

## Why IoT?

loT is no longer a nice to have, it's a must. Billions of devices are being connected from edge to cloud – helping businesses and organizations create insights to improve productivity and cut costs. And as leaders in the market, Microsoft Azure and Intel loT have joined forces to offer you proven, production-ready loT solutions to optimize your business.



**of decision makers** surveyed in a recent study believe IoT is critical to their organization's success.<sup>i</sup>



of those surveyed anticipate using as much or more IoT compared to today.



of all data is forecast to be generated by IoT in 2025.



**of enterprises** will run varying levels of data processing at the IoT edge by 2023.

### Microsoft and Intel offer the most comprehensive portfolio of IoT and Edge technologies in the market

Together, Microsoft and Intel integrate the best of Microsoft's cloud technology with Intel's compute power to advance joint IoT technologies. Built to drive digital transformation, this innovative collaboration offers advanced IoT technologies that operate in nearly any environment—incorporating data and devices from the edge to the cloud, and everywhere in between.

## Intelligent edge technology powered by Microsoft and Intel enables customers to:

### **Build flexible, secure IoT solutions.**

Deploy agile, custom IoT solutions with speed, security, and choice with Intel and Microsoft as your technology foundation; open and flexible platform services; and comprehensive developer tools.

### Power today and the future.

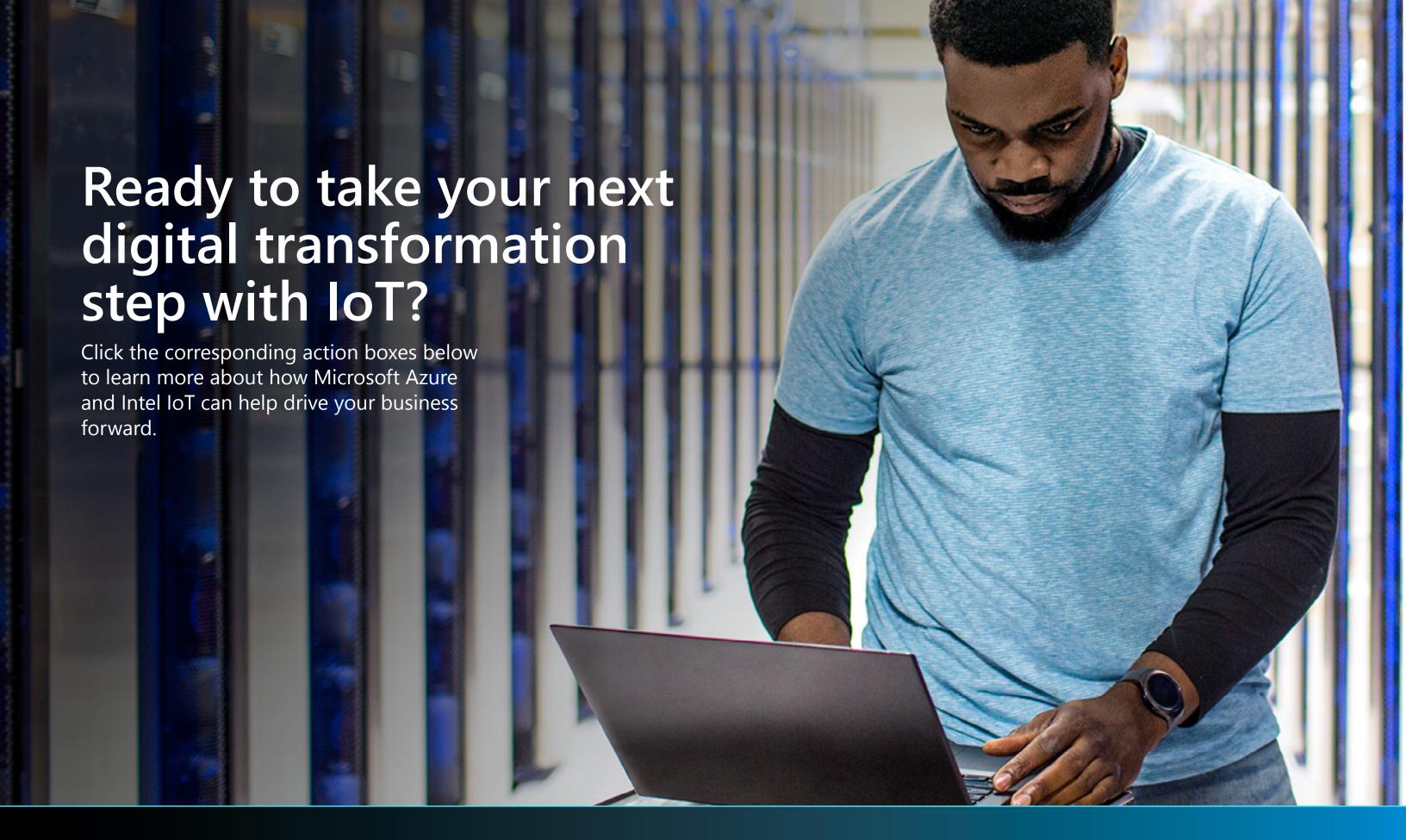
Get IoT that works well now and provides optimal performance for the future. Make a bold commitment to new technologies such as enhanced AI, machine learning and mixed reality and integrate them into your existing systems.

