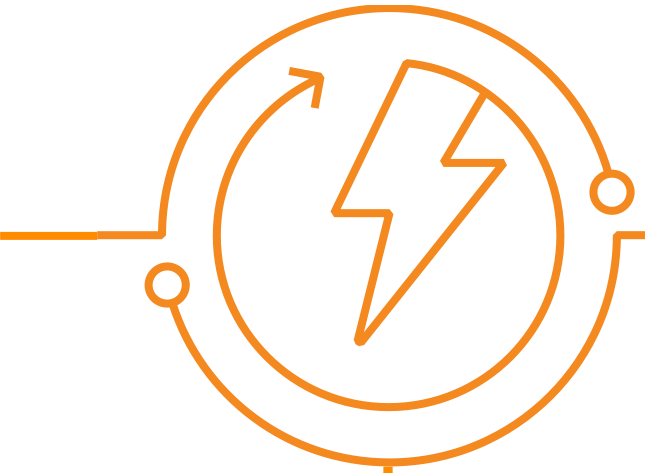
Connected Campus & School Experiences

Jonelle Kreiner
GBB, SSP IoT
Public Sector

Microsoft

IoT is Set to Explode



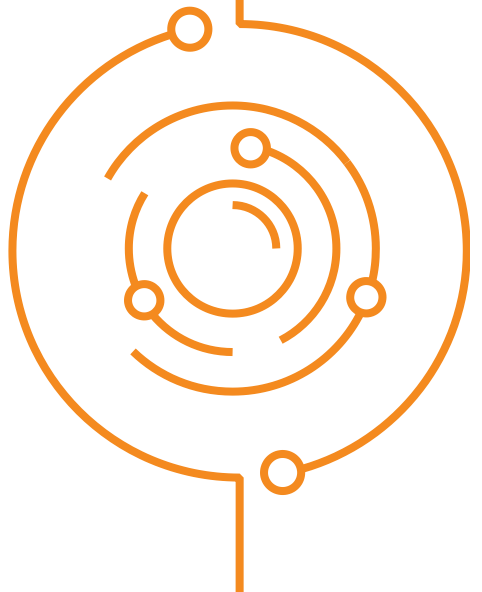
6.6 billion "things" will ship in 2020

Installed base of 20.8 billion units expected in 2020

IoT endpoints will grow at a 32% CAGR through 2020

Hardware spending on networked endpoints = $3 trillion in 2020

50% of Education CIOs expect IoT to have a major impact



And Education Can Benefit

The Funding Challenge

- Budget cuts
- Performance requirements tie to appropriations
- Rising education costs tuition and reliance on raised funds

Legacy Systems

- Fragmented systems create silos
- Expensive and difficult to use
- Lack mobile and social

Skills Gap

- Data Analytics skills in high demand
- Students need hands-on training
- Real-world problem solving provides motivation

