



IoT in a Day

Kunal Pole

Global Black Belt, Azure IoT

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IoT in Two Hours

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Agenda

Time	Topic
2:00 pm	Azure IoT Central Overview
2:55 pm	Overview Q&A
3:00 pm	Break
3:15 pm	Azure IoT Central Demo
4:00 pm	Demo Q&A
4:15 pm	Wrap-up

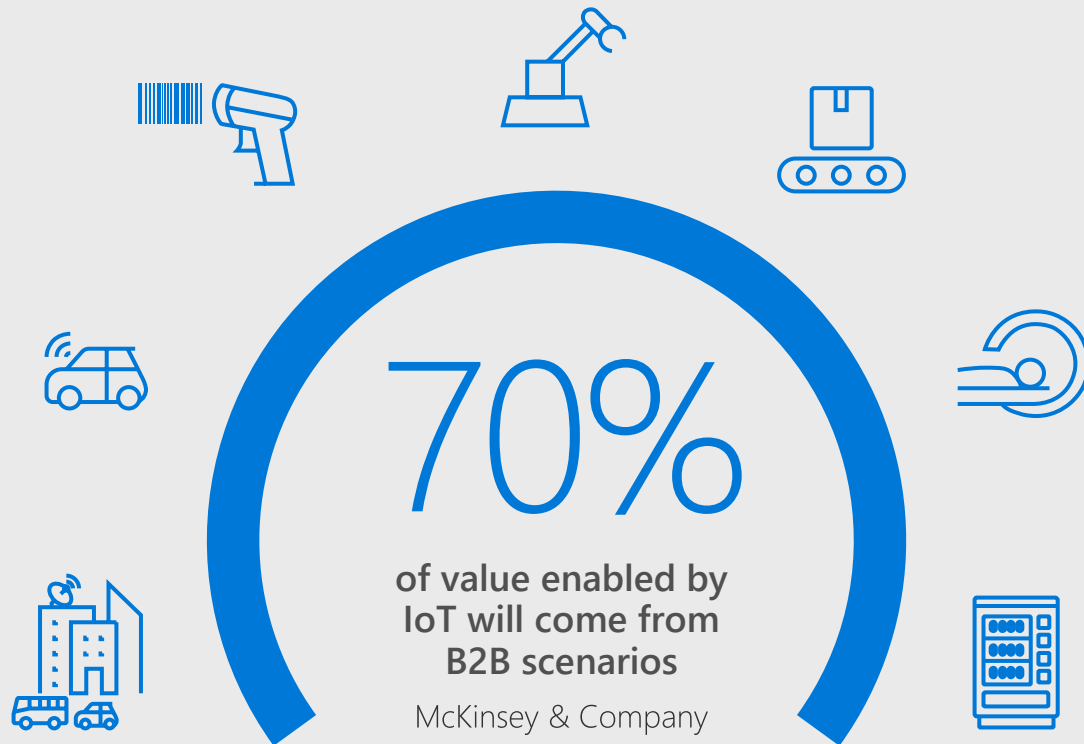


Azure IoT Central Overview

Kunal Pole



IoT and Data – Fueling the Digital Era



73%

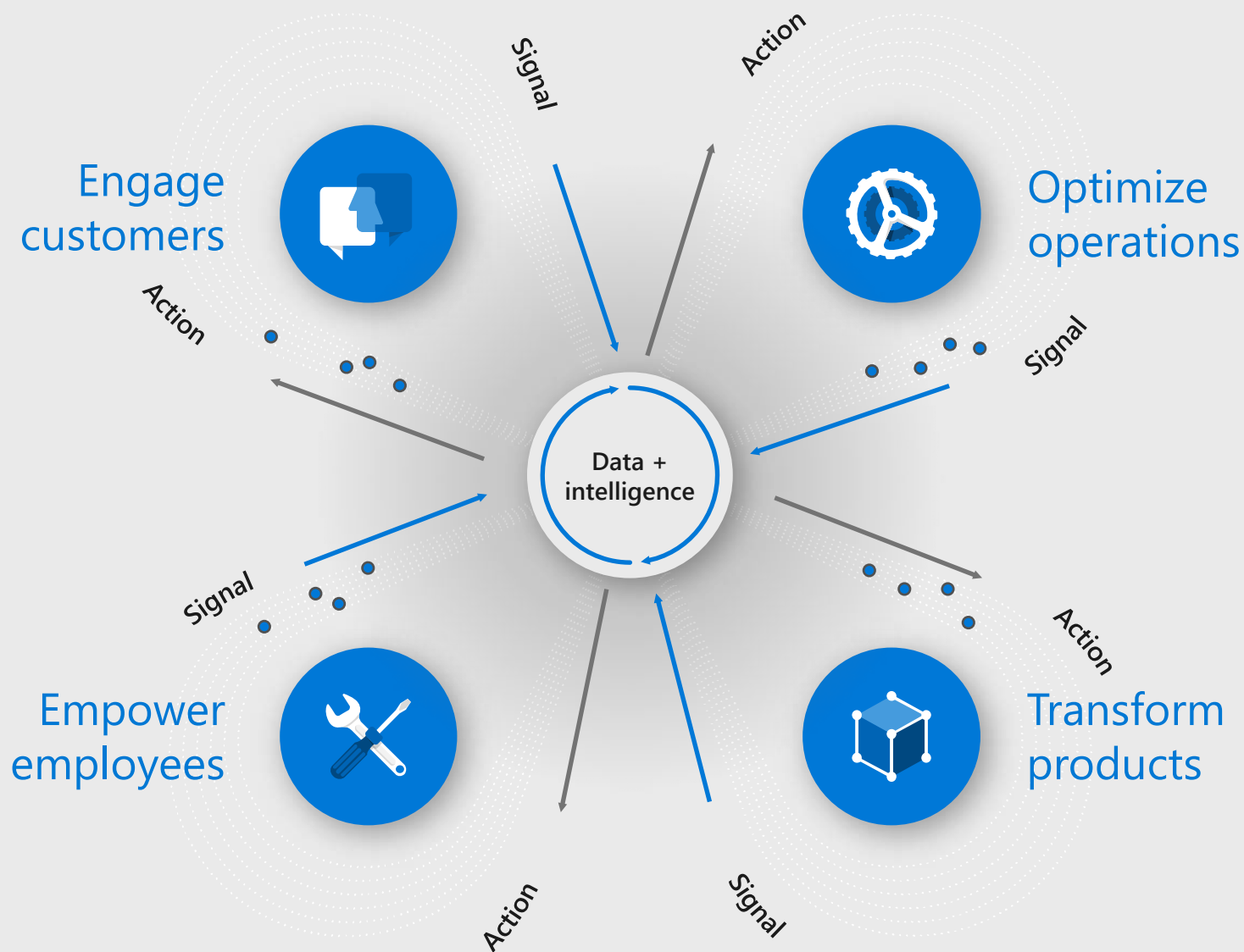
of companies surveyed are actively investing in IoT