### Optimize the edge.

Bring intelligence and workloads to the edge, react more quickly to change, and operate and scale more reliably with Intel and Microsoft Azure.

Power your business with Microsoft Azure IoT

Speed your digital transformation with advanced Intel technology

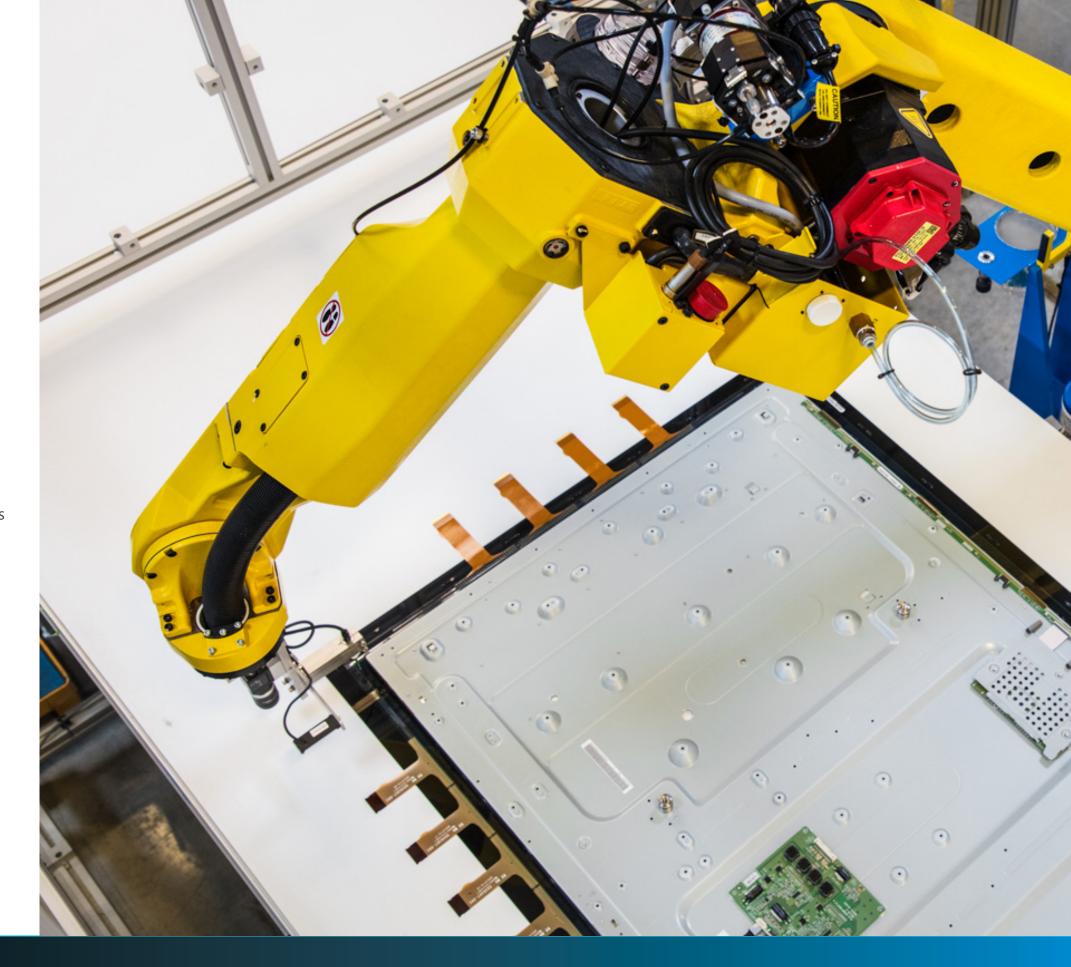


## What can I do with IoT?

### IoT lets you solve your business problems using your own data.

loT enables businesses to monitor assets or even entire environments in real-time, and then use the data collected to predict anything about those assets or environments. This enables businesses to move from being reactive to proactive, optimize operations, provide new breakthrough services and more.

Click to learn more about these use cases:





### Monitor to optimize

Monitor almost any kind of asset—including heavy machinery, vehicles, and even livestock—almost anywhere, either continuously or at regular intervals. By tracking location, performance, condition, or environmental factors, the insights you gain from IoT-connected things may help you:

Reduce your service costs and refine your business processes.

