all flights are full. No seats left :(
Bookr

olli

THE Late Late SHOW
WITH JAMES CORDEN
http://bit.ly/2jPavJX
olli
olli

Digital & AI
in Manufacturing & Supply Chain

Industrial Robots:

Primarily used in automotive, chemical and petroleum, and manufacturing settings

Programmed and stationary

Work alongside humans (Cobots)

Consumer Robots:

Assist consumers with day to day tasks

Basic household chores (vacuuming and dusting)

Functions as personal assistant, photographer, smart home advisor

Logistics Robots:

Specialized for the movement of goods and people

Used in warehouses

Assist with product transportation

Service Robots:

Enhance customer engagement in industries, such as retail and healthcare

Humanoid (human-like) robots personalize interactions

Adaptive robots taking care of elderly

Swarm Robots:

Multi-robot systems exhibiting collective behaviors based on each other and the environment.

Cooperate to perform complex tasks

Traverse uncharted terrain

Spiegel 1. April 1964

Manufacturing Quality
Cognitive Visual / Acoustic Inspection

IBM Visual Insights Defect Checking
Inspection Results
IBM Visual insights
112k
112k 1.7‰
28k 7.0‰
195
11
Line 7
27
Line 3
14
Line 5
13
IBM Visual Insights 3D Dashboard
Inspection Results
Analysis
Latest Inspection
Recent Quality Inspection Results
IBM Visual insights
Line 7 Overview
56
56
2
Defect Breakdown - Line 7
Defect Observed - Cell 3

Up to
30%
lower project costs
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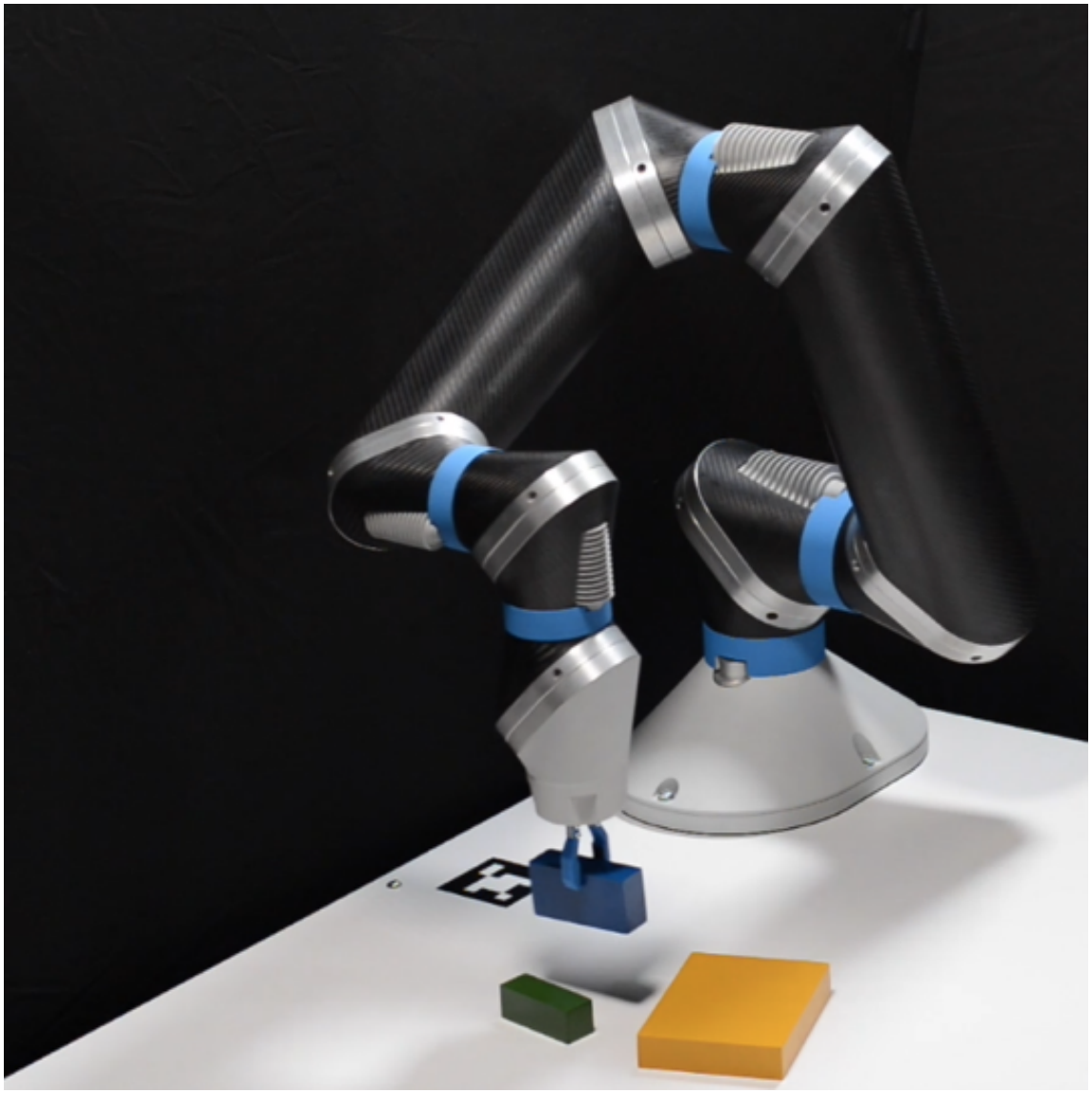
appliancesonline

