



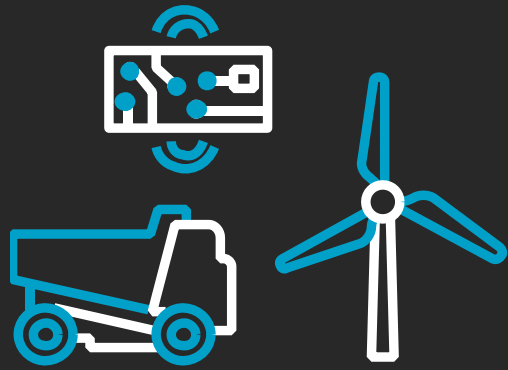
SUMMIT
ONLINE

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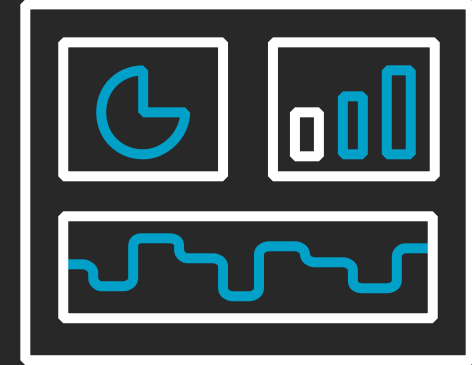
Harness the full potential of IoT data with AWS IoT and Analytics Services

Tom McMeekin

Senior Solutions Architect
Amazon Web Services



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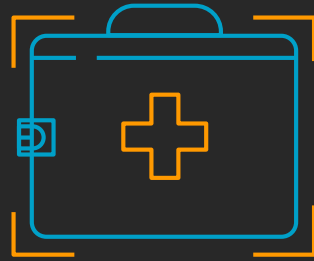
If you knew the state of everything and
could reason on top of that data ...
What problems would you solve?



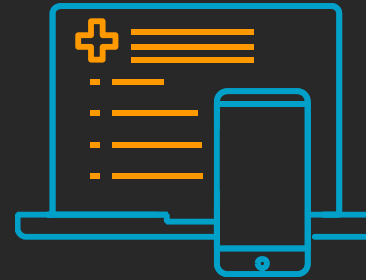
What customers are doing with AWS IoT



Predictive
maintenance



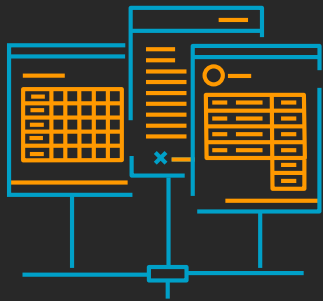
Wellness and
health solutions



Productivity and
process optimisation



Connected buildings
and city systems



Device fleet
maintenance



Energy efficiency
monitoring



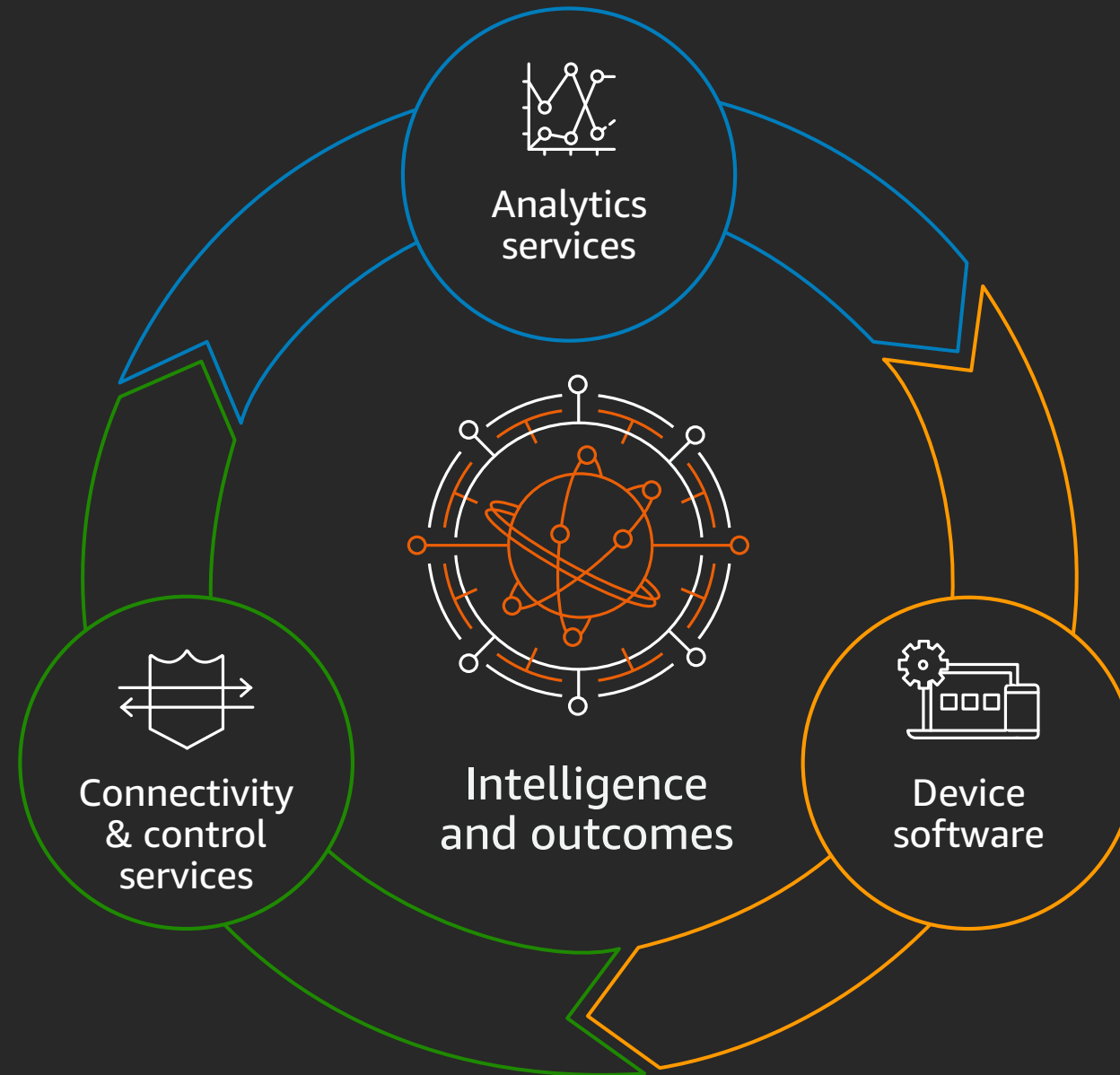
Payment, insurance, and
connected commerce