Increase the number of Know where your resources Understand how your appointments per day, cut fuel are at any given moment products are performing costs, and reduce wear-anddown to which vehicle they're on—for improved field service, to provide a better experience tear by using machine learning for your customers. capabilities to route freight or stronger security, and increased vehicles more efficiently. employee safety.



# A national food services company reaps \$8K in savings per location

Compass Group, a national food services company, used ELM FieldSight™ to conduct remote monitoring that could scale across devices, reduce audits, and minimize food spoilage. The organization deployed 18 wireless IoT sensors on their refrigeration units. These were connected to Intel-powered edge computing devices and the Azure IoT cloud. The sensors captured temperature, humidity, and light data. ROI calculations projected \$8,000 in savings per location over a three-year period as well as improvements in energy efficiency, food waste, and quality assurance. ELM Fieldsight yielded similar results for an energy customer in the Caribbean, including reducing harmful emissions by 90%¹.

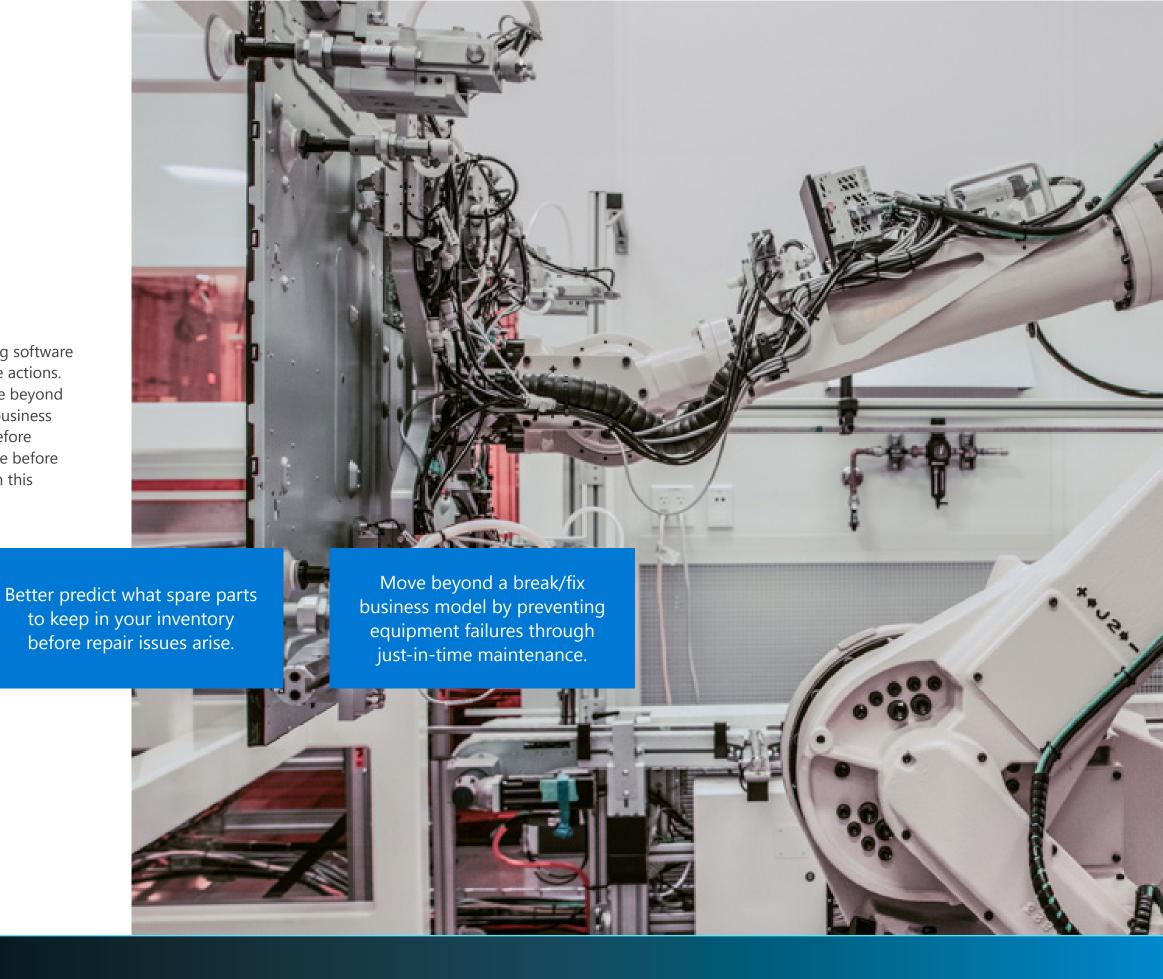




### **Predict to transform**

Predictive maintenance incorporates machine learning software that analyzes data to predict outcomes and automate actions. Predictive capabilities allow service providers to move beyond the traditional reactive and scheduled maintenance business model to using data and analysis to identify issues before they become critical, allowing technicians to intervene before customers even realize there's a problem. Armed with this information, you're able to:

Figure out what mechanical or operational conditions are causing failures or slowdowns.