180 ZB

digital data created by 2025 - IDC

\$100M

average increase in operating income among the most digitally transformed enterprises



80B

Connected "things" by 2025 generating 180ZB of data



\$130B

New monetization avenues due to IoT-related services



80%

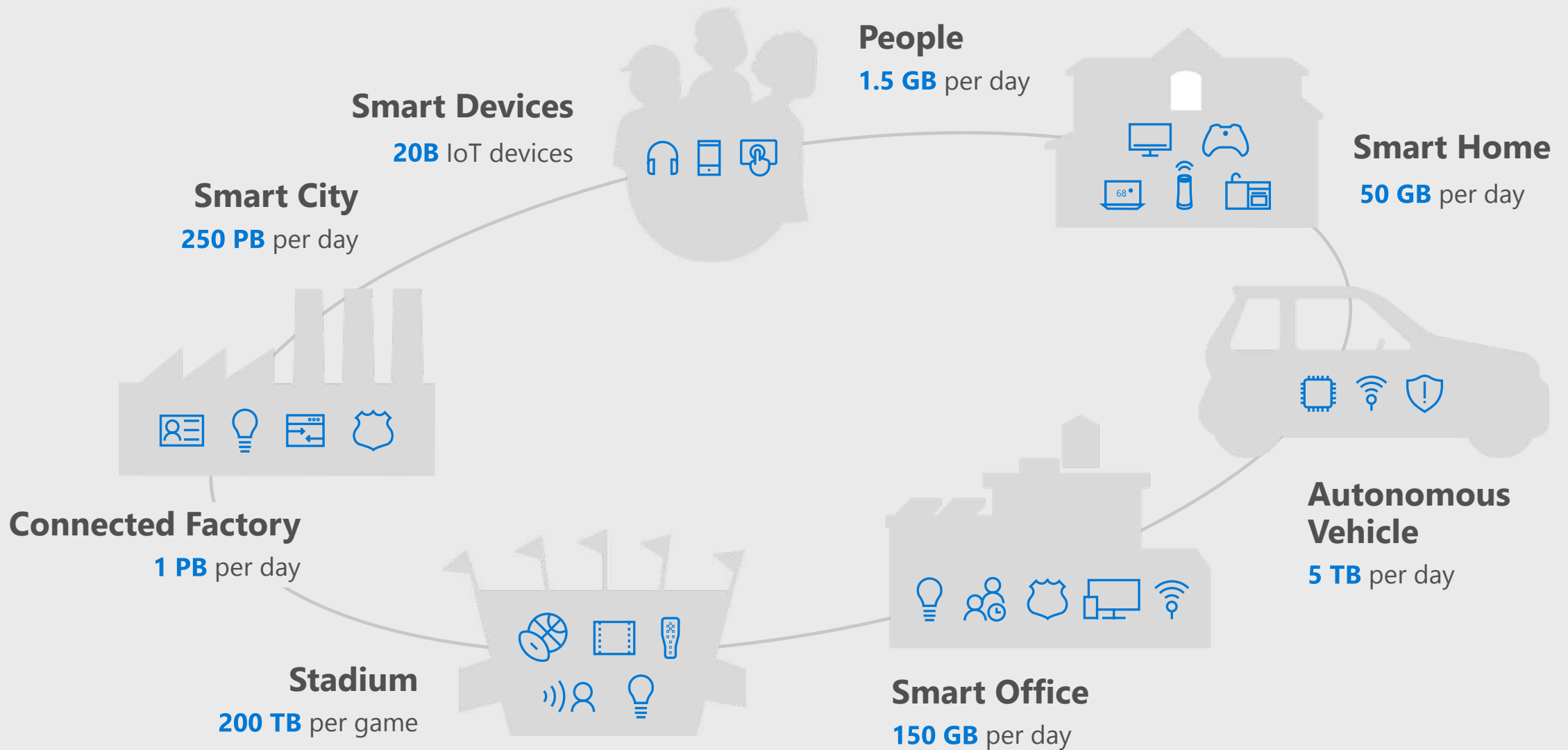
Companies that increased revenue as a result of IoT implementation



