

O in Action

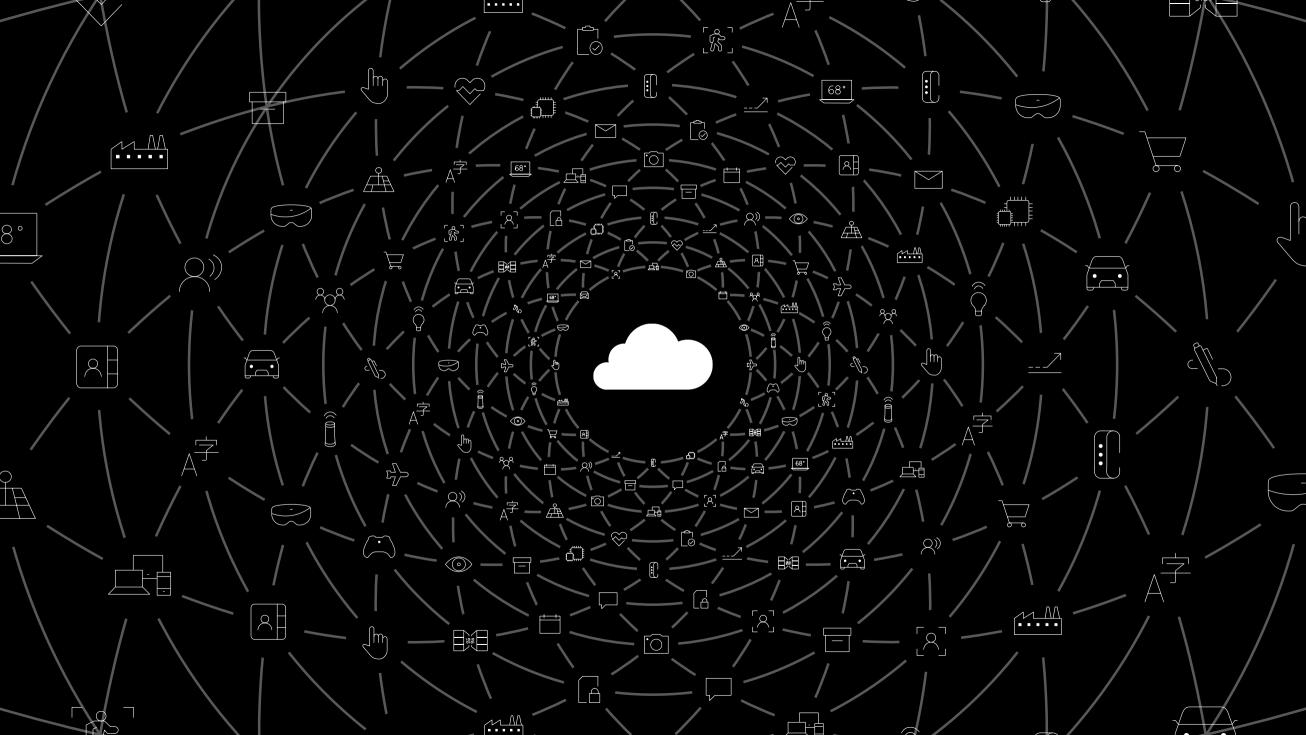
#IoTinActionMS



Evolving IoT with AI, Mixed Reality and Automation

Matt Vasey Senior Director, AI Platforms Microsoft





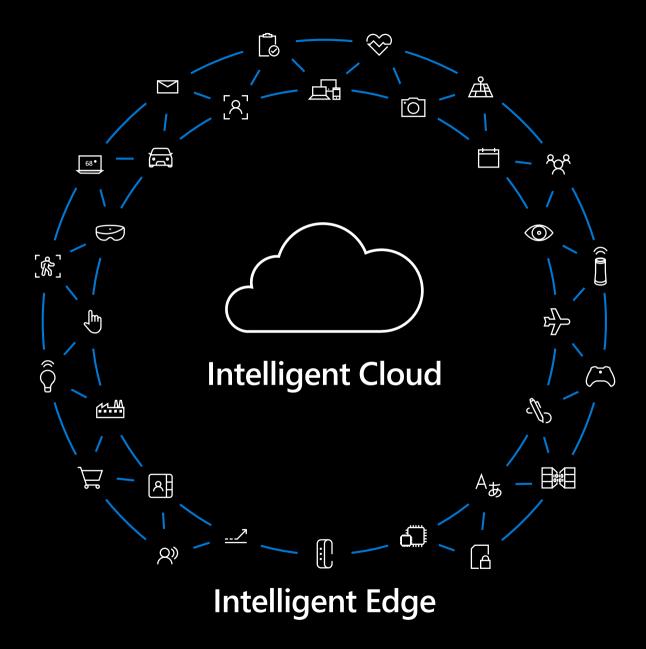


People-centered experiences



Artificial Intelligence

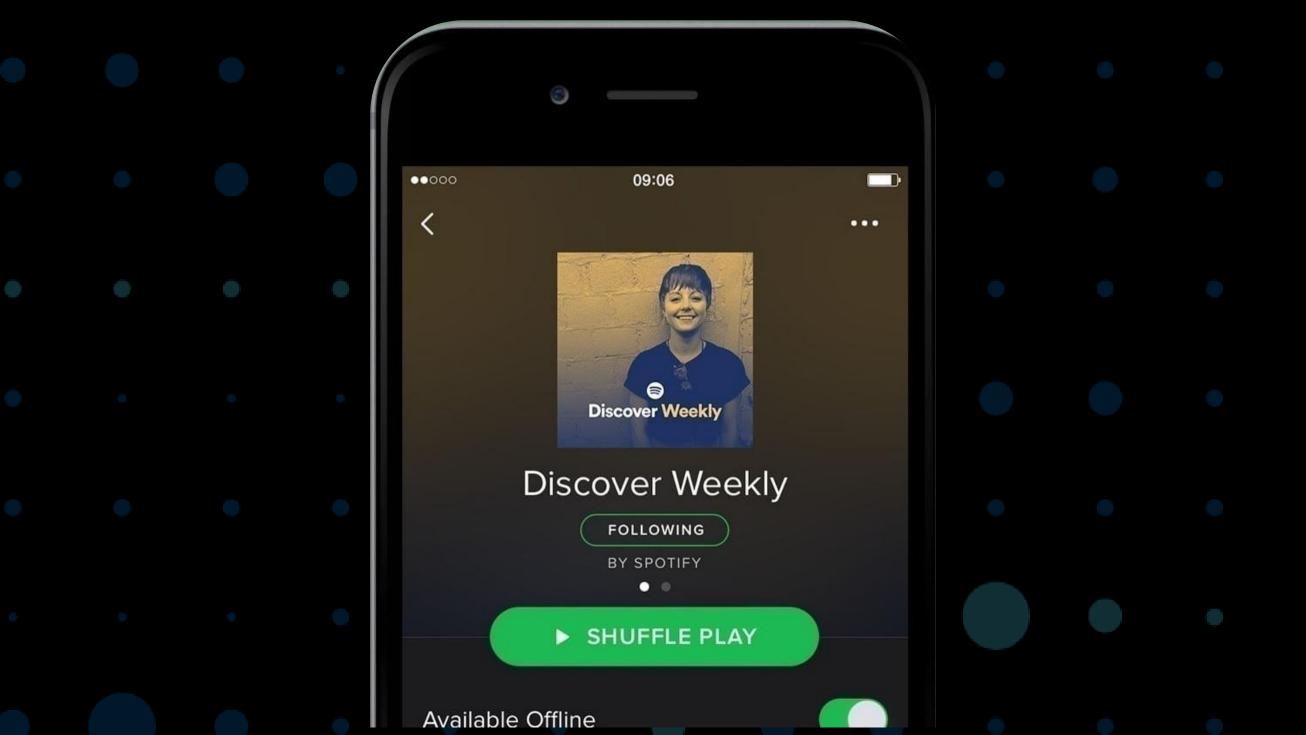
← 01010 → Ubiquitous computing











Intelligent Edge



We are living in an automated world

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A Upolth Status

GE-HTR

FG2

Evolution of industrial systems

Mechanized systems





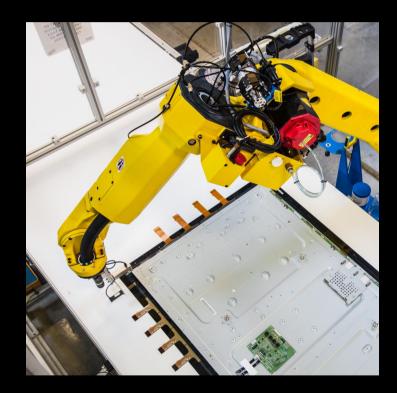
Powered by steam or electricity

Manually operated



Powered by software Fixed operation

Autonomous systems



Powered by AI Intelligent operation (sense/plan/act)