# Glass company predicts breakdowns with 85% accuracy, two days in advance

An international glass manufacturer was experiencing equipment failures that led to unexpected costs and low production availability. Using the Neal Analytics Predictive Maintenance solution, which includes Microsoft Azure Machine Learning, the company can identify variables and anomalies influence equipment failure. This solution enables the company to predict breakdowns two days in advance with 85% accuracy and take appropriate action, resulting in lower maintenance costs and less unplanned downtime.



## An ecosystem of solutions to power your enterprise

Click logos to read about the solution

	MANUFACTURING	RETAIL	S M A R T S P A C E S	HEALTHCARE	INDUSTRIAL
Remote Monitoring					
Remote Monitoring  Predictive Maintenance					
Predictive Maintenance					

### Intelligent edge technologies give customers a head-start on IoT

### Find enterprise-ready, off-theshelf solutions

Together, Microsoft and Intel have cultivated an expansive partner ecosystem in IoT. That means customers like you can access hundreds of ready-made solutions that are fast and easy to deploy. They serve industries ranging from healthcare to manufacturing. And since they're built upon Microsoft Azure and Intel technologies, customers can trust they're secure and reliable.

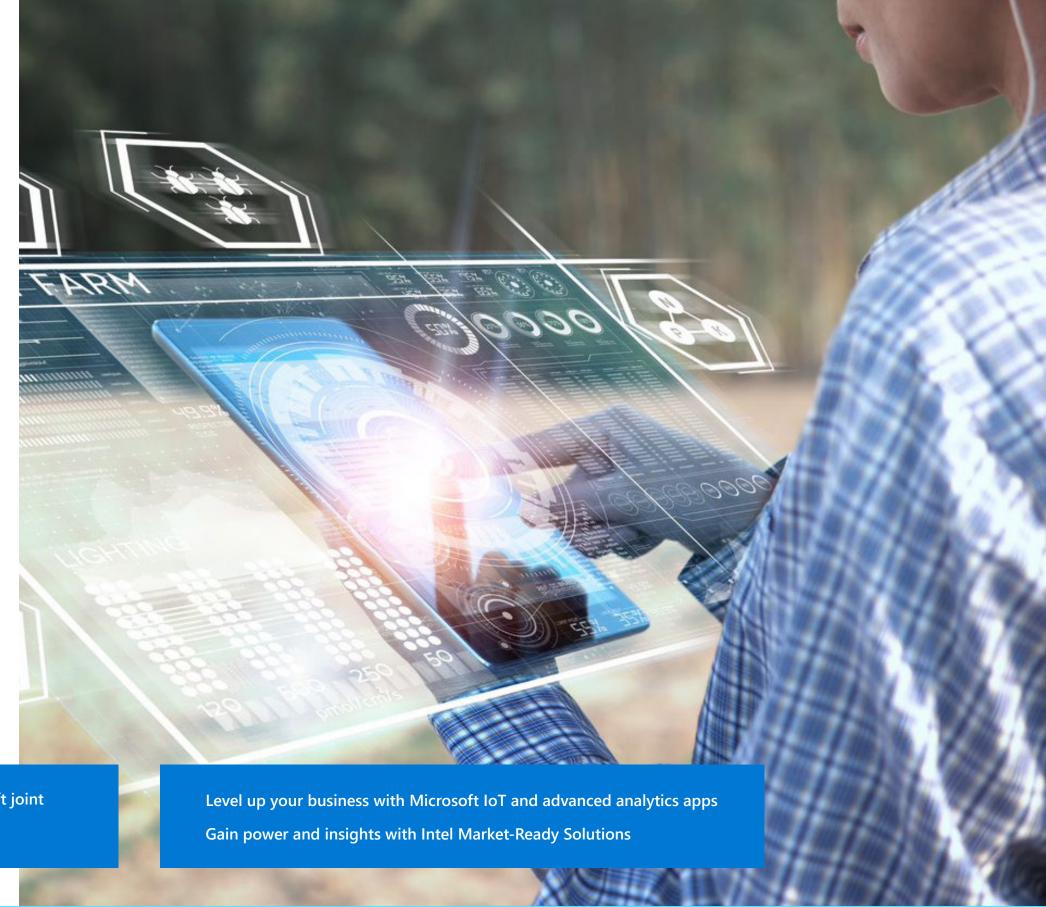
Optimize your future with ready-made solutions from The Intelligent Edge Explore best-in-class solutions to boost your business

## Explore ready-to-use partner IoT solutions

## Power your business today and in the future

Designing and implementing IoT solutions for current and future needs takes time, resources, and expertise that not every organization has. In 2020, the average IoT project took a full twelve months to implement.

