

# / Avnet /IOTCONNECT Solutions Suite

## Smart Asset Monitoring

AVNET®

/IOTCONNECT®  
Manage | Secure | Deploy



# / Solution Accelerator & Marketplace Index

## /IOTCONNECT enabled solutions

Smart Generator Monitoring

Smart City Noise Detection

Smart Asset Monitoring

Smart Facility Solutions

Smart Factory Solutions

Smart Fleet Management

Smart Warehouse Monitoring

SaaS offering

/IOTCONNECT®

### Avnet's Smart Asset Monitoring powered by IoT and AI

Avnet's Smart Asset Monitoring solution, built on /IOTCONNECT and Amazon AWS technology, optimizes the use of aging assets while reducing lifecycle costs. It also enables monitoring of virtual assets, such as data from various business systems. With built-in predictive analytics, the solution enhances efficiency and reduces costs by monitoring machine performance, predicting asset failure, and leveraging analytics and business intelligence for deeper insights, all while seamlessly connecting assets with business systems.

# Visit Our Marketplace Listings

AVNET

avnet (8 results) showing 1 - 8

Sort By: Relevance

AVNET

[IoTConnect](#)  
By Avnet  
[Free Trial](#) | [Vendor Insights](#)  
Avnet's IoTConnect is a comprehensive solution accelerator software that facilitates IoT device connectivity, real-time monitoring, and advanced analytics. It offers seamless device integration, robust security, and easy and clear methods to gain valuable insights for businesses to optimize...

AVNET

[Avnet's Smart City Noise Detection Solution: Harnessing IoT and AI](#)  
By Avnet  
Avnet's pre-defined and configurable smart city solution focuses on the system integrators' biggest challenges: complexity, security, and scalability. As a global technology distribution and solutions, Avnet brings decades of experience and capabilities to enable digital...

softweb solutions

[Data and Analytics Consulting Services: Data 360 workshop](#)  
By Softweb Solutions AN AVNET COMPANY  
Data in 0's and 1's do not serve any purpose. Data is useful when it can unlock the potential of your business. One of the biggest challenges business users face is the volume of data they have to deal with. With so much data available, it can be difficult to know where to start....

softweb solutions

[IoT 360° Program: Transform Your Business with Advanced IoT Intelligence](#)  
By Softweb Solutions AN AVNET COMPANY  
An IoT 360° program is a comprehensive approach to leveraging the Internet of Things (IoT) for business success. It encompasses various aspects, from connectivity and data capture to processing, analytics, and integration with human value. One of the benefits of an IoT 360° program is its ability to...

softweb solutions

[End-to-End AI now: From Strategy to Deployment with Softweb Solutions](#)  
By Softweb Solutions AN AVNET COMPANY  
Artificial intelligence (AI) is not about replacing humans, but augmenting them by using AI to solve complex problems and make better decisions fast. AI360° is a comprehensive and human-centered approach to adopting AI and intelligence. It aims to help you speed up your...

softweb solutions

[Softwebs' Gen AI 360° Program: Go beyond the hype, unlock real AI value](#)  
By Softweb Solutions AN AVNET COMPANY  
Forget the buzzwords and unlock the true potential of Generative AI (GenAI). The generation of Artificial Intelligence, with Softwebs' Gen AI 360° program. Your compass, guiding you through the exciting yet complex landscape of GenAI, so you create exponential, lasting value...

AVNET

[IoTConnect](#)  
Sold by: Avnet  
[Free trial](#) | [Vendor Insights](#)  
Avnet's IoTConnect is comprehensive solution accelerator software that facilitates IoT device connectivity, real-time monitoring, and advanced analytics. It offers seamless device integration, robust security, and easy and clear methods to gain valuable insights for businesses to optimize operations and drive innovation. With diverse connectivity options, strong data protection measures, and true scaling capabilities, IoTConnect empowers organizations to leverage the full potential of IoT technology and accelerate digital transformation.  
[Show more](#)

[View purchase options](#)  
[Try for free](#)  
[View assessment data](#)  
[Save to list](#)

Overview

Pricing

Usage

Support

Reviews

### Product Overview

Avnet's IoTConnect is a comprehensive solution accelerator software that facilitates IoT device connectivity, real-time monitoring, and advanced analytics. It offers seamless device integration, robust security, and easy and clear methods to gain valuable insights for businesses to optimize operations and drive innovation. With diverse connectivity options, strong data protection measures, and true scaling capabilities, IoTConnect empowers organizations to leverage the full potential of IoT technology and accelerate digital transformation.

IoTConnect's comprehensive ecosystem and pre-built solutions reduce the time and effort required to bring IoT products and services to market.

Pre-connected device enablement: Easily connect and manage IoT devices without complex configurations.

Application accelerators and integrations: Through APIs, these accelerator templates focus on end applications giving a prebuilt, head-start for any solution design.

Advanced data analytics: Gain valuable insights from IoT data through real-time monitoring and customizable dashboards.

Robust security measures: Industry-standard protocols and encryption mechanisms ensure the security of data transmission and device authentication.

Deployment Manager capabilities: OEM's can deploy custom products and solutions within IoTConnect and have instant access to features like subscription management, billing and support.

Sold by

Avnet

Product Video

[See product video](#)

Fulfillment Method

Software as a Service (SaaS)

### /IOTCONNECT Platform

0:00 / 2:34

PREVIOUS

NEXT

#### Highlights

- Simplified IOT deployment: IoTConnect offers a user-friendly interface that simplifies the deployment of IOT solutions, enabling businesses to quickly connect and manage devices without complex setup processes.
- Scalability and flexibility: With IoTConnect, businesses can seamlessly scale their Global IOT deployments to accommodate growing needs. The enablement suite supports a wide range of devices and protocols, allowing for flexibility and interoperability across diverse environments.
- Powerful data insights: IoTConnect provides robust analytics and data visualization tools, empowering businesses to gain valuable insights from their IOT devices. Real-time monitoring and predictive analytics enable proactive decision-making and optimization of operations.

