Internet vecí nie je len o "veciach"
Cloudové služby pre produkčné IoT riešenia
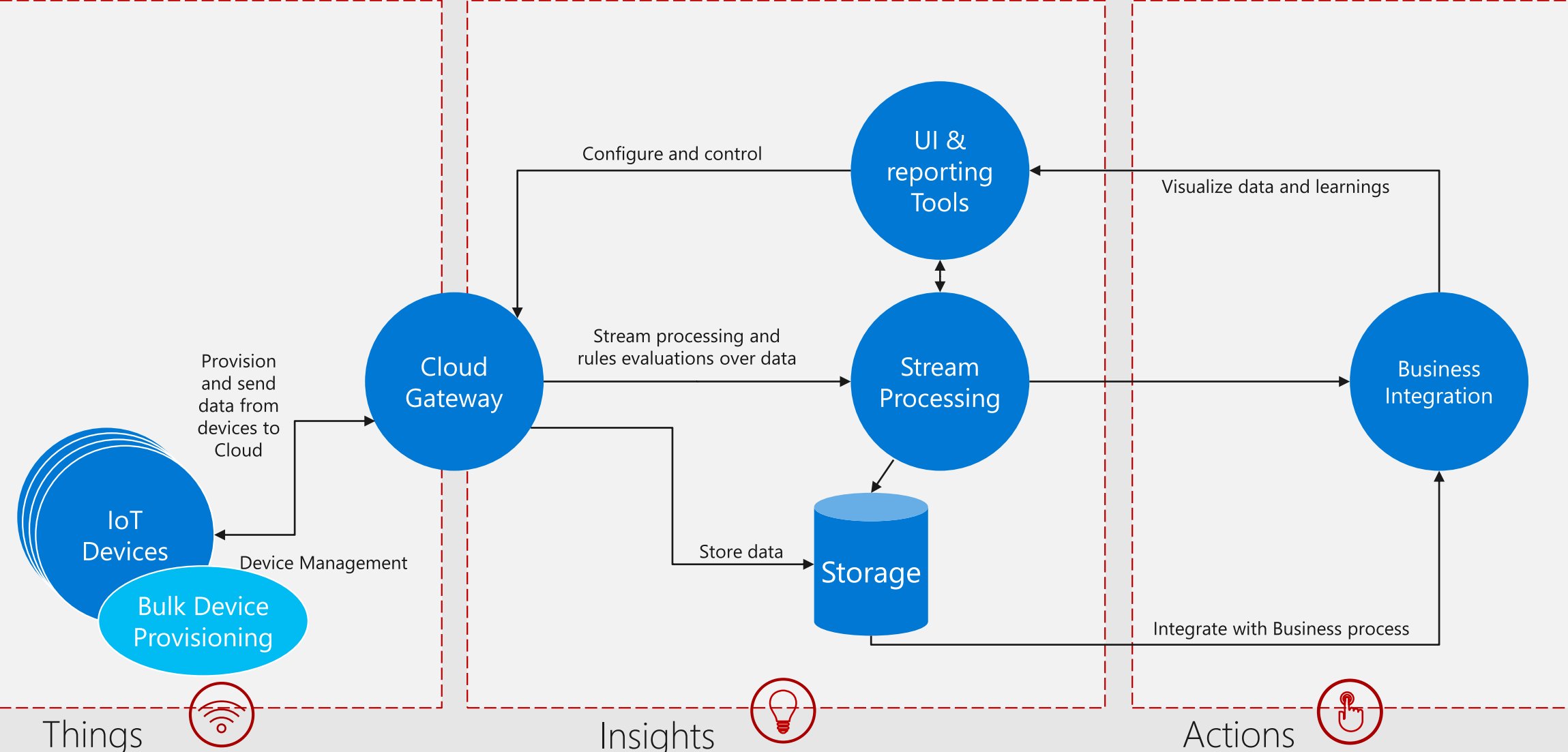
Marek Láni
Software Development Engineer
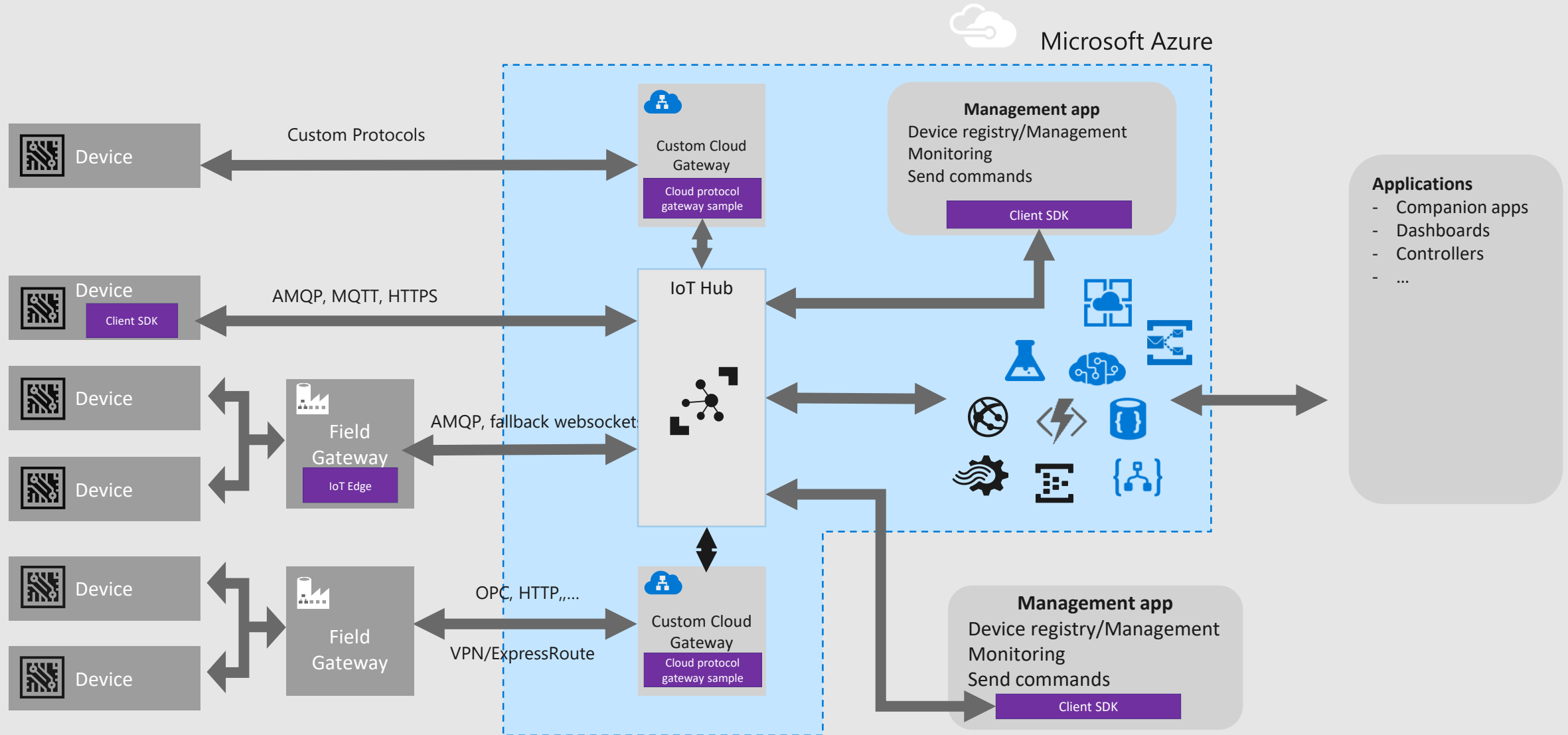