And yet organizations know that efficient adoption of IoT is critical for their future. That's why Microsoft and Intel jointly are cultivating the most expansive and fastest-growing partner network for IoT applications. These partners offer proven customer-ready, end-to-end solutions for hundreds of applications in multiple industries.



Go to TheIntelligentEdge.com to see our Intel and Microsoft joint IoT partner solutions





ActionPoint delivers on the promise of the industrial Internet of things (IIoT) with Intel Atom® processors and Azure IoT Hub and advanced analytics. This solution brings together all the necessary components of end-to-end IIoT in single, easy-to-deploy solutions, so you can take advantage of the many sources of rich data in your business and move toward smart manufacturing.

Learn more

Watch video



### Solution

IoT-PREDICT

### Benefit

10-minute setup out of the box

An industrial-grade IoT solution

Enables smart manufacturing



## IoT solution helps manufacturers of any size

The ADLINK MCM-100 DataConnect Pro Solution gives manufacturers the ability to better monitor their operations and equipment, with less downtime. Manufacturers want actionable data to keep operations optimized, and they want to take advantage of the Internet of Things to stay competitive into the future.

Learn more



### Solution

ADLINK MCM-100 Data Connect Pro

### Benefit

Streamline operations
Boost profits
Simple deployment



## Connect and manage all your IoT devices

Remotely manage distributed equipment with an integrated, solution-ready package featuring wired and wireless edge-to-cloud connectivity, protocol conversion, edge intelligence, and asset-management features. Using Microsoft Azure, it provides a scalable platform for your system data, while Intel-based edge devices offer high performance and reliability.

Learn more

Watch video



### Solution

Advantech Wise-PaaS/ EdgeLink

### Benefit

Collect and manage data from all devices

Capture opportunity

Deploy rapidly

Convert protocols and formats automatically

Visualize data



## Gain visibility into supply chain logistics

With the Intel Connected Logistics Platform, users can obtain real-time alerts and insights from their shipments around the world. A flexible IoT architecture built on Microsoft Azure enables rapid deployment and advanced analytics.

Learn more

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### Solution

Intel Connected Logistics Platform

### Benefit

Useful insights

Cost effective

Automated notifications

Optimized operations

Interoperable

Detailed analytics



## Get omnichannel inventory and logistics visibility

Navisphere Vision gives you visibility into your logistics and inventory across your retail and online channels. Our machine learning algorithms leverage 115 years of experience, Azure services, and Intel IoT sensors to help you notify customers of delays, react to disruptions, and optimize on-hand inventory across your global network.

Learn more

Watch video



### Solution

Navisphere® Vision

### **Benefit**

Gain insight

React quickly

Lower costs



## Create safer workplaces with real-time visibility

Hitachi Solutions IoT Service Hub for Worker Safety is an endto-end, Azure cloud-based solution that helps protect workers' well-being and ensure the safety of equipment and work environments by gathering data-at-the-edge using advanced Intel processors, then using artificial intelligence to provide realtime visibility, actionable insights, and alerts when safety and environmental parameters are exceeded.

Learn more

### **@**Hitachi Solutions

### Solution

IoT Service Hub

### Benefit

Improve worker safety
Create a safer workplace
Support safety initiatives



## Improve equipment health to optimize operations

Insight Smart Industrial Operations is a customizable solution accelerator that helps you analyze equipment health, efficiency, and productivity. Machine learning on Microsoft Azure delivers powerful insights, while Intel edge computing brings them to your entire business.

Learn more



### Solution

Insight Smart Industrial Operations

### **Benefit**

Real-time visibility

Edge ready

Autonomous innovation

Reduced downtime

Easy deployment

Detailed analytics



## Improve industrial worker safety with video and Al

Linker Vision AI helps you keep your workers safe in hazardous job sites by using video cameras and smart auto-labeling algorithms. Our system, powered by Azure Stack Edge and Intel Xeon processors, detects safety issues and concerns in real-time and alerts your team so they can improve safety and minimize accidents and injuries.

Learn more Watch video



### Solution

Industrial Worker Safety with Vision Al

### Benefit

Improve safety

Minimize downtime

Enhance compliance



## Bring the power of AI to your factory floor

Spyglass Connected Factory is an Al-driven platform powered by Intel processors that empowers manufacturers to comprehensively monitor, control, and predict crucial aspects of the manufacturing process in real time. By leveraging secure, flexible Azure cloud technologies for real-time data streaming and predictive analytics, the platform enables manufacturers to effectively reduce unplanned downtime, improve product quality, and optimize production processes – ultimately reducing operating costs.