Convergence is driving new opportunities

R

Cloud

Globally available, unlimited compute resources

loT

Harnessing signals from sensors and devices, managed centrally by the cloud

Edge

F

Intelligence offloaded from the cloud to IoT devices

Digital Twins

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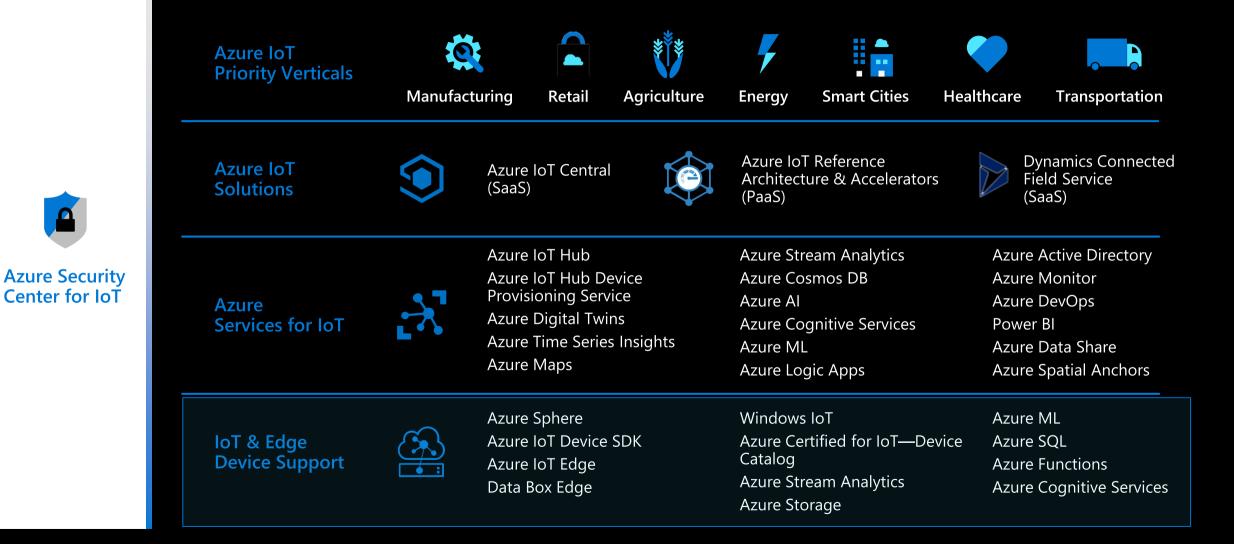
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Create living replicas of any physical environment, track the past and predict the future Breakthrough intelligence capabilities, in the cloud and on the edge

AI

A+

Microsoft's comprehensive IoT product portfolio



Recommendation 25ppm



Global Access

1 in 9 people are undernourished (UN)



Reduce poverty for 65% of the world's poor who live in rural areas and work in farming

70% more food is needed by 2050

Sustainable Production

70% of global water resources are needed for Agriculture

24% of global greenhouse emission comes from Agriculture

251T liters of water to be saved in 2030 from implementing Smart Agriculture



of global workers are employed by Agriculture

10-30% Agriculture contributes 10% of global GDP and up to 30% in low income countries

Need for Economic Growth

\$4.8T

Global Agriculture revenue

Source: Sustainability development goals, UNITED NATIONS 2017

An end-to-end system that enables seamless data collection and insights for agriculture

