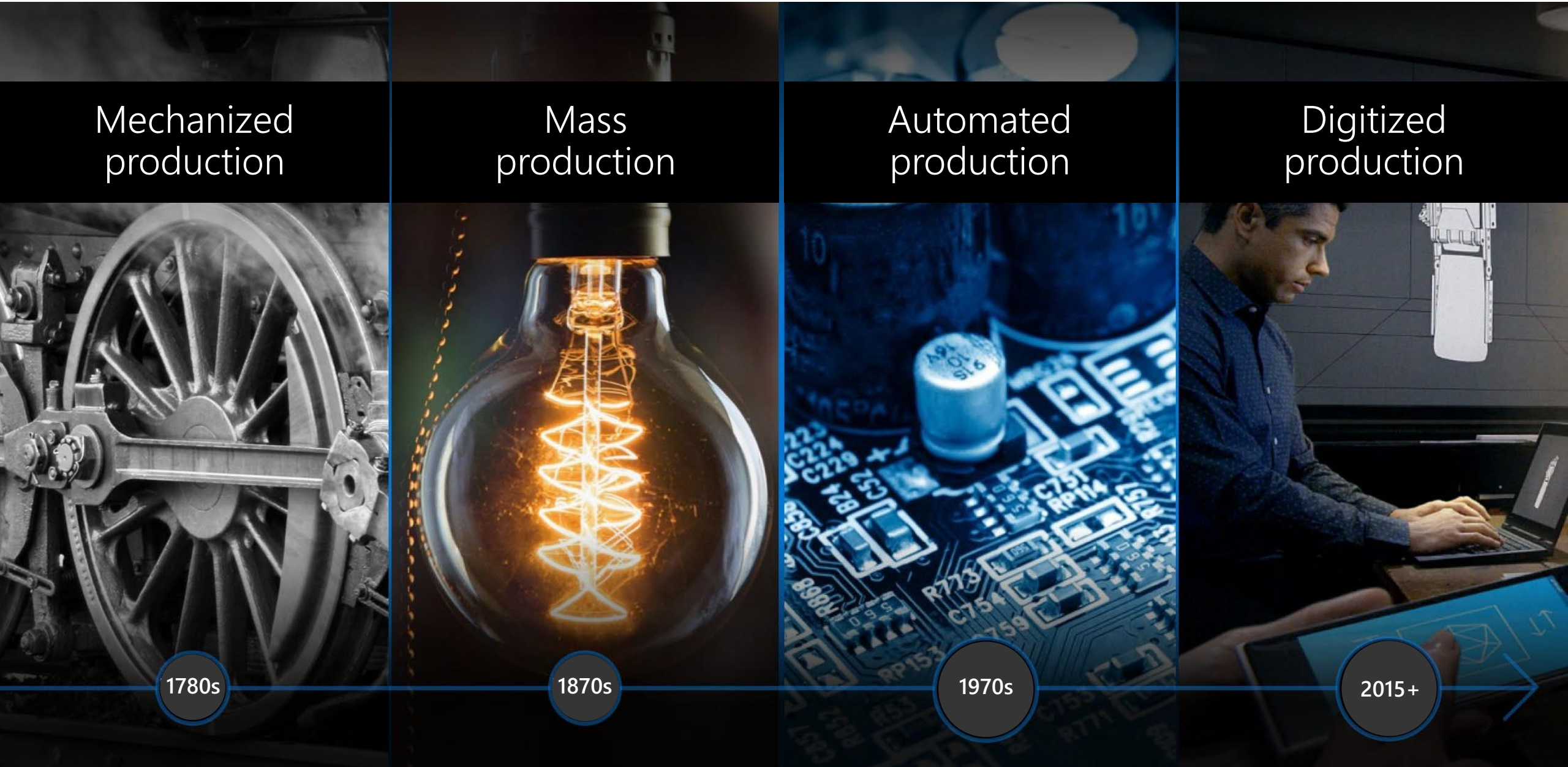
Microsoft

Forging the excellence in Manufacturing 4.0

Carlo Moretti
Industry Principal Solution Specialist,
Microsoft Western Europe HQ