Learn more

Watch video



### Solution

Spyglass Connected Factory

### **Benefit**

Optimize production and reduce downtime

Rapid time-to-value

Comprehensive platform for Al



## Make factories smarter and more efficient

Monitor manufacturing equipment in real time and track its full lifecycle to predict and prevent equipment failure, reduce downtime, and optimize processes. The Neal Analytics predictive maintenance solution combines advanced data analysis, artificial intelligence algorithms, and IoT built on Microsoft Azure with Intel technology to help you control costs and improve product quality.

Learn more



### Solution

Predictive Maintenance

### Benefit

Reduce downtime & costs
Increase productivity
Improve product quality









QuEST Fleet Management uses sensors to continuously assess the performance and efficiencies of fleet vehicles and driver behavior, thanks to advanced Intel processors and Azure IoT Hub. Easy to deploy, using smart dongles, and ideal for fleets of cars, vans, and light/medium trucks, the solution reduces costs by forecasting the wear-and-tear on vehicles, optimizing routing, pinpointing inefficient driving, and delivering actionable real-time insights around the clock.

Learn more Watch video Statistic Source

15% increase in productivity20% reduction in fuel expenses

**5%** reduction in total miles

**30 min** reduction in driver man-hours

10% increase in vehicle utilization

**30%** reduction in vehicle idle



### Solution

**QuEST Fleet Management** 

### **Benefit**

Improve monitoring efficiency

Support remote vehicle and driver management

Enable predictive & preventive maintenance



## Empower employees and engage customers using digital signage

Improve sales, capture customer attention, and boost employee engagement with relevant content displayed across your business. L Squared Digital Signage provides enterprise-grade engagement tools designed to improve communication for the modern workplace and modern store. Hosted on Microsoft Azure for secure, highly scalable performance, L Squared is also a certified Intel IoT Market Ready Solution.

Learn more Watch video



### Solution

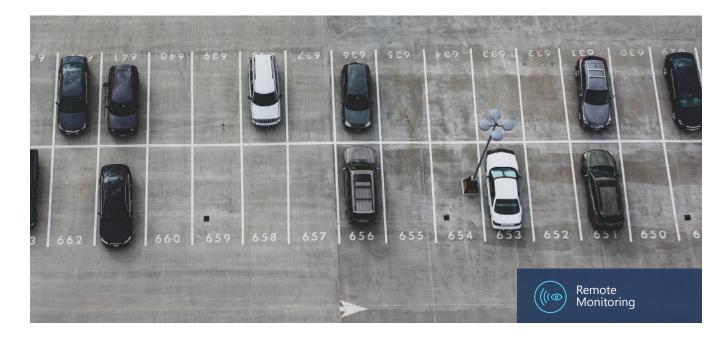
L Squared Digital Signage

### Benefit

Communicate with flair
Target effectively
Ensure timely reach
Eliminate downtime
Simplify management
Get detailed analytics









Uncanny Vision's solution helps you maximize the value and returns of your open parking lot. Our real-time license plate recognition analyzes video with custom AI, Azure Stack Edge, and Intel Xeon processors to deliver in/out monitoring, integration with your existing parking management system and the smoothest entry/exit experience for your customers.

Learn more

Watch video



### Solution

Uncanny ANPR

### **Benefit**

Improve customer experience
Increase revenue
Simplify managemen

Thanks to Uncanny Vision's high accuracy LPR, we launched our vision of a new frictionless parking kiosk. The ease of integration, accuracy of plate data, and willingness to offer concepts and ideas to improve our products with their applications, allowed us to push the boundaries of what we thought was possible."

Jared Schmidt, Founder of parcPERFECT, Florida



## Create the retail store of the future

WonderStore, by Kruell Srl, enables retailers to create personalized shopping experiences by applying intelligent analytics to real-time customer data with the latest Intel processors and Azure IoT Hub. Using advanced computer vision to collect in-store information on customer demographics, mood, dwell time, fashion choices, and buying habits, merchants can gain meaningful, Al-based insights that inform dynamic store environments to drive growth and efficiency.

Learn more



### Solution

WonderStore

#### **Benefit**

Gain meaningful insights

Improve customer experiences

Grow your business





## Improve energy efficiency

AAEON Lighting Control System provides wireless-connected streetlights that can be remotely monitored using Intel processors and Microsoft Azure cloud services to help reduce energy consumption and carbon emissions while increasing urban safety within municipalities.