WARNING



Speech controlled cognitive robot

Speech / text controlled robot

- Visual recognition of objects & their location
- Cognitive understand of robot's capabilities
- Ability to learn using speech interactions

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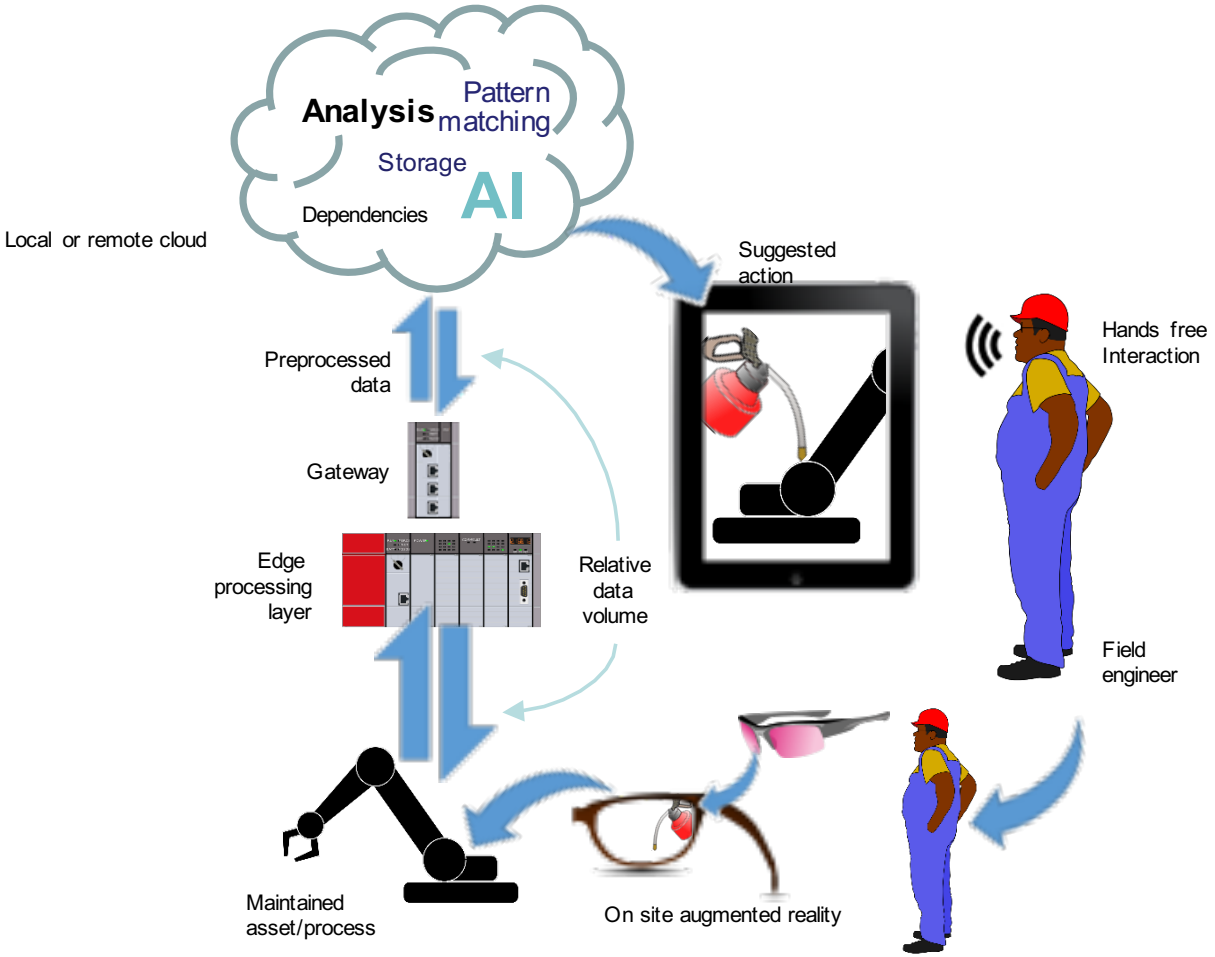
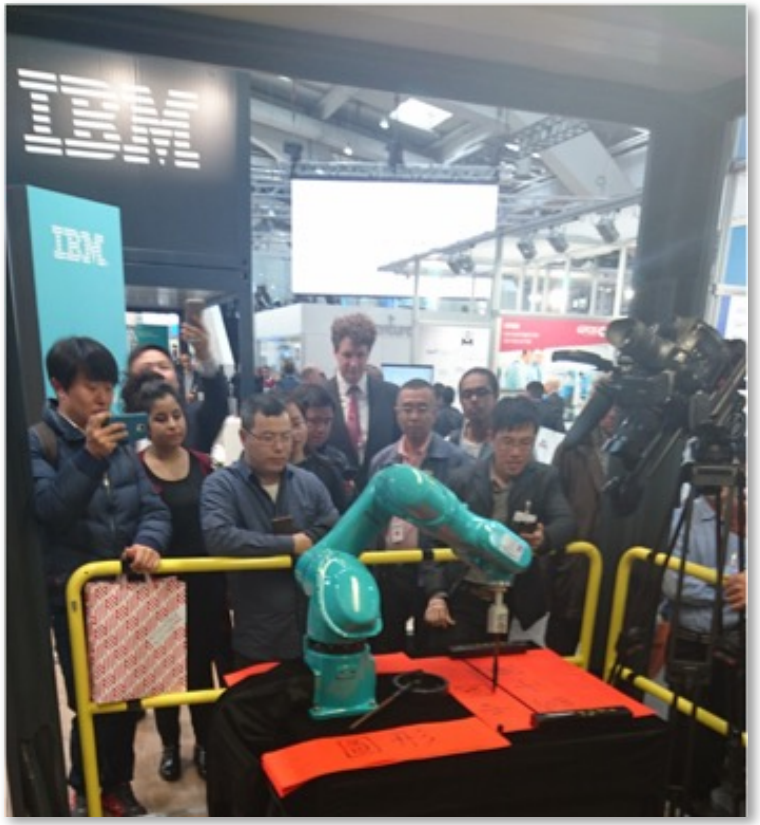
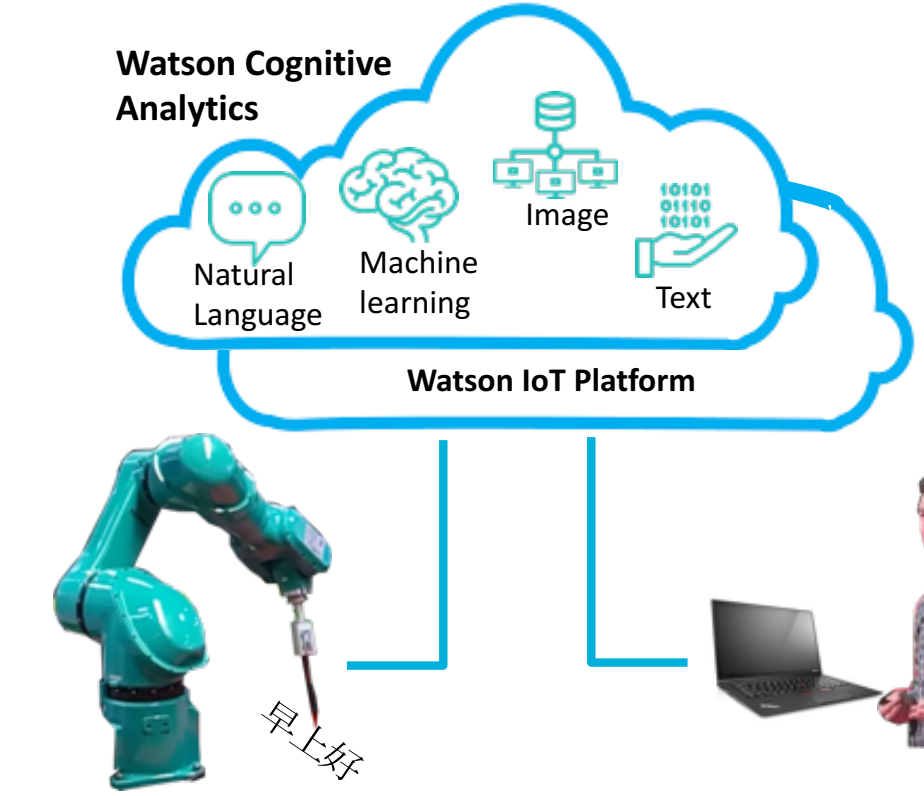
Mitsubishi Robotics – Cognitive Maintenance