Greater Competition

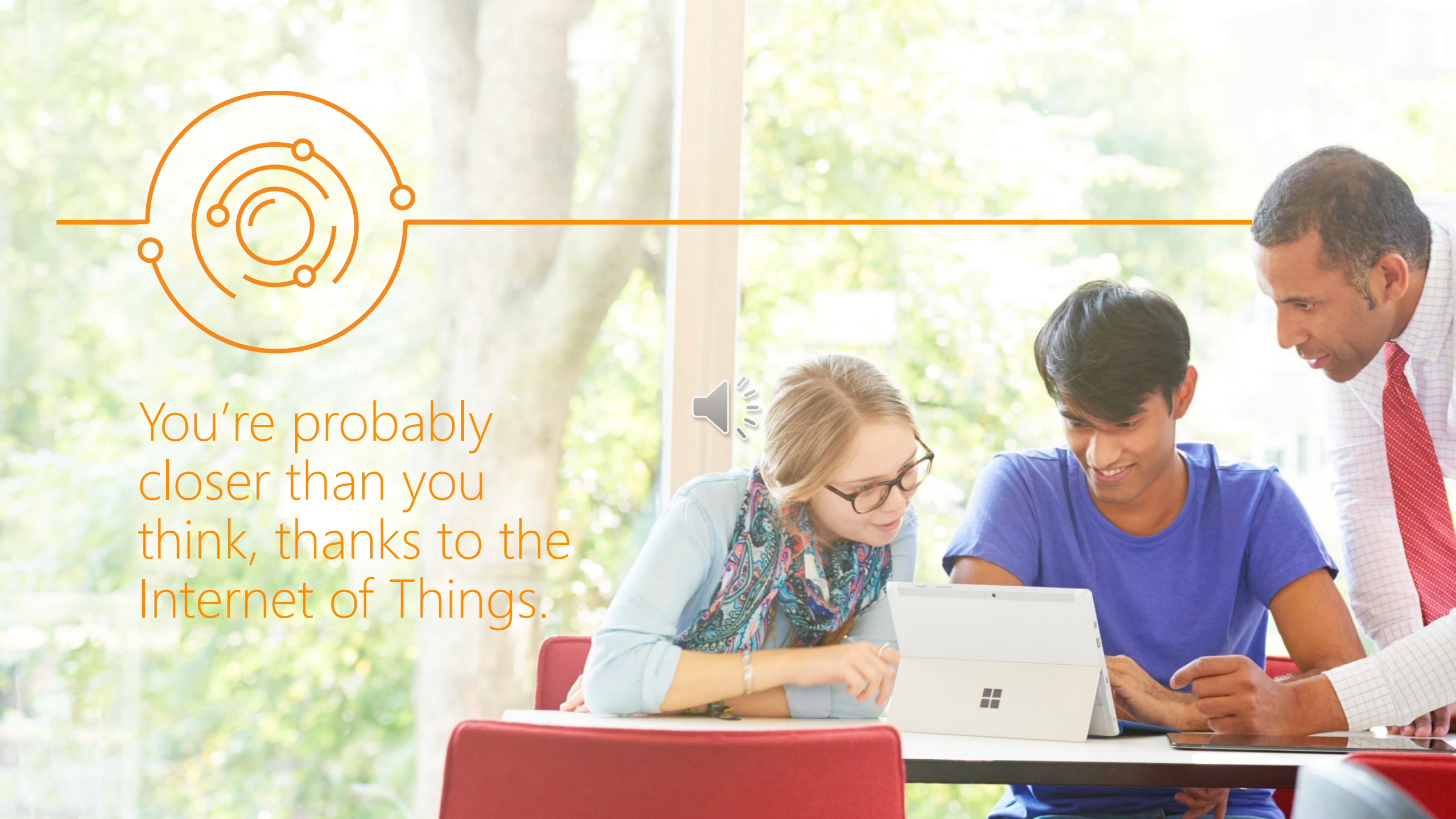
- Changing delivery mechanisms of courses
- Universities competing for smaller pool of grads
- Shifting demographics

IoT Offers

Efficiency

Cost Savings

Better Student Experience


You’re probably closer than you think, thanks to the Internet of Things.

SAFETY & SECURITY

BUILDINGS & ENERGY EFFICIENCY

ACCESS, CONTROL & PAYMENTS

CONNECTED TRANSPORTATION

CONNECTED CAMPUS & SCHOOLS EXPERIENCES (CITYNEXT)

CONNECTED HEALTH

STUDENT SUCCESS ANALYTICS

STUDENT EXPERIENCE

Microsoft

The Internet of Things **isn't a technology revolution**...