FarmBeats





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Recommendatio

Combine visual data from drones with the sensor data from the farm

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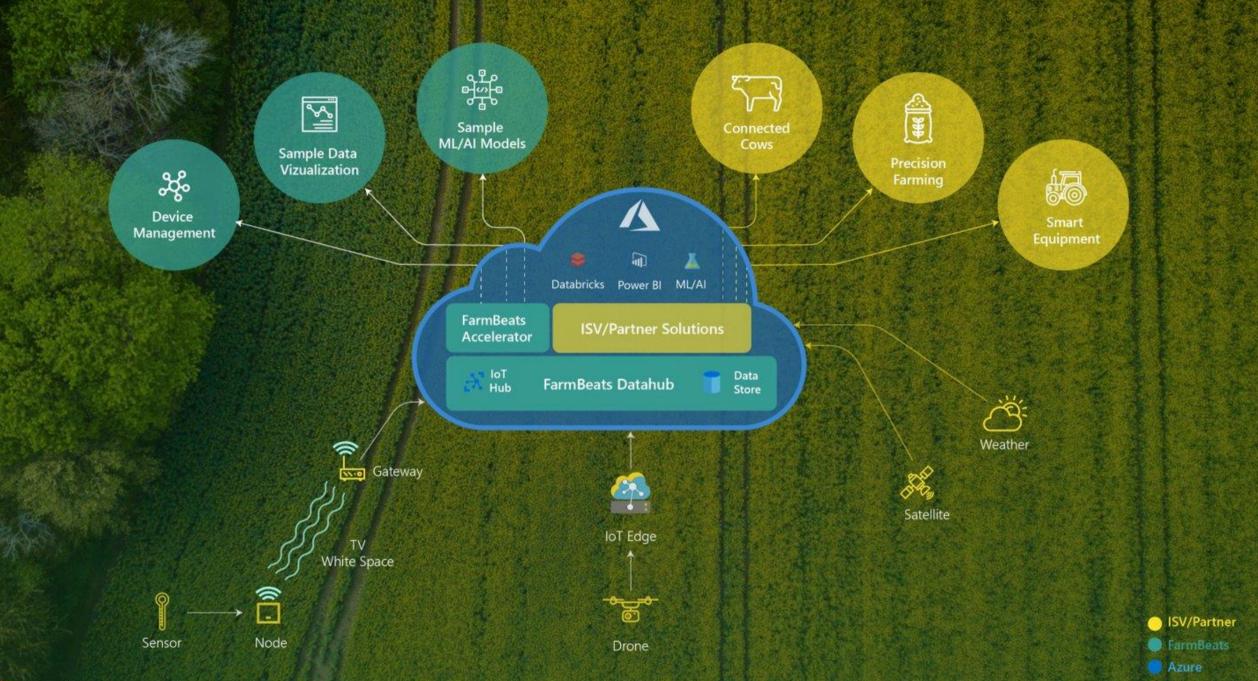
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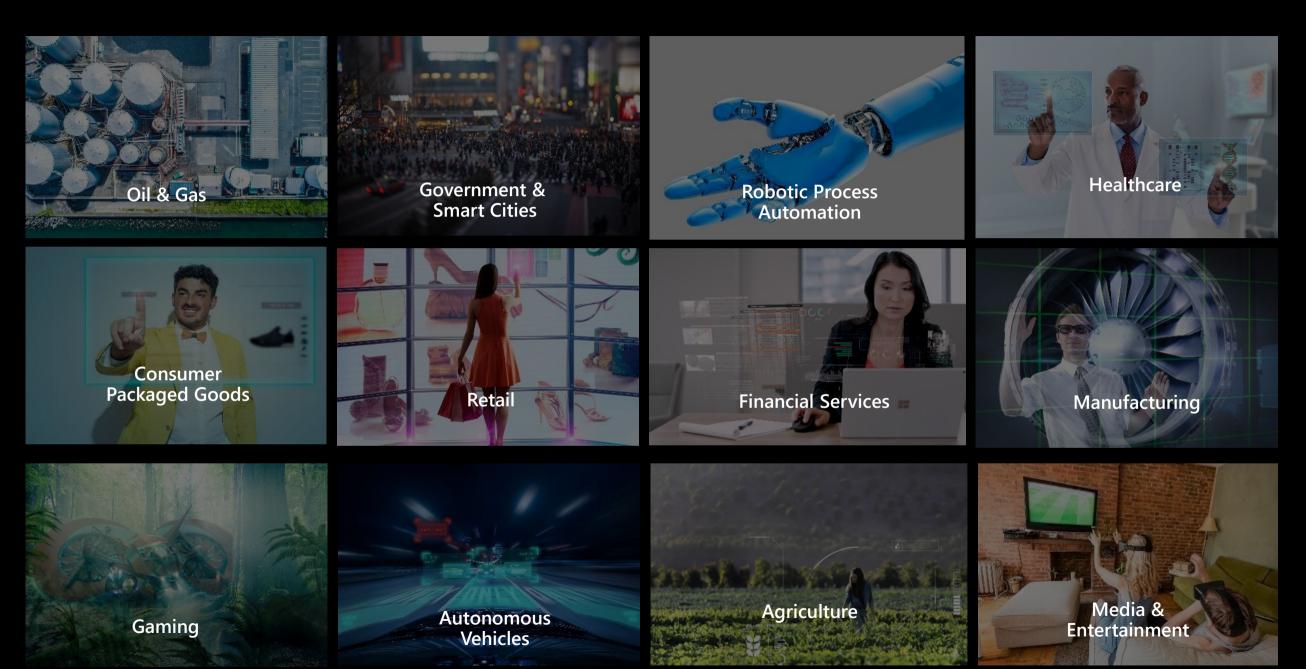
Drones are ~1000 dollars and automatic

