



IoT in Action

#IoTinActionMS



Rodney Clark

Vice President
IoT and Mixed Reality Sales

IoT in Action





Digital transformation

$$\text{Tech intensity} = (\text{Tech adoption} \times \text{Tech capability})^{\text{Trust}}$$

70%

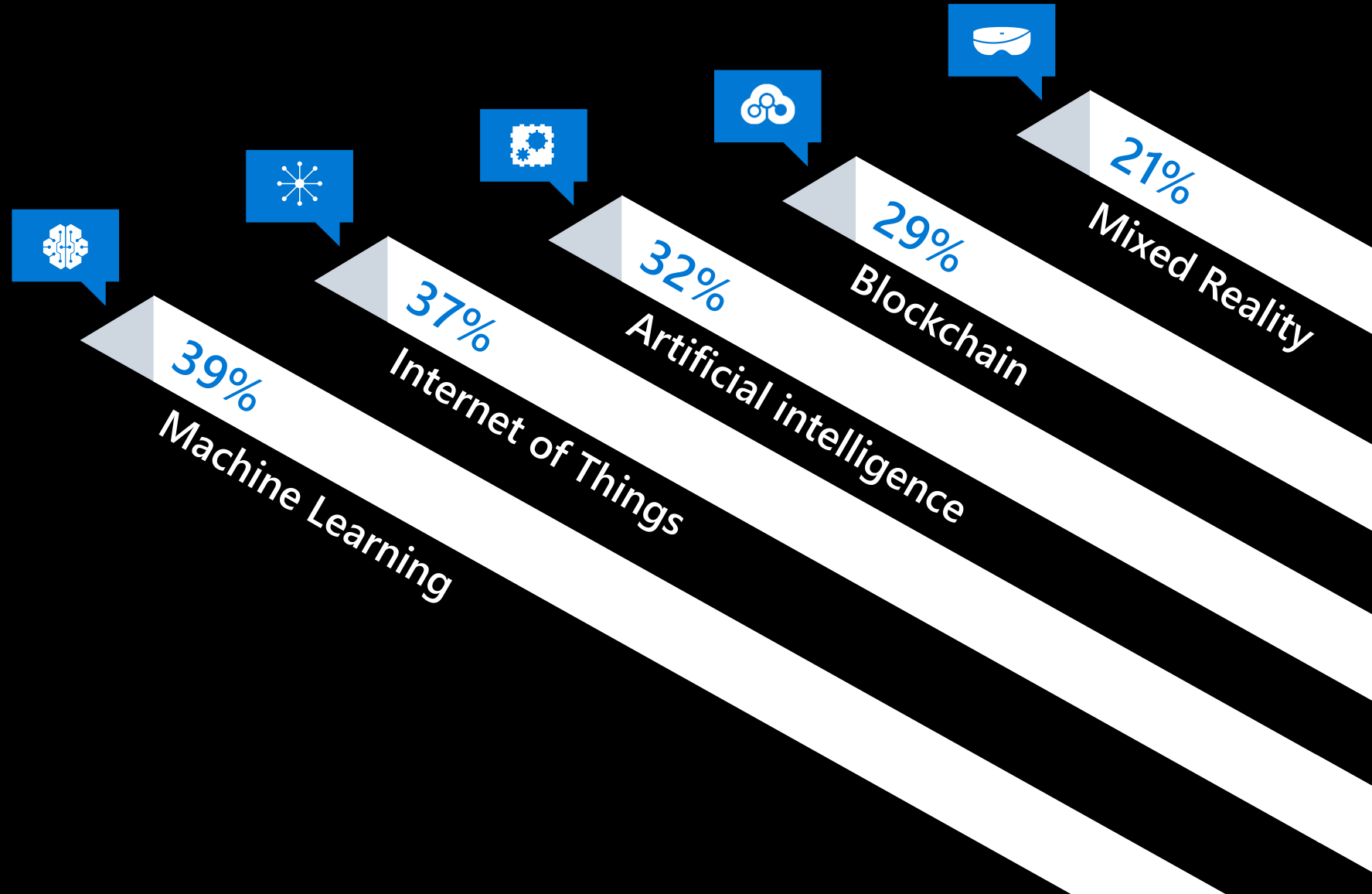
Digital transformation
through tech intensity