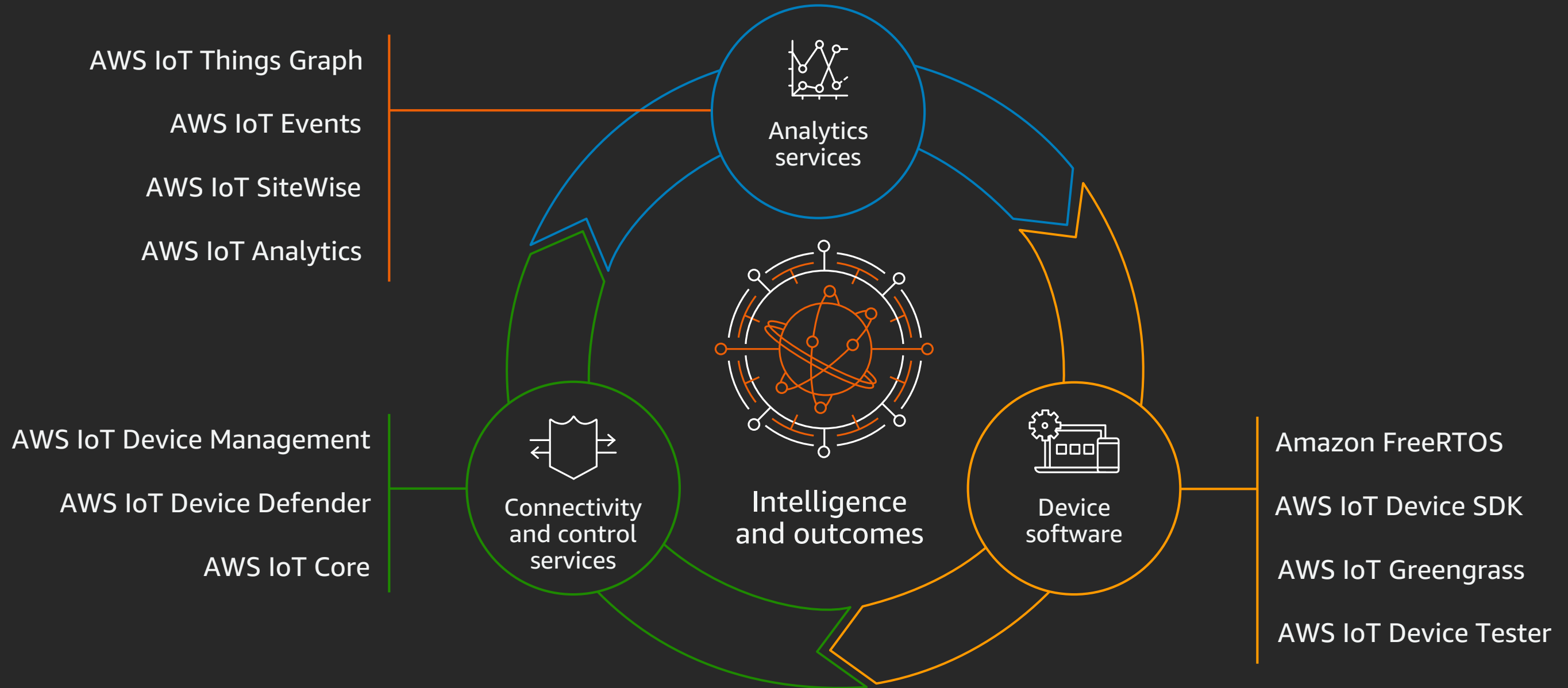
Safeguard
manufacturing facilities

Ingredients to harness the full potential

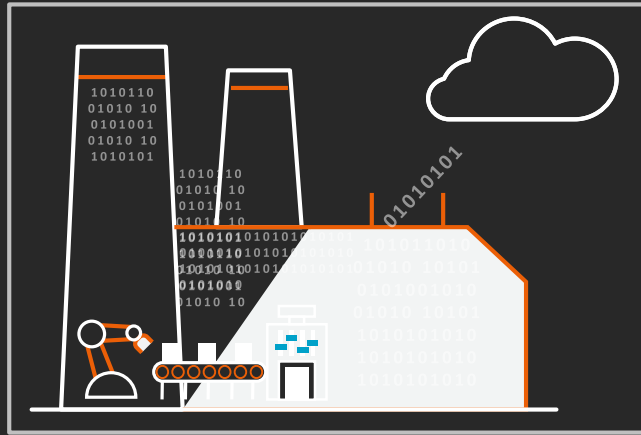
IoT virtuous cycle



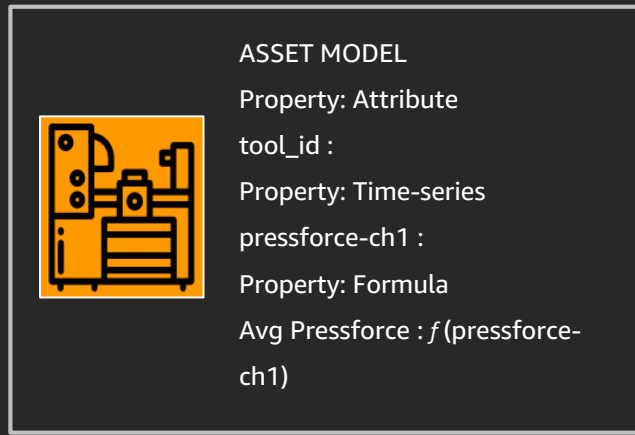
AWS IoT services



Introducing AWS IoT SiteWise^{PREVIEW}



Ingest equipment data into AWS in minutes



ASSET MODEL

Property: Attribute

tool_id :

Property: Time-series

pressforce-ch1 :