Cognitive Robot



Hannover Messe 2016



Foxbot writes calligraphy

Voice recognition

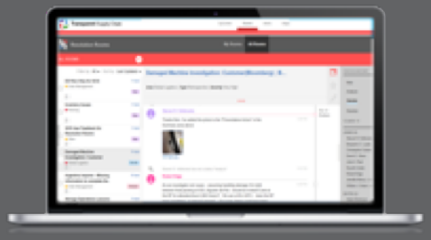
#CognitiveSupplyChain

IBM Internal Supply Chain
Augmenting Supply Chain Decisions

Operation Center

Alerts

Resolution Room



Watson Q&A

We program Advisory.

We upload Data into **Watson Analytics.**

We teach Watson.

We utilize Enterprise Data Sources.

We gain insights from **IoT.**

We analyze data recorded in **Blockchains**

We use IBM's Cognitive **Data Lake**

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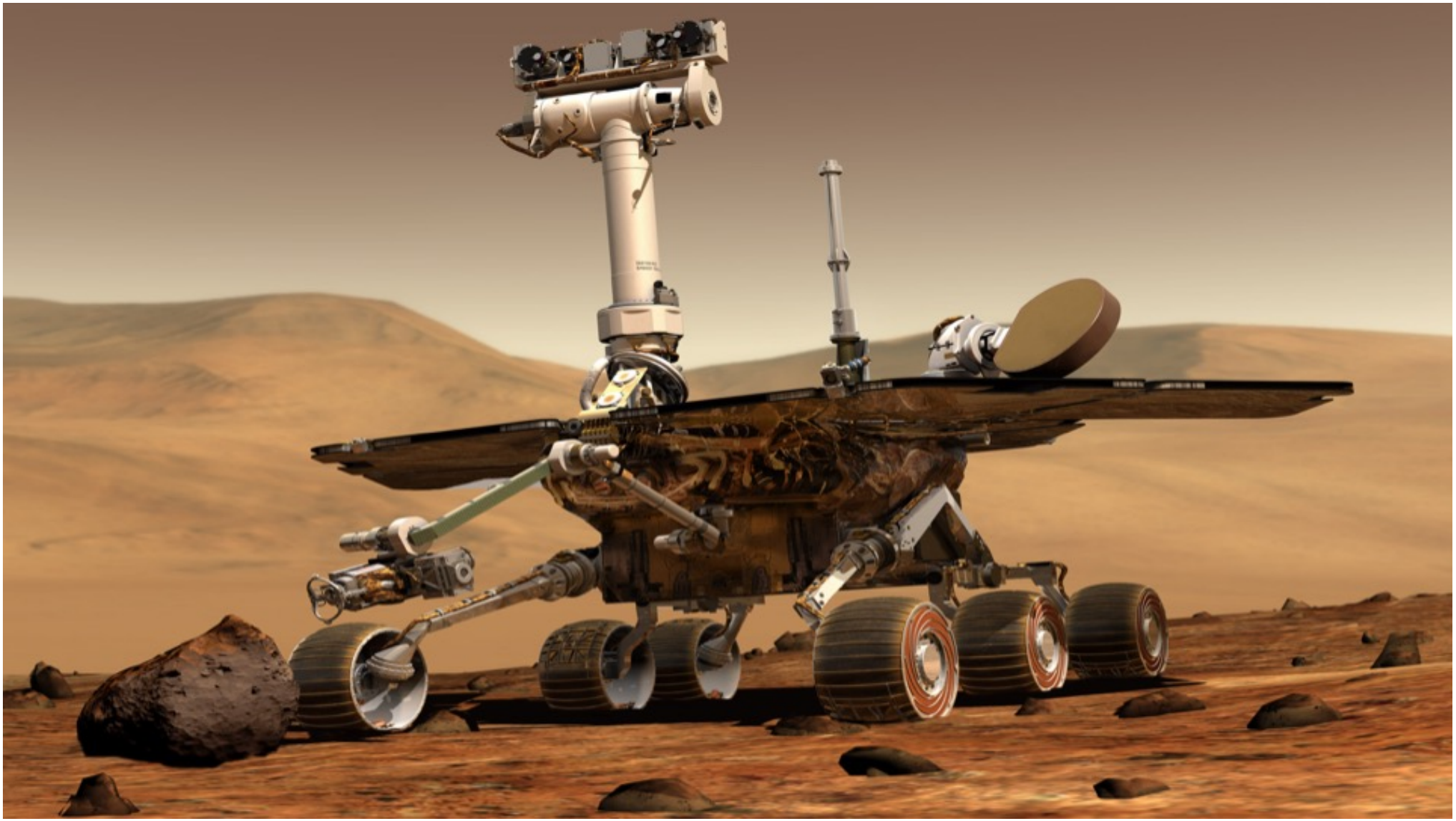
Watson goes to space to ISS April 2018