Learn more



### Solution

AAEON Intelligent Street Lighting

#### Benefit

Simplify management
Minimize electrical output
Easy to install
Cost effective
Reduce downtime
Get detailed analytics



## Shape the smart workplace

The Crestron XiO Cloud™ helps organizations increase employee productivity, improve facility efficiencies, and strengthen decision-making by enabling them to globally provision, monitor, and manage Creston IoT-enabled devices. These advanced capabilities are powered by the latest Intel processors and Azure IoT Hub technologies.

### Learn more Watch video



### Solution

Crestron XiO Cloud™

### Benefit

Drive productivity
Improve efficiency
Optimize decision-making

On average, we host about 8,000 video conferences per month, but it's usually tough to conduct those in the smaller huddle spaces our employees sometimes prefer. Mercury's flexibility in sharing AV data allows us to quickly expand the types of spaces that can accommodate video calls with minimal effort from my team."

Brent Daniel, UCC Solutions Engineer, Unum Group





### Helping cities and organizations become safer, smarter, and provide a better experience

Hitachi Smart Spaces enabled by Lumada Video Insights for retail, campuses, transportation, and public areas are the building blocks for smart, safer, and thriving cities. Organizations can leverage modular solutions that combine IoT, big data, analytics, and machine learning with Hitachi Video Analytics, advanced Intel processors, and Azure cloud technology to improve safety, customer experience, and operational efficiency.

Learn more Watch video

### HITACHI Inspire the Next

### Solution

**Smart Spaces** 

### Benefit

Increase safety & security

Drive operational efficiency & reduced waste

Improve citizen & customer experience

We monitor the heartbeat of our streets. We [use] systems from Hitachi that actually look at the living street as an ecosystem."

Michael Sherwood, Director of Technology and Innovation, City of Las Vegas



## Smart connected video surveillance

Innodep's Vurix platform is an Azure cloud-based video management system, built on Intel Xeon® processors, that is designed to ensure safety and security for organizations ranging from small companies to large urban centers. The platform seamlessly integrates input from up to 10,000 CCTV surveillance cameras to provide Al-driven insights from a unified control center that efficiently monitors, records, and manages massive datasets.

Learn more



### Solution

Vurix

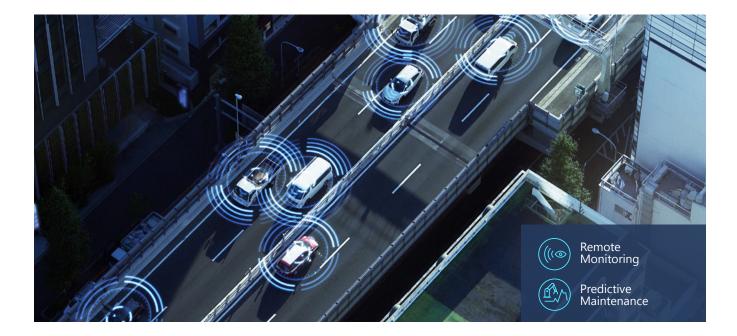
### **Benefit**

Increase public safety

Scale quickly and reliably

Reduce costs & utilize your existing assets





### Smart, connected city infrastructure

Siemen's MindSphere® City Graph integrates legacy systems and connected IoT devices using a digital model to drive intelligent insights within cities, campuses, districts, and communities. Powered by Intel processors and Azure Digital Twin technology, Siemens City Graph monitors and predicts critical data – such as traffic volume, trash collection, and electricity use – breaking down silos and enabling efficient city operations.

Learn more

### **SIEMENS**

### Solution

MindSphere® City Graph

### Benefit

Save energy Increase visibility Improve quality of life



### Improve workplace health and productivity

View Smart Windows helps you optimize your buildings for health, productivity, and appeal with self-tinting glass. Custom Al algorithms, Azure Stack Edge and Intel Xeon processors analyze location, surrounding buildings, sun position, weather and user preferences to let in more daylight, reduce glare, and create a stronger connection to the outdoors.

**Statistic Source** Learn more

**V**ľew.

### Solution

**Smart Windows** 

### **Benefit**

Increase productivity Optimize office space Enhance appeal

Up to 18% annual energy savings

Up to 23% reduction in peak cooling





## Unleash the power of connected data

GE Healthcare's Carestation Insights is a suite of cloud-based applications built on Microsoft Azure. It securely gathers data from Intel-powered anesthesia devices to identify previously unseen patterns and reveal opportunities to help improve clinical, operational, and financial outcomes.