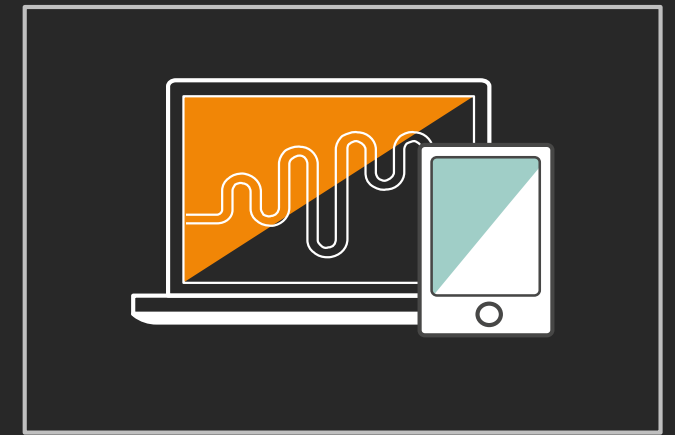
Property: Formula

Avg Pressforce : $f(\text{pressforce-ch1})$

Structure data and specify performance metrics for your equipment and processes

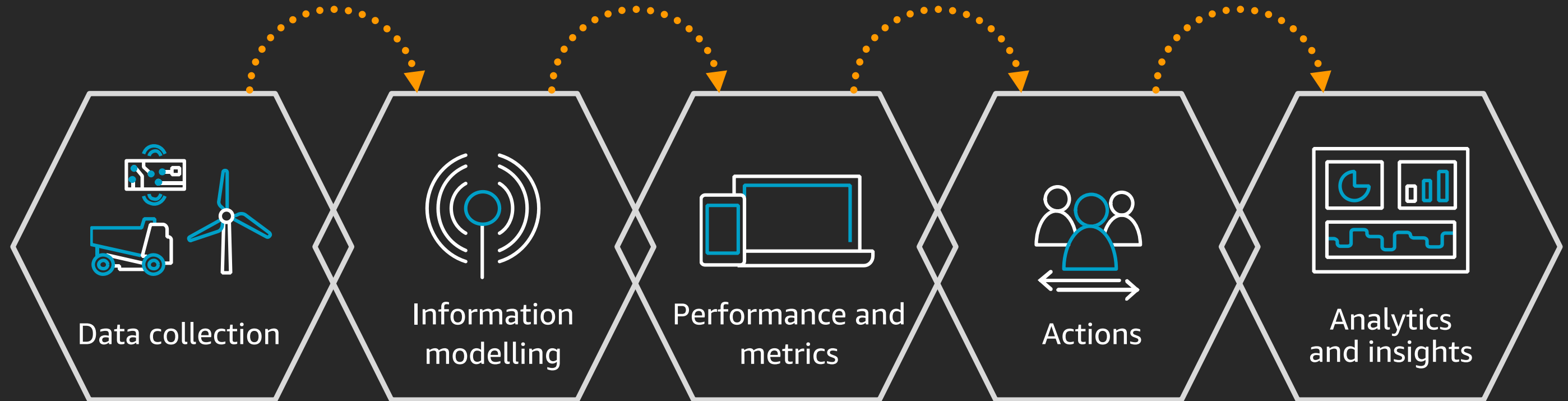


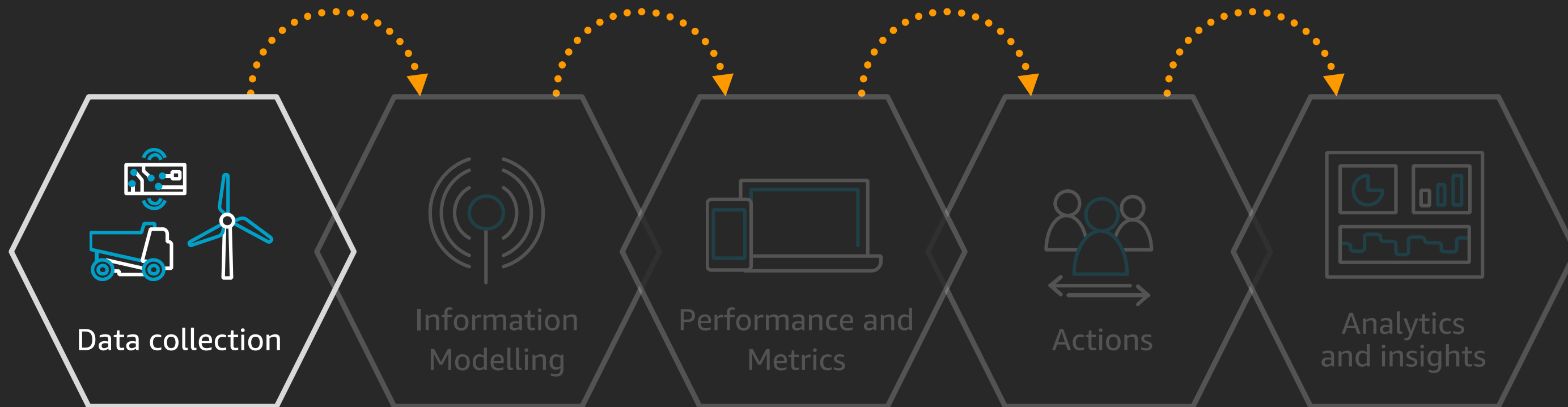
Store data in a timeseries optimised datastore