All Avnet Listings



# Smart Asset Monitoring Solution

Avnet's Smart Asset Monitoring solution is a comprehensive IoT-based system designed to optimize asset management and reduce lifecycle costs for asset-intensive industries such as manufacturing, oil & gas, logistics, transportation, and equipment rental. Built on Amazon AWS cloud services and leveraging Avnet's /IOTCONNECT platform, this solution offers a powerful combination of hardware, software, and analytics to transform how businesses track, maintain, and utilize their assets.



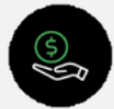
**Asset health:** Monitors the efficiency of your assets to perform predictive/preventive maintenance



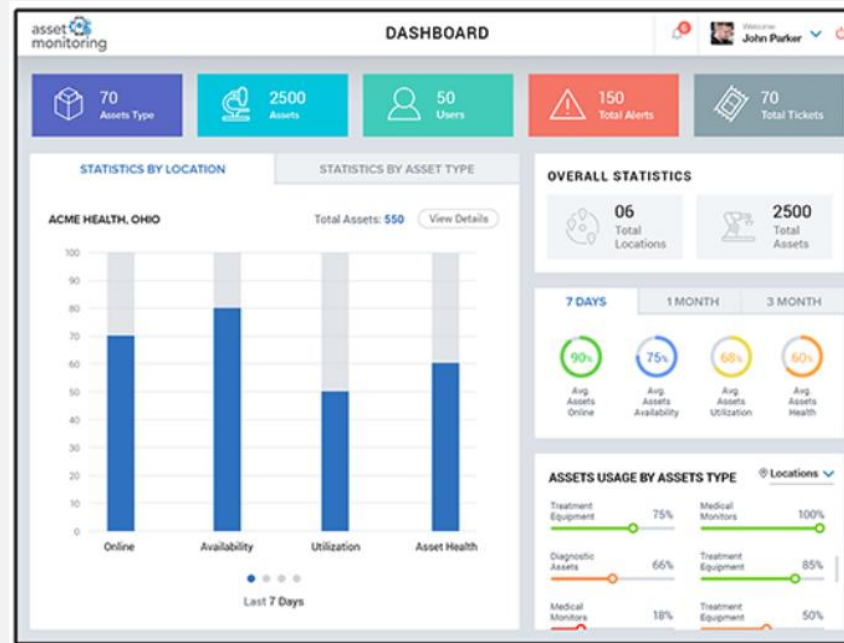
**Asset online:** Indicates the number of active assets



**Asset availability:** Specifies the number of assets that are working properly and are available for use



**Asset utilization:** This KPI is to reflect how assets are utilized. It helps businesses ensure they get maximum output from their assets



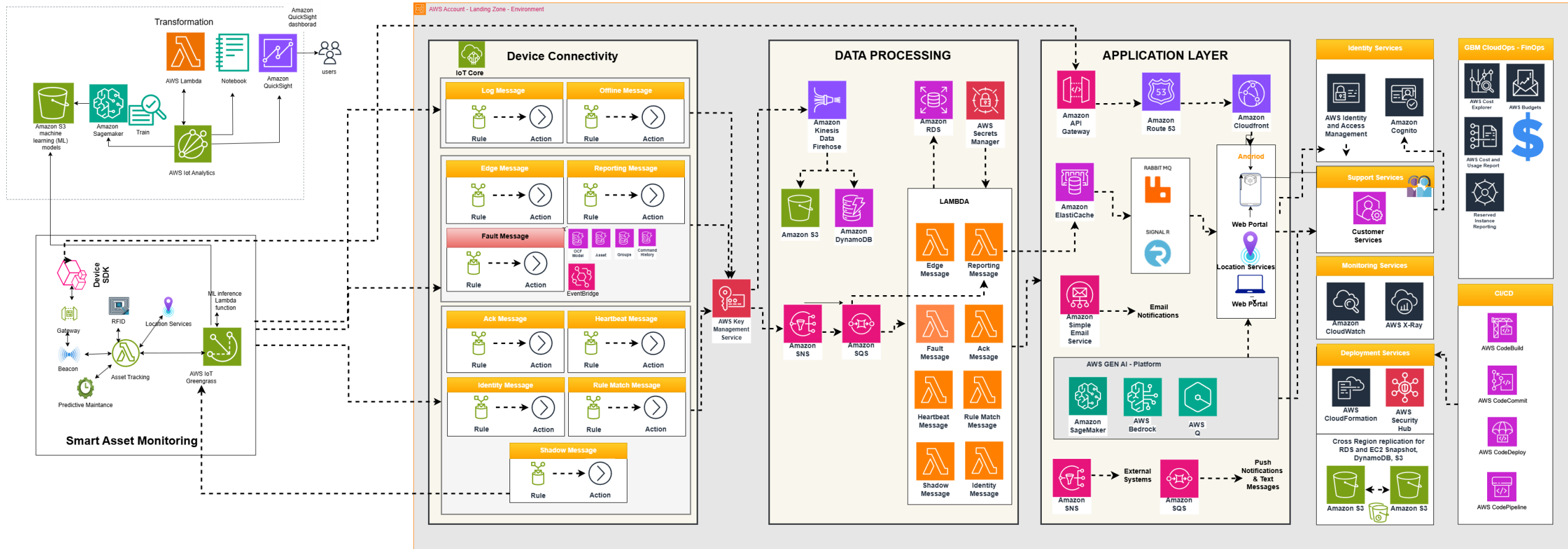
## Features

IoT-enabled smart asset monitoring is a combination of all the processes, assets, workflows, and analytics into a single solution to offer a centrally consolidated tracking, monitoring and analytics system for asset-intensive sectors like manufacturing, industrial machinery, power & utilities, mining, oil & gas, healthcare, etc.

