



Smart Cities The Future Present!

Hany Morcos

CLOUD TECHNOLOGIES DIRECTOR

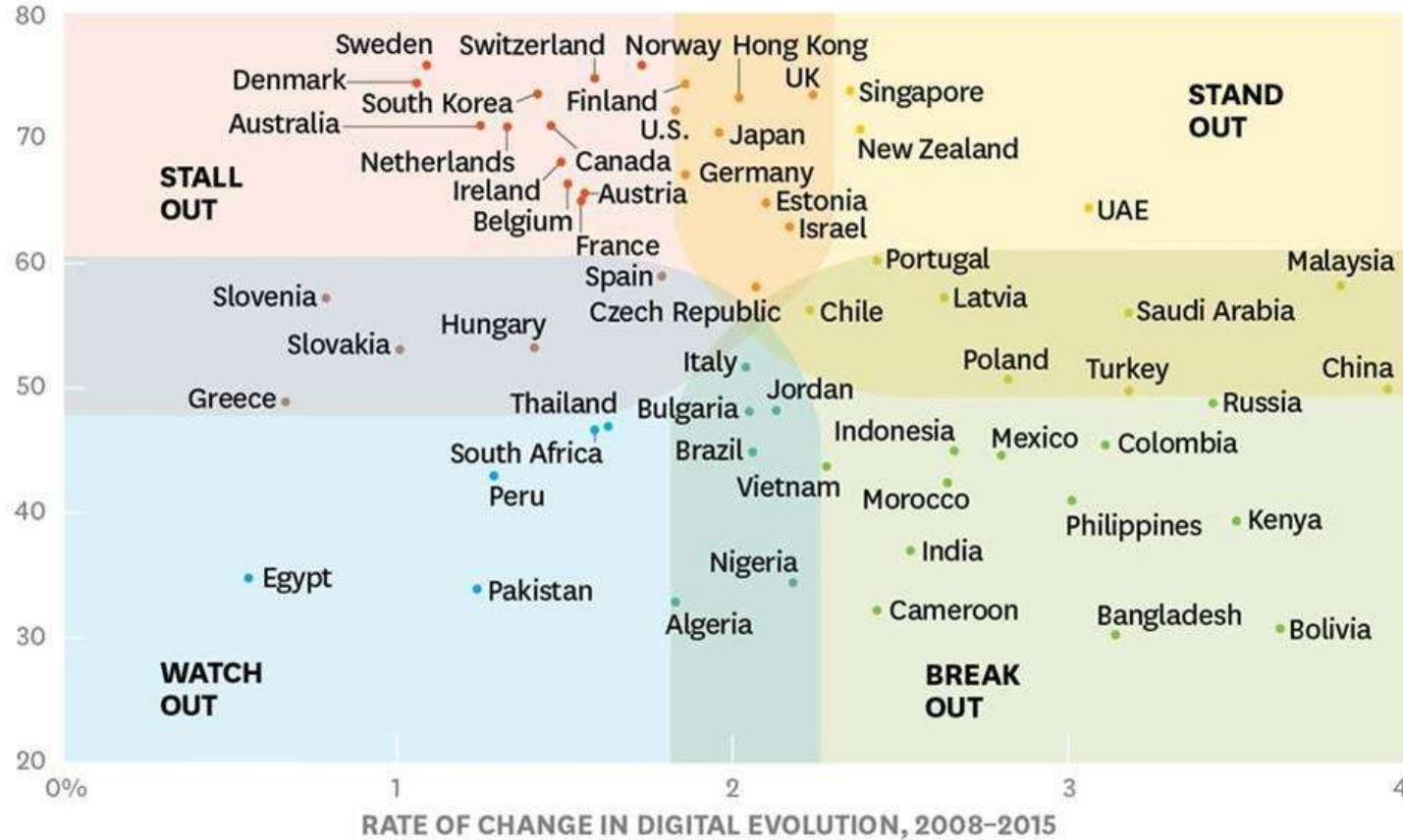
Microsoft Middle East & Africa



PLOTTING THE DIGITAL EVOLUTION INDEX, 2017

Where the digital economy is moving the fastest, and where it's in trouble.

HOW COUNTRIES SCORED ACROSS FOUR DRIVERS ON THE DIGITAL EVOLUTION INDEX (OUT OF 100)



Four Drivers of Digital Evolution

 <p>SUPPLY CONDITIONS</p> <p>Access Infrastructure Communications sophistication and coverage; security.</p> <p>Transaction Infrastructure Access to financial institutions; electronic payment options.</p> <p>Fulfillment Infrastructure Quality of transportation infrastructure; logistics performance.</p>	 <p>DEMAND CONDITIONS</p> <p>Consumer Capacity to Engage Consumer ability and willingness to spend; gender digital divide.</p> <p>Digital Payment Uptake Degree of financial inclusion and use of digital money.</p> <p>Digital Uptake Device prevalence and density; technology, internet, and mobile connection.</p>
 <p>INSTITUTIONAL ENVIRONMENT</p> <p>Institutions and the Business Environment The legal environment including efficiency in settling disputes, IP and investor protections, and bureaucracy.</p> <p>Institutions and the Digital Ecosystem Government uptake and use of ICT and digital technology; telecom competition.</p> <p>Institutional Effectiveness and Trust Transparency; rule of law; regulatory quality.</p>	 <p>INNOVATION AND CHANGE</p> <p>Inputs Financing options and opportunity; start-up capacity; ability to attract and retain talent.</p> <p>Process Sophistication of business practices; R&D.</p> <p>Output Depth of mobile engagement; reach of innovation; use of social networks and digital entertainment.</p>