### Learn more



### Solution

**Carestation Insights** 

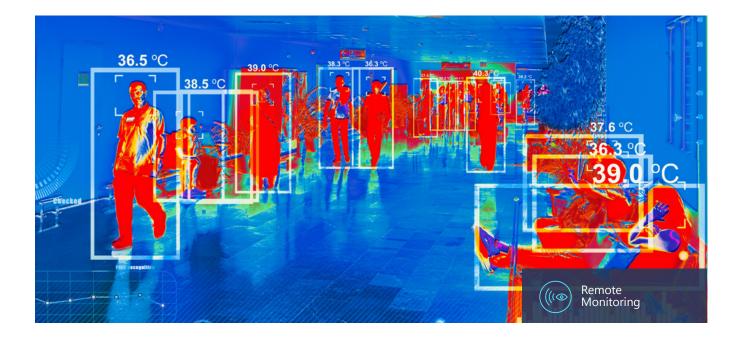
### Benefit

Enable improved outcomes

Drive operational efficiencies

Unlock transformative
insights

Dr. Richard French, Physician, Christchurch Hospital



### Detect fever in crowds

IQ-FeverCheck is an automated, cost-efficient system that remotely screens people for fever in vast, complex facilities. Useful in locations such as transportation hubs, warehouses, manufacturing facilities, and retail centers, IQ-FeverCheck is an end-to-end package that incorporates advanced heat-sensing cameras, super edge computing devices powered by Intel, preloaded smart tracking software, and Azure cloud technology.

Learn more Watch video



### Solution

**IQ-Fever Check** 

### **Benefit**

Reduce staff

Minimize risk

Operate at scale

Low flow" hospital realizes an additional 13% decrease in fresh gas flow rates. The data derived from Carestation Insights has profoundly altered our understanding of how our anesthesiologists are conducting volatile based anesthesia. It's allowed specific educational interventions, which have provided an immediate reduction in fresh gas flow rates."







## Smart, portable health screening and testing

Citizen Care Pods are customizable, self-contained health screening and testing units that use intelligent technology to enable safety and security in the physical testing environment for patients and front-line health workers. Powered by Azure cloud platform, Azure Al, and Intel technology, Citizen Care Pods expedite health testing, screening, and eventually vaccination in high-traffic business environments and communities.

Learn more Watch video



### **Solution**

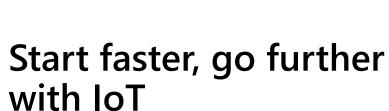
Citizen Care Pods

### **Benefit**

Expanded healthcare
Customizable features
Scalable operation

Detection and prevention of the further spread of viruses is key to getting people back to work and interacting together in public again. The Citizen Care Pod demonstrates how intelligent technology can accelerate that effort in a safe and sensible manner."

Stan Leguin, Vice President and General Manager, Digital Innovation, Insight Enterprises.



Designed for industrial equipment manufacturers, Bright Wolf's customizable reference system and enterprise API provides the fastest path to secure and flexible edge solutions using Azure IoT and Intel solutions.

Learn more



### Bright Wolf

#### Solution

Industrial IoT solutions

### Benefit

Integrate devices
Collect data

Optimize outcomes

We chose Bright Wolf for their experience at the industrial edge and commitment to rapid delivery. They were able to quickly understand both our business and technical needs, and helped us build a flexible connected product solution, based on Microsoft Azure, and designed to give us a strong competitive advantage going forward."

Daric Schweikart, Vice President, Shape Technologies Group





## Simplify compliance and reduce risk

FieldSight by ELM is a unified maintenance platform that simplifies compliance and reduces risk for retail service chains and utilities. The platform collects critical performance data from sensors placed on generators or power grid components, filters that data with Intel Atom® processors, and uses Azure cloud-based analytics to generate reports and detect alerts on a centralized dashboard.

Learn more Statistic Source



### Solution

FieldSight™

### Benefit

Simplify compliance Minimize risk Increase efficiency

**\$8K** saved/location over 3 years **90%** reduction in harmful emissions

## Enhance your IoT business efficiency

### **Understand best practices**

As Internet of Things (IoT) technology evolves, more businesses are adopting solutions that give them new insights, allow for monitoring of buildings and assets, increase productivity, and even create revenue streams.

The next step in many companies' technology journey is the transition from connected assets to connected environments.

To speed you on the road to digital transformation with IoT, Microsoft and Intel jointly created a detailed <u>whitepaper</u> that covers:

How the four pillars of digital transformation can guide your IoT development conversations.

Why emerging technologies like AI and edge compute are affecting business strategies and helping businesses realize more success.

Six questions that can help speed up timelines for IoT implementation.

How Intel, Microsoft, and their expanding ecosystem of partners can simplify IoT through market-ready solutions.

iloT Signals, Hypothesis, Edition 2, 2020. Data Age 2025, IDC, November 2018. UDC FutureScape: Worldwide Internet of Things 2020 Predictions — APEJ Implications, IDC, January 2020. Microsoft (2020), IoT Signals, Edition 2', available at url (accessed 12th Oct., 2020).