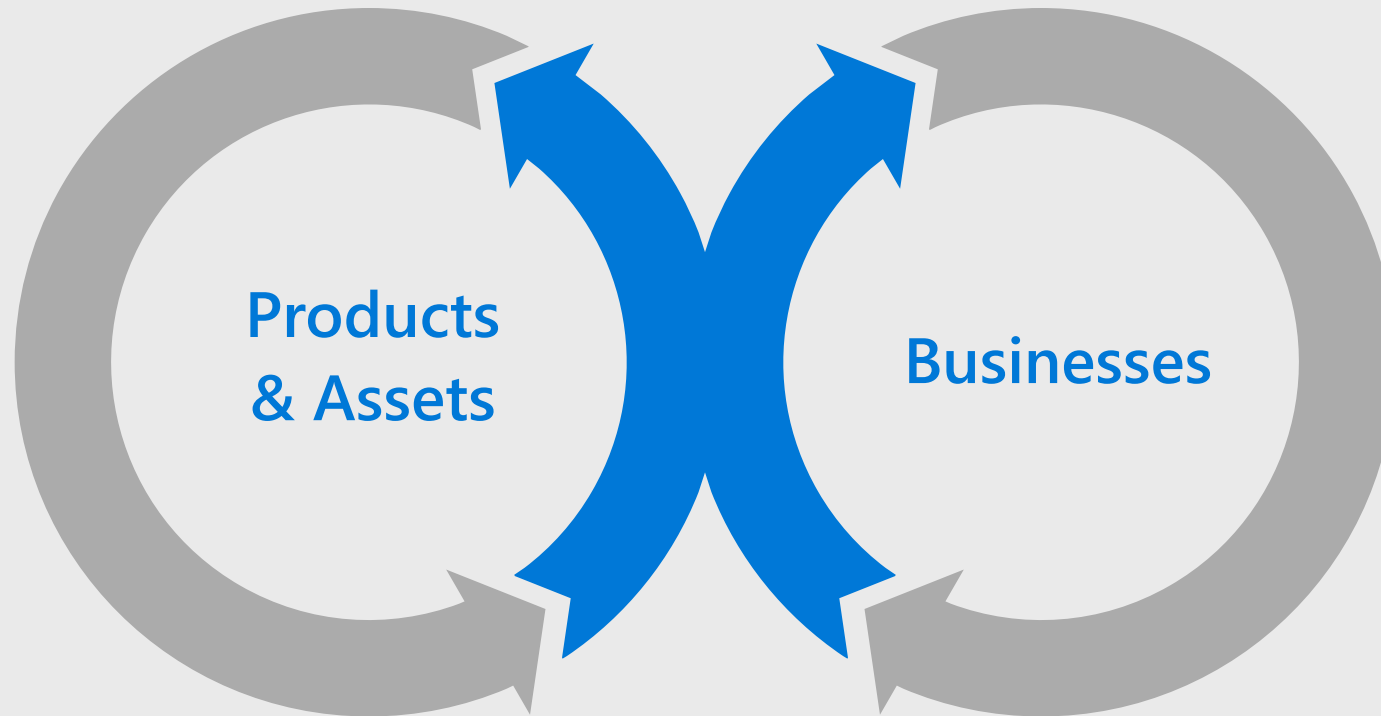
75%

Manufacturers indicate they are missing core capabilities to deliver services and lack a well-defined services strategy³

By 2020...



Digital Feedback Loop



A Simple View of an IoT Solution



A More Realistic View...



Microsoft is simplifying IoT

Generally Available



Azure IoT Central

Why Azure IoT Central?

Experience the simplicity of SaaS for IoT in minutes, with no cloud expertise required



Get results fast by leveraging a fully-managed SaaS solution with built-in analytics

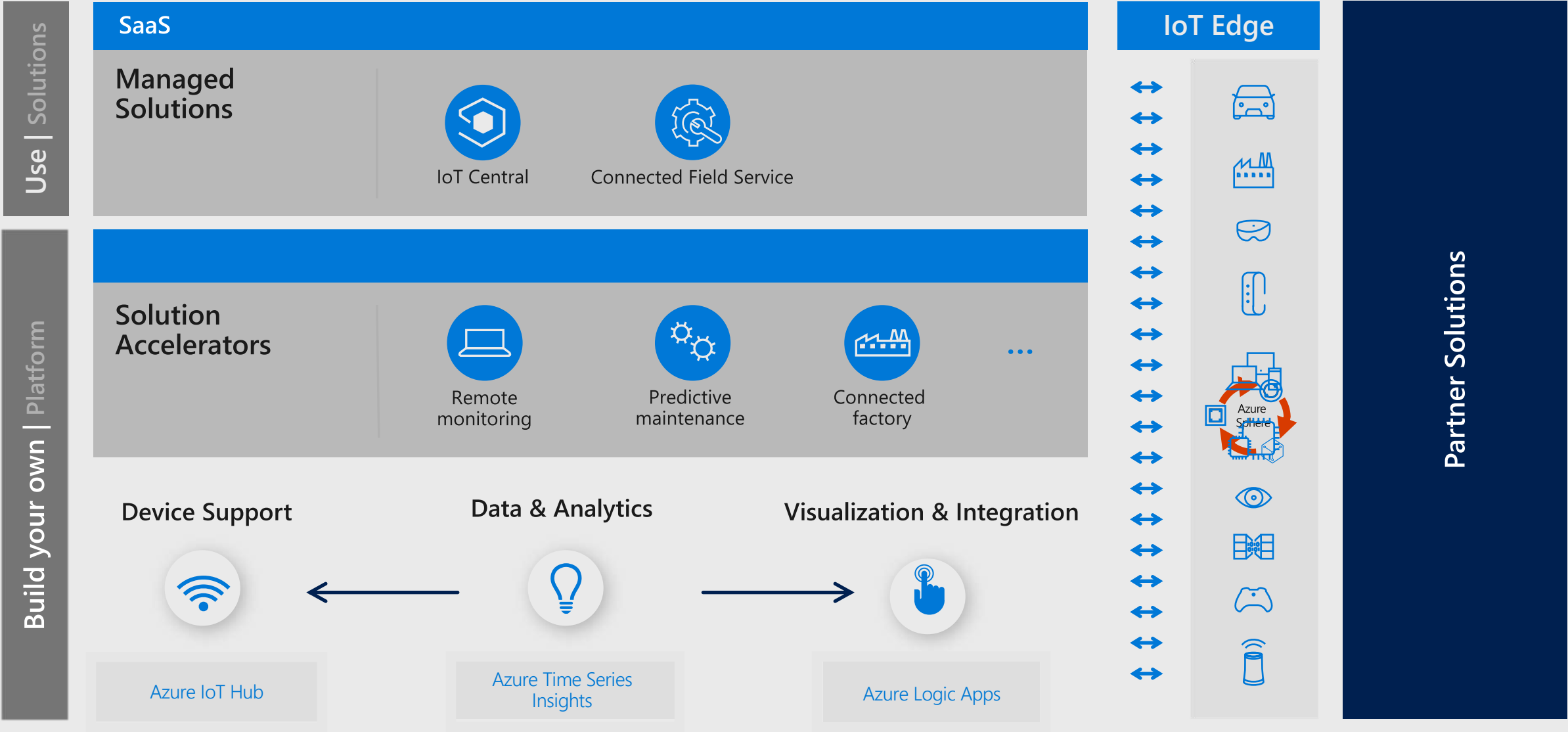


Grow and scale with ease, securely with a solution that integrates with your business



Enterprise grade solution built on proven services and decades of IoT experience

The most comprehensive portfolio



5 ingredients of success

1

Connect and
Manage Things
at scale

2

Manage
applications
at scale

3

Turn Data
into Insights

4

Extend the
IoT experience

5

The peace
of mind of true
SaaS

Manage things at scale

Simplified & secure device connectivity

- Integrates Device Provisioning Service
- Supports TPM, X509, SAS
- Device import/export experience

Easily manage & control connected devices

- Authorize, block, etc.