1971



1992



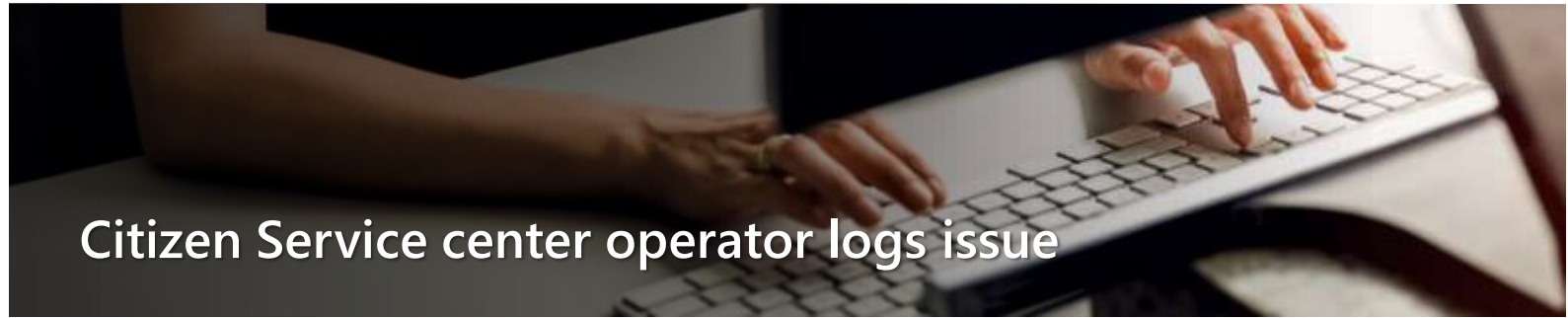
2015



Reactive



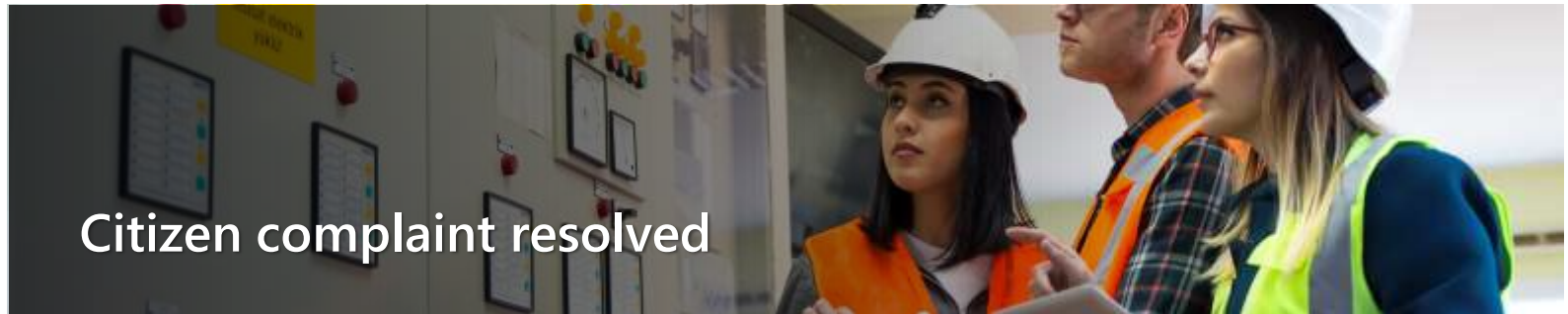
Citizen complaint received



Citizen Service center operator logs issue



Emergency service visit



Citizen complaint resolved



Due for maintenance
01/14/2020

Metal to wear down in this part. Replacement backordered and to be shipped by 01/04. Detrimental to system if not applied immediately.

76%

Running at 98% capacity
Automated system engaged
24-hour motor function





EXIT

\$39

TAKE AN ADDITIONAL 20% OFF YOUR PURCHASE

RECEIVE 20% OFF WITH PURCHASE

Customer data recorded and applied

TAKE AN ADDITIONAL 20% OFF YOUR PURCHASE

\$199

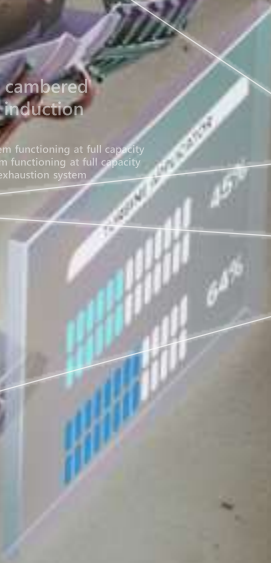
Smart device applies all sales available to items collected