[Learn more](#)

[Marketplace Listing](#)

# / Solution Architecture – Smart Asset Monitoring



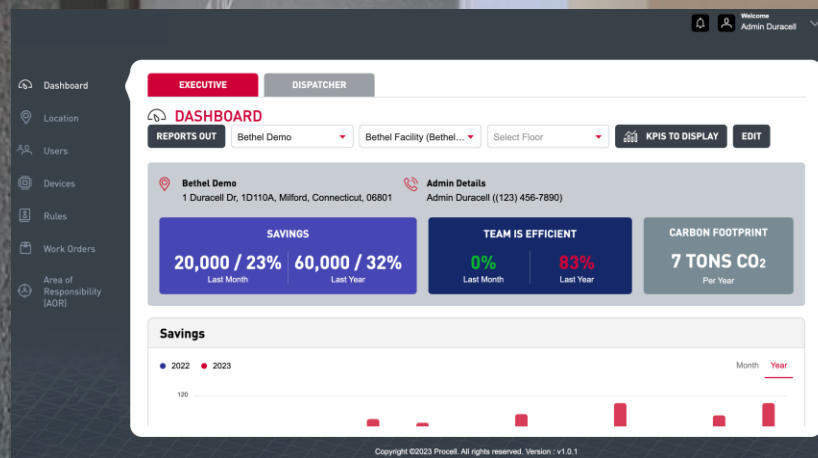
# Enabling battery powered OEMs

## SITUATION:

A professional battery OEM, which designs batteries and power solutions specifically for the needs of professional devices and industries. While other battery brands serve both retail and professional customers, our customer solely focuses on the professional market in order to guarantee products and services specifically designed for professional usage. As a result, Alkaline batteries are used by millions of professional end-users and leading professional OEMs around the world for its quality, reliability, performance and service.

## VALUE PROPOSITION:

- Common platform with other building management devices.
- Accurate fuel gauging insights based on device specific modeling.
- Centralized dashboard for device management
- Proven reference design with Firmware example code.
- Shortest time to market with lowest risk



## Strategic Opportunity to Provide OEMs Reference Designs to Integrate into Following Asset Types:

- Janitor / Sanitation (Paper Towel/Soap/Etc)
- Hospitality (Door Locks/Smoke CO2)
- Healthcare (PulseOx/BloodPressure/Therm)

→ [READ MORE](#)

## DEPLOYING IOT WITH AVNET HAS ENABLED:

Data science and IoT-enabled solution that provides information remote monitoring and actionable insights for facility management

Monitor all major battery-operated device types, while maintaining high customer satisfaction

Ability to find improvement opportunities in labor and asset dollars within facilities

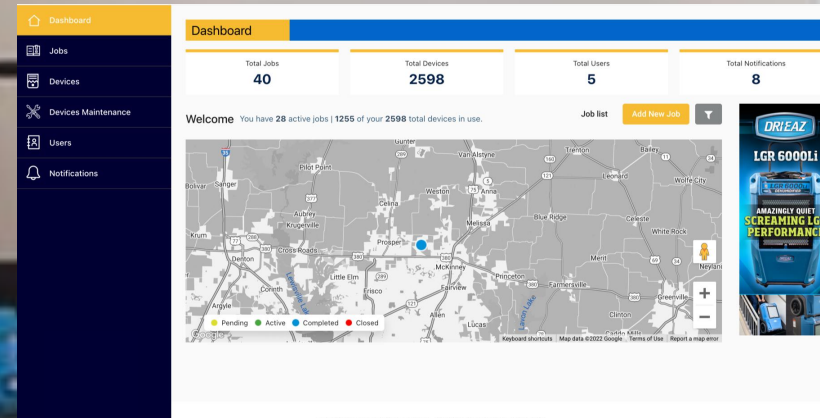
# Restoration Monitoring Solution

## SITUATION:

More than 50 years of providing innovative solutions for professional cleaners, restorers and facility managers. Legend Brands has been pushing the boundaries of innovation to provide cleaning and restoration professionals with cutting-edge equipment and chemicals. Our products are the go-to choice for professionals and consumers who want the best cleaning and restoration results.

## RESULTS:

- Ability to report actual usage for recent insurance mandated reporting
- Improved unit up-time for service providers
- Service tech able to manage multiple sites at the same time
- Utilizing BLE + WIFI multiple units remote or local cell phone monitoring
- Automated usage tracking and reporting
- Real-time maintenance notification filter replacement or unit malfunction



## COMMAND HUB:

- Digitally connected, remotely monitored equipment

→ [READ MORE](#)

## DEPLOYING IOT WITH AVNET HAS ENABLED:

Instant access to critical job data onsite on the Command Hub screen or remotely using the Command Center Pro app.

Monitor job trends performance graph displays up to 30 data points since the start of the job.

Built-in Bluetooth and Wi-Fi for onsite and remote management of jobs - seamless integration with Command Center Pro app.

Achieve ULTIMATE efficiency - integrates with Next Gear's MICA Mobility app for instant, accurate job data capture.



# / Summary & Next Steps

## Benefits

1. **Easy implementation:** Our smart Facility solutions are powered by a modern networking infrastructure platform that works with the current system with minimal disruption.
2. **Accelerate ROI:** Our solutions feature state-of-art technologies such as advanced analytics, deep learning and artificial intelligence that provide real-time visibility and simplify the implementation of higher ROI solutions.
3. **Comprehensive security:** We follow best practices to ensure that all data are properly secured by following the highest standards in compliance with various industry and federal regulations.

## Outcomes

1. **Enhanced Operational Efficiency:** The solution reduces downtime, optimizes asset utilization, and lowers maintenance costs, leading to improved overall efficiency.
2. **Data-Driven Decision Making:** Businesses gain valuable insights for making informed decisions regarding asset investments, maintenance schedules, and resource allocation.
3. **Increased Productivity and Profitability:** By shifting from reactive to proactive asset management, companies experience increased productivity and profitability.