Device groups

Full Command & Control

- Bulk update settings and properties
- Remote execution of commands

Azure Maps integration



Manage applications at scale

IT Friendly Management

- Azure Portal support
- ARM Support
- Azure CLI
- Azure CSP multi-tier support
- Integrated in Azure billing

Application Management

- Device templates, App Templates & App Copy
- Azure SDKs
- Support Chat
- Demos



Turn data into insights

Visualize devices' data (telemetry, states, events) with just a few clicks

- Various charts & table available

Find what you're looking for

- Apply filters, zoom in/out, or split data
- Aggregation and windowing support to eliminate noisy alerts

Real time monitoring

- Automate with rules and alerts

Effortlessly scales to support very large number of devices



Extend the IoT experience

Integrate into your business

- Trigger multiple Actions with Rules
- Preview and send email notifications

Trigger custom workflows (Microsoft Flow, Webhooks, Azure Functions)

- Microsoft Dynamics 365 Field Service

Access your data your way

- Continuous Data Export to Azure storage
- Power BI Solution Template

Diagnostics CLI to help debug device connectivity



The peace of mind of true SaaS

We take care of

- Disaster Recovery
- Automatic & elastic scaling
- Accessibility
- SLA

We keep your solution secure

- Threat modeling
- Red/Blue teams & pen-testing
- Secrets management

Compliance & certifications

- GDPR, ISO 27001



Use cases

Primary use cases



EQUIPMENT
MONITORING



CONNECTED
FIELD SERVICE



PRODUCT-AS-
A-SERVICE

Other use cases

Asset tracking

Predictive maintenance

Improve product
design/R&D



Equipment Monitoring

Value proposition

Gather data from connected assets and products using a secure and cost-effective cloud platform that eliminates the need to invest in additional infrastructure



Connected Field Service

Value proposition

Increase profitability by ensuring the right people, the right parts, and the right equipment are available for every maintenance visit, regardless of your service strategy



Product-as-a-Service

Value proposition

Create new revenue streams and differentiate products by moving from a product-oriented business model to a service-oriented model



Pricing

Start Free

Free forever
for up to 5 devices

Pay-As-You-Go

Per device, per month
with no hidden cost

Advantages over competition



Only “true” SaaS
Fully hosted by Microsoft



Codeless configuration
Enterprise-grade features & integrations



Start FREE
Simplified “per-device” pricing

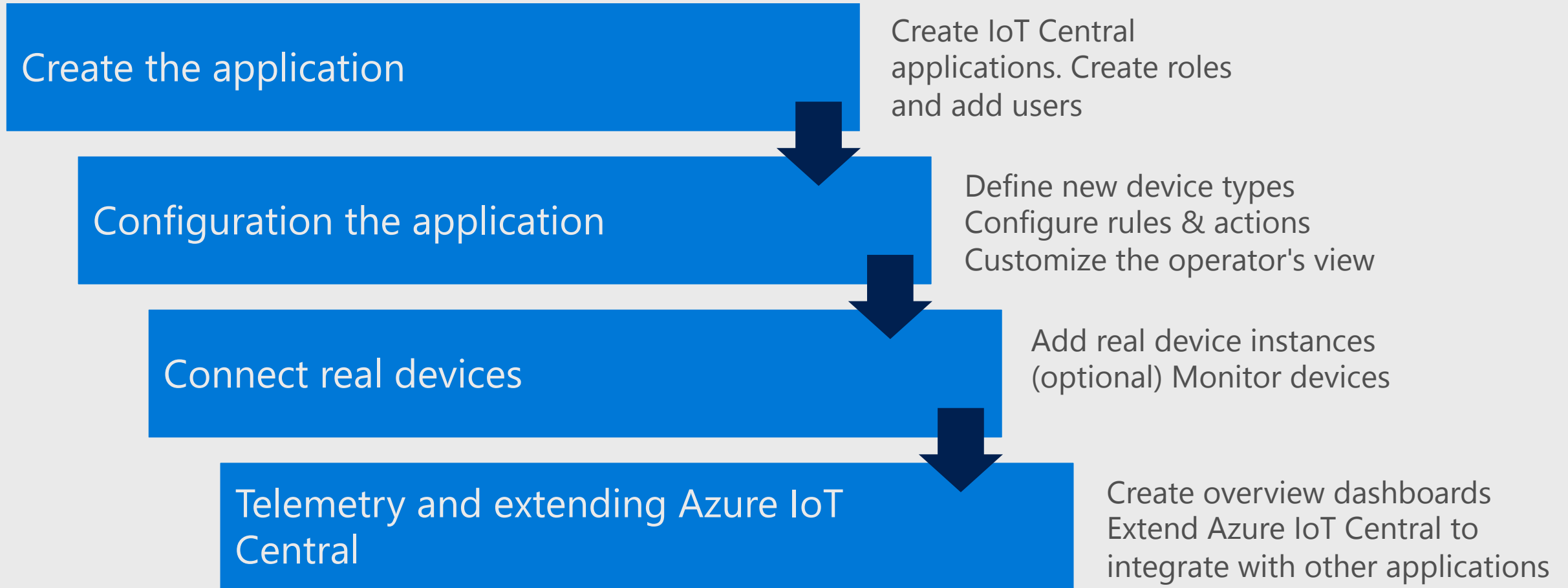


Azure IoT Central Demo

Marcello Majonchi



Azure IoT Central Lab Demo



How about connecting...





...a cow?