37%

Leading with
IoT engagements

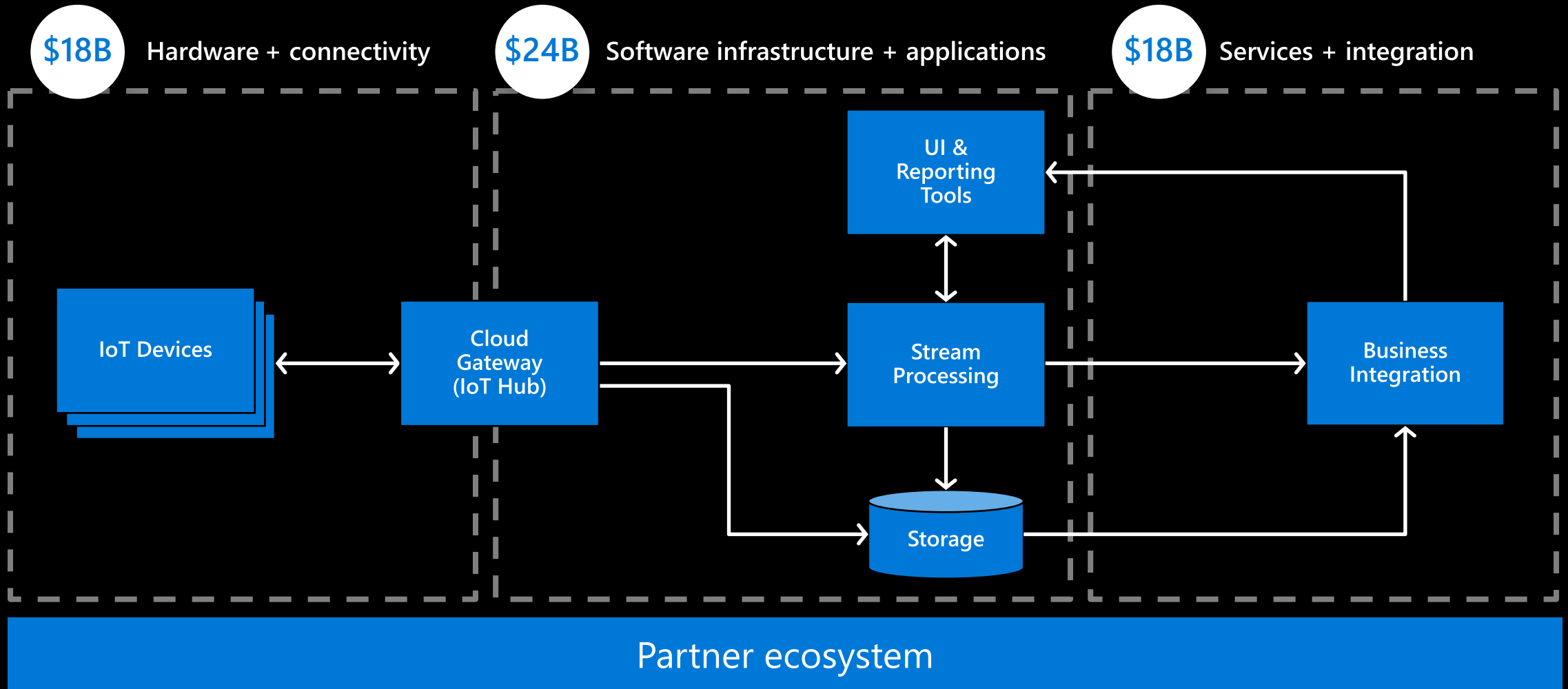
23%

% of Global IoT Projects
are Smart City
(#1 Vertical)



Blueprint to profitability

2020 \$60B IoT market



“ ... it needs to be secure and **just work** ... ”



Accessibility







agder energi

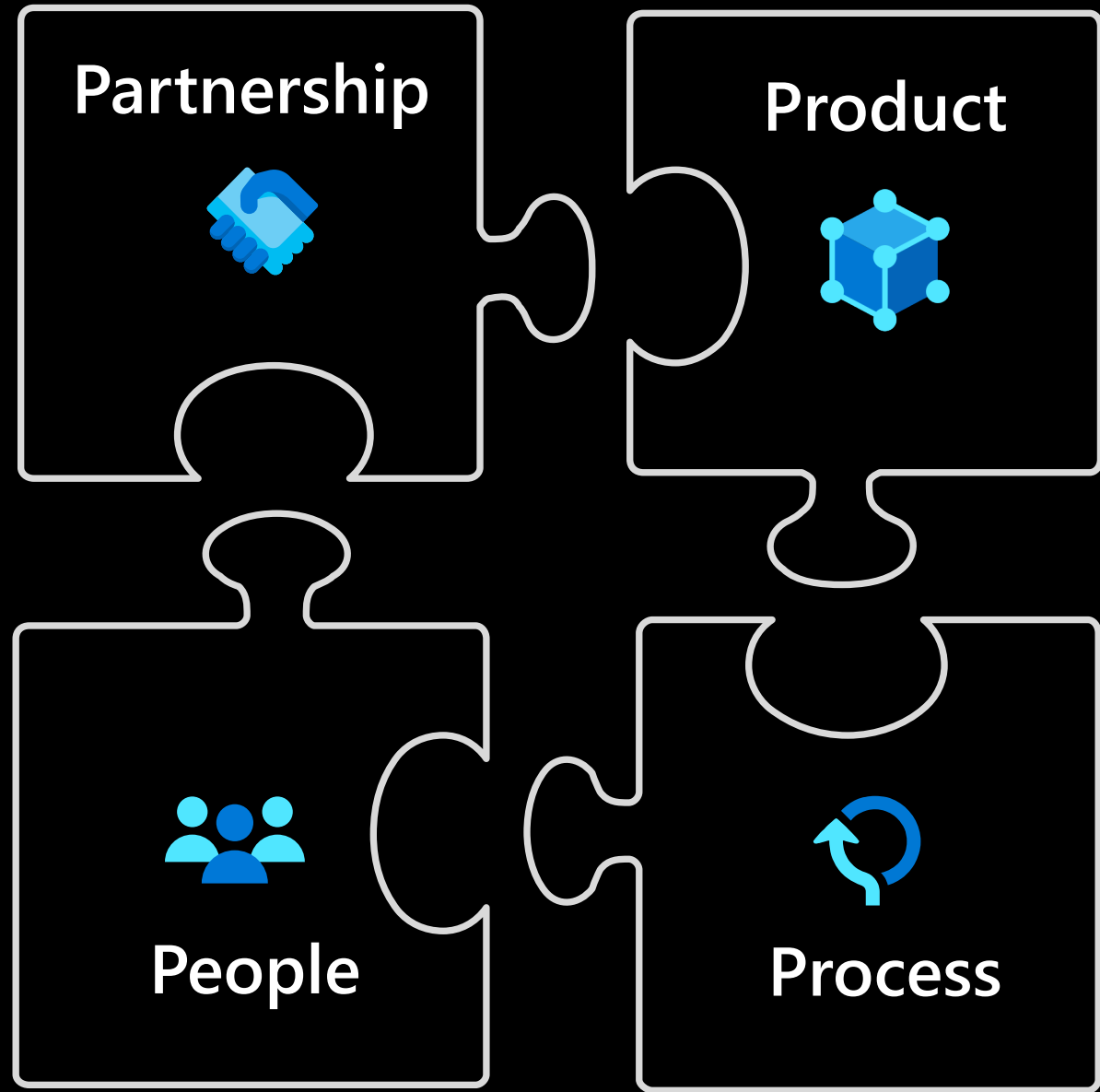
From a local energy company to a global tech provider and partner



“ How can any entity profit from their data and cloud platform? ”

“ What is the secret to successful implementation? ”