## Next Steps

**Let's Team up to Empower Your Assets**

**Contact us: [IoT@Avnet.com](mailto:IoT@Avnet.com)**

# More About Avnet /IOTCONNECT & Softweb Solutions (an Avnet company)

# / About Avnet

AVNET

## Quick facts

- Founded in 1921
- Headquartered in Phoenix, Arizona
- \$26.5B in revenue (FY23)
- AVT listed on the NYSE since 1960
- AVT listed on NASDAQ since 2018
- #163 on FORTUNE 500 (US) in 2022

**15,300**

Employees  
worldwide

**1,925**

Engineers around  
the world

**2.8M+**

Engineering  
community members

**1M+**

Customers in  
140 countries

**250+**

Locations  
globally

**283B+**

Units shipped  
annually

# Avnet Investments

AVNET

CORE SEMI

softweb  
solutions

AN AVNET COMPANY

CLOUD APPLICATION DEVELOPMENT

W  
Witekio

AN AVNET COMPANY

EMBEDDED SOFTWARE  
DESIGN SERVICES

TRIA  
AN AVNET COMPANY

EMBEDDED MODULES  
& BOARDS



DESIGNED BY AVNET

SOLUTIONS DEVELOPMENT:  
ADVANCED APPLICATIONS GROUP



## IoT Sales Team

A global specialized IoT team focused on providing unique hardware, software and cloud expertise to OEMs



## Extensive line card

Semiconductors, IP&E, embedded systems, software and cloud



## Hardware Edge Design

Technology selection and support provided by 800+ Field Application Engineers



## Embedded Software Design

Design, develop, and integrate embedded OS, firmware, and application software



## Cloud and Digital Design

Complete IoT solutions (cloud, apps, data insights) built on /IOTCONNECT



## Supply Chain and Logistics

Supply chain models to address each customer's priorities



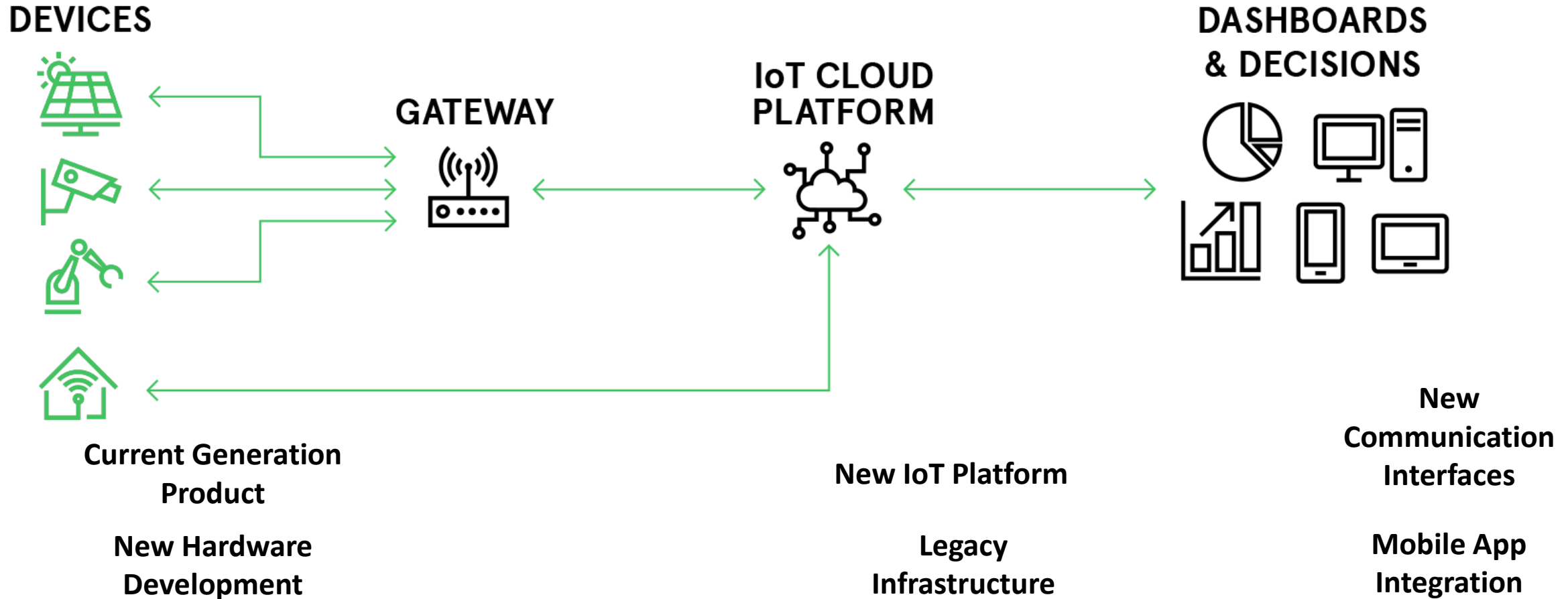
## Lifecycle Management

Digital Managed Services, OTA updates, post sales support

Gives us Unmatched Capabilities

AVNET

# / Challenge of IoT



Developing an IoT product is costly, cumbersome, and time consuming.

# / Challenge of IoT

## DEVICES



## GATEWAY



## IoT CLOUD PLATFORM



## DASHBOARDS & DECISIONS



/ IOTCONNECT<sup>®</sup>

With /IOTCONNECT, IoT development becomes simple, secure, and scalable.