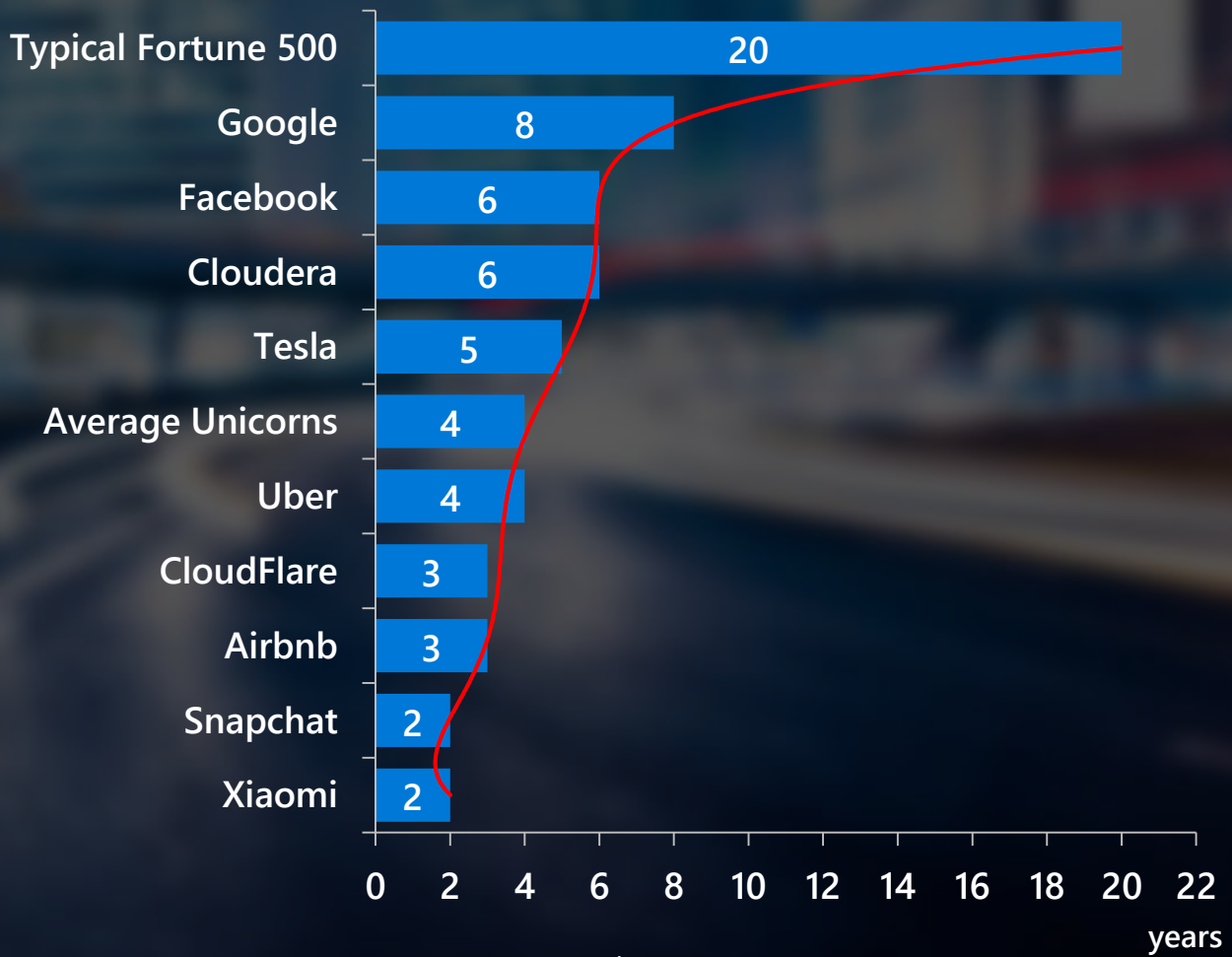
Digital Disruption and the 4th Industrial Revolution