Watson IoT Center
IBM

Watson IoT
IBM Watson IoT
fortiss

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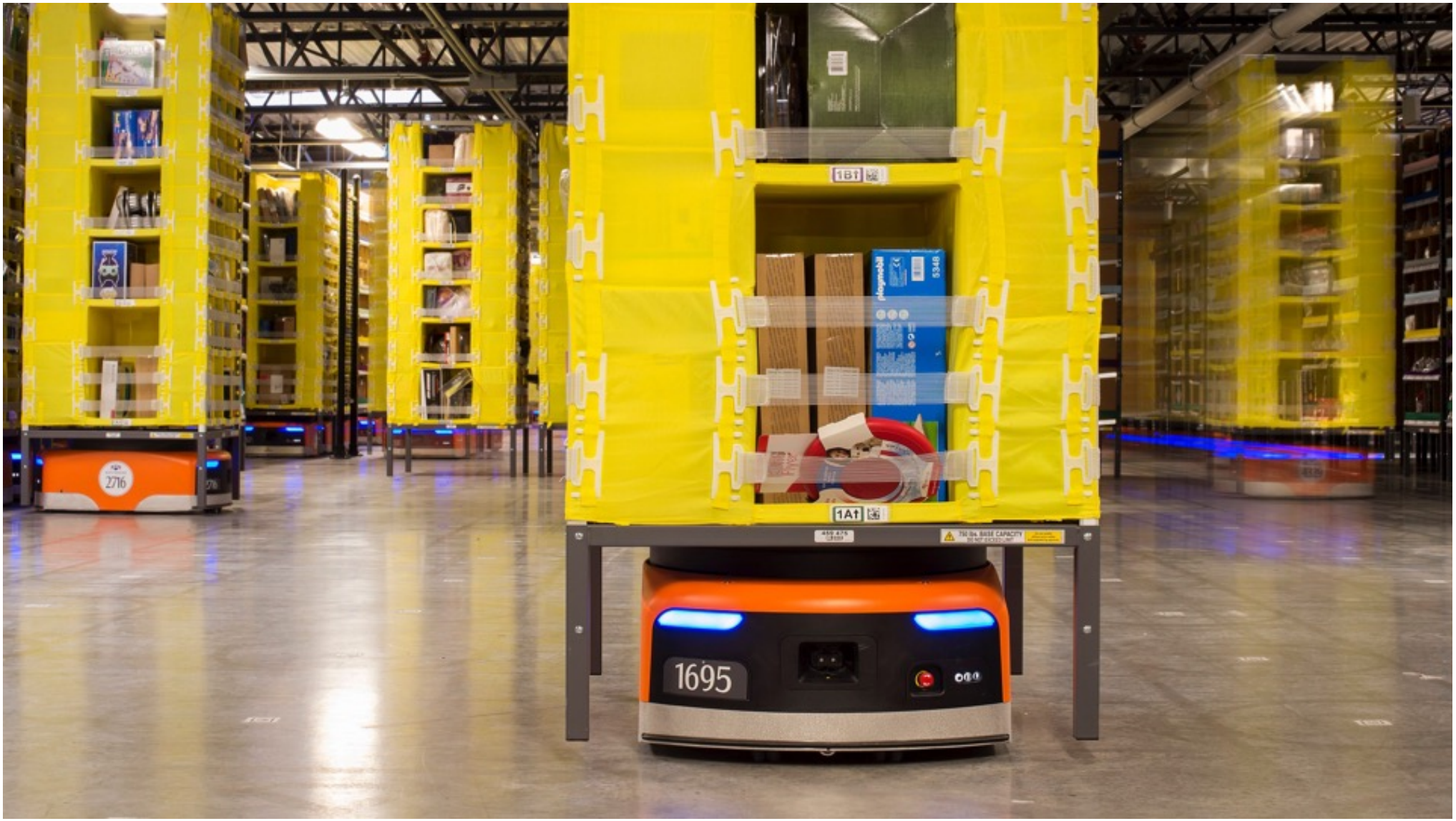
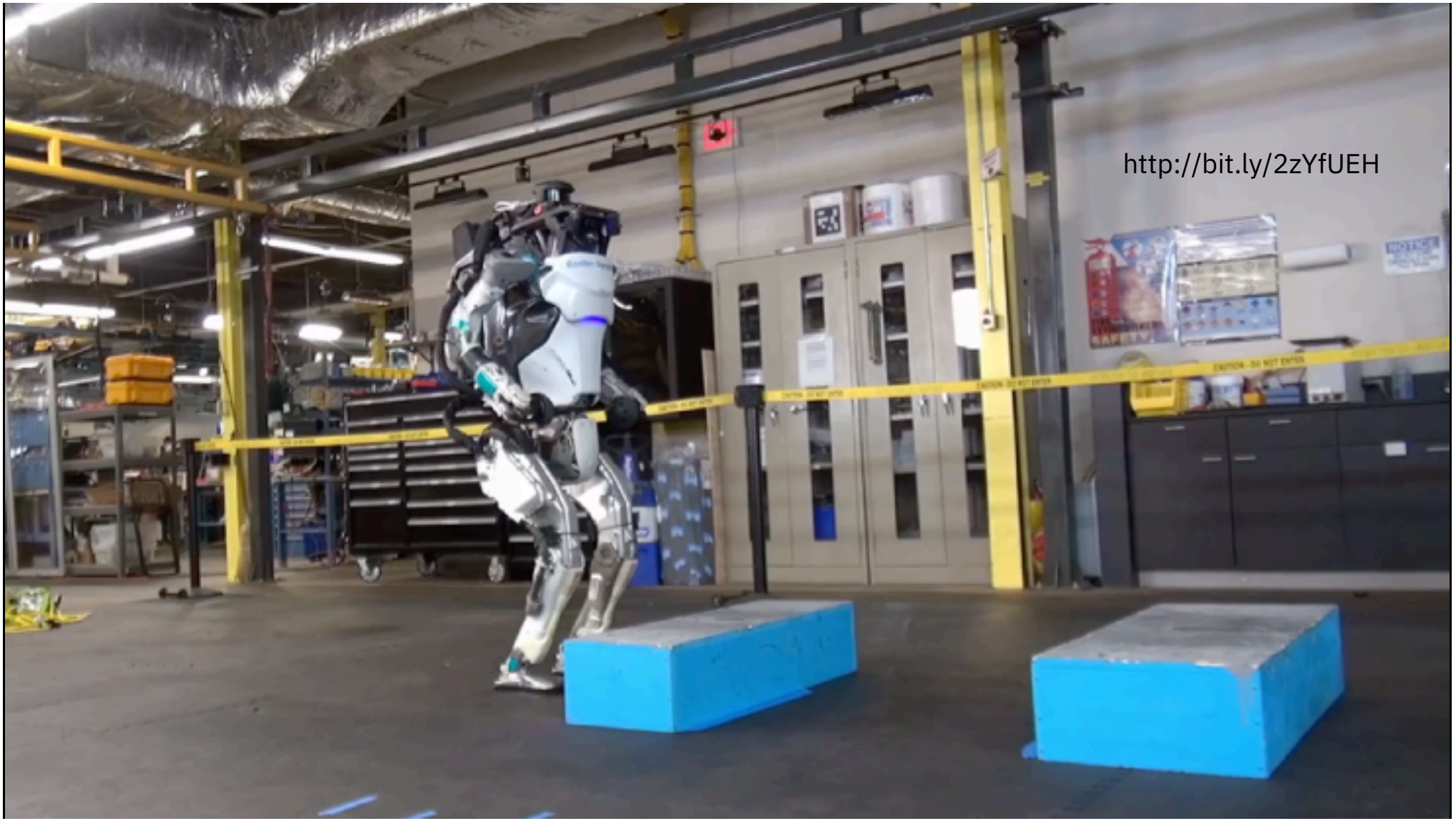
Impact for Supply Chain & Logistics