Success in IoT



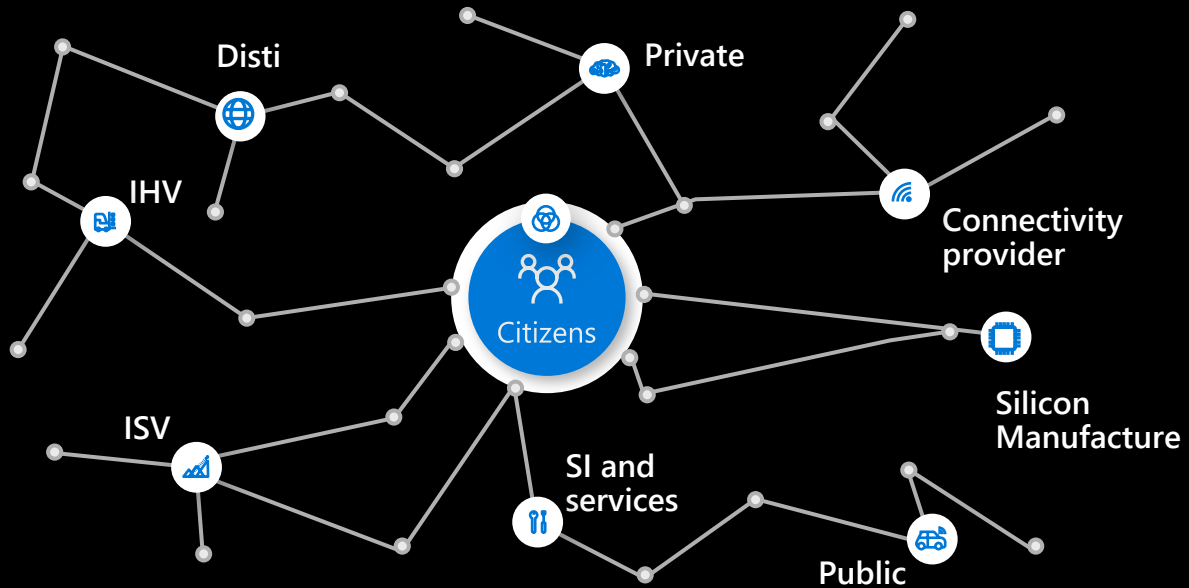


Partnership

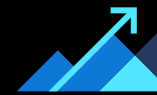
“ Transforming IoT data into meaningful and actionable information is not one size fits all. That's why having a **diverse global partner ecosystem** combined with domain expertise across industries is an imperative. It's how we solve unique challenges with unique solutions.... ”

SIEMENS

Ecosystem



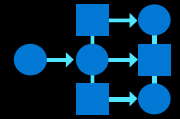
Customer



LOB



IT



Strategy
for ecosystem
Build, buy, partner



Product

“ Microsoft Azure offers extraordinary power, performance and intelligence, and allows us to easily do things with **machine learning, edge computing,** and **artificial intelligence** that would be much more difficult otherwise. ”