## Things

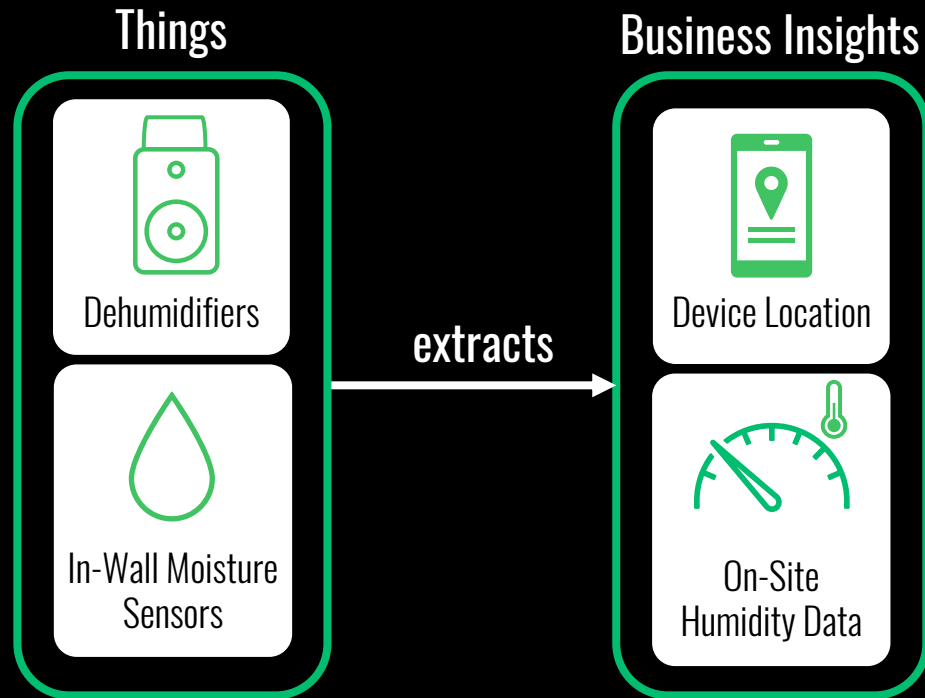


Dehumidifiers



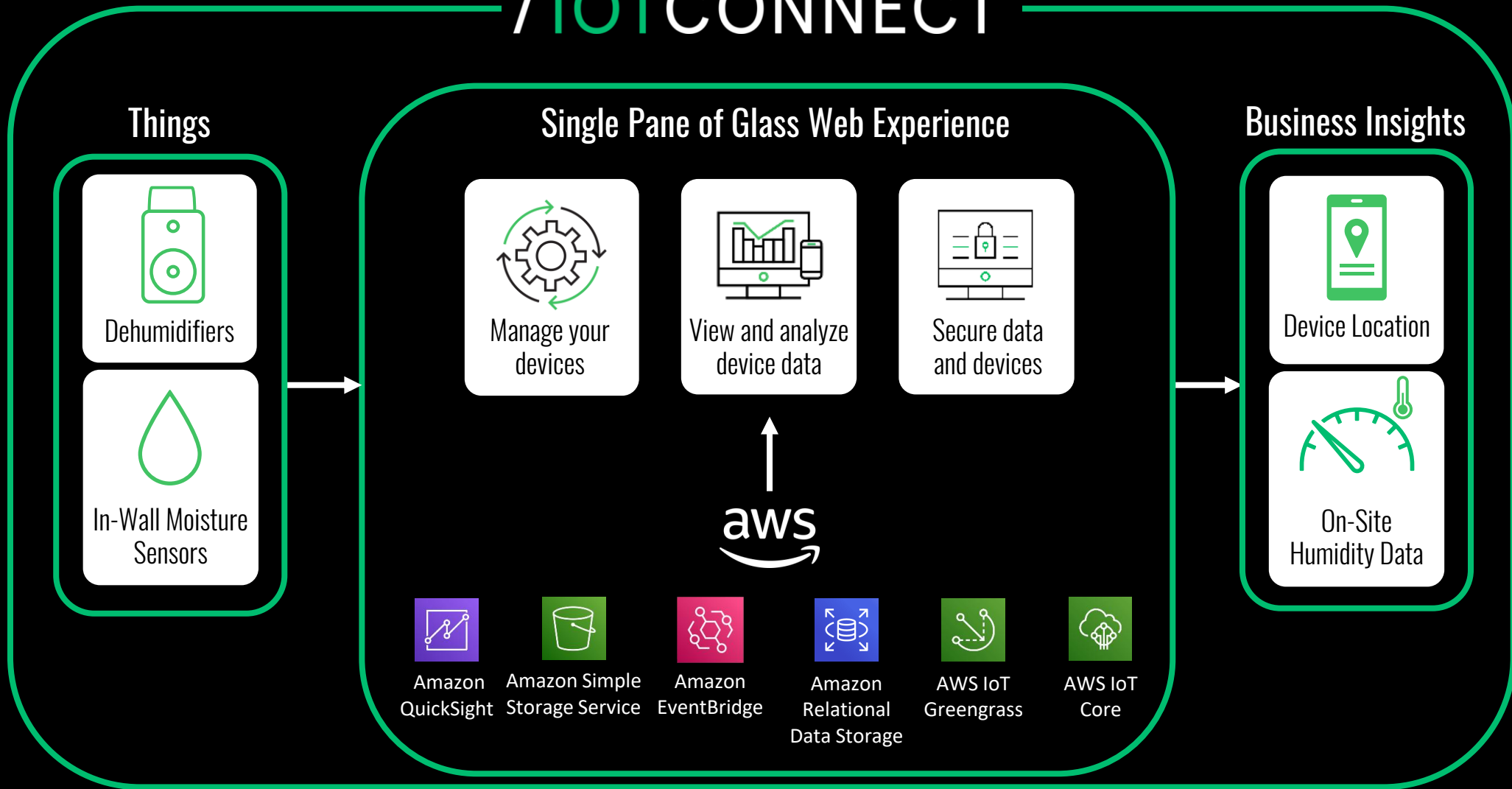
In-Wall Moisture  
Sensors

It takes **things** like **connected dehumidifiers** and **moisture sensors**



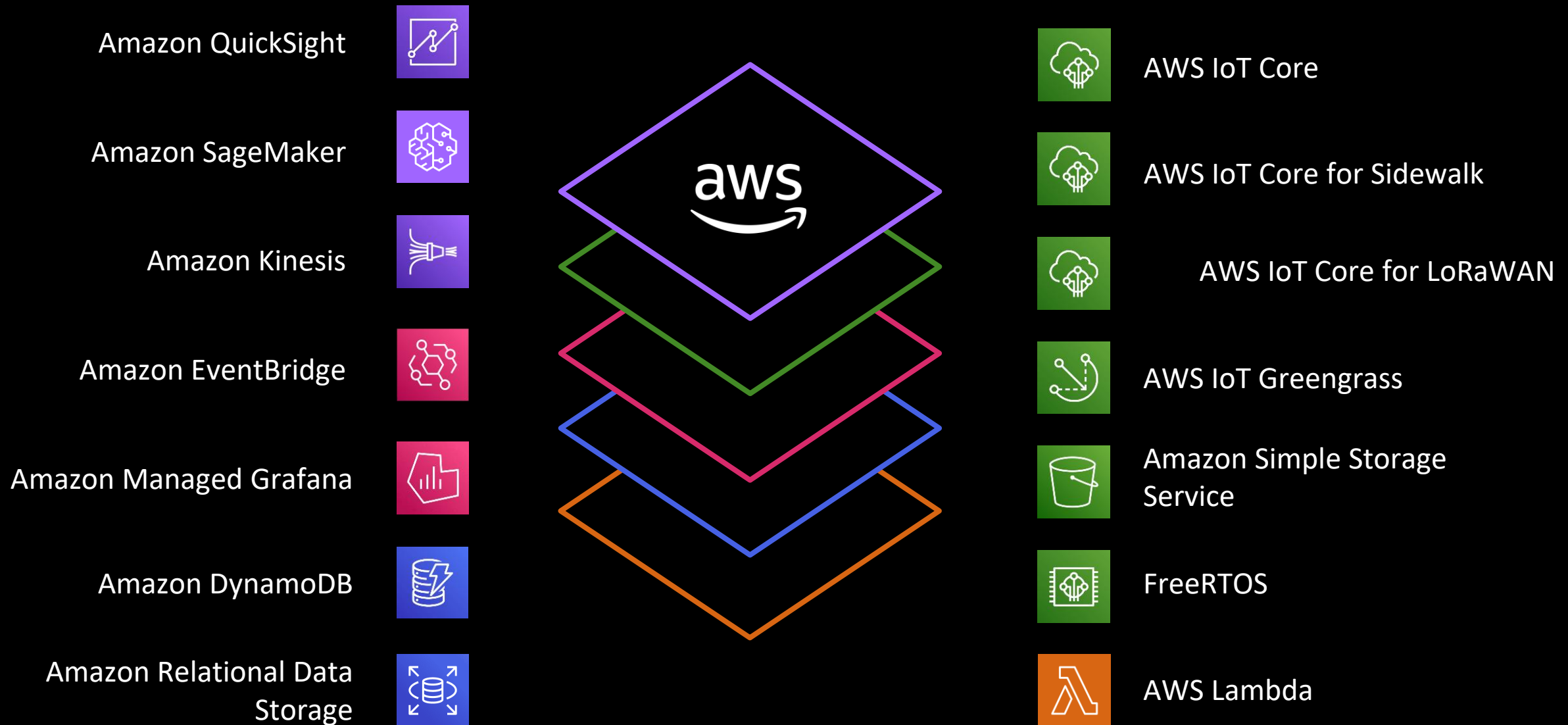
and **extracts valuable insights** to improve business intelligence