The scale and pace of change

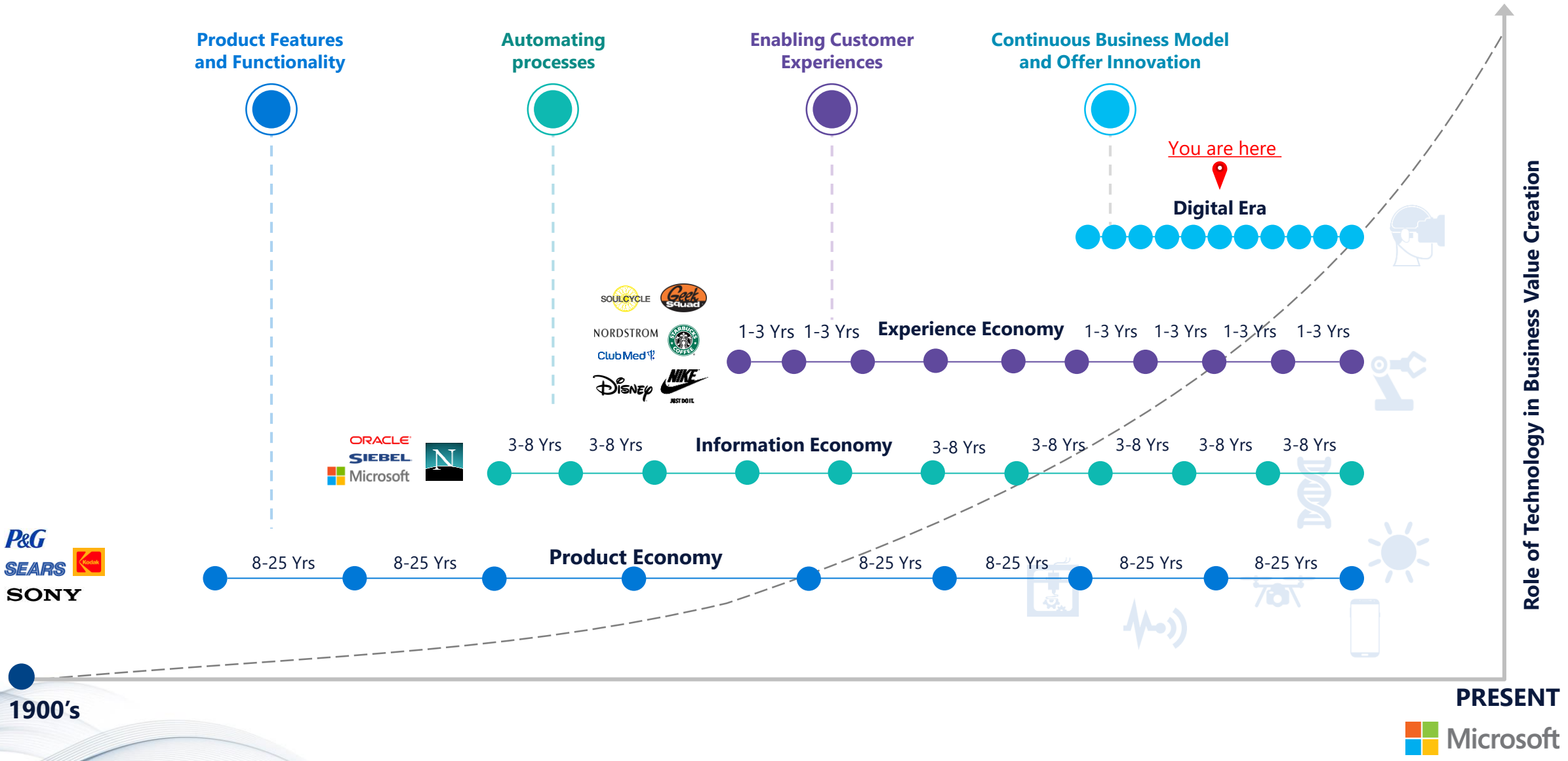
An astonishing pace of change is accelerating transformation. Technology is more affordable and accessible than ever before.

Drones	2007	$100,000
	2013	$700
3D Printing	2007	$40,000
	2014	$100
Industrial Robots	2007	$550,000
	2014	$20,000
DNA	2000	$2.7bn
	2007	$10m
	2014	$1,000
Solar	1984	$30
	2014	$0.16
Sensor (3D)	2009	$30,000
	2014	$80
Smartphones	2007	$499
	2015	$30