— Gary Slater,
Digital and Data Science Architect

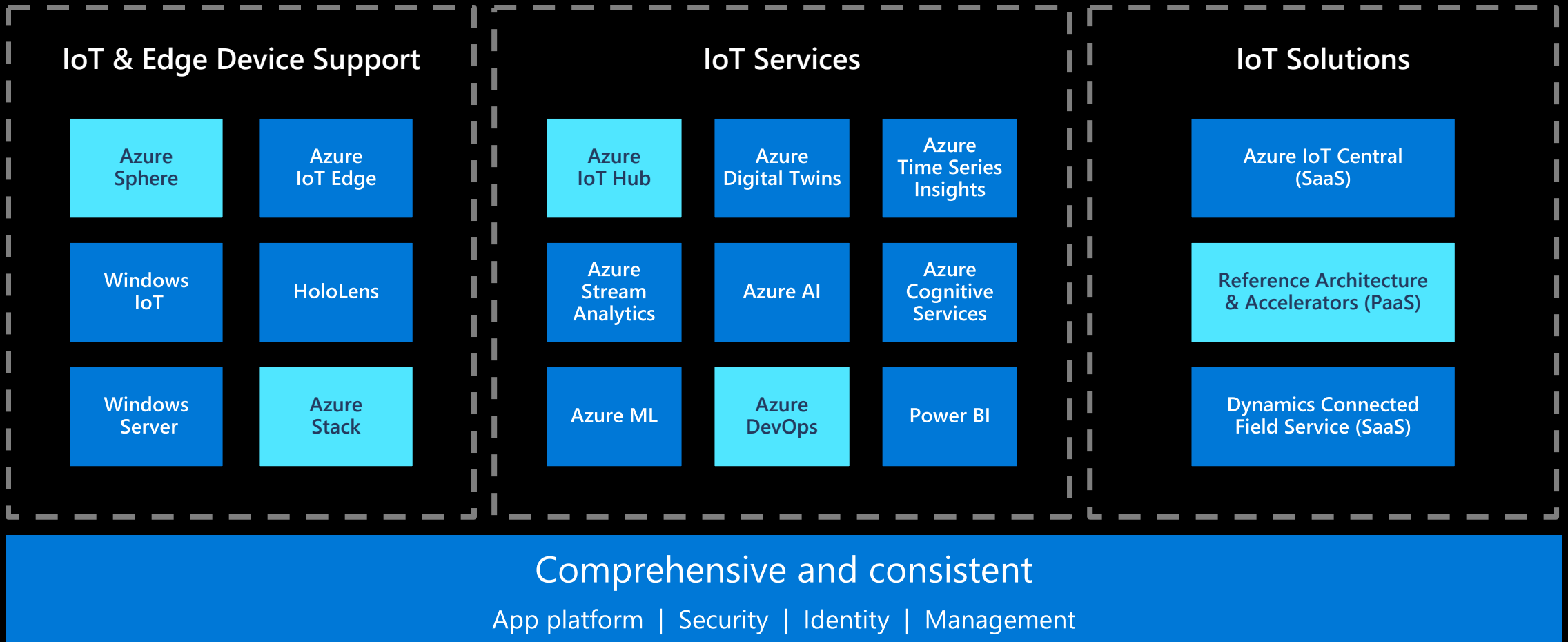


Product

 Microsoft IoT Platform

Custom architecture

Microsoft's IoT Platform





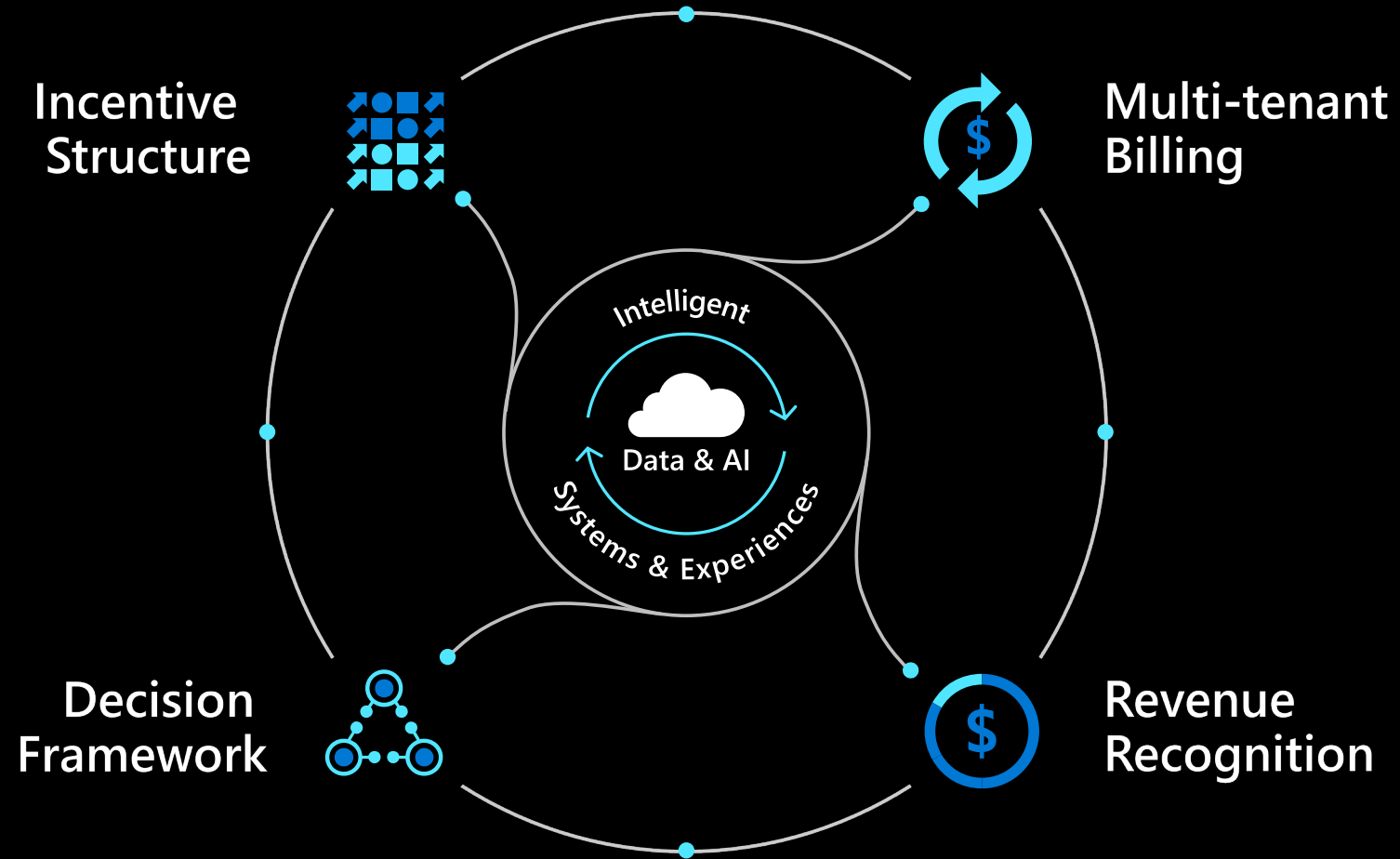
Process

// We emphasize collaboration, using real-time data to make it easier for people to work together as a team and achieve better results in less time. And because we're using Microsoft Azure, we can offer global collaboration, so our customers can use it on **any site or in any country** and every user is on the same database. //