Create and share dashboards to visualise live and historical equipment data

Unlocking the value of IoT data



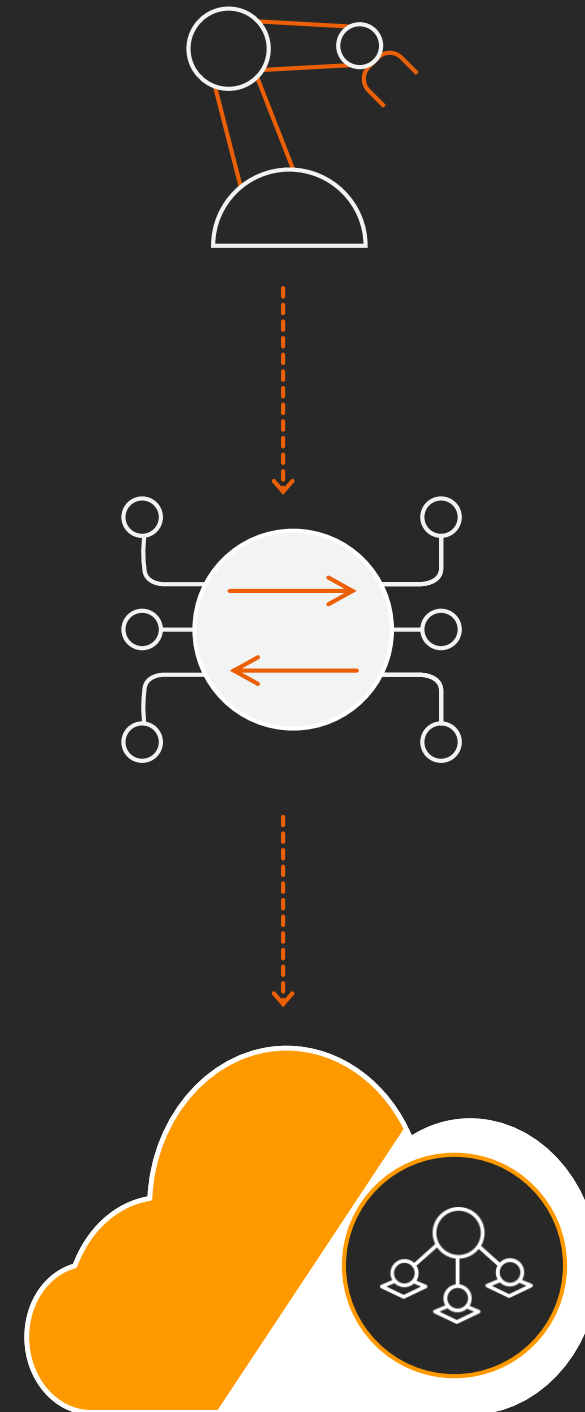


Data collection

Read data from devices and aggregators, such as historian databases, across all sites

Remotely manage edge gateways that connect to devices and read data into AWS IoT

Natively supports data ingestion using OPC-UA and MQTT protocols

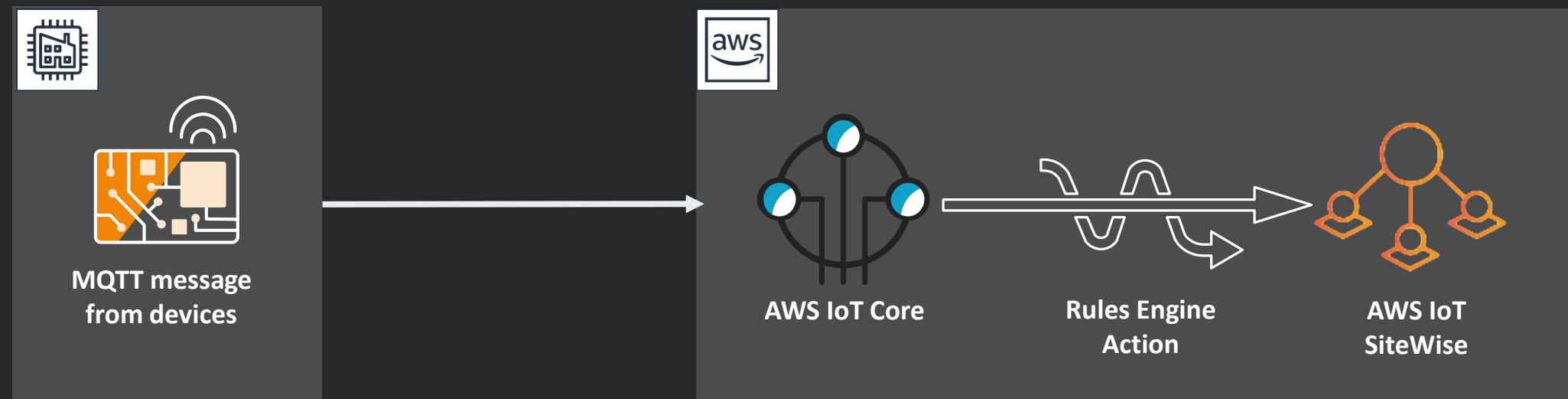


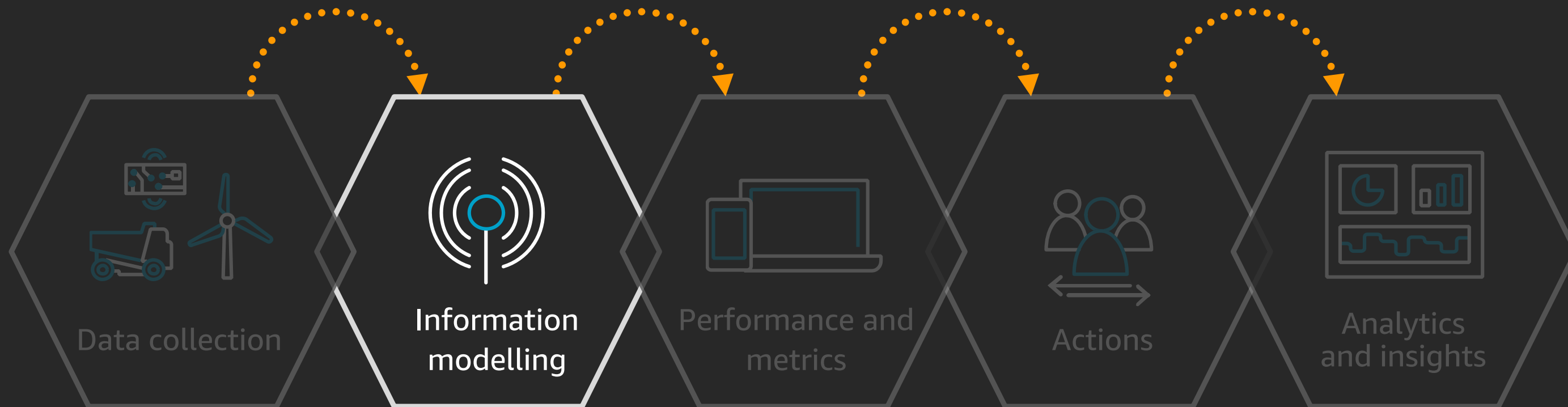
Ingest MQTT device data

Integration with AWS IoT Core

Route MQTT messages ingested to AWS IoT Core to AWS IoT SiteWise using Rules Engine

Create virtual representation, calculate KPIs, and visualise





Information modelling

Create information models

Associate with data streams

Index information and metrics

Accessible by applications via APIs

Easy search and query of sensor data
across all facilities

Semantic modelling and complex
types in future



STAMPING PRESS

ASSET MODEL

Property: Attribute

tool_id :

Property: Time-series

pressforce-ch1 :