Exhaustion system error reported to manager for further inspection

Intake fins cambered for proper induction

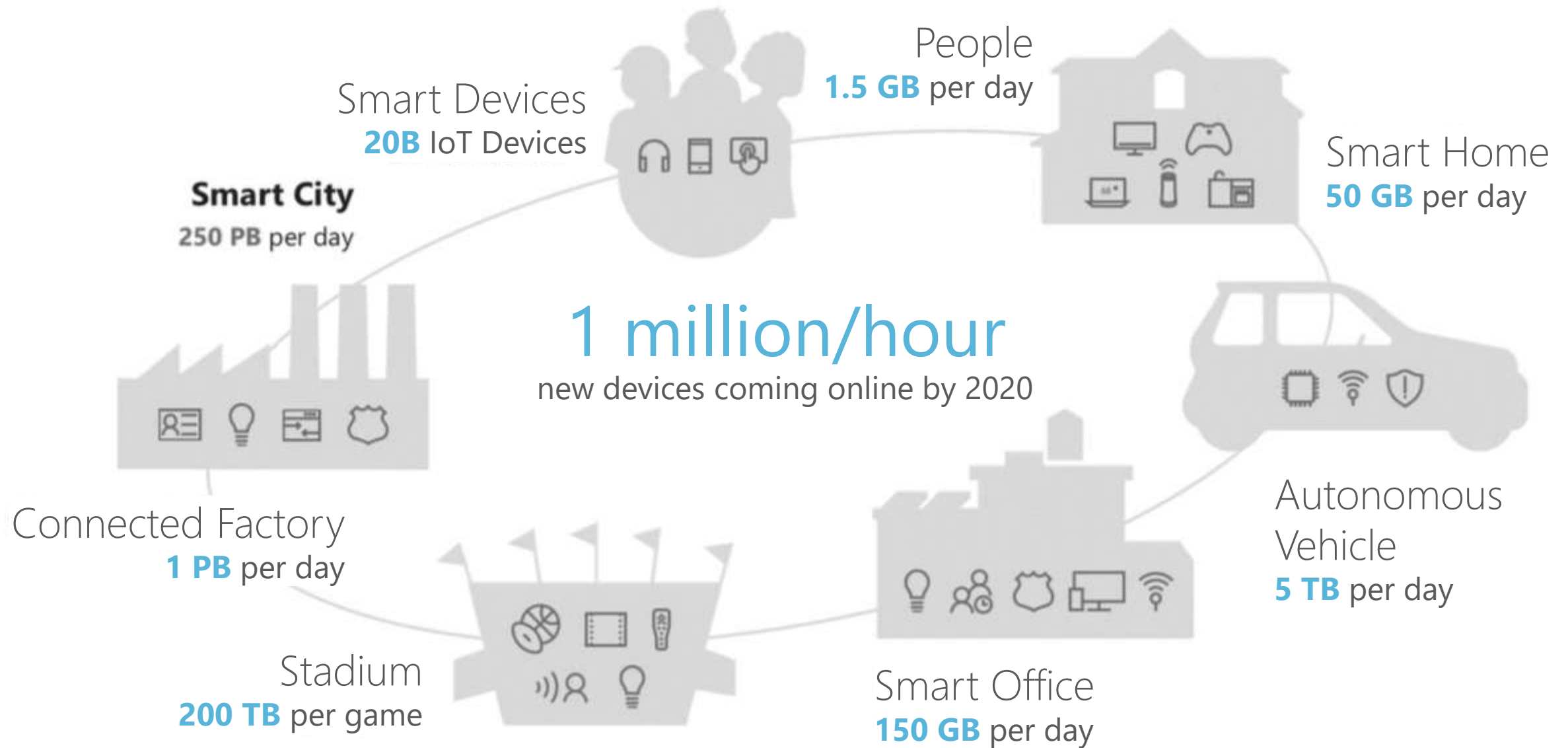
Compression system functioning at full capacity
Combustion system functioning at full capacity
Error detected in exhaust system