— Sebastian Spindler
Key Account & Partner Manager



Process





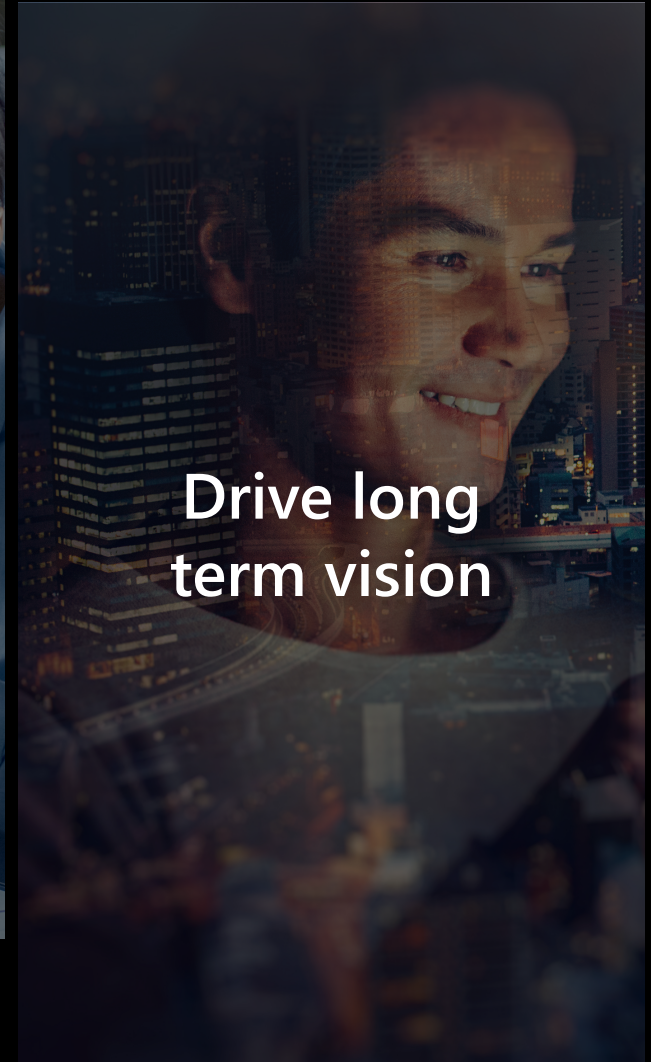
People

“

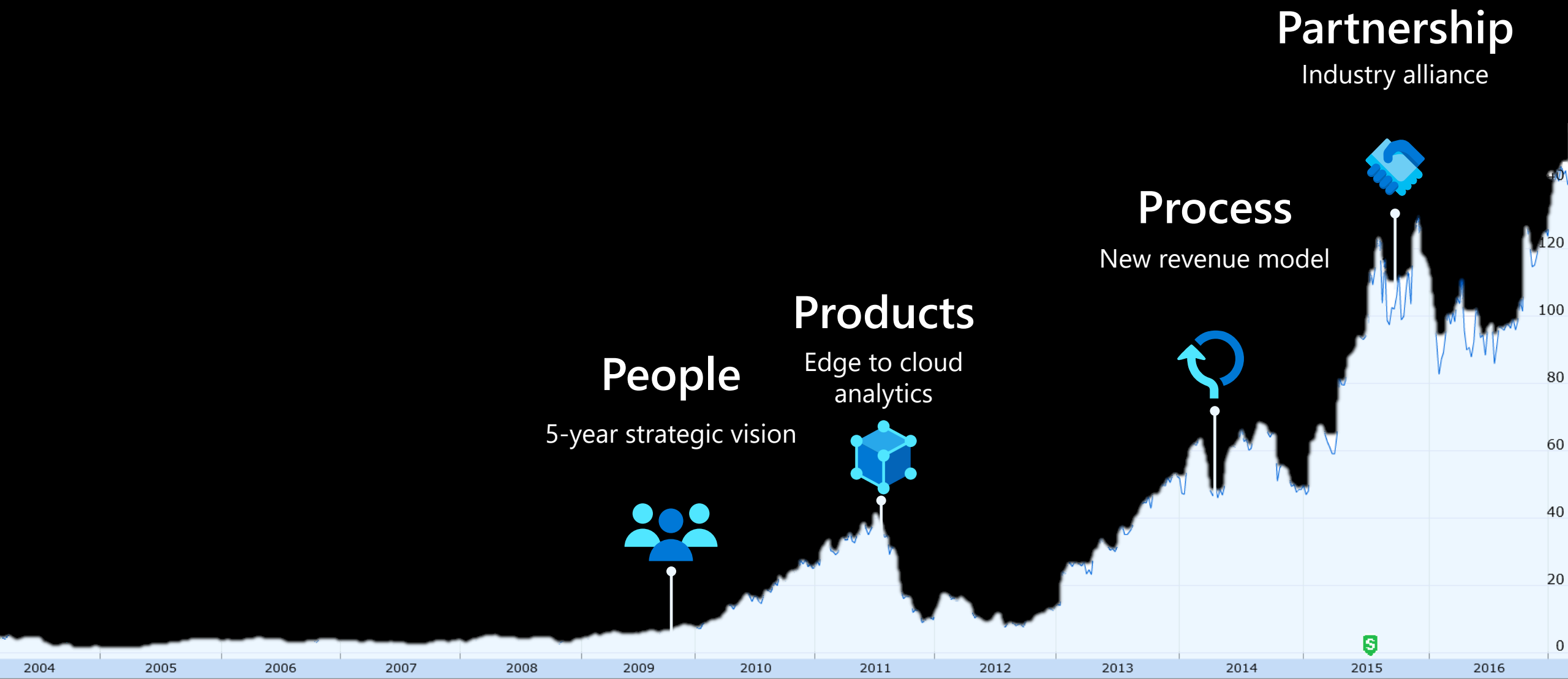
Culture was the key for us. Our CEO had to ensure that **every single leader** was on the same page on what we were trying to accomplish

”



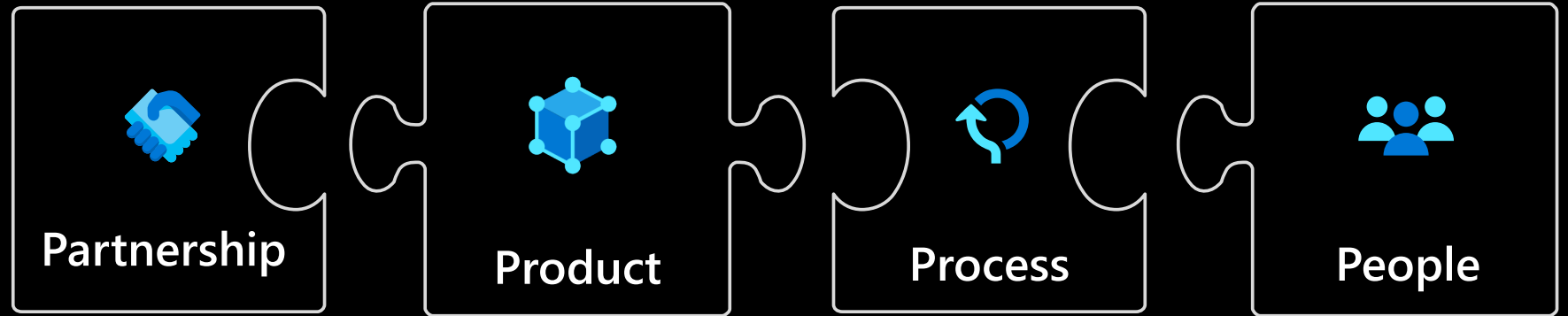


Sustained value



$$\text{Tech intensity} = (\text{Tech adoption} \times \text{Tech capability})^{\text{Trust}}$$

Four P's





IoT in Action

#IoTinActionMS



Microsoft for Smart Cities

Empowered Citizens

Empowered Communities

Empowered Cities

Susan Wilkinson
Business Strategy Lead
for Smart Cities,
Worldwide Government Industry