Property: Formula

Avg Pressforce : $f(\text{pressforce-ch1})$



STAMPING PRESS

ASSET

Property: Attribute

tool_id : S551438

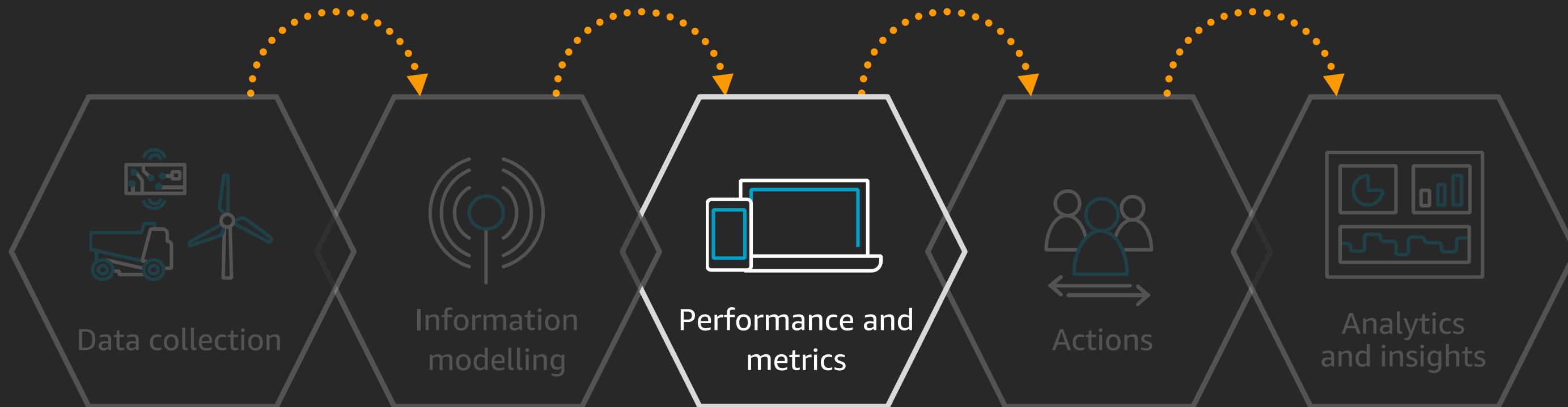
Property: Time-series

pressforce-ch1 : "[55253, 32, 56, 27 ...]"