Global Livestock Market 101

30% of ice-free terrestrial surface area dedicated to livestock ops

95% of calves are conceived via artificial insemination

~5% YoY demand growth

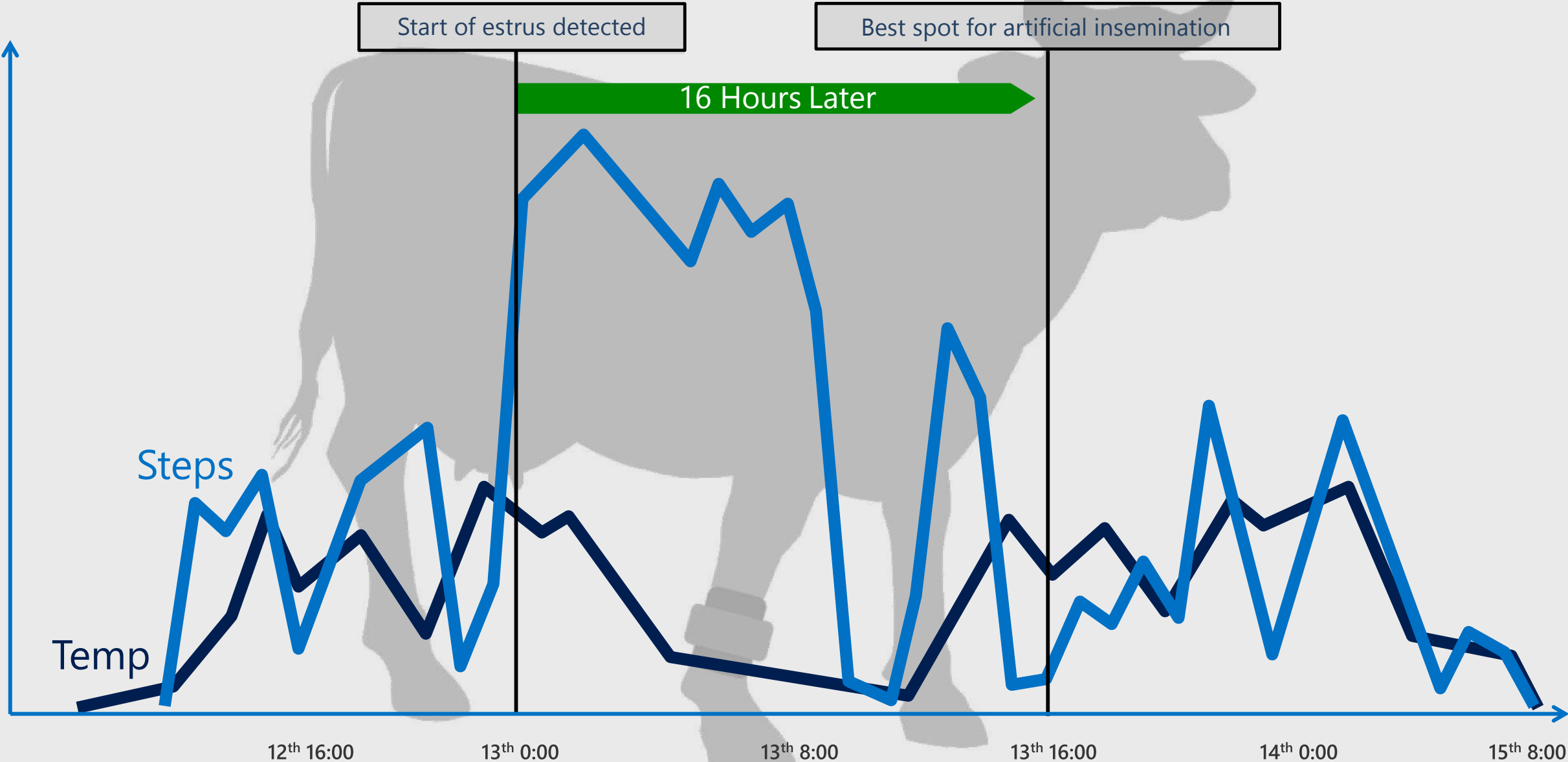


Growing demand:
breeders need more livestock



Artificial insemination needs to be
cheaper and efficient

How? Maximizing cows' fertility for Artificial Insemination



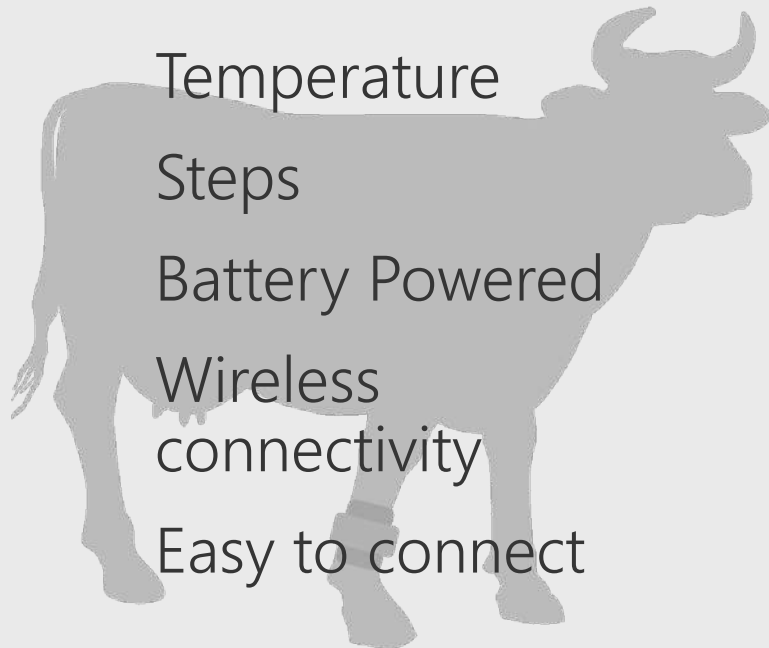
↑Steps & ↓Temperature



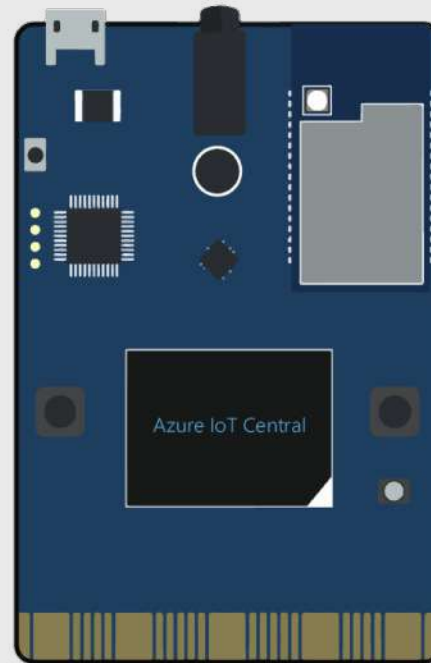
Send someone to get
the cow ready!