Source: World Economic Forum

Business Value Creation



Microsoft

Achieve digital excellence with connected products and services

Smart product innovation

Plants and supply chains of the future

Connected marketing, sales, and services

IoT enabling rich connected Costumer experiences

Pervasive connectivity enabling new offerings and revenue

CONNECTED VALUE NETWORKS

Transforming how products are designed, manufactured, and sold

CONNECTED SERVICES AND EXPERIENCES

Creating new business models as a service provider

PRODUCTS ARE TRANSFORMING

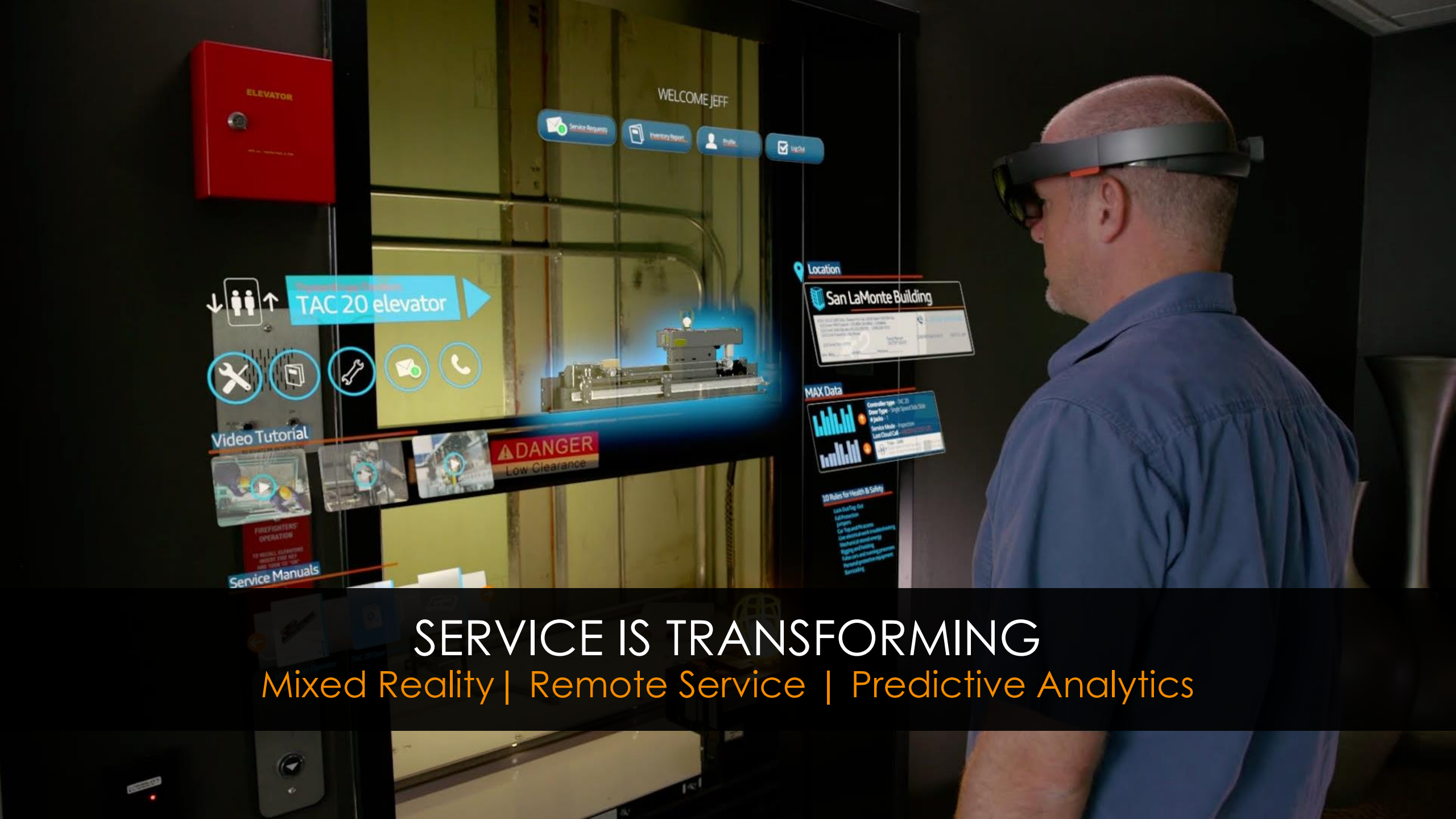
Smart | Connected | Interoperable | Product as a Service

FACTORIES ARE BEING REVOLUTIONIZED

Industry 4.0 | Smart MFG | China 2025 | 3D Printing

OPERATIONS ARE BECOMING MORE EFFICIENT

Smart Operations | Smart Settings | System of Systems



SERVICE IS TRANSFORMING

Mixed Reality | Remote Service | Predictive Analytics

291.6 km/h
7 #
(16268) rpm
0.0 deg
0.0 bar
(-18.7) mm
0.347 s
(0) Nm
100 %
(100) %
0.0000 ()
TimeDelta (s)
0.1
0.5
0.9
m 0 1000 2000 3000 4000 5000 6000
parmalat
RENAULT elf

Renault

Artificial Intelligence and Formula One: AI-Bots on pole position in the race for technology

"We have around 200 sensors on our car. As soon as it is running on the track, those sensors send data through thousands of channels.
Instead of having so many engineers looking at those thousands of channels, we want something like an AI engine behind the scenes, looking at the combined behavior between channels.
We need help to take the best decisions that have to be taken during each lap time."