Property: Formula

Avg Pressforce : $f(\text{pressforce-ch1})$





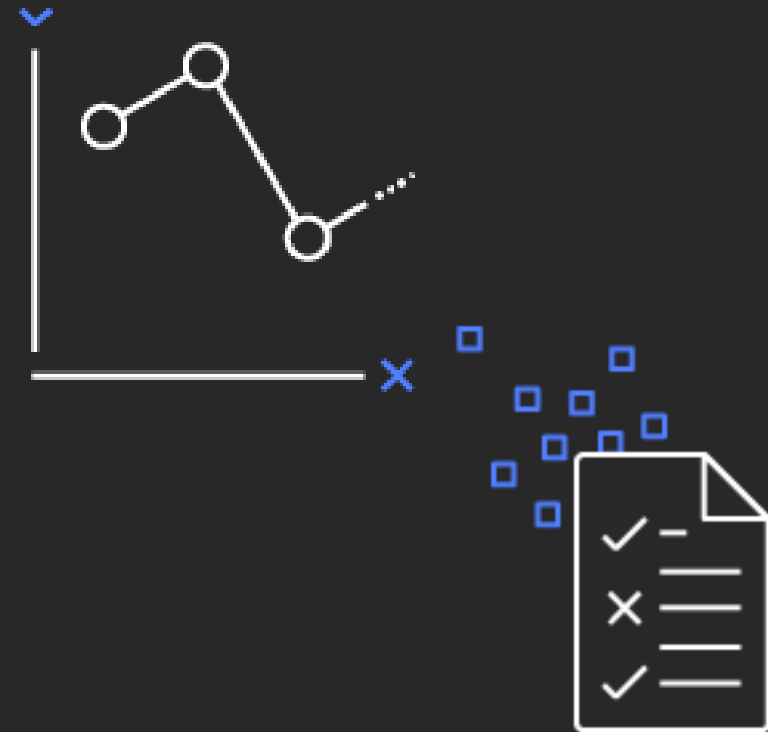
Performance Metrics

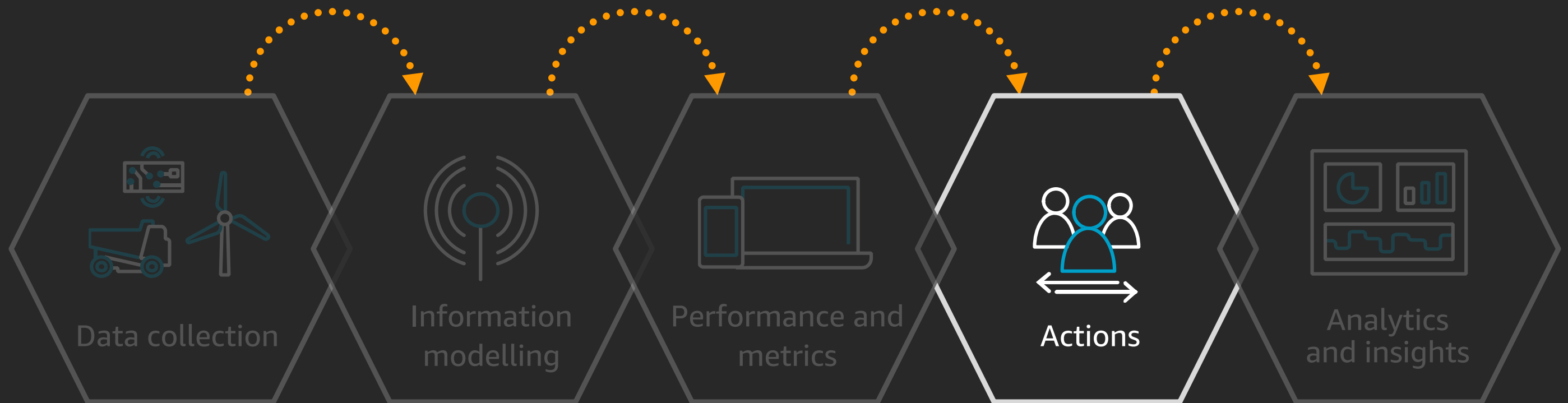
Operational Metrics

- Raw measurements, pre-computed aggregates, and custom metrics

Avoid querying of data streams and writing aggregating logic

Enable workflows and notifications



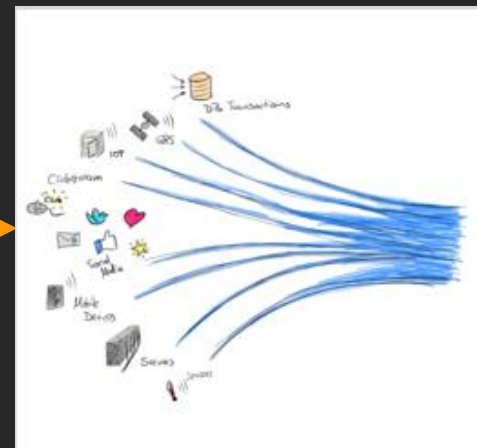


Detecting and reacting to events

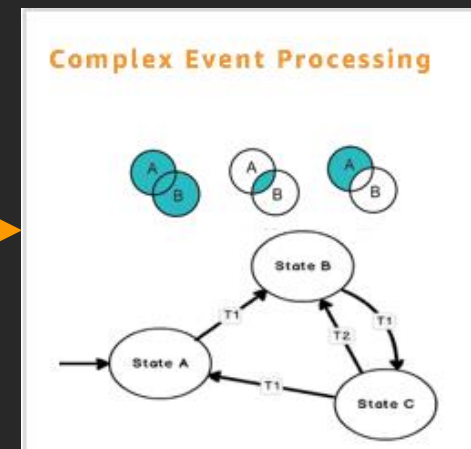
Continuously monitor data from equipment for changes in operation
& trigger the appropriate response when events occur



Input



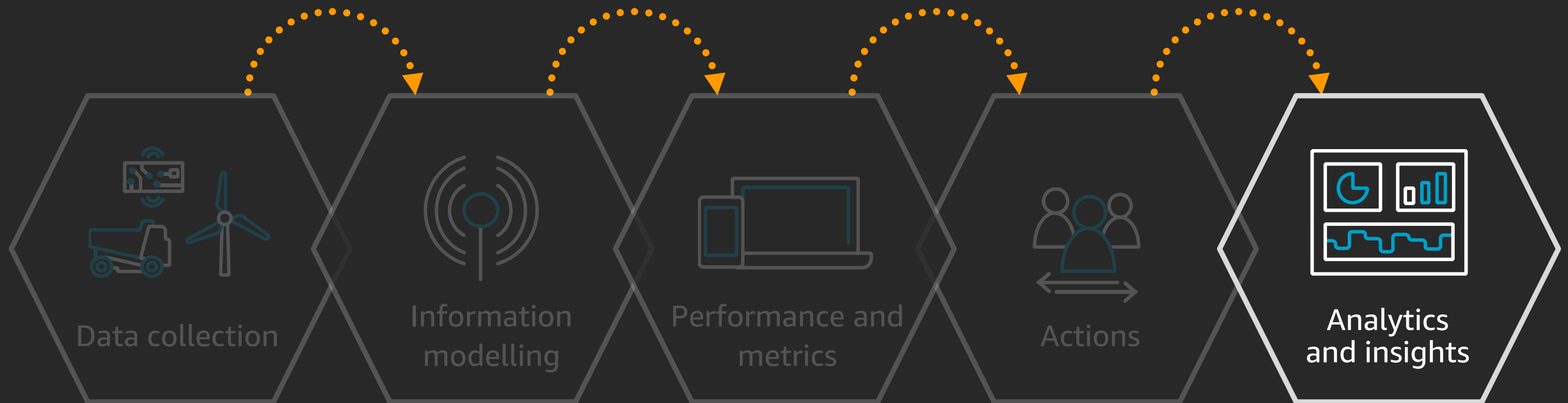
Route



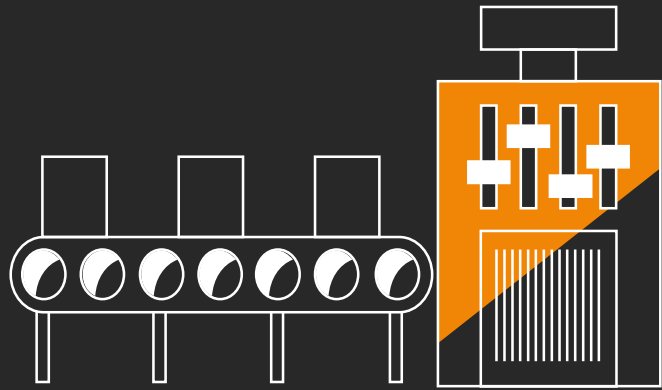
Detect



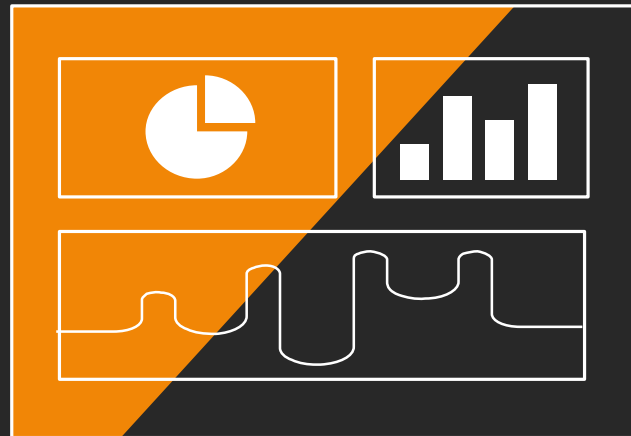
Act



Visualisations with AWS IoT SiteWise Monitor



Visually identify
equipment or
process issues

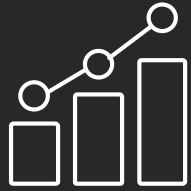


Browse raw data and
view performance
metrics

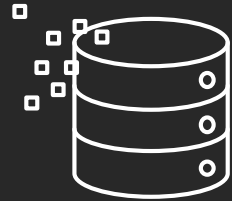


Easily develop
operational dashboards
(hosted web apps)