marek.lani@microsoft.com
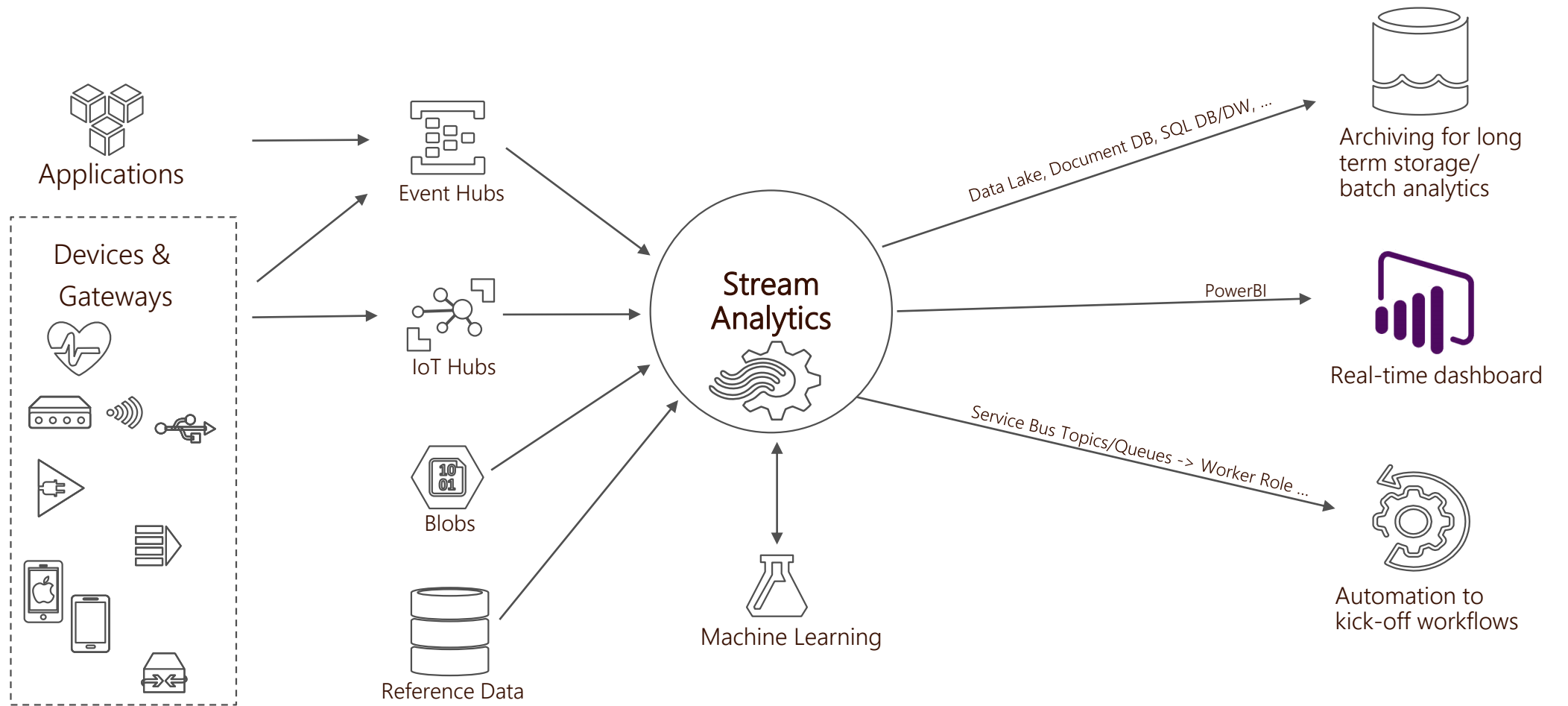github.com/mareklani