— Pierre d'Imbleval, CIO,
Renault Sport Formula One Team

RENAULT

Microsoft

Microsoft Intelligent Manufacturing Supply Chain

Our Products

Xbox

Surface Studio

Surface Hub

HoloLens

Surface

PC Hardware

Software

Microsoft Supply Chain Challenges

Pricing and Margin Pressure	Increasing Customer Service Expectations	Virtualized and Distributed Supply Network	Shortening Product Lifecycles

Aging processes and systems were no longer sufficient.
A **Digital Transformation** of Microsoft's Supply Chain was required

1 Digitized Supply Chain

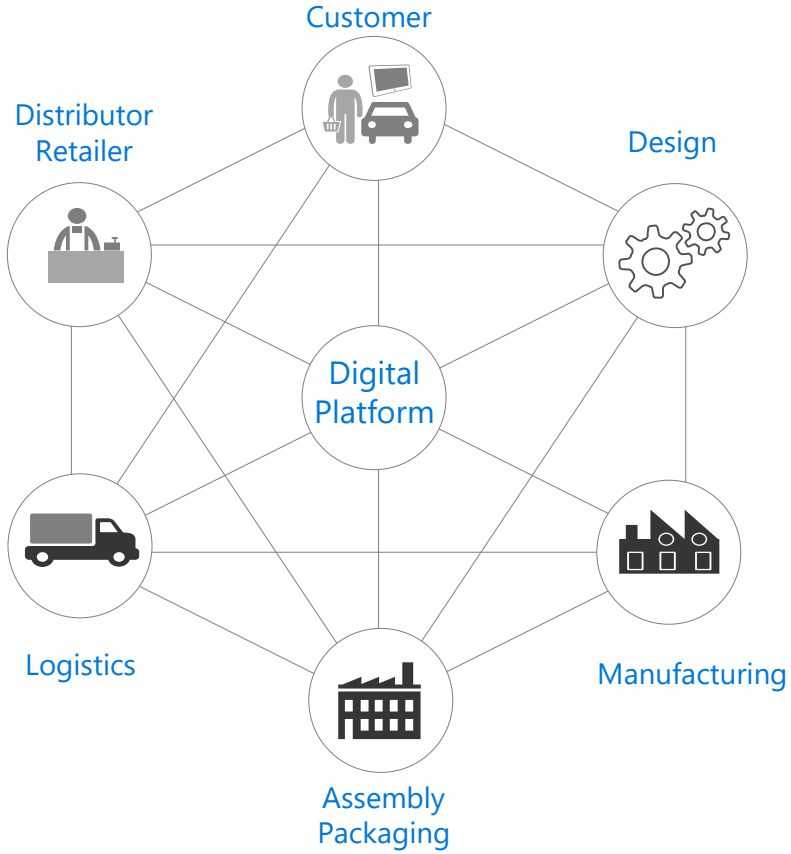
MSC - Who We Are and What We Do

>42,000 Number of Active SKU's	>390 Number of Suppliers (includes component suppliers)
1TB Total Daily SC Data Generation	33 Number of Mfg & Distribution Operations
1.7M+ Est. FY17 Number of Retail and Commercial Sales Orders	2.0M+ Est. FY17 Deliveries
122 Countries Served	1.3M Ship To Locations

Microsoft's Approach to Digital Supply Chain

Build digital supply chain foundation. Leverage the cloud to connect, automate, visualize E2E view of business

Interconnected. Aligned.



Leverage Big Data solutions to drive predictability, accuracy, reliability and stability in supply chain

Excellence. Smarter.

Drive agility, responsiveness and flexibility in developing disruptive capability and new business model.

Intelligent. Empowered.

IoT & Edge

Advanced Analytics

AI & Cognitive

Graph Technology

Blockchain

Digital Workplace

Mixed Reality

3D Printing

Rockwell Automation

Fueling the Oil and Gas Industry with IoT

https://www.youtube.com/watch?v=eg8URrKkf7Y

Microsoft

Salvagnini
Digital Evolution

" L'esperienza nell'utilizzo del prodotto diviene a tendere l'elemento di forte differenziazione.
Non basta un prodotto di eccellenza; serve creare le condizioni affinché l'utilizzo del prodotto sia "quello giusto", con il miglior risultato possibile in termini di efficienza produttiva per il cliente."