Calibrating torque rod arm at 8.5 inches



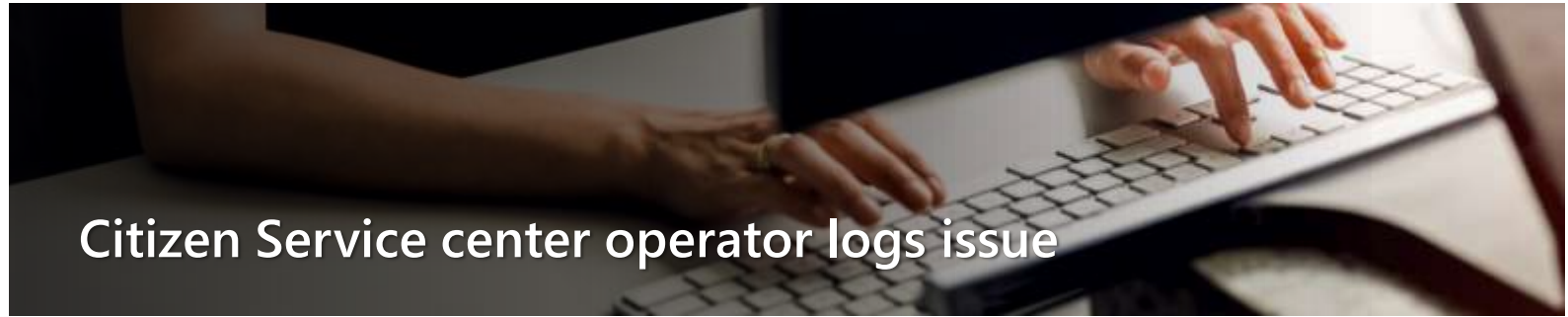
GOING DIGITAL



Reactive



Citizen complaint received



Citizen Service center operator logs issue



Emergency service visit



Citizen complaint resolved



Data



Anomaly detection model

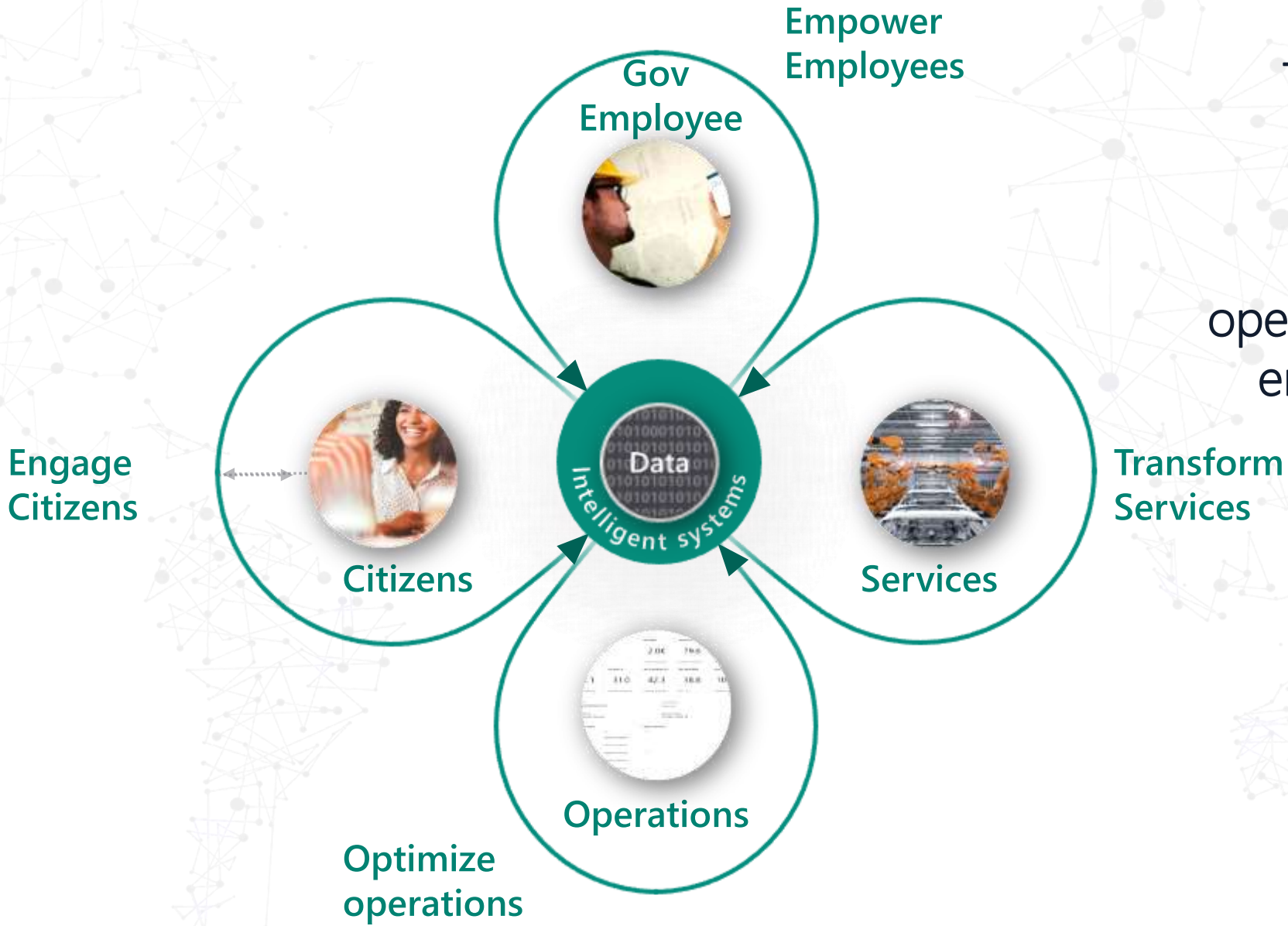
Proactive



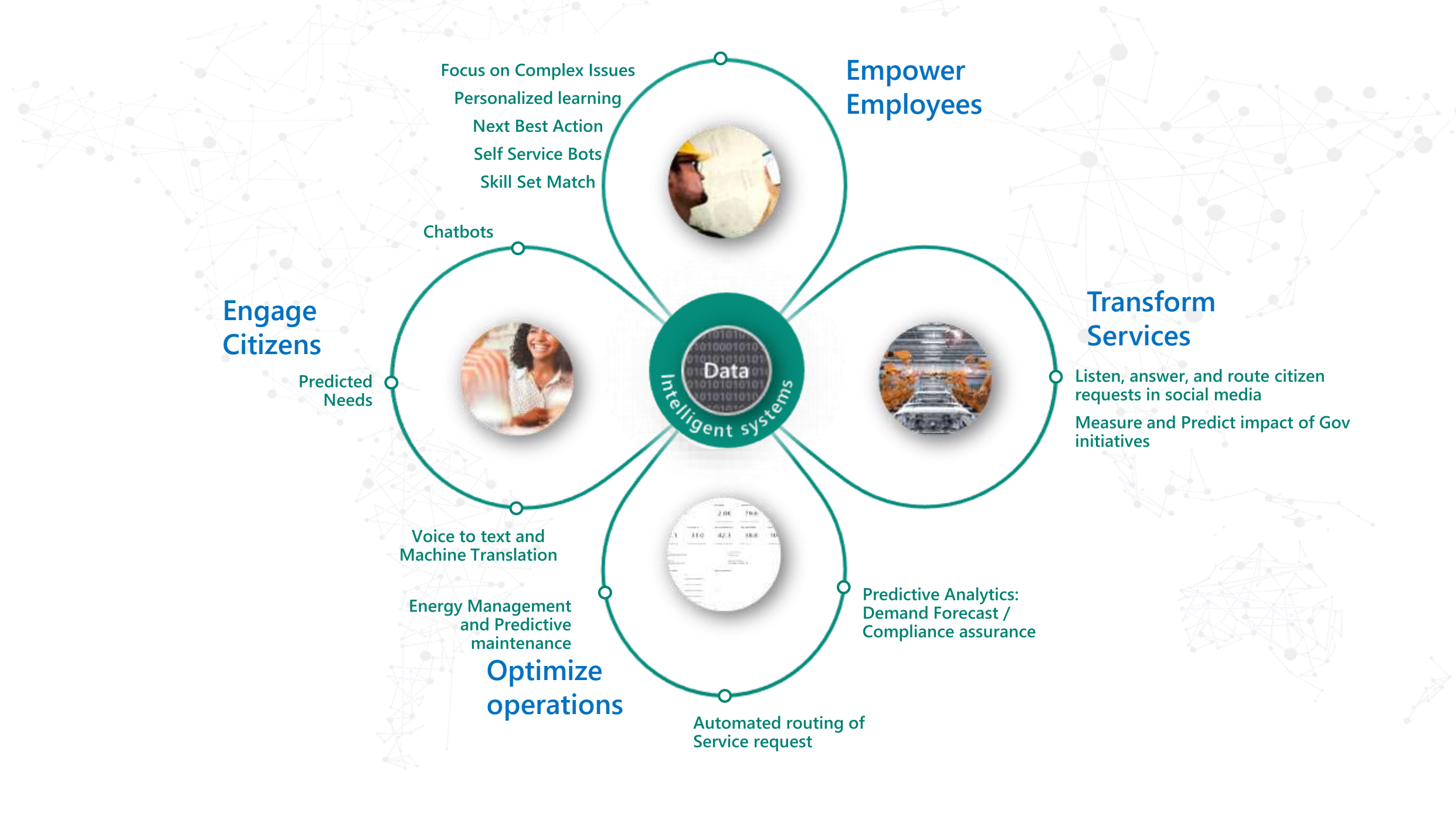
Proactive maintenance visit



Citizen never disrupted



Through digital transformation, public organizations have the potential to increase customer satisfaction by **20%**, operational efficiency by **20%**, and employee engagement by **30%**.
McKinsey, 2017