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Can cover large areas quickly

Can collect visual data





Azure Al



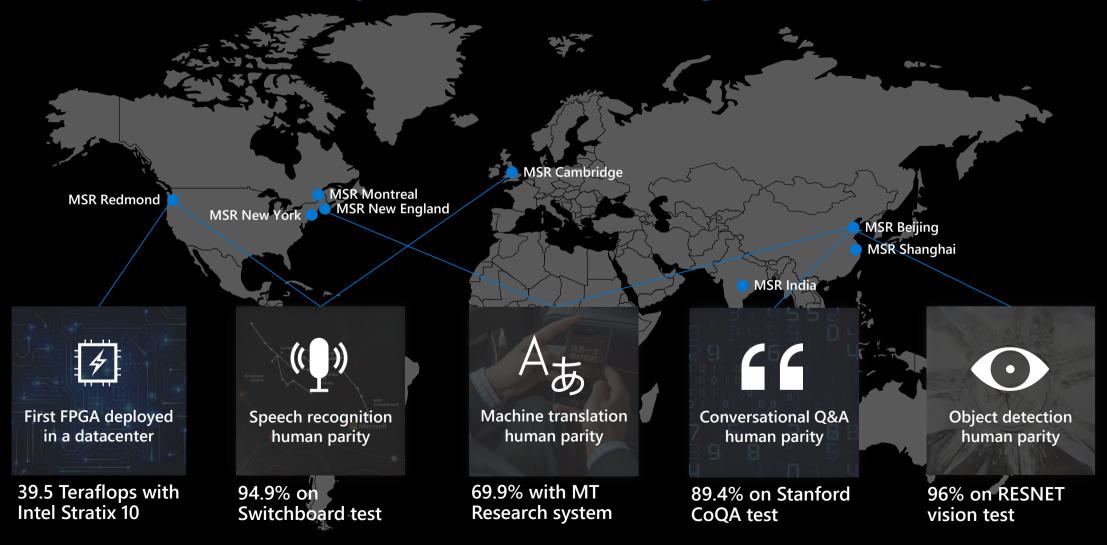
Al apps & agents

Knowledge mining

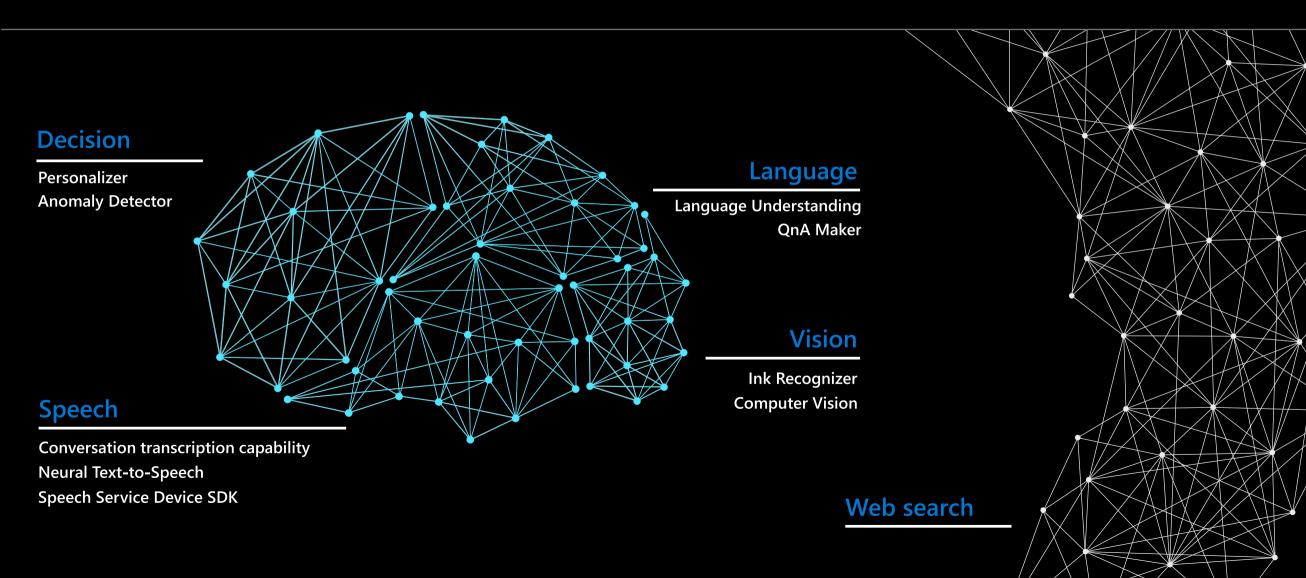
Machine learning

Azure Al

Fueled by Microsoft breakthrough research

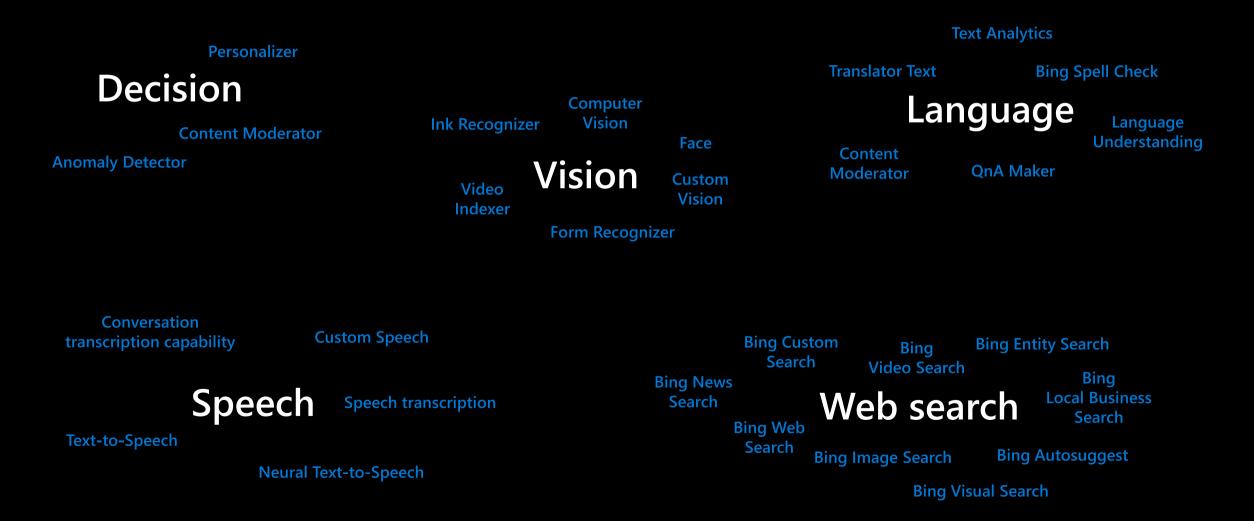


Azure Cognitive Services



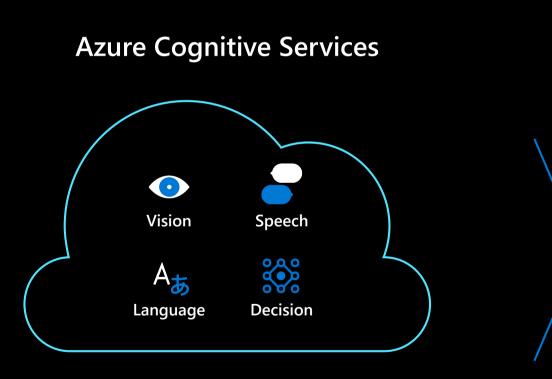
Azure Cognitive Services