…IoT is a **business revolution**, enabled by technology

Waves of innovation have enabled the rise of IoT

Cloud

Globally available, unlimited compute resources

IoT

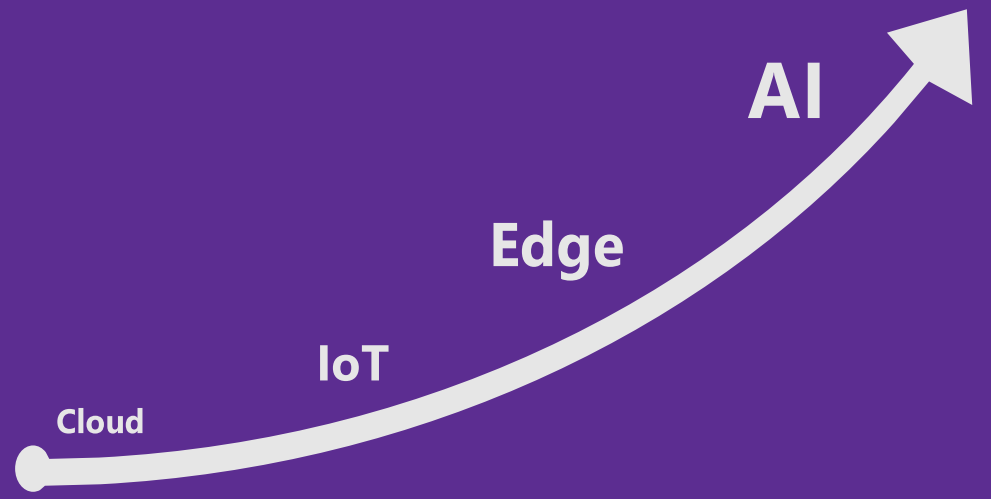
Harnessing signals from sensors and devices, managed centrally by the cloud

Edge

Intelligence offloaded from the cloud to IoT devices

AI

Breakthrough intelligence capabilities, in the cloud and on the edge

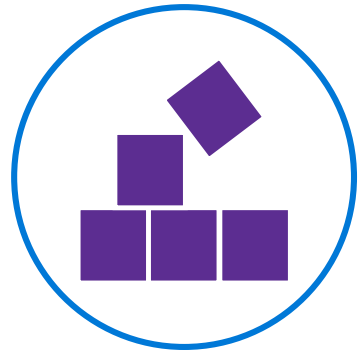


But IoT projects can still be complex

Difficult to maintain cohesive **security**

Time-consuming to get started

Incompatible with existing infrastructure



Challenging to scale over time

Microsoft is **simplifying IoT**

Microsoft is simplifying IoT, so everyone can benefit

Easier to:

- Build secure, scalable solutions from device to cloud
- Provision devices at scale
- Manage devices at scale
- Find insights from your IoT devices
- Infuse devices with intelligence
- Benefit from IoT

Internet of Things

The Internet of Things consists of four basic elements:

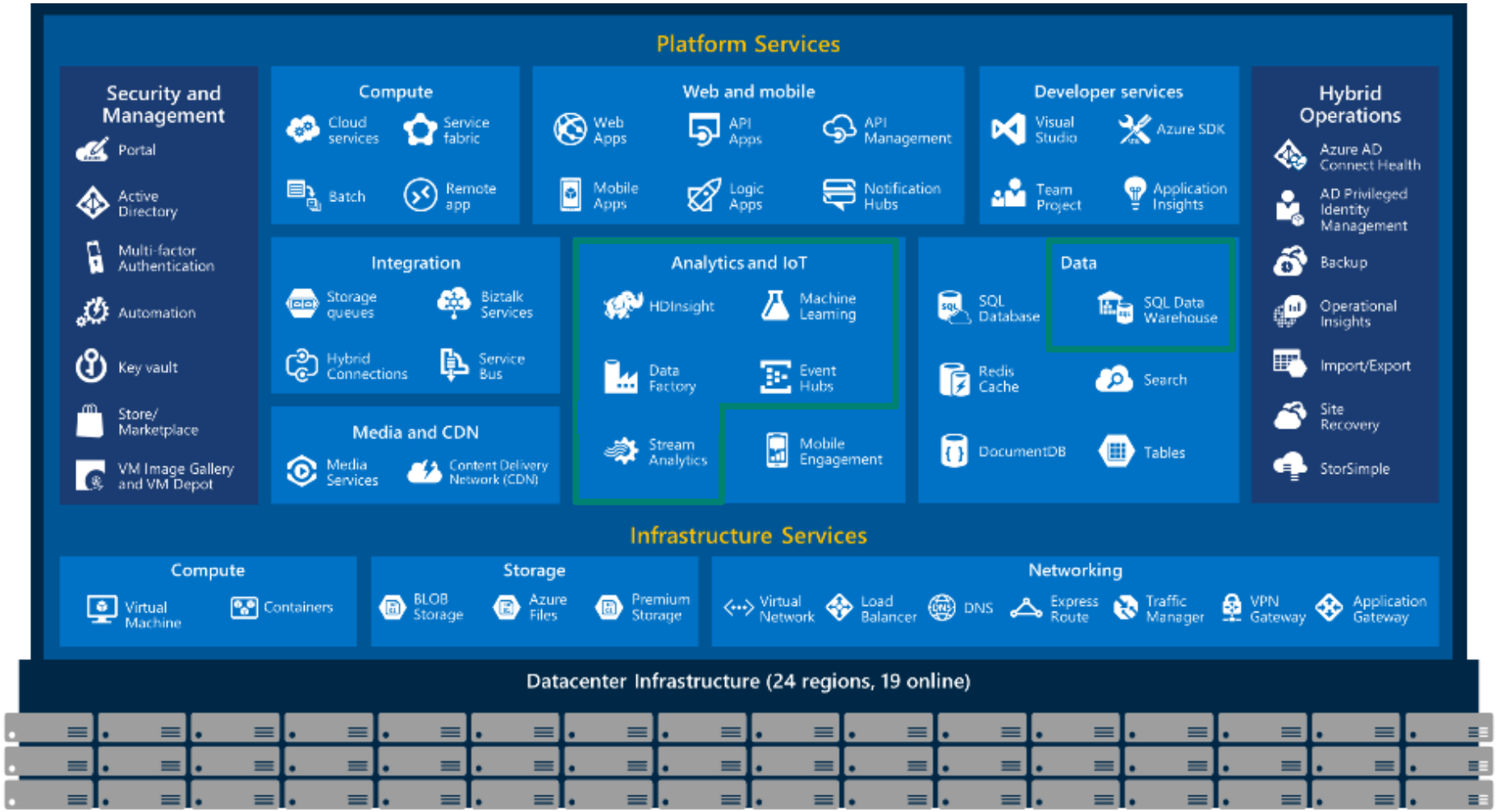
Connectivity
To the Internet, To each other, To humans