Empower Employees

Focus on Complex Issues
Personalized learning
Next Best Action
Self Service Bots
Skill Set Match



Transform Services

Listen, answer, and route citizen requests in social media
Measure and Predict impact of Gov initiatives



Optimize operations

Predictive Analytics: Demand Forecast / Compliance assurance



Automated routing of Service request

Engage Citizens

Predicted Needs

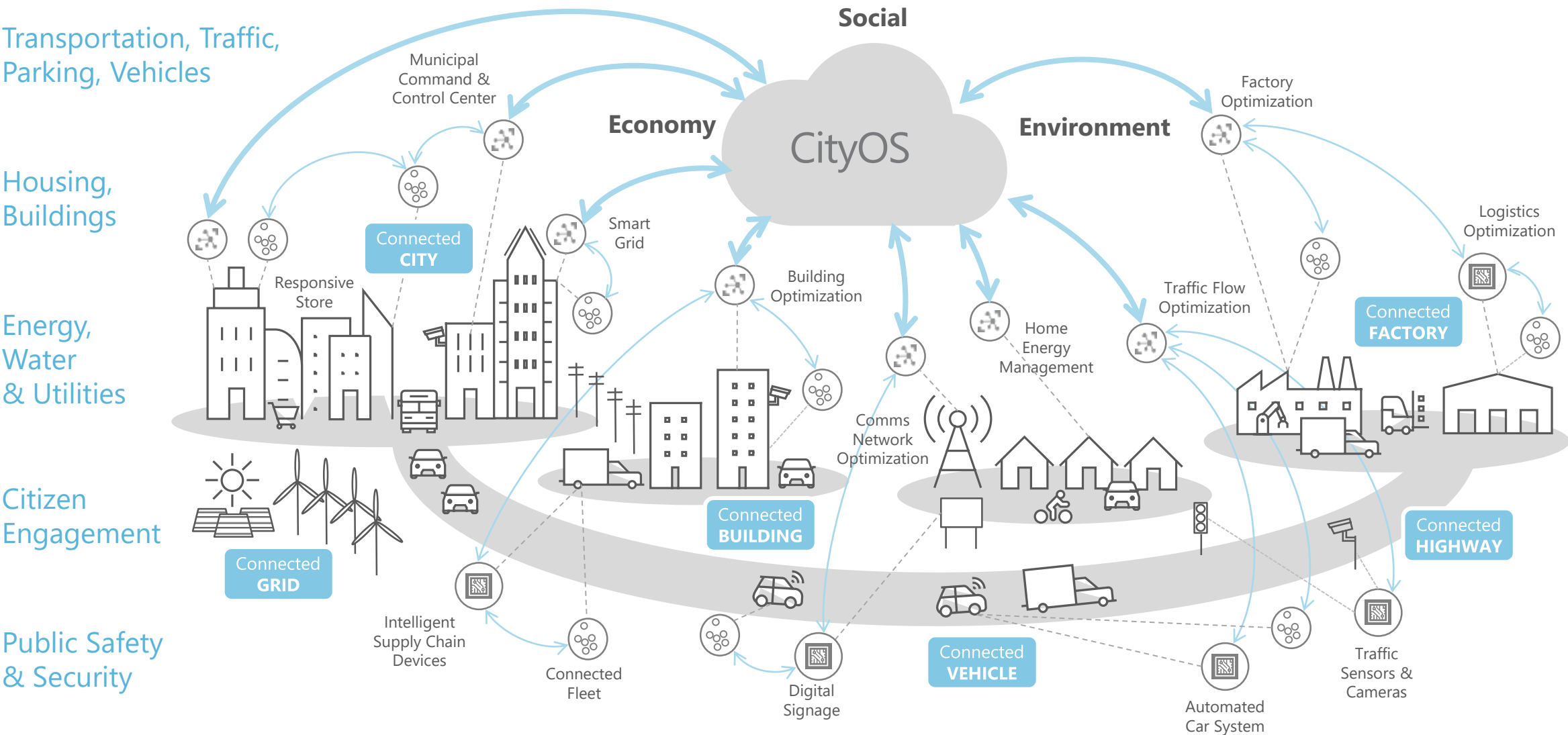


Chatbots

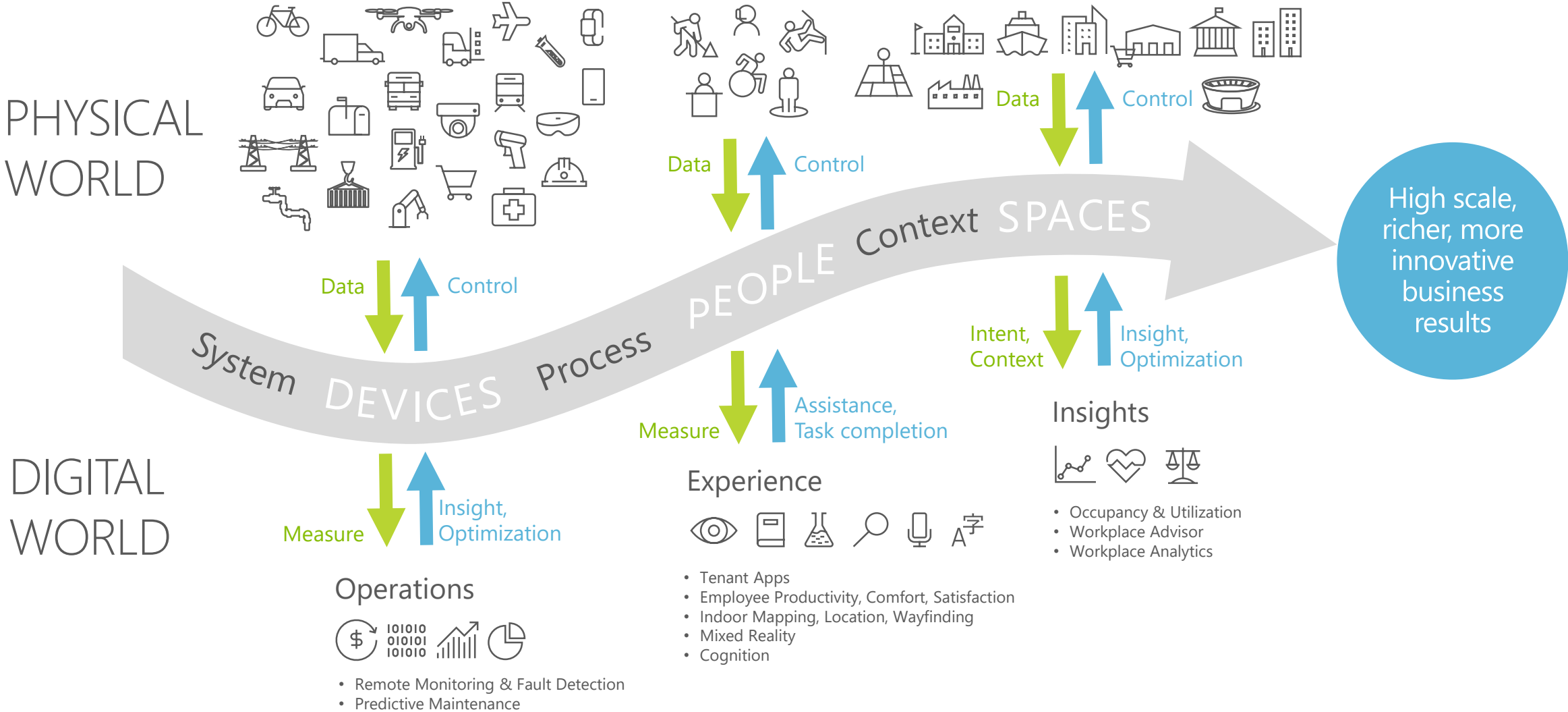
Voice to text and Machine Translation

Energy Management and Predictive maintenance

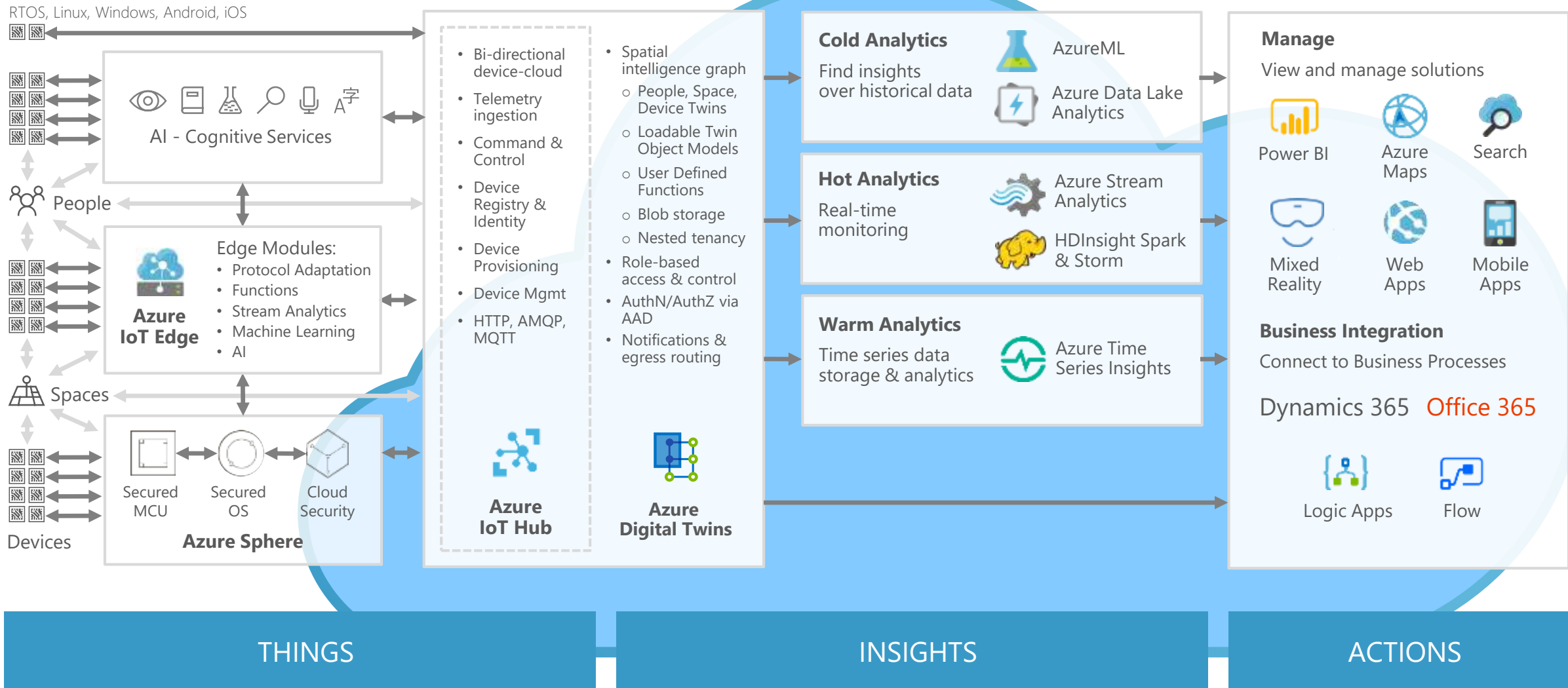
CITY INTELLIGENT INFRASTRUCTURE



DIGITAL TWINS: FUSING PHYSICAL AND DIGITAL



MODEL & INTERACT WITH THE REAL WORLD





City of Brampton
empowers citizens
to engage with the
city when and
where they want



Los Angeles
improves sanitation
services with a
cloud-based
spatially enabled
mobile solution



State of Hawaii
digital
transformation
benefits employees,
citizens, and state
budget



**Somerset County
Council** boosts
innovation and
savings with cloud
and open source



**Australian Taxation
Office** drives new
digital and mobile
projects supporting
reinvention and
transformation
initiative



State of Indiana
makes doing business
easier than ever with a
one-stop government
portal