1B1
1A1
1695
2716

ASCTEC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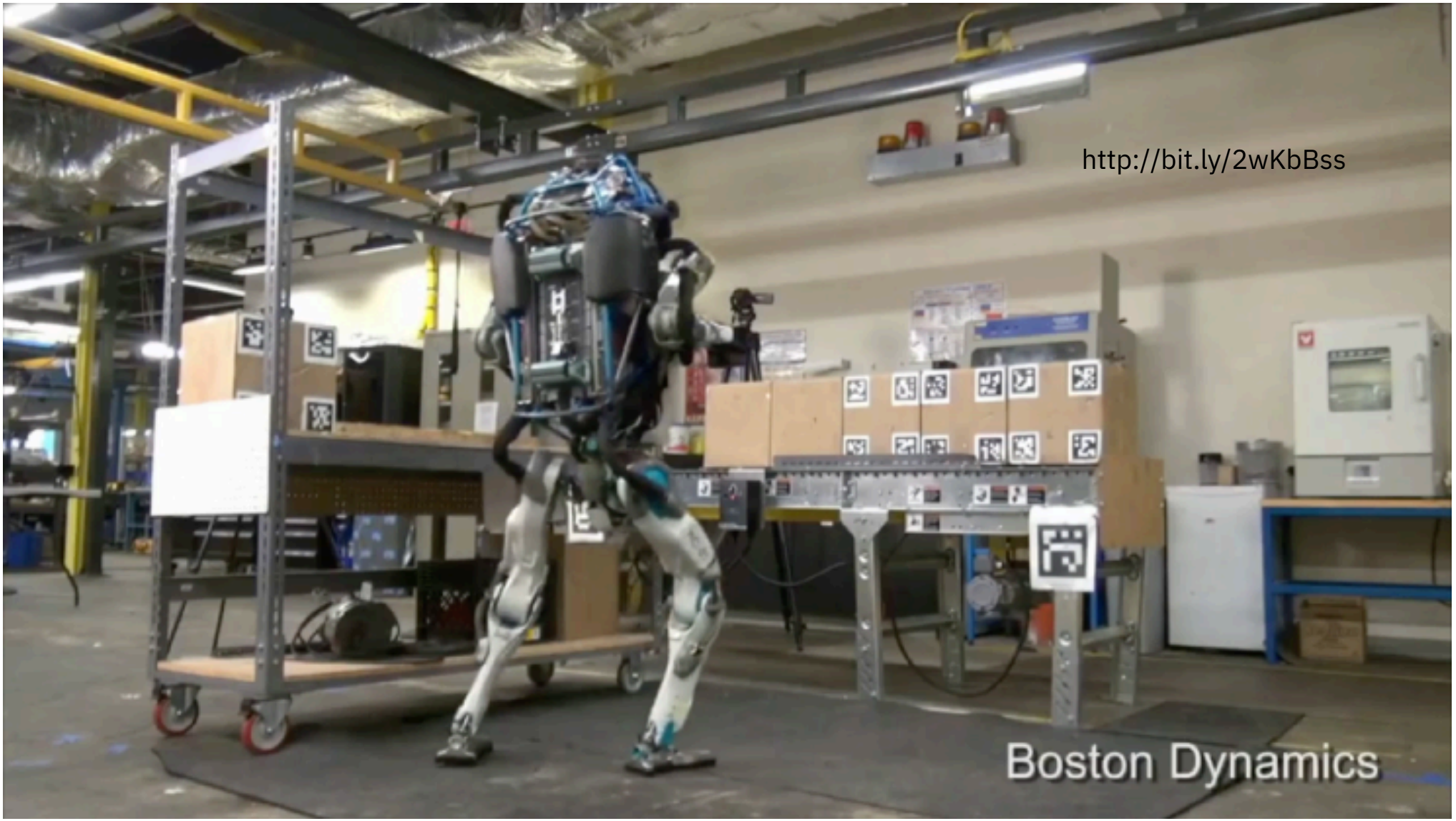
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Boston Dynamics