Typical IoT Architecture

Azure IoT Hub

Stream Analytics

Applications

Devices & Gateways

Event Hubs

IoT Hubs

Blobs

Reference Data

Stream Analytics

Machine Learning

Data Lake, Document DB, SQL DB/DW, ... → Archiving for long term storage/ batch analytics

PowerBI → Real-time dashboard

Service Bus Topics/Queues -> Worker Role ... → Automation to kick-off workflows

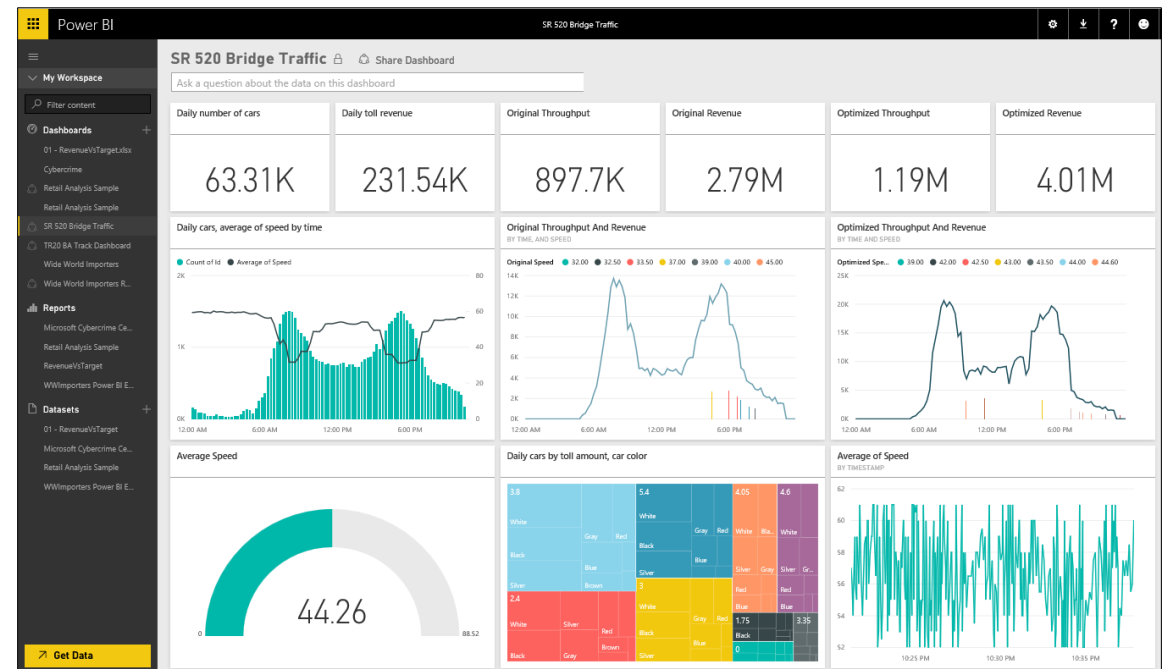Event production ⇒ Event Queuing & Stream Ingestion ⇒ Stream Analytics ⇔ Storage & Batch Analysis ⇒ Presentation & Action
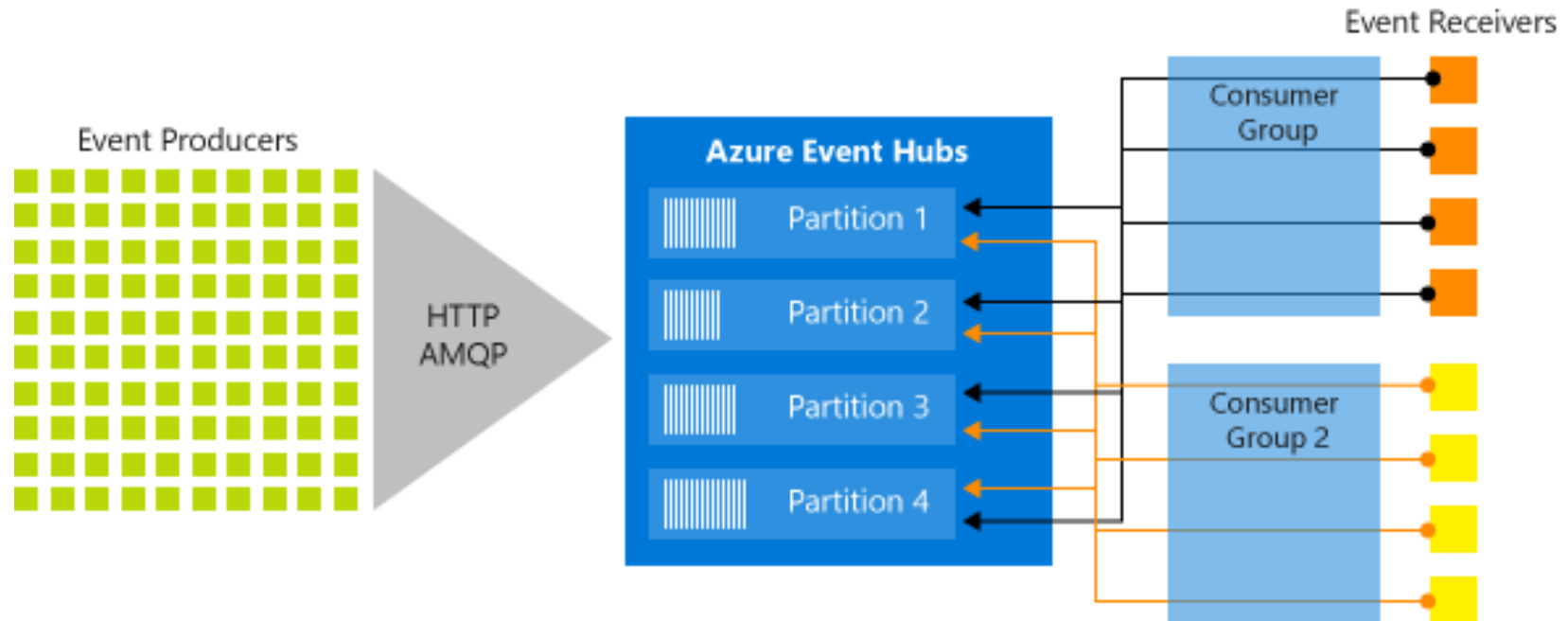
Microsoft Power BI