Our Connected Cow prototype

What we need

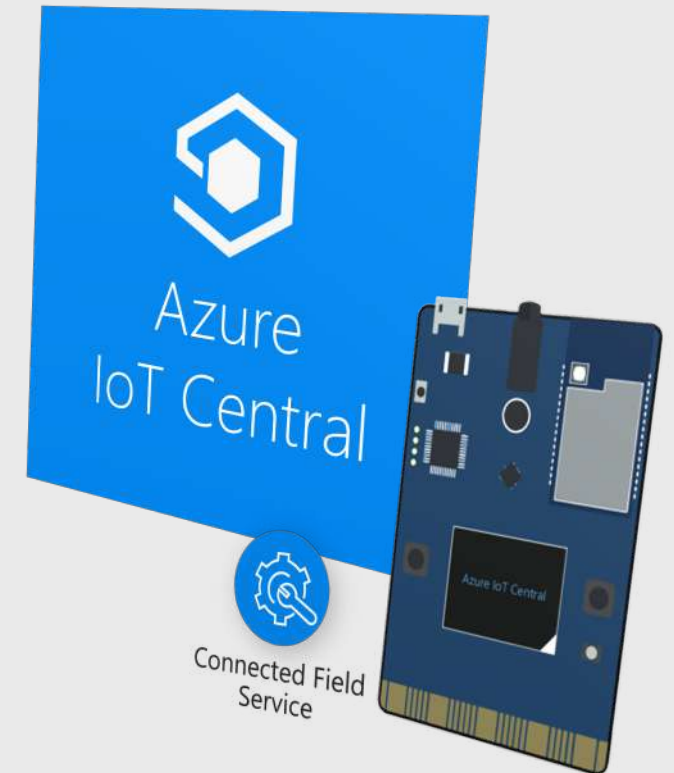
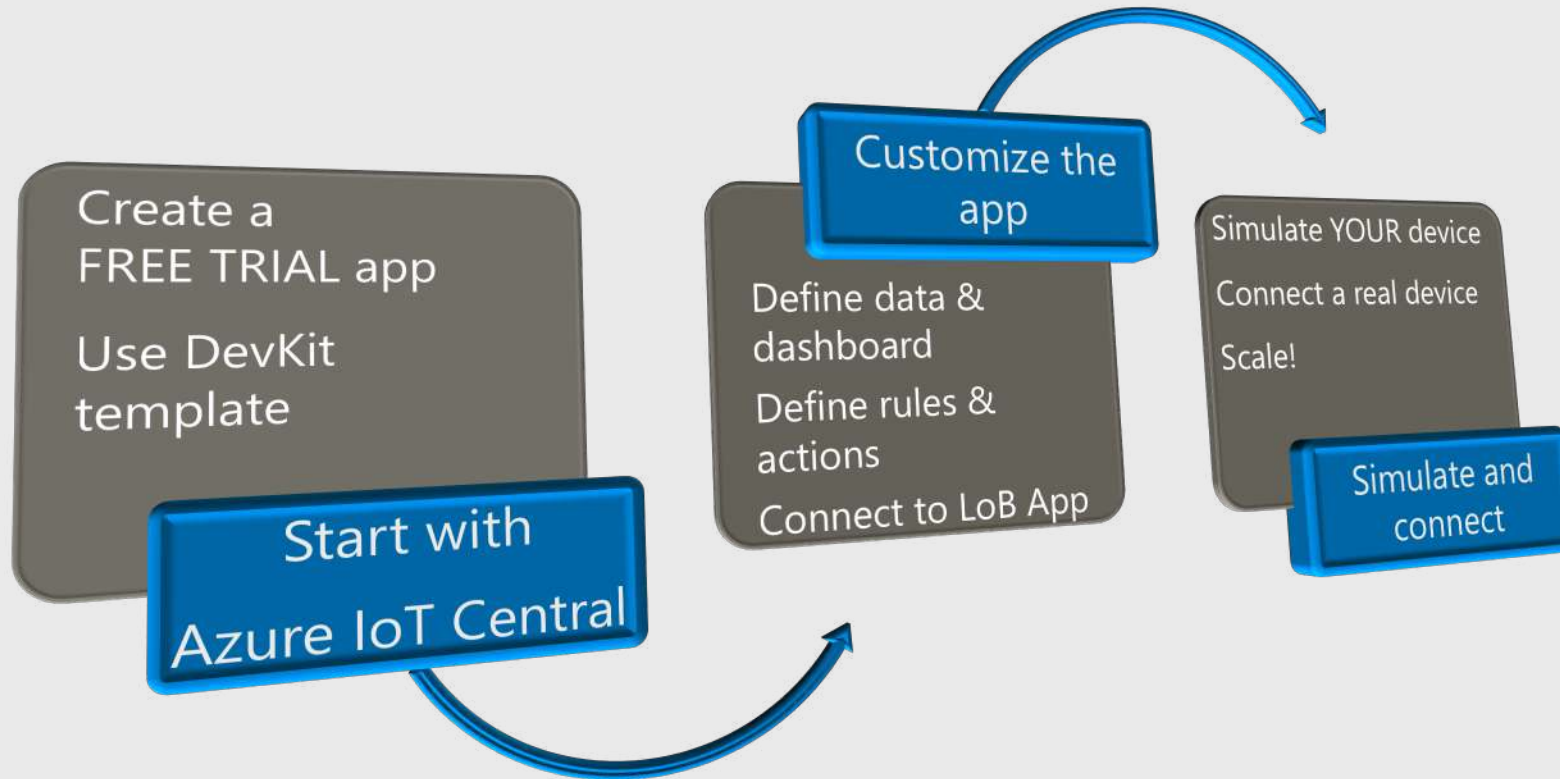


MXChip IoT Developer Kit



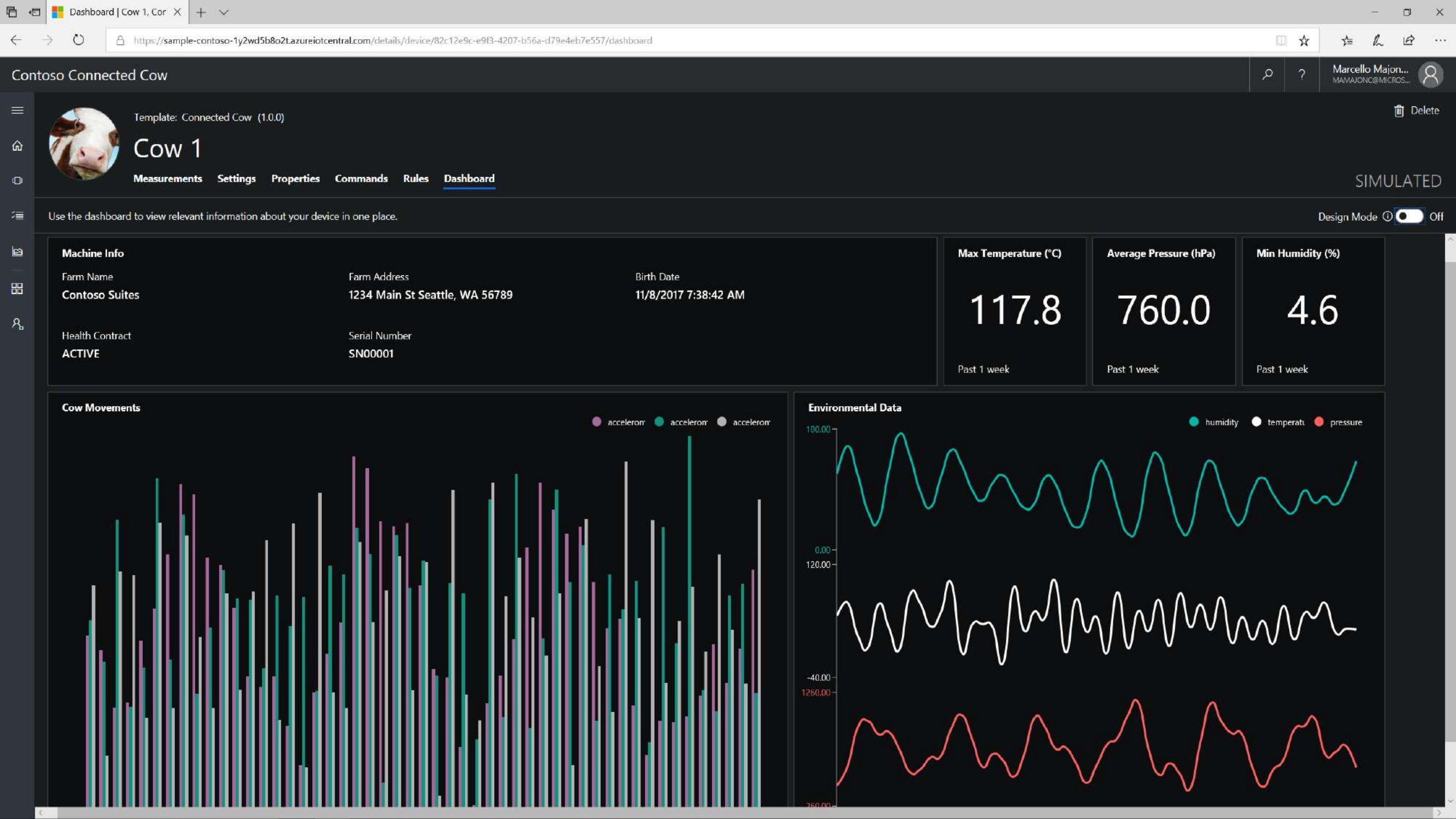
- ✓ Enviromental Sensors
- ✓ Accelerometer
- ✓ Low-power STM32 MCU
- ✓ Wi-Fi
- ✓ Azure Certified
- Azure IoT Central template