Einladung des CSCMP Roundtable Germany
30.11.2017 in München - IBM Watson IoT Center

Rolle von Blockchain in der Supply Chain – Nur ein Hype oder Thema mit Substanz?

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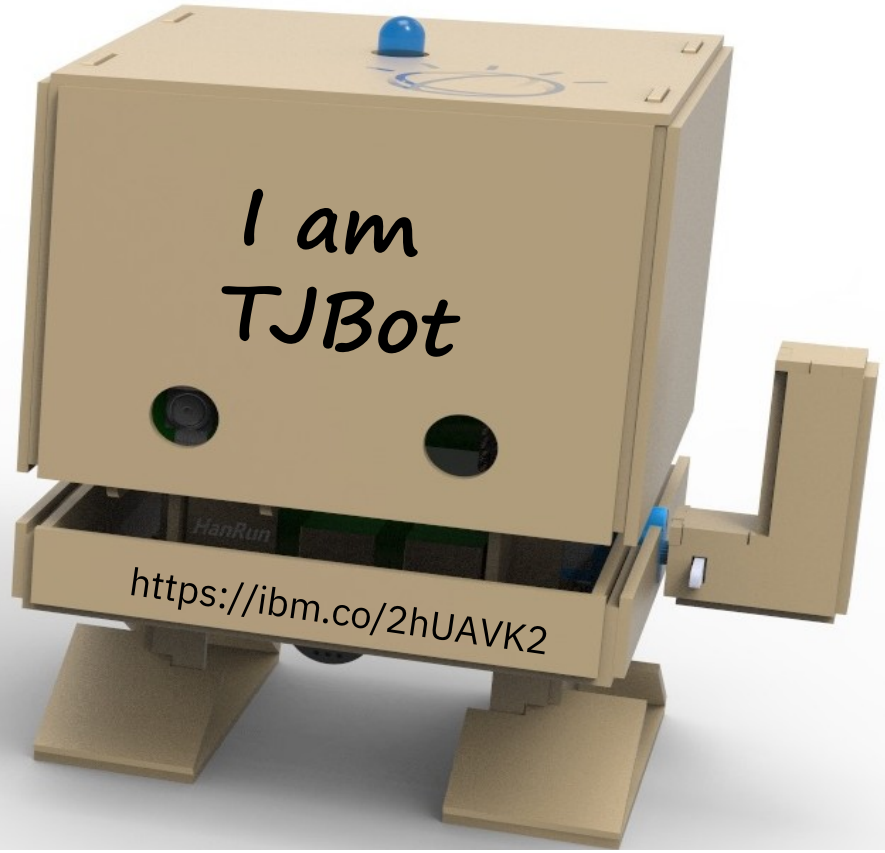

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