- Experience your data. Any data, any way, anywhere.

- Power BI is a cloud-based business analytics service that enables:
- Fast and easy access to data
- A live 360º view of the business
- Data discovery and exploration
- Insights from any device
- Collaboration across the organization
- Anyone to visualize and analyze data

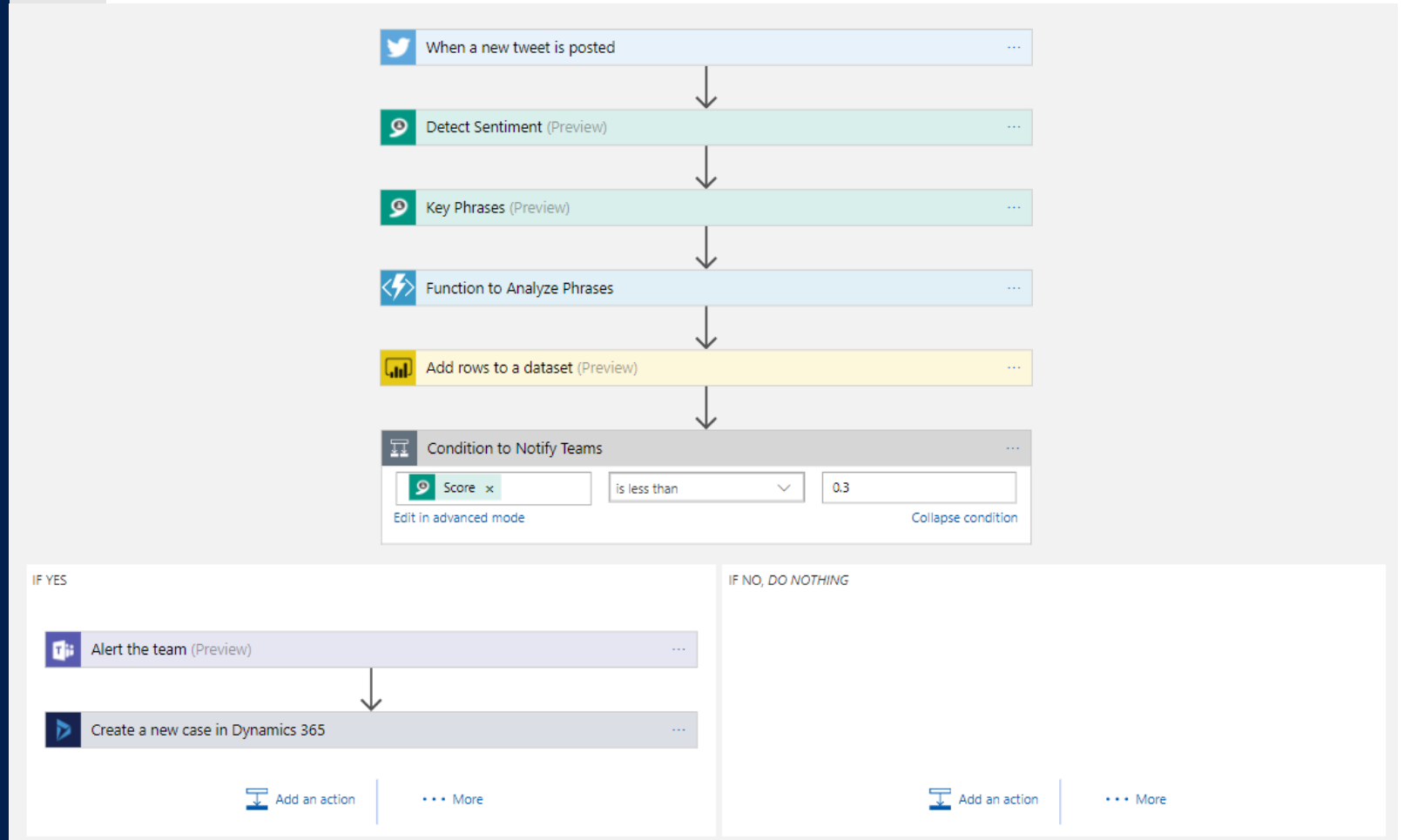Power BI

Azure Event Hub

Logic Apps

Workflow in the cloud

Powerful control flow
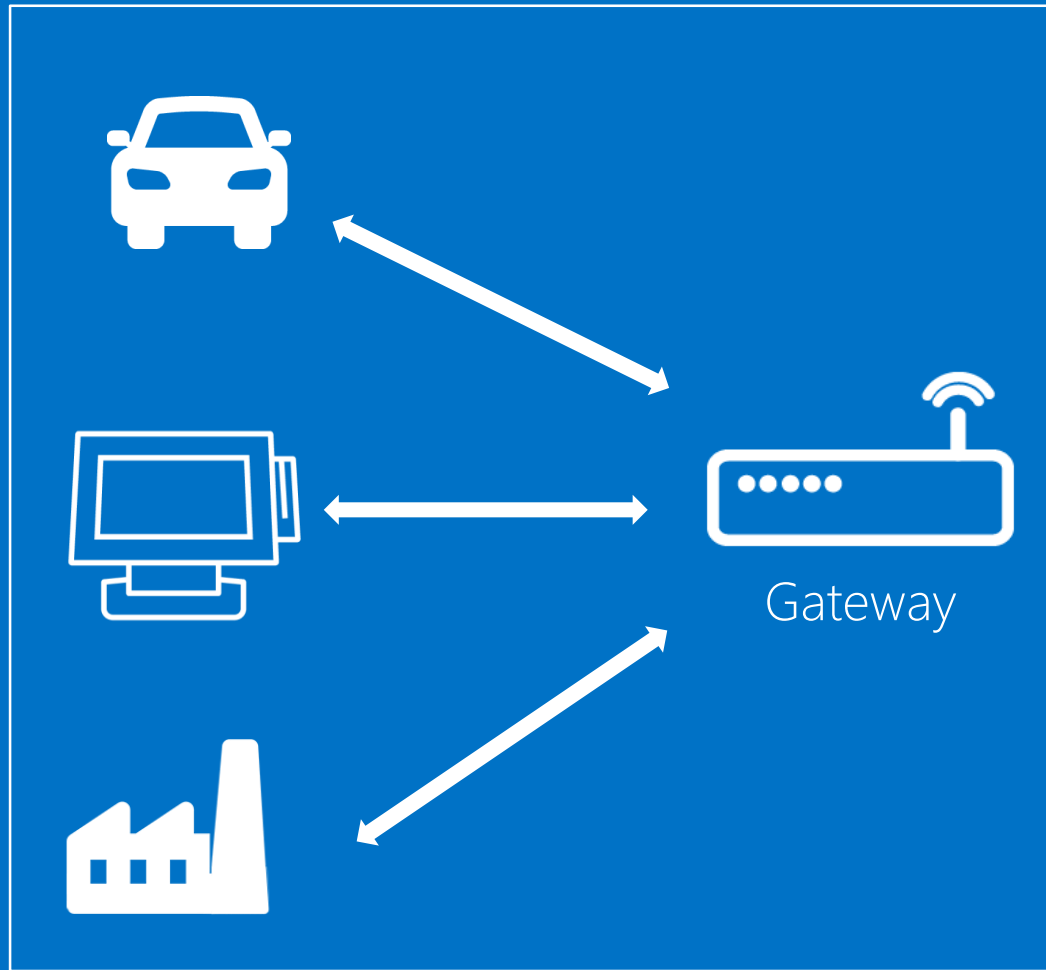
Connect disparate applications