IoT in Action



Cities and regions around the world face common challenges



Transportation
Reduce congestion
and air pollution



Infrastructure
Pressure on existing
infrastructure



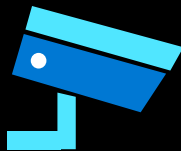
Energy
Reduce energy
consumption



Water
Greater reliability and
resilience



Public Health
Aging population and
spiraling healthcare
costs



Public Safety
Protect and improve
citizen well-being

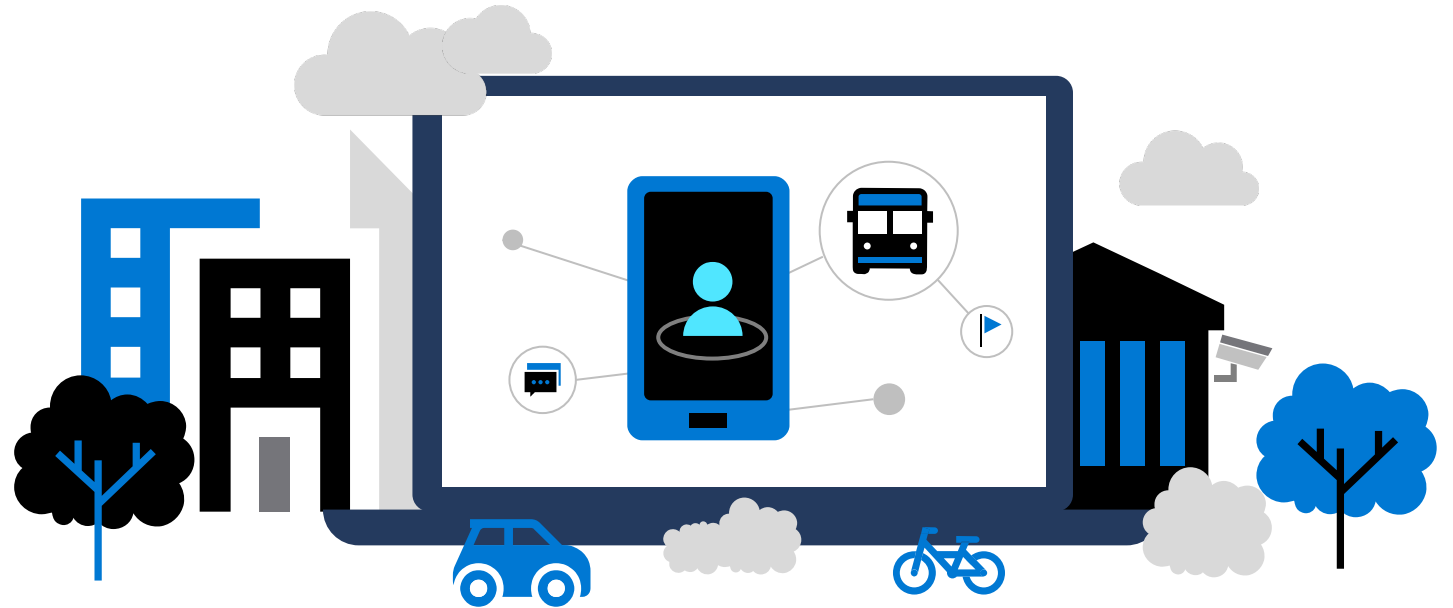


Waste
Efficient management
of urban waste

Expectations
are changing

PHI·GI·TAL / *n*

Unwilling or unable to draw a distinction between the physical world and its digital equivalent.



Microsoft for Government



40+ years

working with governments,
deep industry knowledge
and expertise



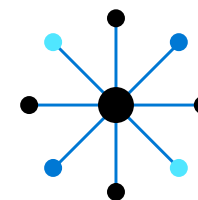
>16k

communities around
the world



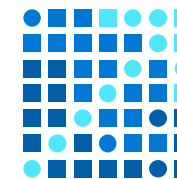
7+ years

Investment in smart
city programs



Ecosystem

>top cloud competitors
combined



IoT

Smart City IoT platform
leader worldwide*
(*IDC MarketScape 2019-2020)

Most comprehensive set of compliance offerings of any cloud service provider, more certifications than anyone in the market

Industry-leading scale – with >\$15 billion invested in cloud infrastructure, and >1 million physical servers across 54 global regions

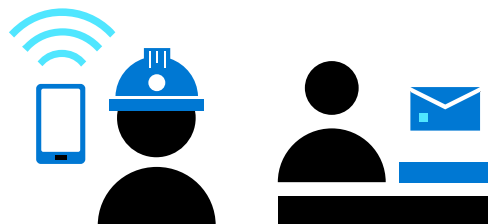
Empowered Governments

Empowered citizens. Empowered communities. Empowered cities.



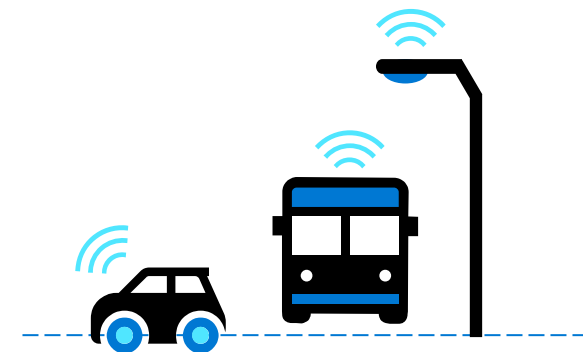
Engage and connect with citizens

Provide secure, inclusive and deep citizen engagement



Modernize the government workplace

Empower secure, inter-departmental and cross-agency collaboration to deliver more effective and efficient services



Enhance government services

Apply data analytics to provide actionable, predictive, and efficient citizen-focused services



ESITHOUGHTLAB

A leader in evidence-based research



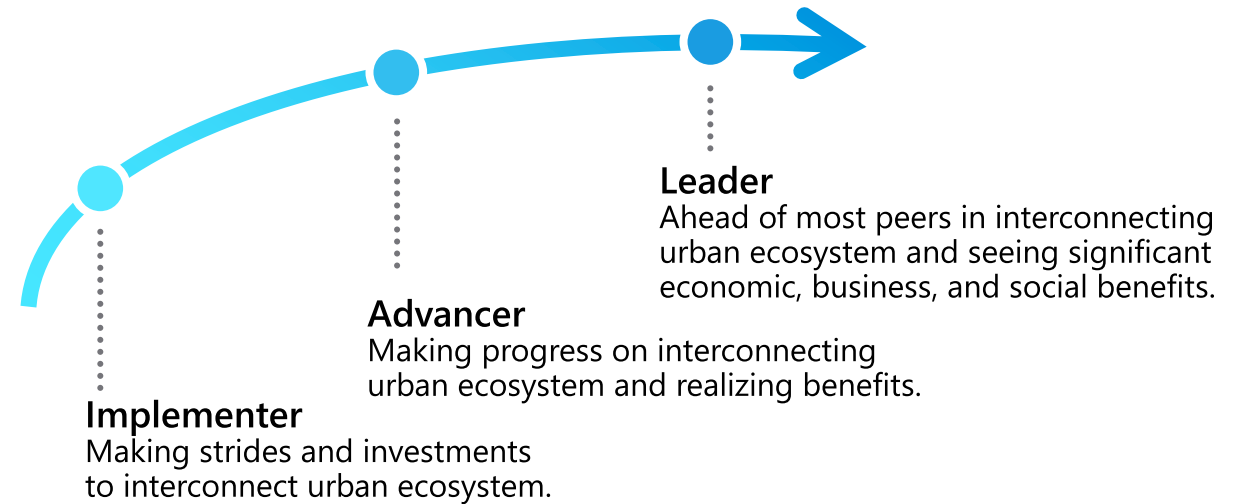
Building a Hyperconnected City

A Global Research Initiative

#HyperconnectedCity

Hyperconnected cities

Hyperconnected cities unlock the greatest economic, business, and social value by leveraging technology to transform and securely interconnect key areas of their urban ecosystems



Technology



Data & analytics



Cybersecurity



Connected citizens

Cities must overcome common obstacles

To gain the full benefits of a smart, hyperconnected ecosystem

Obstacles to hyperconnected programs by percentage of cities

Gaining support of citizens and other stakeholders **52%**

Making sure the speed of development keeps up with business and citizen needs **47%**

Complexity of procurement **44%**

Keeping pace with technological change **37%**

Policy and regulatory barriers **36%**

Managing cybersecurity/data privacy **36%**



Gaining support is challenging, but essential

Cities need to overcome the current disconnect between what cities are doing and what citizens think they are doing. Effective communication is also crucial in overcoming another major challenge: keeping up with business and citizen needs.