" Siamo partiti con l'obiettivo di estrarre valore dai dati, di poter osservare tutte le variabili del processo produttivo intorno alla nostra tecnologia. L'essere connessi, grazie a Microsoft, ci ha rapidamente portato a voler comunicare in maniera nuova con il cliente, cercando di garantirgli supporto costante durante tutto il ciclo di vita post-vendita del prodotto. "

— Roberto Franchini,
Digital Innovation Manager
Salvagnini Group

https://www.youtube.com/watch?v=Iuh3swmwuI0

salvagnini

Microsoft

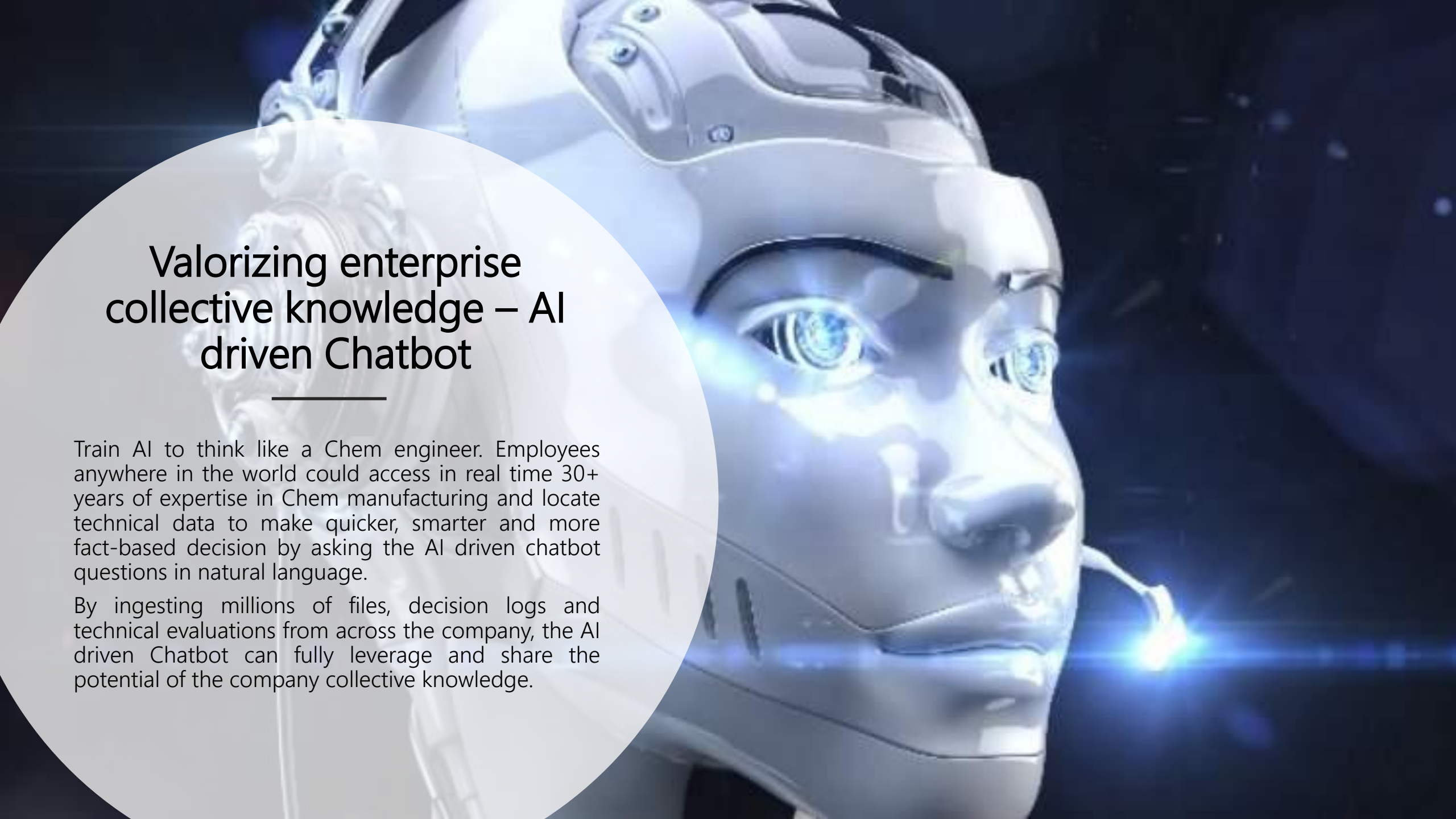
Bühler reduces waste and increases food safety with cloud and AI

> "We're not only going to get economic results, but hopefully we can transform and save lives at the same time. It's the most exciting and valuable project I've worked on in my 40 years with the company. It's a really big thing."