No code designer for rapid creation

Also works within Visual Studio for added CI/CD

Real Time Monitoring & Automation DEMO
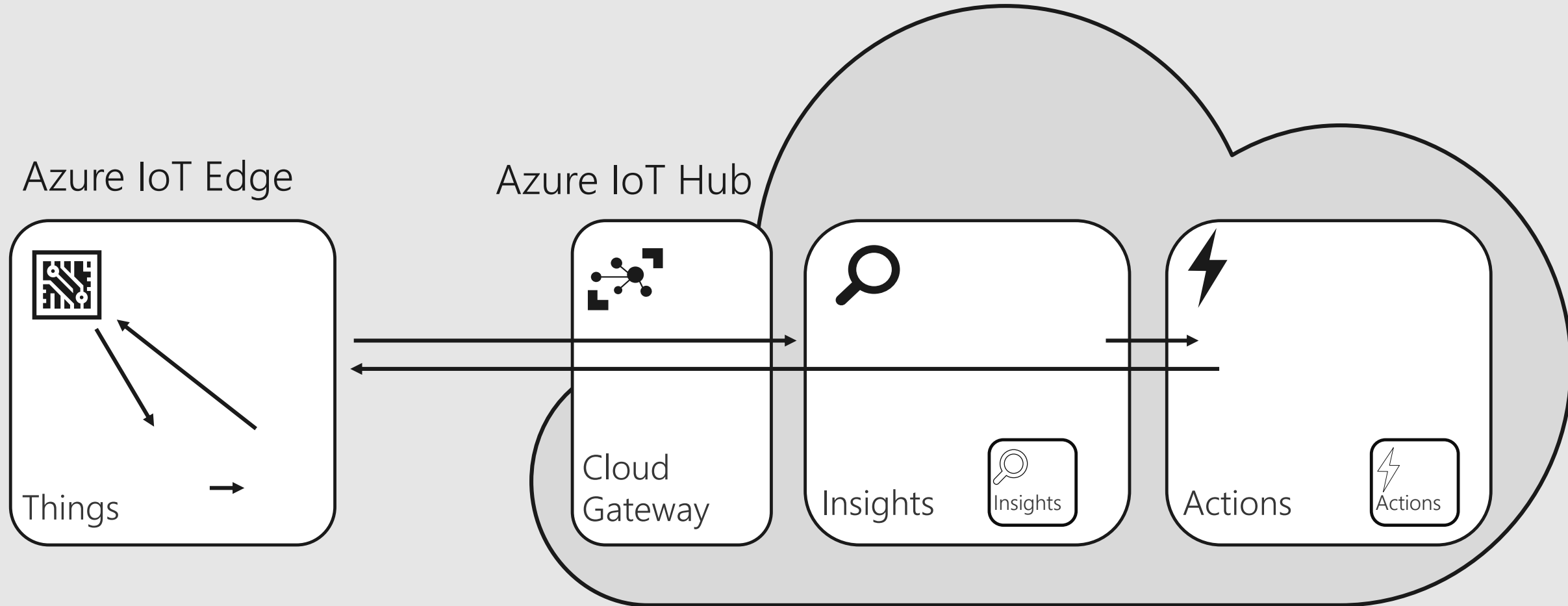
Future of IoT – Edge Computing

Gateway

Latency
Costs
Unused compute power
Offline?