Data
From the environment and by user input

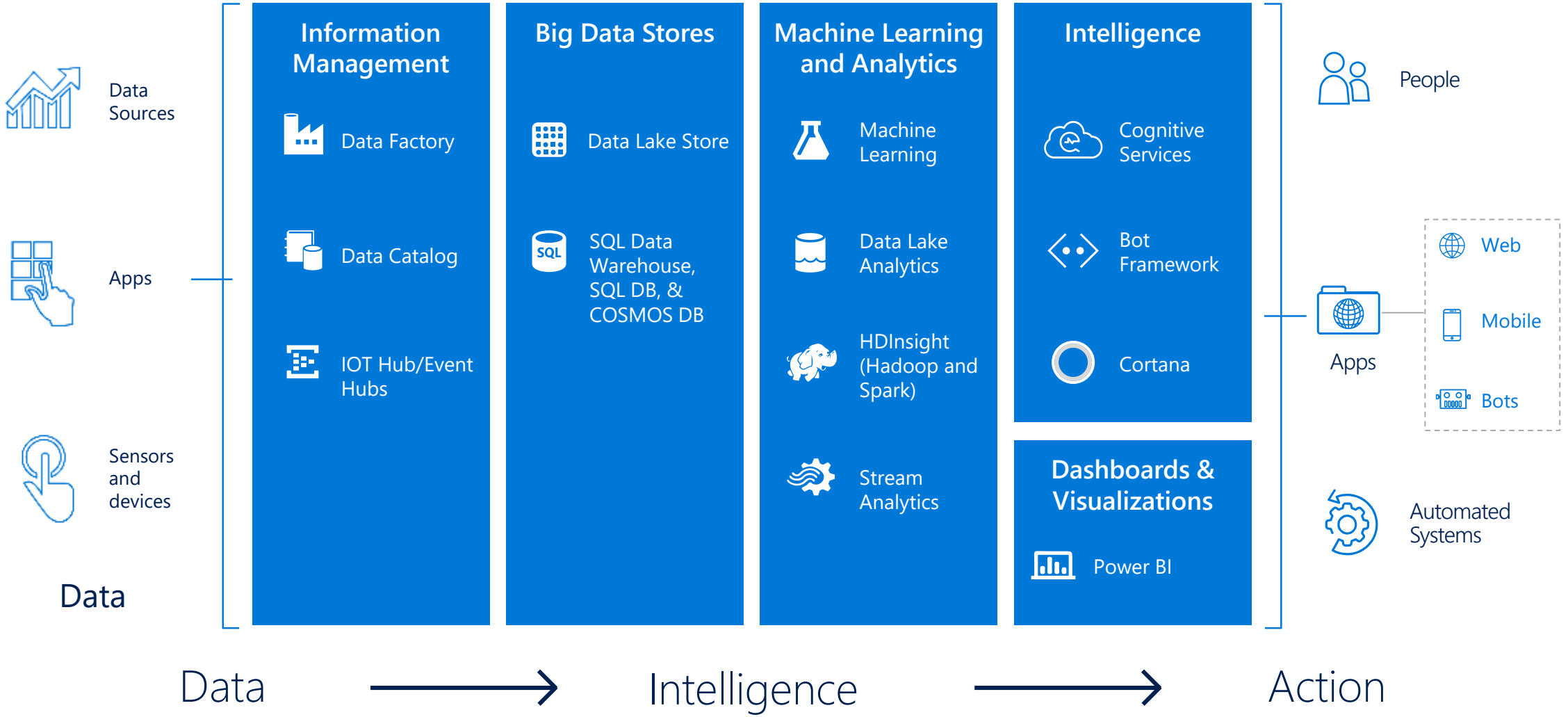
Things
Business assets, Industry devices, Sensors