— **Stuart Bashford**, Digital Officer, Bühler AG

https://www.youtube.com/watch?v=Oi6U3EAV9Io

BÜHLER

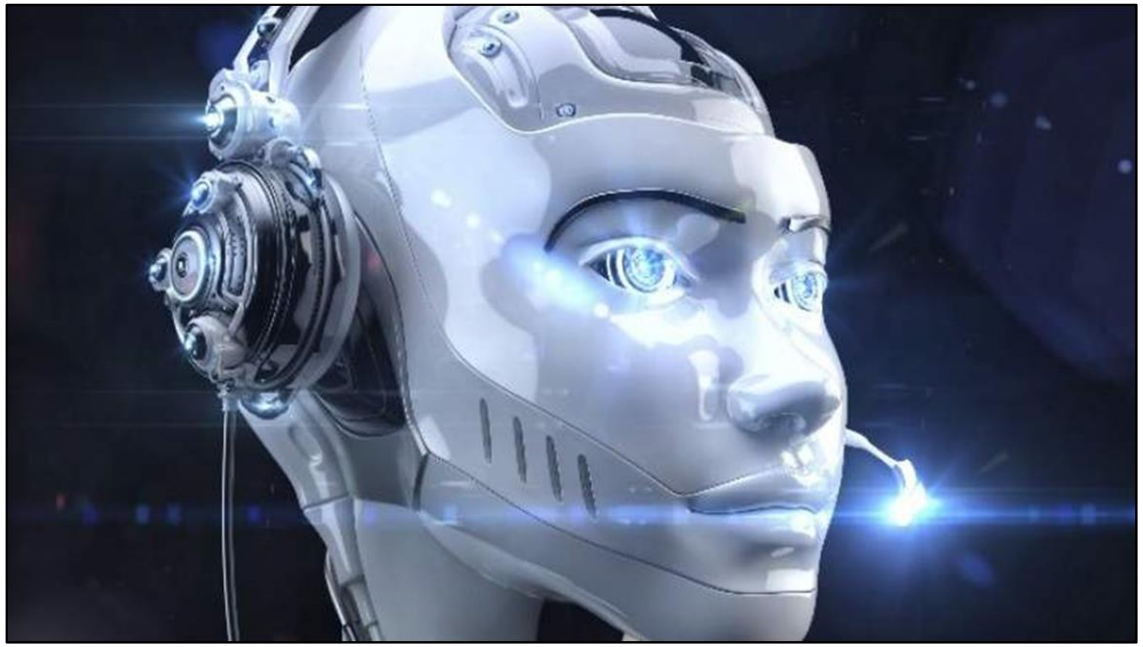


Valorizing enterprise collective knowledge – AI driven Chatbot

Train AI to think like a Chem engineer. Employees anywhere in the world could access in real time 30+ years of expertise in Chem manufacturing and locate technical data to make quicker, smarter and more fact-based decision by asking the AI driven chatbot questions in natural language.

By ingesting millions of files, decision logs and technical evaluations from across the company, the AI driven Chatbot can fully leverage and share the potential of the company collective knowledge.

ENI Intelligent Knowledge Management Platform



Delivering an engaging experience which creates more involvement for knowledge owners is critical to support Eni sharing and "learning through others" strategy, facilitating new hires ramp-up and engineering discussion on project management.

- Full end-to-end Knowledge management solution on based on AI-enabled services to maximize knowledge creation, retrieval and sharing
- The platform will be the only collection point for multi format knowledge data (webinar, papers, social conversations, innovation challenges)
- It will represent the starting point for new learning paths and ML-suggested classes to fully define the tomorrow-employee profile
- The solution will enable new search patterns through natural language and speech-to-text in app

Microsoft

You don’t have to run (your business) faster, you have to change the way you run (your business)

Microsoft

Thank You.

carlo.moretti@microsoft.com