# /IOTCONNECT®



to create a **single pane of glass** experience

that's **built on AWS**



We take needed **AWS services** for IoT solution development

# /IOTCONNECT<sup>®</sup>

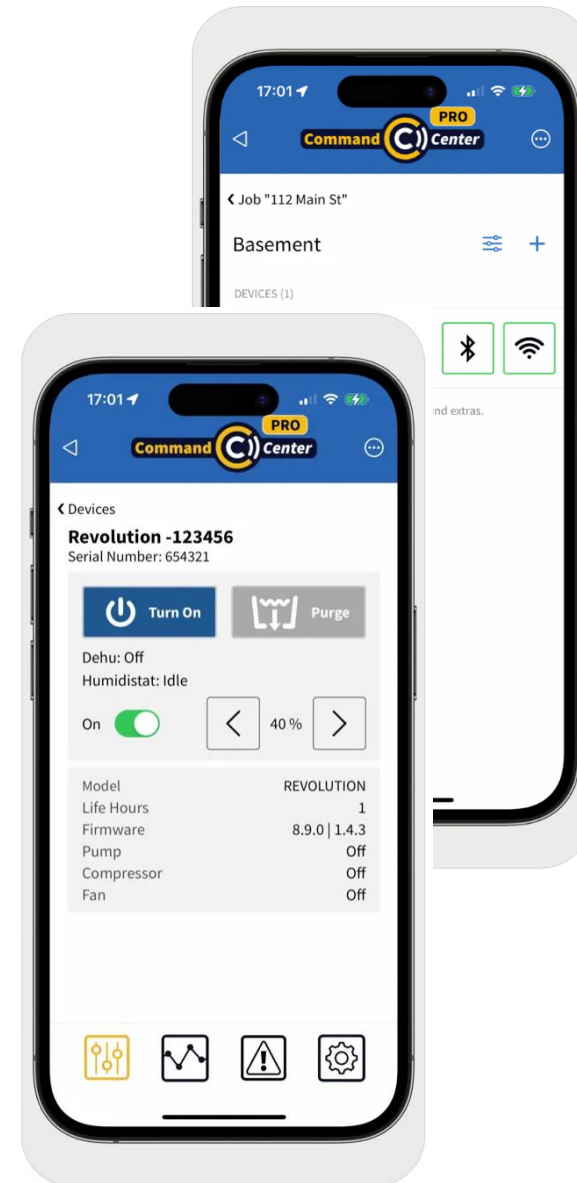
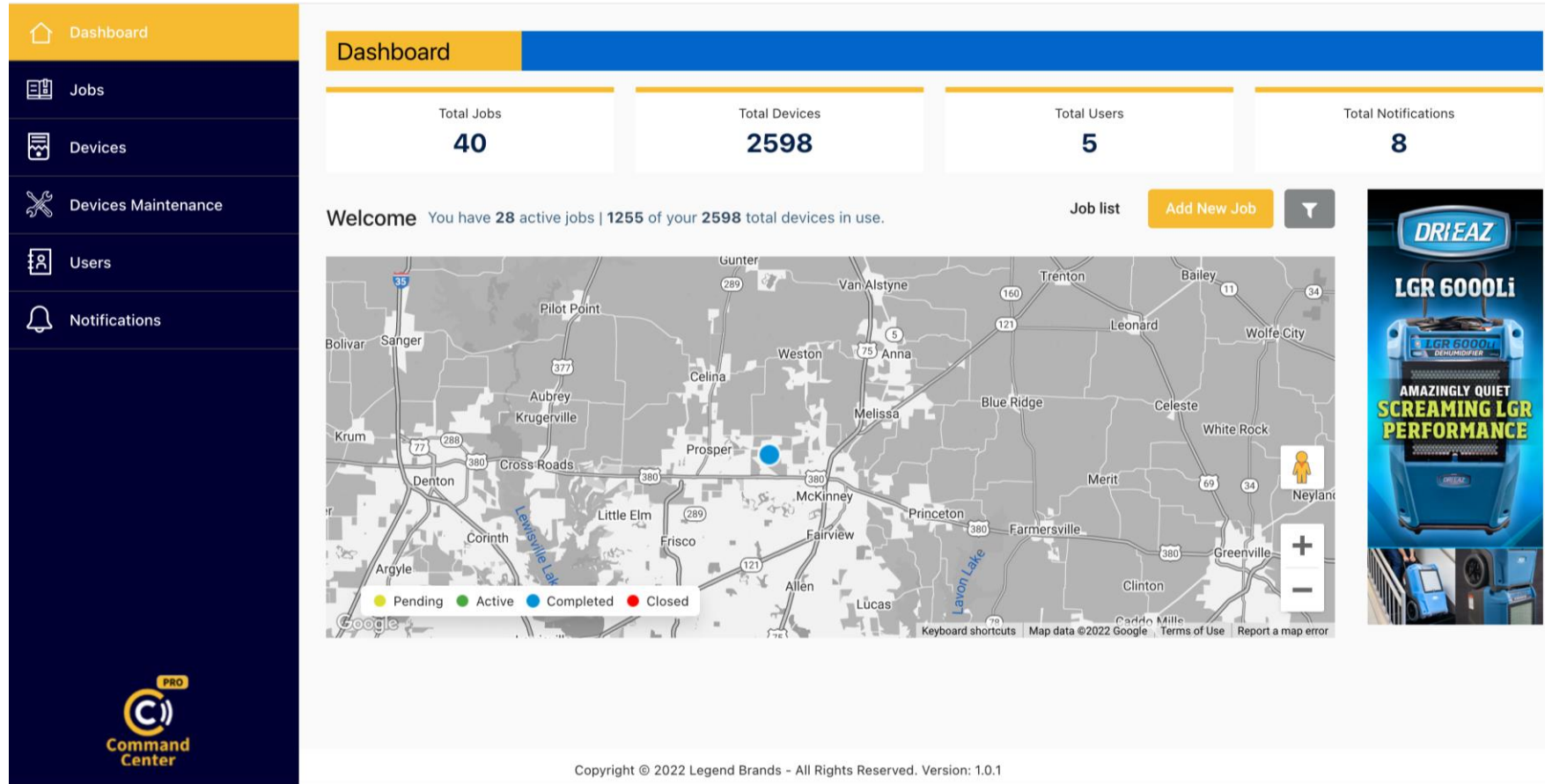
## Solutions Suite