Customers want more value from their data



Data Growing
exponentially



From new
sources



Increasingly
diverse



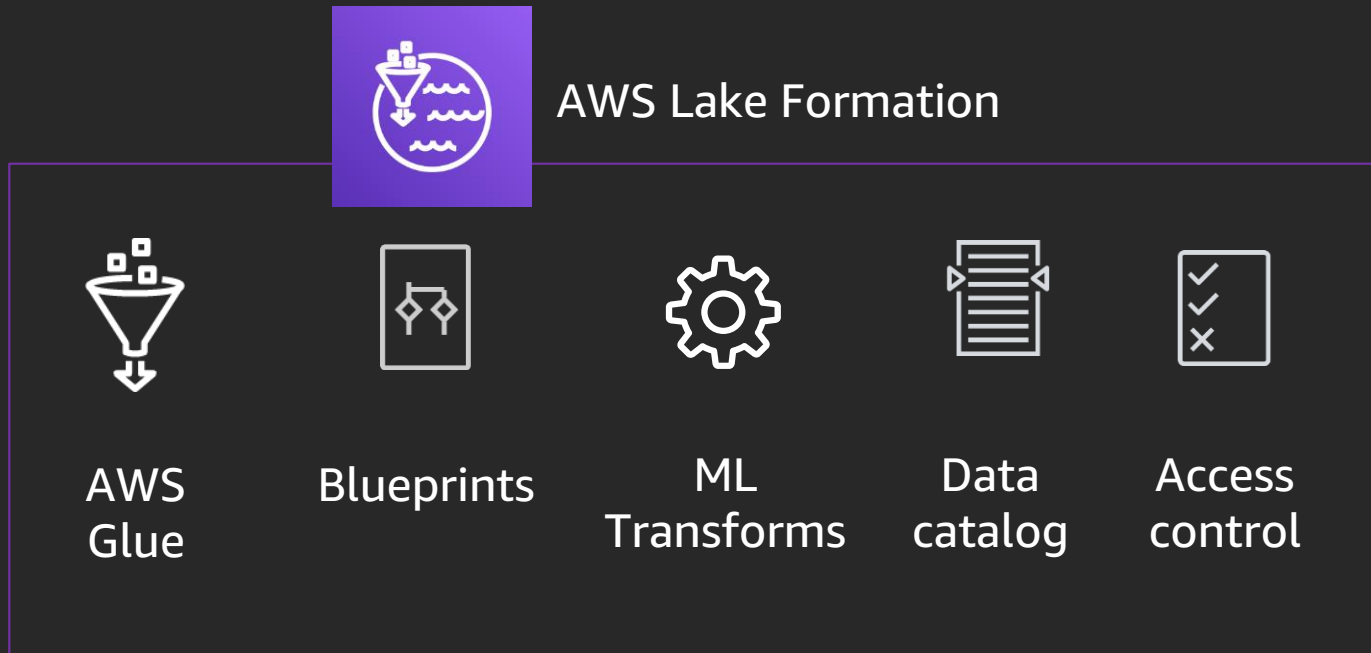
Used by
many people



Analysed by
many applications

Build a secure data lake in days

With AWS Lake Formation

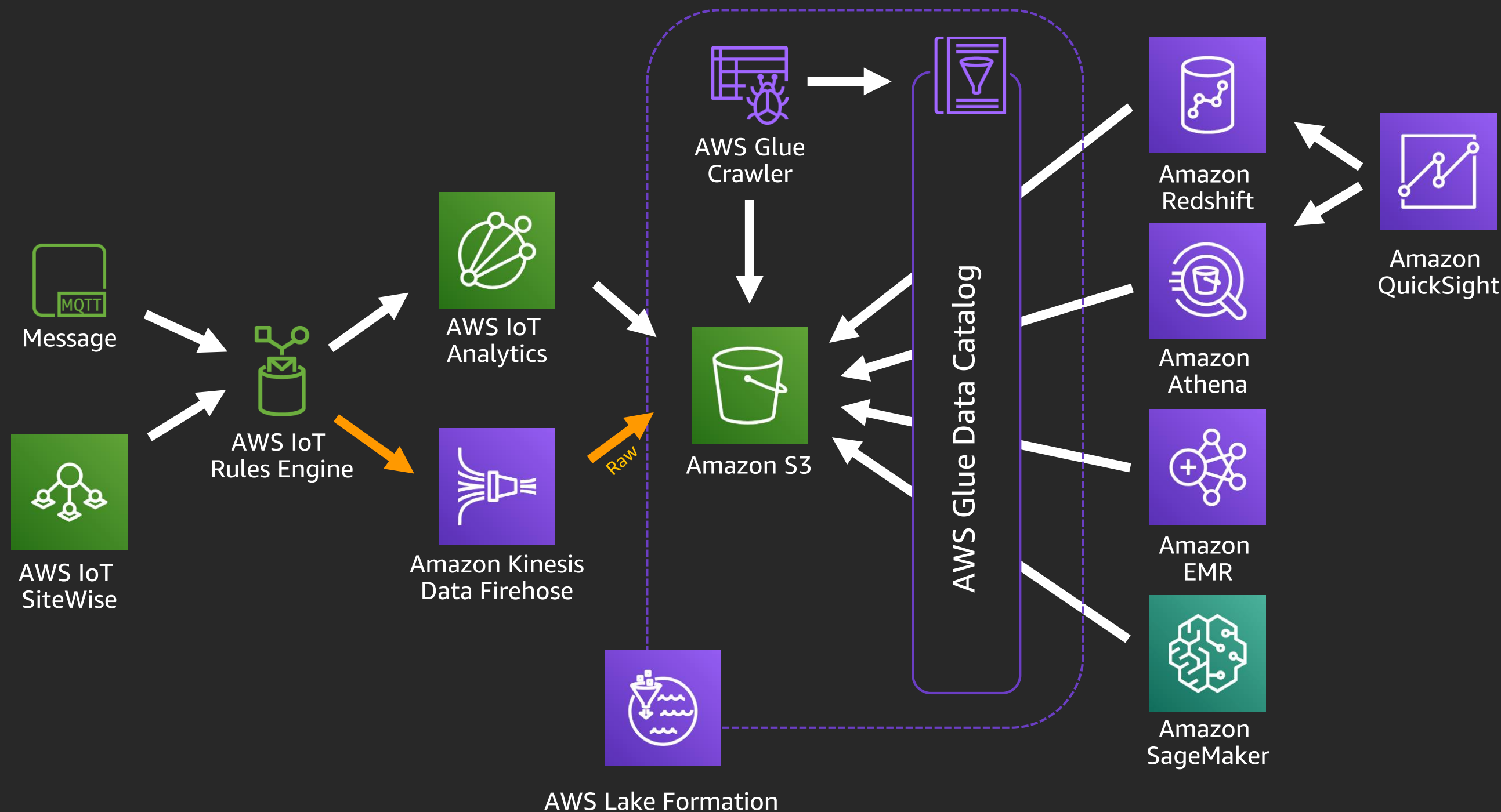


Comprehensive set of integrated tools enable user access consistently

Centralised management of fine-grained permissions empower security officers

Simplified ingest and cleaning enables data engineers to build faster

Integrating IoT Data with your data lake

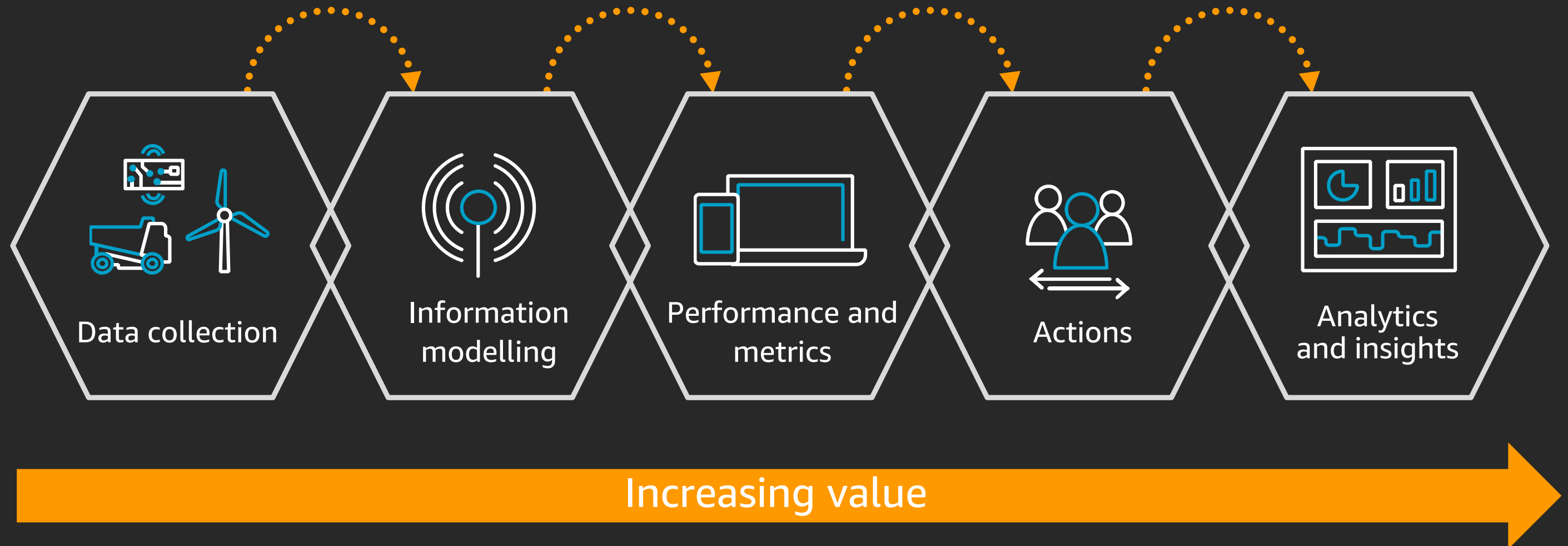


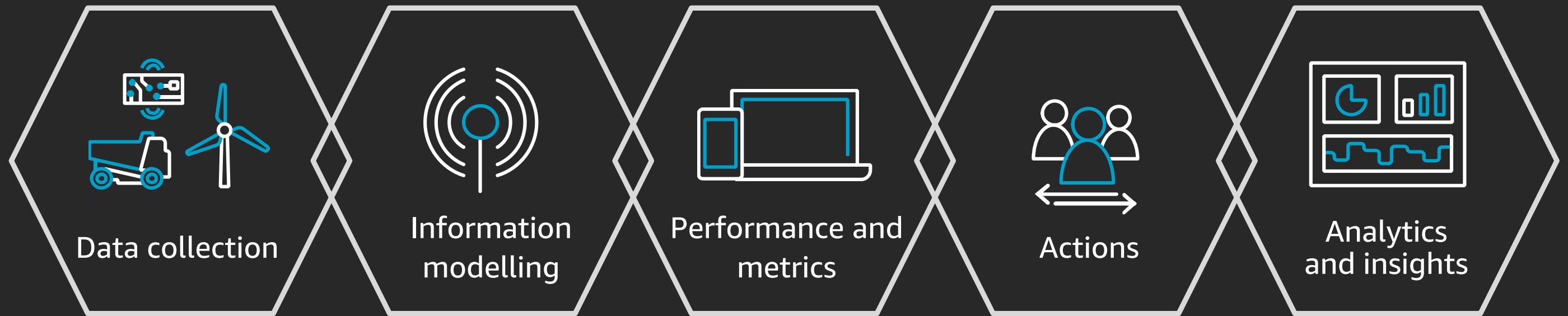
Demo

What does good look like?

Nobody buys IoT ...
They seek business outcomes

Unlocking the value of IoT data





What protocols?

Which sensors and aggregators?

Connectivity

Life cycling

End-to-end security