Limit to

AI Model training
Heavy data processing

Edge Computing

IoT Pattern + Edge

Azure IoT Edge

Azure IoT Hub

Things

Cloud Gateway

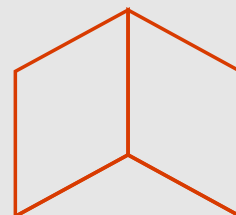Insights

Insights

Actions

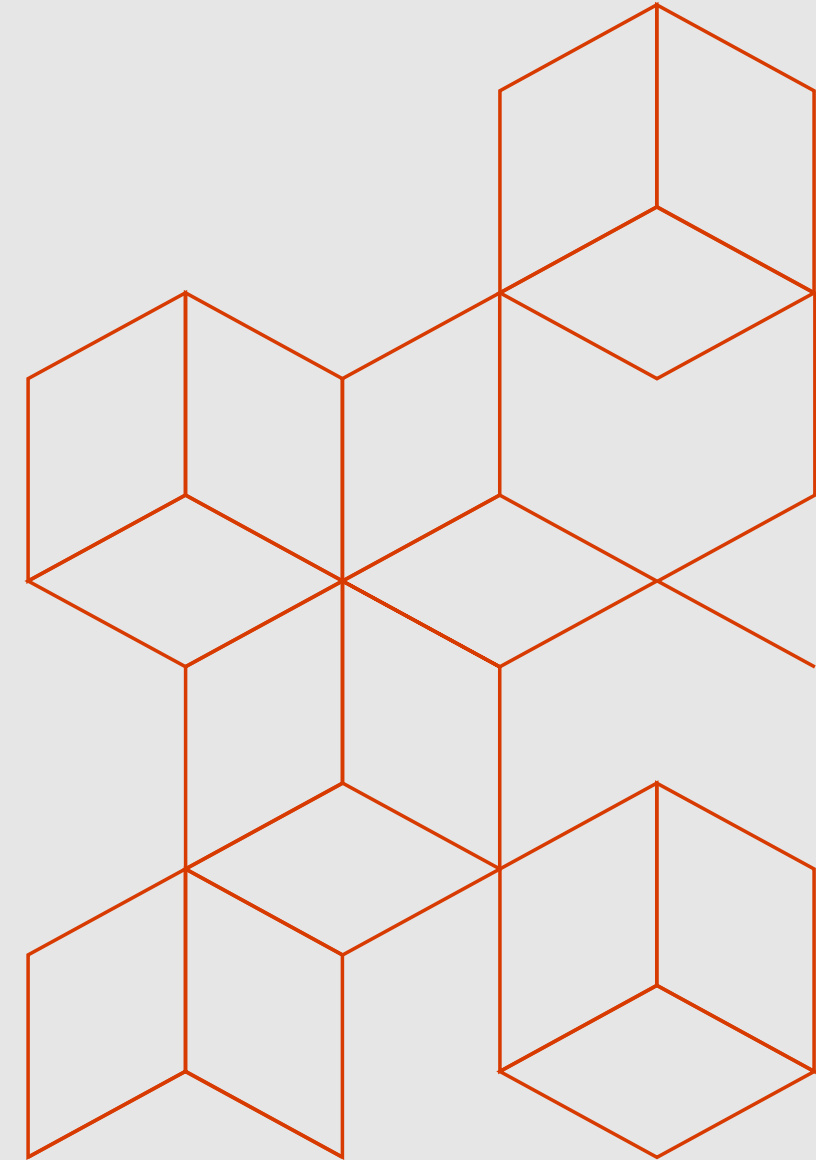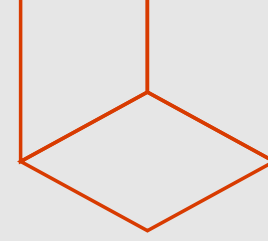Actions

Edge scenario
Real-time artificial intelligence on the Edge

DJI M210 with **payload** running Azure IoT Edge

Demo

Custom Vision AI model on the Edge

Useful links

Get Azure free trial: https://azure.microsoft.com/en-us/free/

Windows 10 IoT: https://developer.microsoft.com/en-us/windows/iot

Azure Sphere: https://azure.microsoft.com/en-us/services/azure-sphere/

Azure IoT Hub: https://docs.microsoft.com/en-us/azure/iot-hub/

Azure Stream Analytics: https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-introduction

PowerBI: https://docs.microsoft.com/en-us/power-bi/

Azure IoT Edge: https://docs.microsoft.com/en-us/azure/iot-edge/

Tech choices