The most comprehensive pre-trained AI

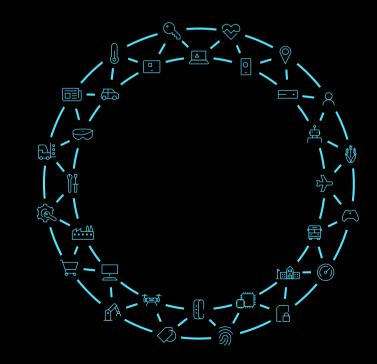


Azure Cognitive Services

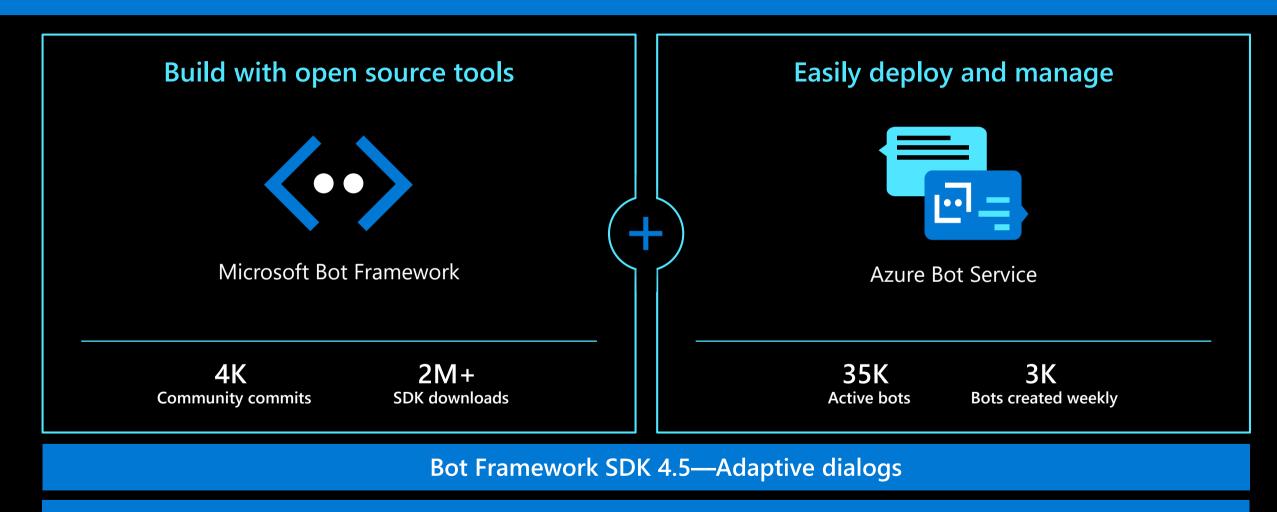
Deploy anywhere using containers



Wherever your data resides



Accelerate bot development



Virtual assistant solution accelerator—Skills templates

Machine Learning on Azure

Domain specific pretrained models To simplify solution development	Vision		A J Q Anguage Web sea	arch Decision
Familiar data science tools To simplify model development	Visual Studio Code	Azure Notebooks	Jupyter Jupyter	Command line
Popular frameworks To build advanced deep learning solutions	PyTorch	TensorFlow	Scikit-Learn	
Productive services To empower data science and development teams	Azure Machine Learnin	ng Azure D	Databricks	Machine Learning VMs
Powerful infrastructure To accelerate deep learning	CPU		PU	FPGA
From the Intelligent Cloud to the Intelligent Edge 🏾 🦾				