Standardisation of your data

Data catalogue

Semantic modelling

Monitor and alert while data flows

Alignment with business

Actively trigger processes and workflows

Move from monitoring to automated actions

How are you going to deliver the insight?

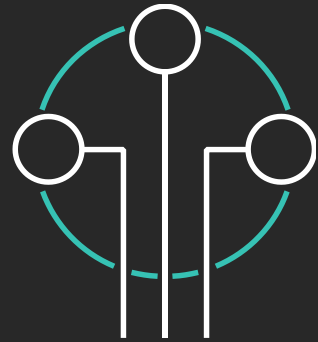
Which tool is the right tool?

Decouple

Leverage machine learning

Increasing Value

Go learn!



25+ additional free digital courses including IoT to IoT skills

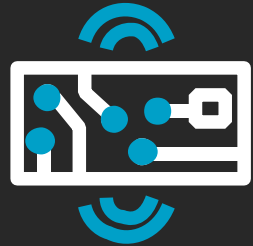
<https://aws.training>



Learn why our global customers choose AWS IoT

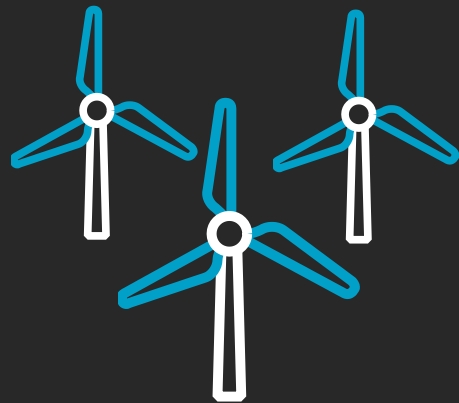
<https://aws.amazon.com/iot/customers/>

Go build!



Check out the **AWS Partner Device Catalogue**

<https://devices.amazonaws.com/>



Spin up a **AWS IoT SiteWise** demo in your account

Cost ~\$1.50 USD for 7 days

Thank you!

Tom McMeekin

tommcm@amazon.com