Turning data into actionable insights with Azure IoT Central

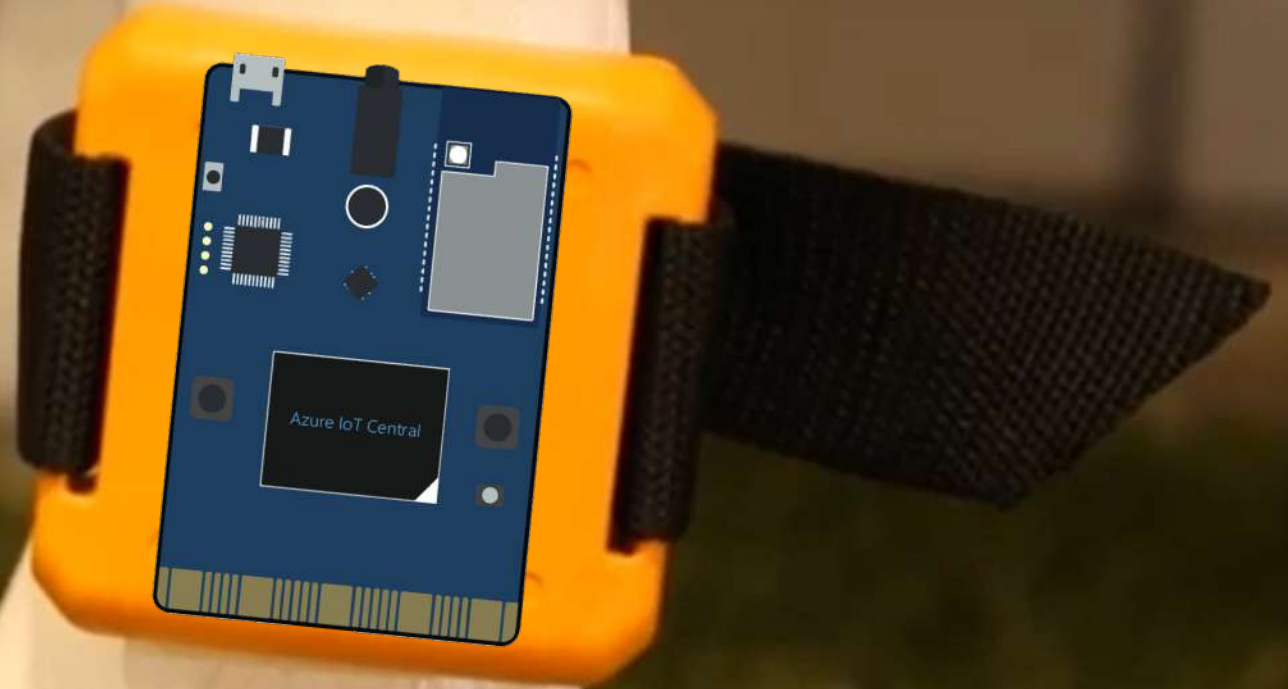


DEMO

Let's build it together.. now



Same code on chip
Same app on cloud



Next step is going into production



GYUHO™ SaaS

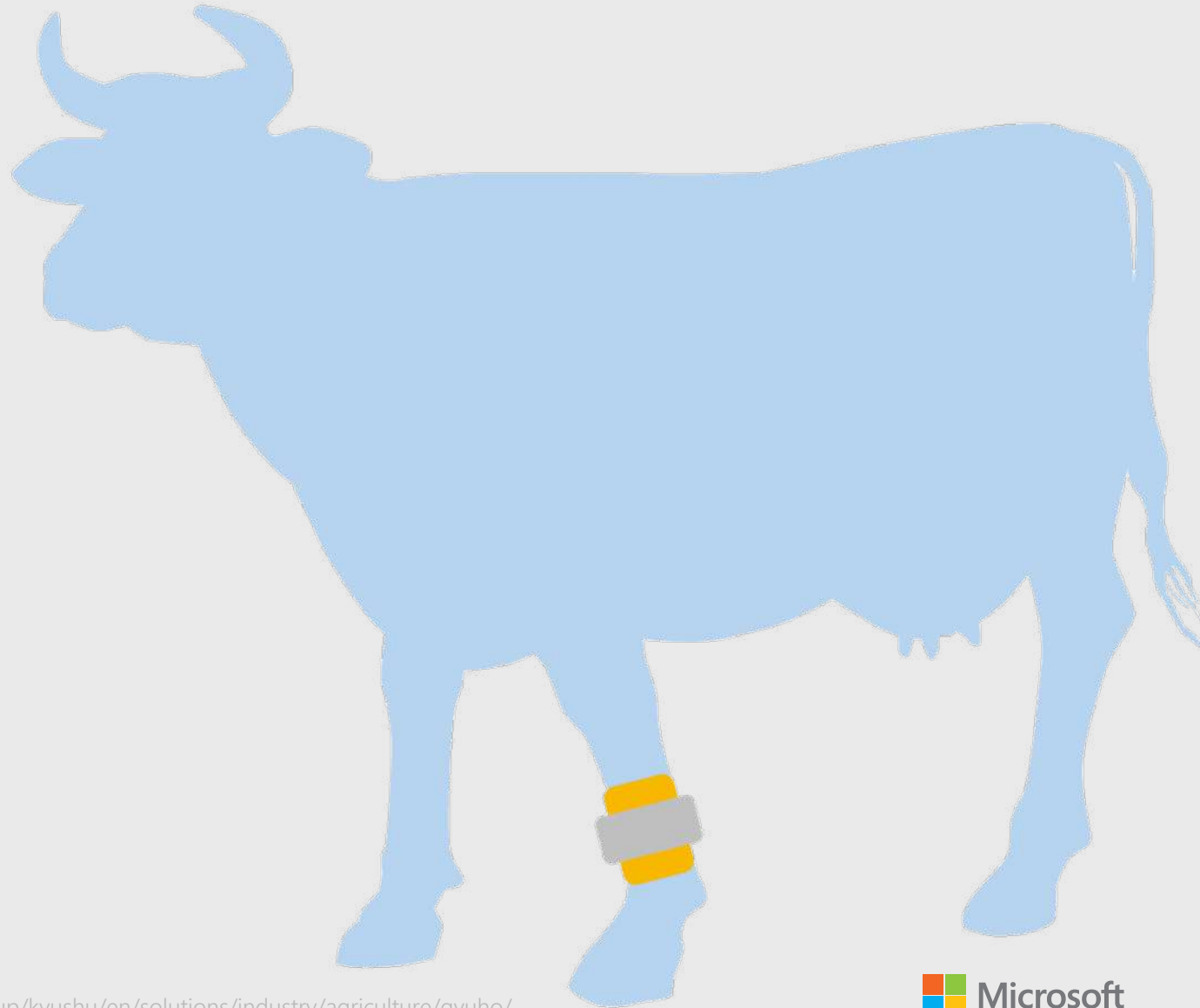
Estrus Detection System

Operational Benefits

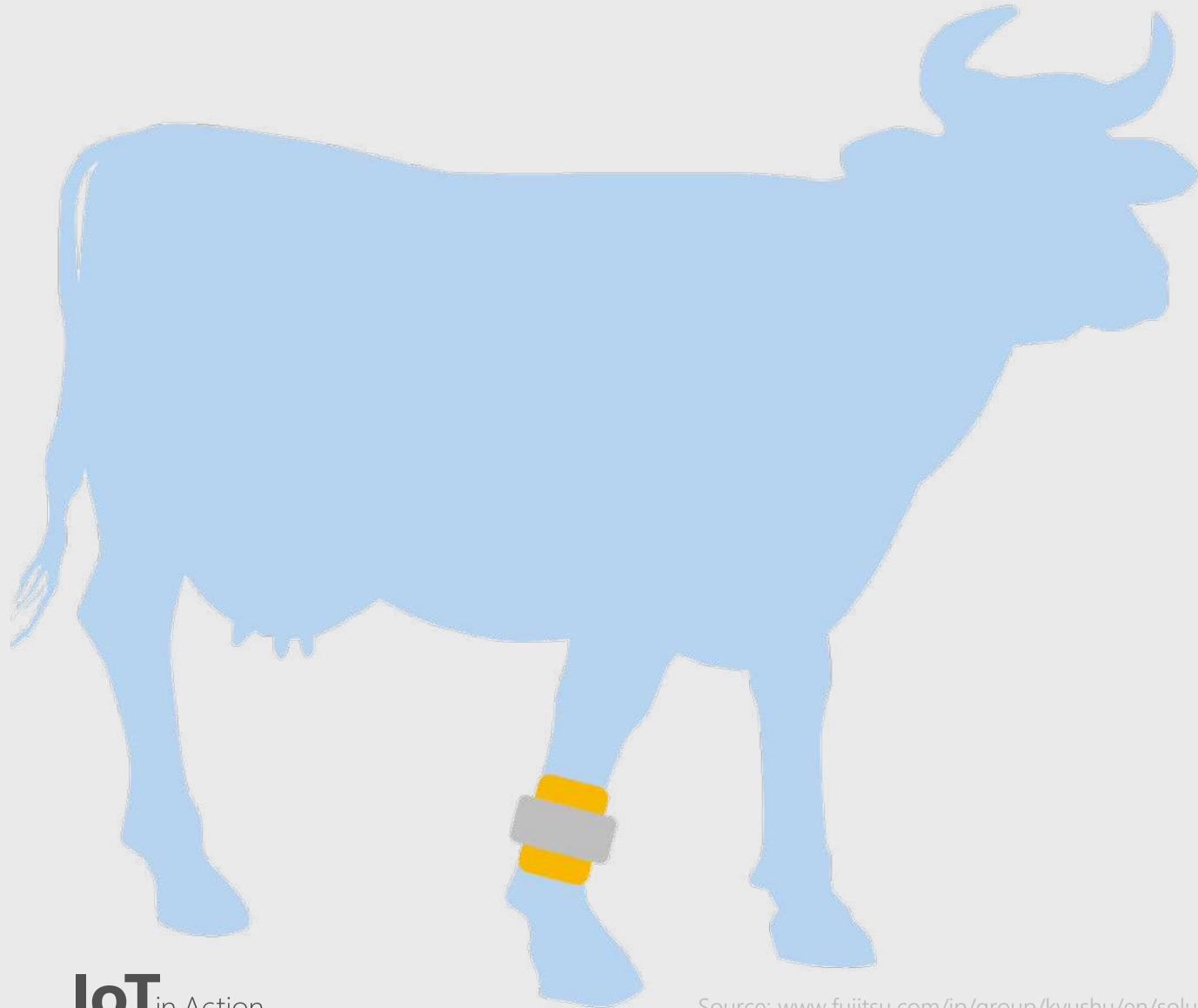
Prevention of diseases and
extended cows life span

Improvement of conception rate
by accurate estrus detection

Increase number of calf/milk yield
to shorten calving interval



Business Benefits



of inseminations down to 1.5 times from 2.0-2.5 times

Avg. calving interval down to 354 days from 402 days

Revenue increase of 740,000 KRW (\$1,000) per a cattle/year

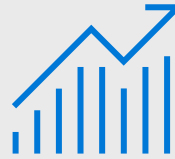
Thank you!



Key Expectations of the day



Learn



Grow



Connect

Thank you



IoT in Action