One interface for AWS  
services

And aggregate them to create **one ecosystem** for **production ready IoT**

# /IOTCONNECT SaaS Application in Action



# Next Steps

# Avnet's Smart Asset Monitoring powered by IoT and AI

## Challenges

Get better control over your equipment and machinery

Avnet's Smart Asset Monitoring solution tackles challenges like limited control over assets, sudden machine breakdowns, unconnected IT and OT silos, loss of job-critical data, lack of sophisticated reporting systems, inefficient asset performance tracking, and the inability to meet maximum asset productivity. Leveraging Amazon AWS cloud services and Avnet's IoTConnect platform, this IoT-based system integrates advanced hardware, software, and analytics to transform asset tracking, maintenance, and utilization. It provides real-time visibility, proactive maintenance, and actionable insights through predictive algorithms, streamlining asset management, reducing operational costs, and enhancing productivity. For industries such as manufacturing, oil & gas, logistics, transportation, and equipment rental, this solution boosts efficiency, productivity, and customer experiences, helping companies optimize operations and track return on assets.

## Avnet IoTConnect Solution

Monitor & track your assets remotely to gain rich insights into machine health & utilization

By implementing Avnet's Smart Asset Monitoring solution, businesses can transform their asset management practices, moving from reactive to proactive approaches. This leads to reduced downtime, optimized asset utilization, lower maintenance costs, and improved overall operational efficiency. The solution's data-driven insights enable companies to make more informed decisions about asset investments, maintenance schedules, and resource allocation, ultimately contributing to increased productivity and profitability.

## Benefits

- Real-time Asset Tracking**

The solution uses sensors, RFID tags, and mobile apps to provide instant asset location information, improving accountability and resource allocation.
- Predictive Maintenance**

By continuously monitoring machine performance and analyzing data, the system can predict potential failures before they occur. Push notifications alert managers to issues, allowing them to take proactive measures to prevent breakdowns and minimize production losses.
- Improved Operational Efficiency**

Employees can use a mobile app to quickly check out and return equipment, streamlining processes and saving valuable time. This efficiency boost allows staff to focus on more critical tasks.
- Deep Analytics and Insights**

An interactive dashboard presents usage history, performance metrics, and other key data points. Users can generate detailed, customizable reports to gain deeper insights into asset utilization, maintenance needs, and overall operational efficiency.

Smart asset monitoring is a... the processes, assets, analytics into a single solution to consolidated tracking, monitoring... for asset-intensive sectors... industrial machinery, power & gas, healthcare, etc.