**Main Roads
WA** keeps
traffic moving



**California
Department of
Social Services**
goes digital to
deliver faster, more
efficient services to
citizens



**City of Grand
Rapids** streamlines
customer service,
lowers costs



City of Regina
adds automated
services, saves
money with cloud
solution



**Toronto Transit
Commission**
delivers enhanced
customer service
and increased
efficiencies



**Transport for
London** makes
contactless
payment flawless



**Greater
Manchester**
provides real-time
open data
information



States of Jersey
improving
services for their
citizens



City of Helsinki
lowers cost, drives
efficiencies with
IoT



**Montgomery
County** lowers
costs, enhances
service delivery





City uses AI to analyze citizen data and proactively deliver health and social services

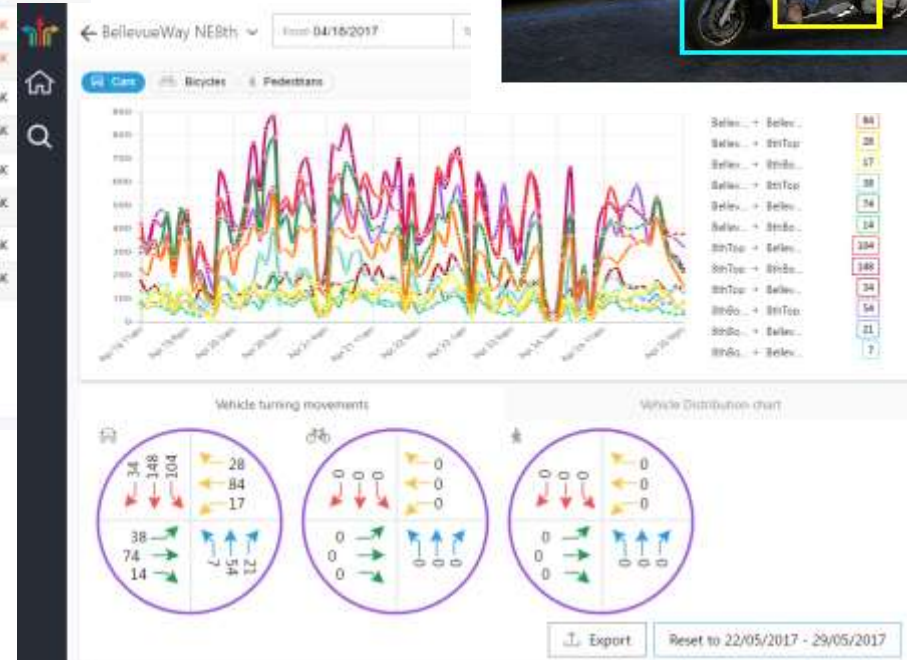
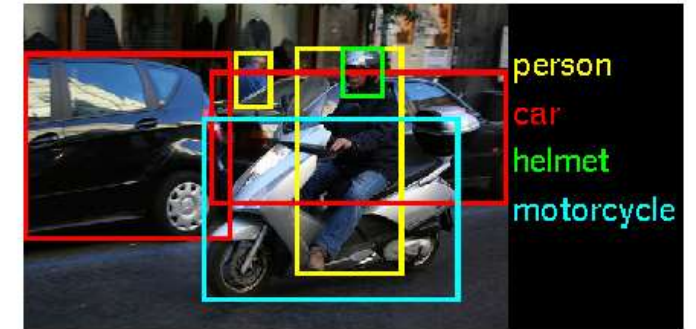
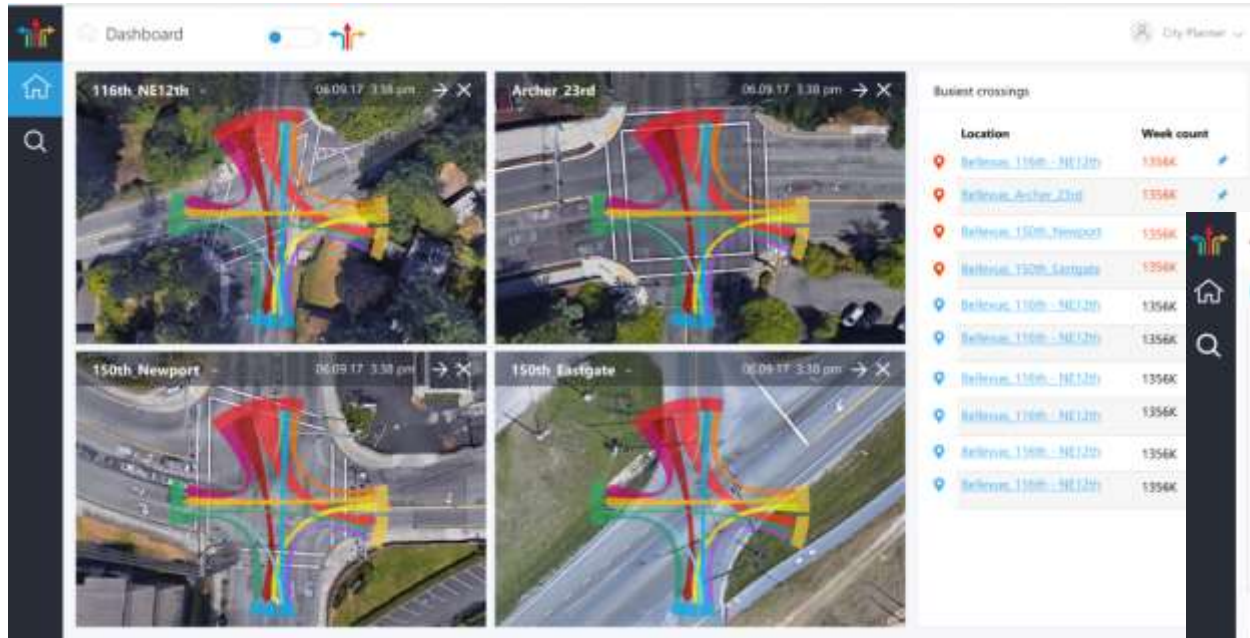
Espoo, Finland, is a hub of technology and business innovation, and the city wants to deliver public services that are just as innovative. To better understand the service needs of its 282,000 citizens, Espoo worked with software and services company Tieto to build an experimental City as a Service platform that combines Tieto AI know-how with Microsoft Azure cloud services. The successful experiment demonstrated that the city can use the platform to predict which citizens may need social welfare services, provide those services proactively—and deliver far better outcomes.