Stakeholders who are very to extremely familiar with smart city activities.



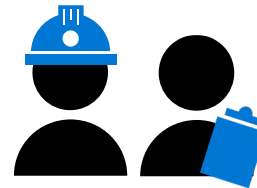
Business leaders

88%



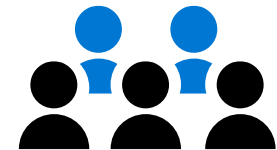
Elected Officials

65%



City employees

40%



Average Citizens

32%

AI Business School for Government

The Microsoft AI Business School is an engaging master class series that empowers business leaders to be successful and get results from AI:



Define an AI strategy to create business value



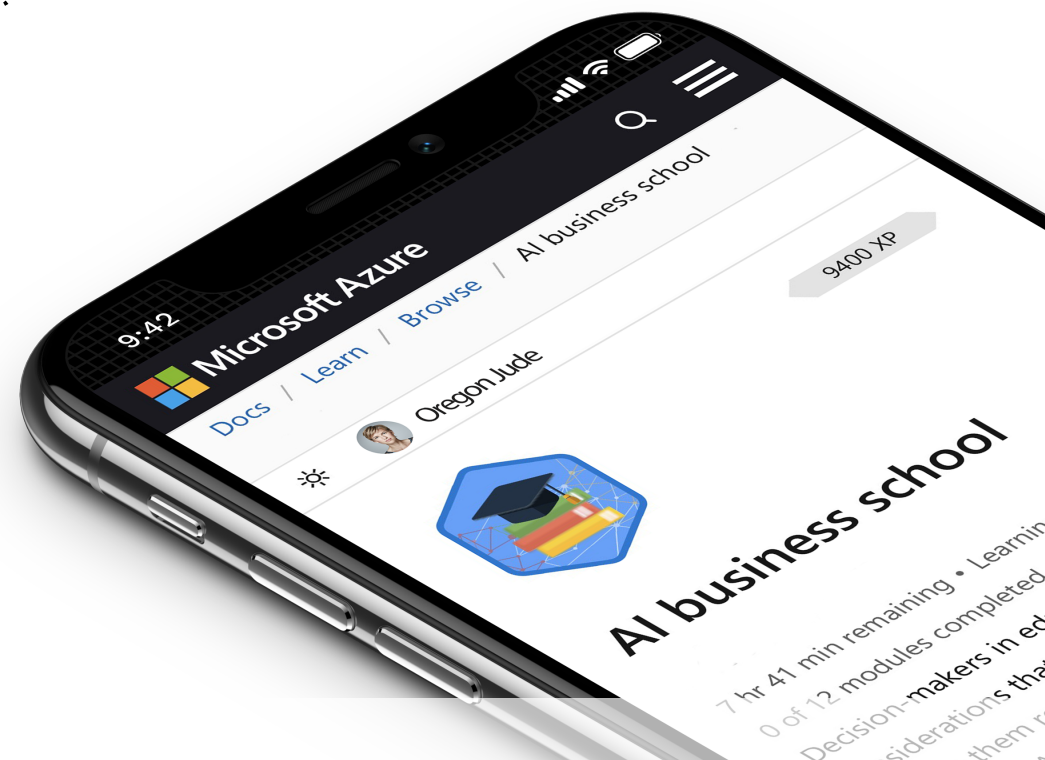
Discover ways to foster an AI-ready culture in your business



Identify guiding principles for responsible AI in your business



Introduction to AI technology for business leaders



Free, Online Leadership Series Designed for Non-Technical Audiences
<https://www.microsoft.com/en-us/ai/ai-business-school>

In partnership with




The Business School
for the World®

Helping cities around
the world **achieve more.**



Top Smart City services driving high returns




Transport

Digital & open loop payment systems

Real-time traffic management & apps

Congestion charging




Public Safety

Real-time crime mapping

Gun shot detectors

Emergency notification apps



Resources

Real-time monitoring

Waste collection route optimization

Smart streetlights



Public Health

First aid alerts

Real-time pollution monitoring

Infectious disease surveillance

Jerusalem light rail

Case Study

| | Before | After | Benefits |
|--------------------------|--------|---------|----------|
| Travel time | 80 min | 42 min | 47% |
| # trams required | 32 | 21 | 34% |
| Tram frequency (headway) | 15 min | 5 min | 66% |
| # of passengers | 40,000 | 200,000 | 400% |

FINANCIAL BENEFITS

- Fleet savings - \$600 million
- 28% Less power to operate Trams
- Travel time savings : \$43 million p.a.
- Dramatic reduction of pollution in the city center