Analytics
Enable you to take action

Cortana Intelligence combines the services you already know

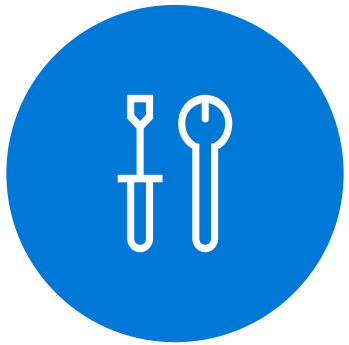


Transform data into intelligent action



Our IoT portfolio spans device to the cloud

Build
Things



Azure IoT Edge

Windows 10 IoT

Control
Anything

Azure IoT Suite

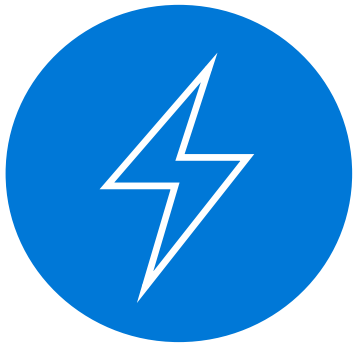
Microsoft IoT Central

Gain
Insights

Advanced Analytics

Artificial Intelligence

Take
Action

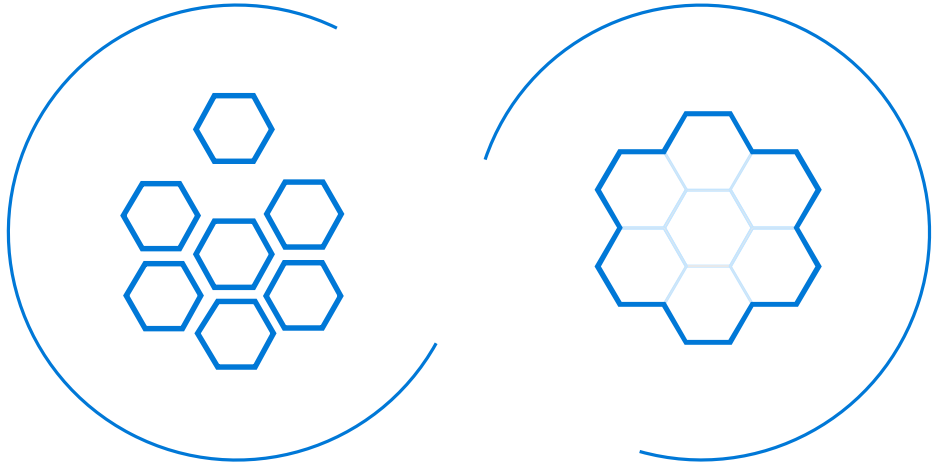


Dynamics 365

Hololens

We offer choice and flexibility to support the needs of all customers

Build the right solution to meet your needs



Azure IoT Suite

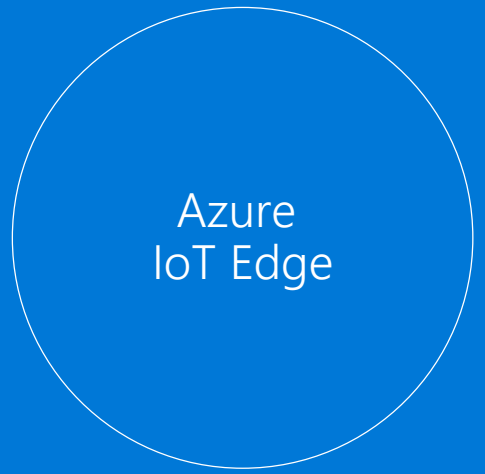
Preconfigured solutions on a **customizable PaaS** to accelerate common scenarios

For when you need a lot of control over your IoT solution

Microsoft IoT Central

A **fully managed SaaS** solution for IoT

For when you need to get started quickly with minimal IoT experience



Local processing for IoT devices

Securely distribute cloud intelligence to IoT devices quickly and at scale by using a single edge runtime

Microsoft Has a Comprehensive IoT and Analytics Offering

Azure IoT Suite and Cortana Intelligence Suite

Customer equipment and devices

COLLECT
data from building equipment and third-party sources

Azure IoT Hub

TRANSFORM
data into a standardized format

MANAGE
data as real-time streams and store as relational or non-relational datasets in highly-secure ISO-certified data centers

SQL,DW, HDInsight, Cosmos

Azure Machine Learning, Stream Analytics, AI

ANALYZE and PREDICT
with machine learning and custom queries and algorithms

Power BI & Hololens

VISUALIZE
through dashboards, reports, both in the office and while mobile

Azure IoT Hub

DECIDE and ACT
Using rules-based prioritization engines that help prioritize and monetize maintenance tasks

Partner with Microsoft for significant advantages

Industry-leading security

From endpoint and connection through to data and the cloud

Open platform

Any device, OS, data source, software, or service

Comprehensive portfolio

Only mega-scale cloud vendor to offer SaaS and PaaS for IoT, and a commitment to continual innovation

Extensive partner ecosystem

Industry leaders ready to collaborate with your business

Large-scale SaaS experience

Prepared to deliver powerful, user-friendly solutions