Microsoft platform for autonomous systems





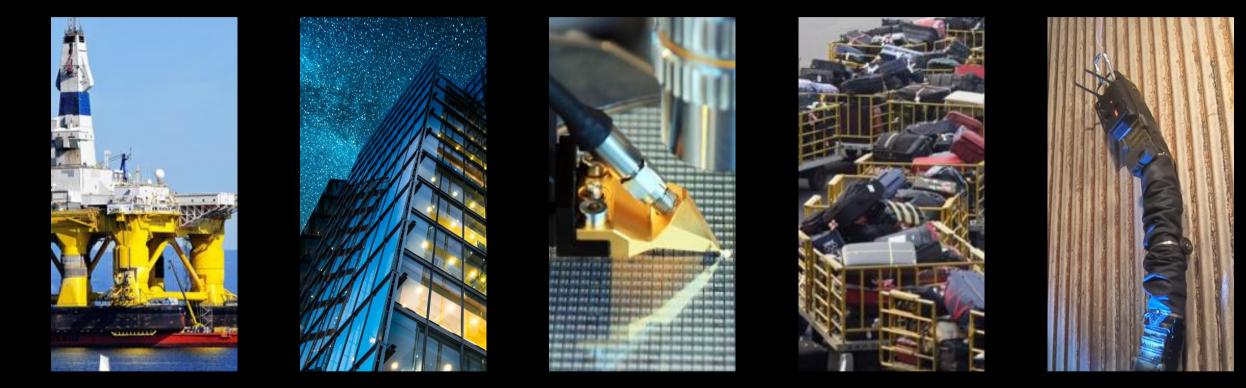


Scale human expertise

Trustworthy autonomy

Real world scenarios

Autonomous systems scenarios



Motion control

Smart buildings Machine calibration Process control Industrial robotics



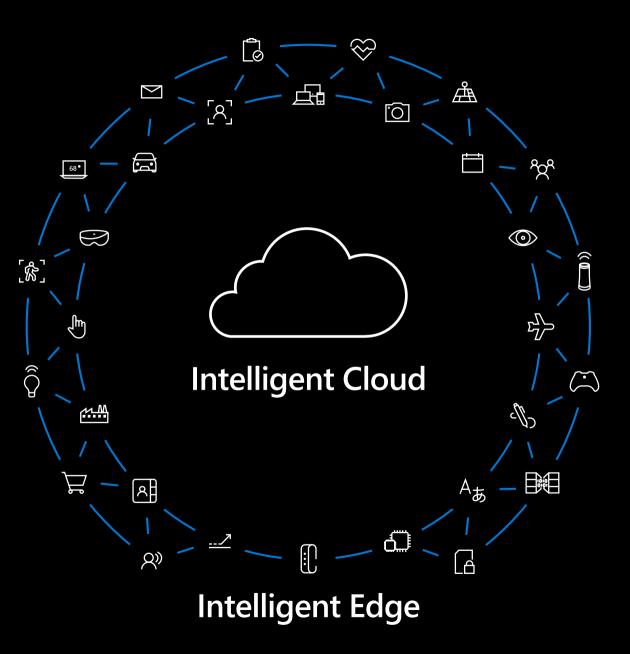


People-centred experiences



Artificial Intelligence

← 01010 → Ubiquitous computing





A blending of the physical and digital worlds in which users may interact with digital and real-world objects while maintaining presence in the physical world

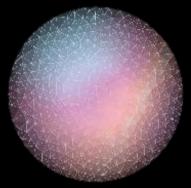
Physical world

Digital world









Augmented reality

Virtual reality

Mixed reality spectrum



+20%

Increase in customer satisfaction

kodisoft

+32%

Increase in sales

Rockwell Automation

\$300K

Cost savings per day

FINANCIAL FABRIC

90%

Reduced time from documents to insights



More insurance cases reviewed

ups

200K

Customers interacting with chatbots



Responsible AI

Al for Good

FairnessReliabilityInclusivityPrivacyTransparencyAccountability

AI for EarthAI for AccessibilityAI for Humanitarian Action

So what's stopping you from making things happen?

Microsoft

යිම්න Artificial Intelligence

People-centered

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Internet of Things

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