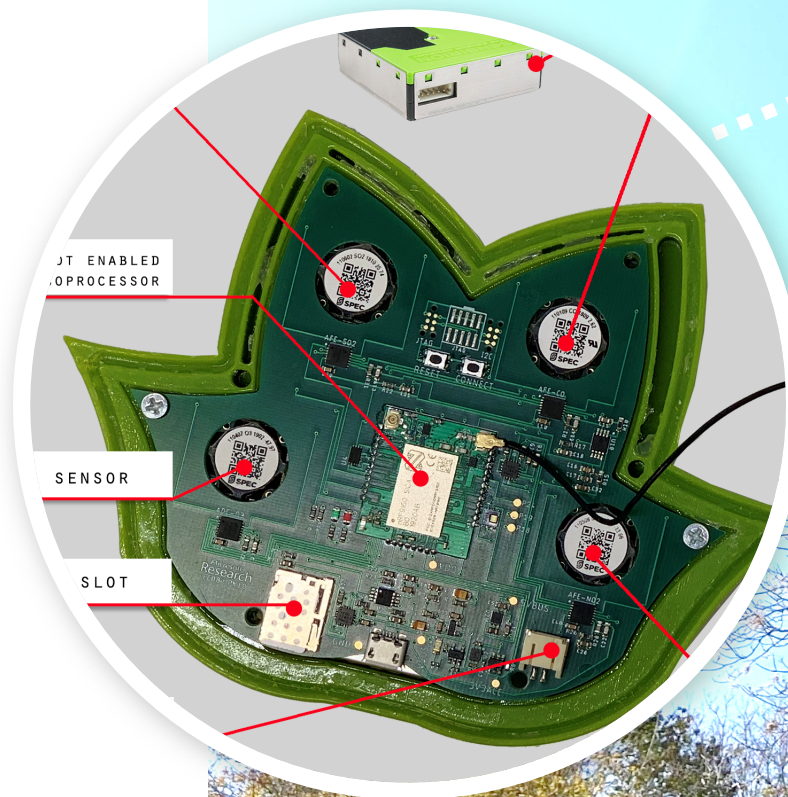


Microsoft Research

Case Study

Project Eclipse Air Quality Sensor

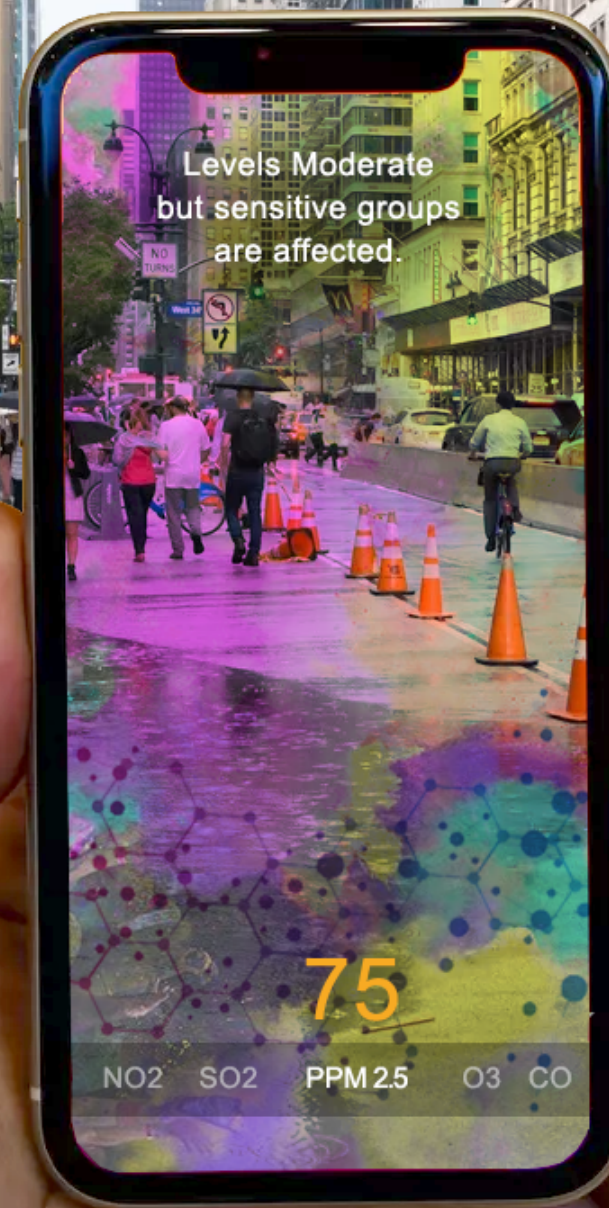
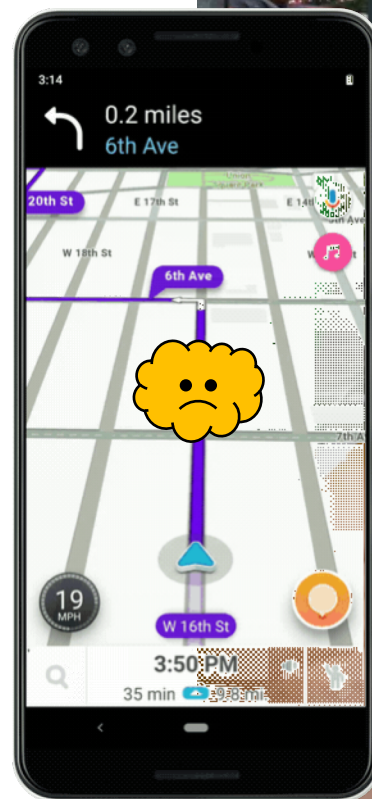
A low-cost, end-to-end air quality sensing platform for cities aiming to increase the geographic granularity of environmental sensing for public health scenarios.



Project Eclipse

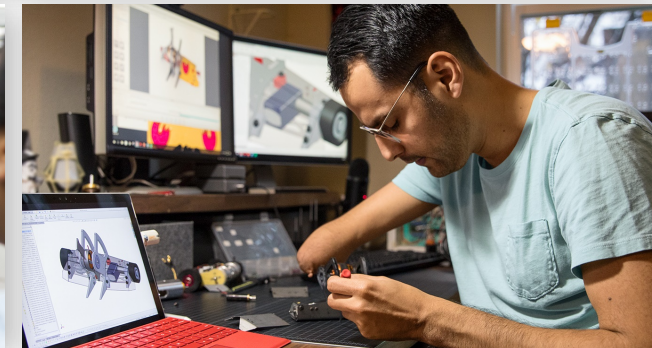
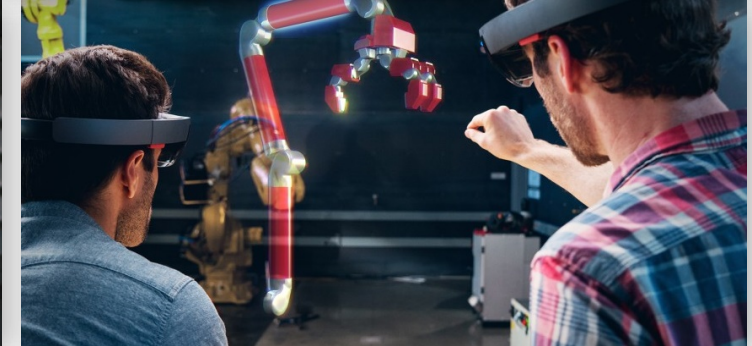
Simple mobile apps "Haze"

Immersive AR experiences



We believe in what people make possible

Our mission is to empower every person and every organization on the planet to achieve more.



Next Steps

- 1 Learn more about how Microsoft can help you achieve your [smart city vision](#)
- 2 [Download](#) Hyperconnected city eBook and explore the accompanying interactive [benchmarking tool](#)
- 3 [Download](#) IDC white paper – Building Smart Communities of the Future
- 4 Get started today with [Azure IoT Central](#)
[Industry templates](#) for waste, water quality, water consumption monitoring and smart meter monitoring