“We showed that we can use AI to work together with our citizens, businesses, and agencies to create a brighter future for everyone in Espoo.”

Päivi Sutinen: Director for City as a Service Development



Bellevue's Vision Zero



Traffic Analytics Dashboard

vavz.azurewebsites.net

Ochsner Health System

Bringing innovation to inpatient care with AI

CHALLENGE

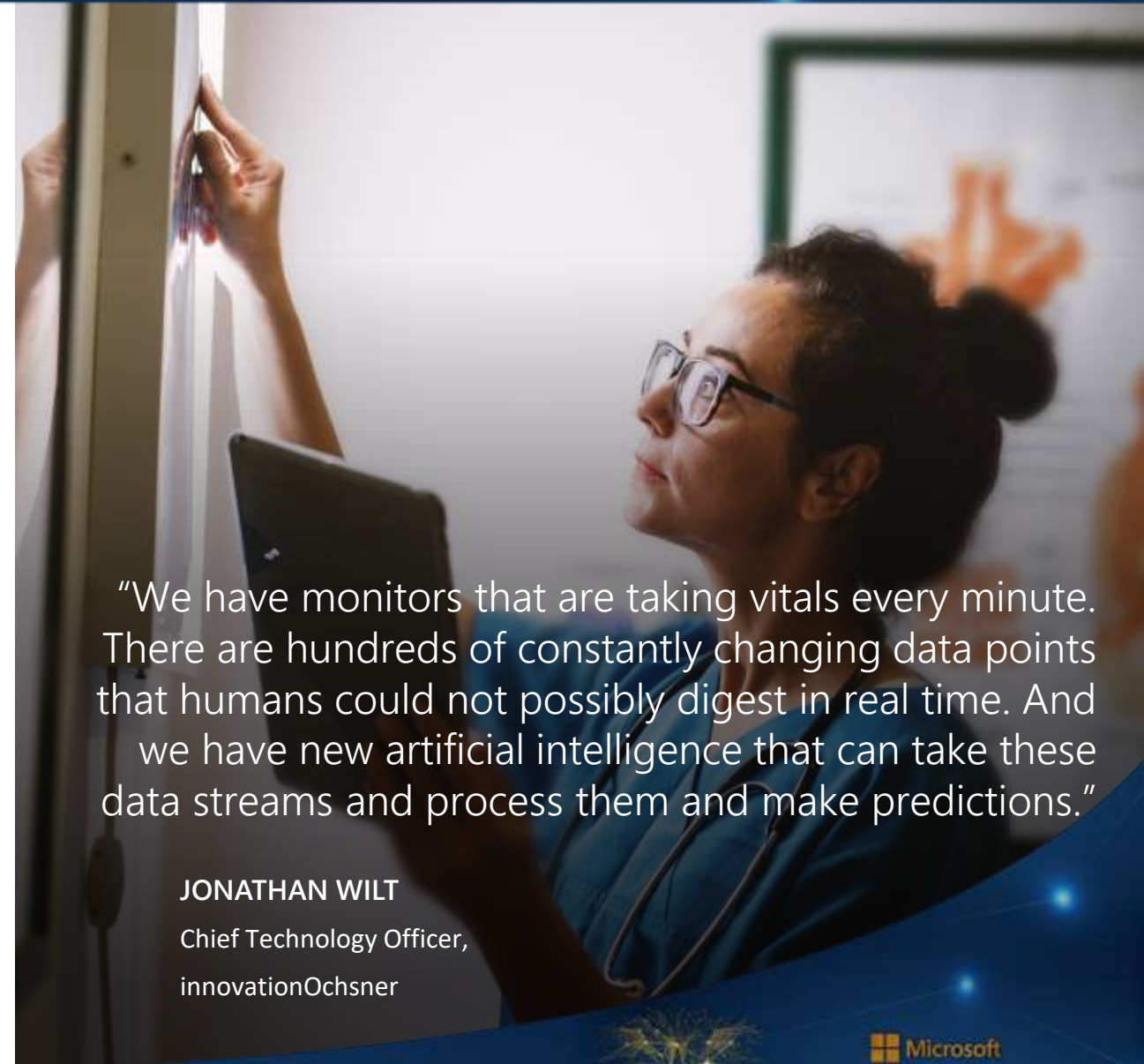
Ochsner, Louisiana's largest not-for-profit health system, needed a more efficient way to analyze patient vitals that protected privacy while saving money and improving outcomes.

SOLUTION

Ochsner developed an AI-powered predictive modelling tool that continually monitors a patient's condition, analyzing this high volume of complex data to identify subtle changes in their condition. If anomalous values are detected, the solution generates an alert that prompts clinicians to check on a patient to potentially avoid a cardiac or respiratory arrest.

BENEFITS

- Reduced the number of cardiac and respiratory arrests leading to fewer complications
- Transferred fewer patients to the ICU
- Shortened patient stays



"We have monitors that are taking vitals every minute. There are hundreds of constantly changing data points that humans could not possibly digest in real time. And we have new artificial intelligence that can take these data streams and process them and make predictions."

JONATHAN WILT

Chief Technology Officer,
innovationOchsner

Microsoft

CLOUD SUMMIT



Drone-based electric grid inspector powered by deep learning

Challenge

- Traditional power line inspection services are costly
- Demand for low cost image scoring and support for multiple concurrent customers
- Needed powerful AI to execute on a drone solution

Solution

- Deep learning to analyze multiple streaming data feeds
- Azure GPUs support Single Shot multibox detectors
- Reliable, consistent, and highly elastic scalability with Azure Batch Shipyards

ENABLING PARTNERS





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