### Implementation

Solutions are powered by a infrastructure platform that... system with minimal

### ROI

state-of-art technologies... analytics, deep learning and... at provide real-time... the implementation of

### cyber security

s to ensure that all data... following the highest... with various industry

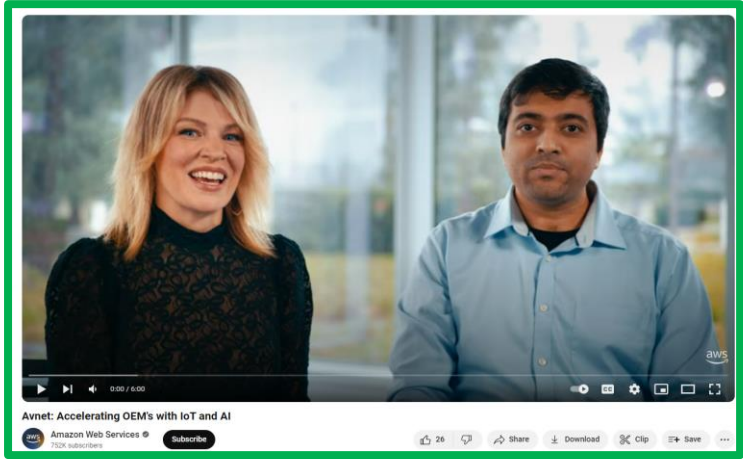
available for a free... etplace

Qualified Software

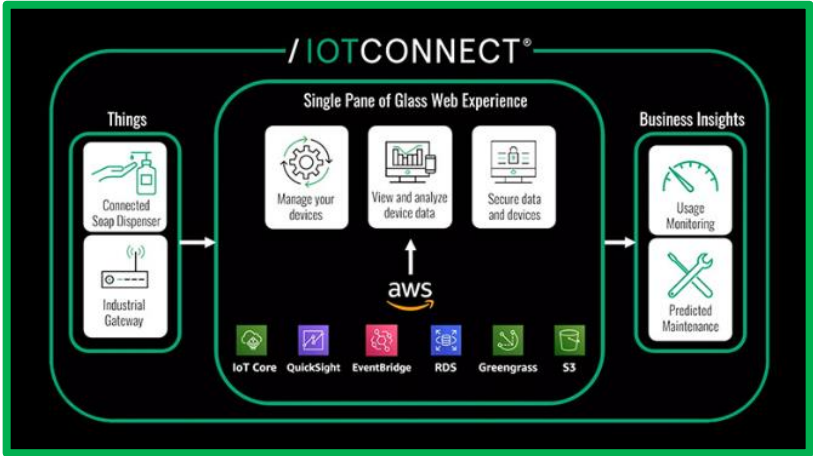
Contact us!

Learn more

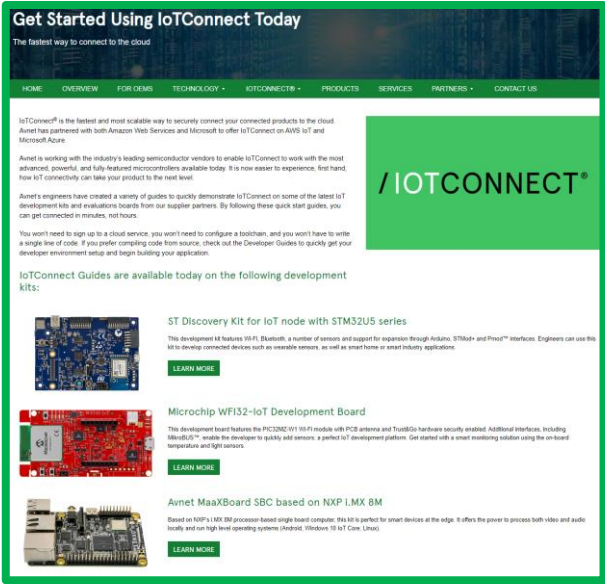
# /Resources



[Avnet and AWS:  
This is My Architecture](#)



[Avnet  
/IOTCONNECT Webinar](#)



[/IOTCONNECT Quick Start  
Development Kits](#)

# /IOTCONNECT Quick Start Enablement

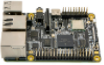
IoTConnect Guides are available today on the following development kits:



**ST Discovery Kit for IoT node with STM32U5 series**  
This development kit features Wi-Fi, Bluetooth, a number of sensors and support for expansion through Arduino, STM32+ and Prox™ interfaces. Engineers can use this kit to develop connected devices such as wearable sensors, as well as smart home or smart industry applications.  
[LEARN MORE](#)



**Microchip WIF32-IoT Development Board**  
This development board features the PIC32MZ101 Wi-Fi module with PCB antennas and TrustZone hardware security enabled. Additional interfaces, including MicroBLU™, enable the developer to quickly add sensors, a perfect IoT development platform. Get started with a smart monitoring solution using the on-board temperature and light sensors.  
[LEARN MORE](#)



**Avnet MaaXBoard SBC based on NXP i.MX 8M**  
Based on NXP's i.MX 8M processor-based single board computer, this kit is perfect for smart devices at the edge. It offers the power to process both video and audio locally and run high level operating systems (Android, Windows, IoT Core, Linux).  
[LEARN MORE](#)



**Renesas CK-RX65N Cloud Kit Based on RX65N MCU Group**  
This kit combines the RX65N MCU with an LTE Cellular CAT-M1 module and Ethernet connectivity. With IoTConnect support, you start capturing data in the field and send to the cloud in minutes.  
[LEARN MORE](#)



**Infineon XENSIV Kit with PAS CO2 sensor**  
The XENSIV™ connected sensor kit is ideal for battery-powered IoT devices. Its small size hides a lot of performance. With both Wi-Fi and Bluetooth connectivity, the kit includes a CO2 sensor and the OPTIGA™ Trust M security device. The kit works with IoTConnect's Secure Device Management features to provide IoT connectivity with total end-to-end security.  
[LEARN MORE](#)

## Pick a Board

Access our quick start landing page to look at the variety of developer board options that we have enabled. Select which board fits your need.

**IoTConnect SDK for STM32-U5 based on X-Cube-Azure**

SDK and sample application to connect [STM32U5 IoT Discovery Kit](#) to IoTConnect.

The QuickStart Guide below provides a binary image to program the board for quick evaluation of the sample application.

- [QuickStart Guide](#)

Use this Developer Guide to setup the project and modify the source to further develop using the sample application.

- [Developer Guide](#)

The BG96 Module from the [P-L496G-CELL02 Combo](#) is also supported by this project. To run your board with this module, follow the respective BG96 sections linked in the Developer or QuickStart guides.

## Access GitHub

Click the GitHub link to see the sample code we have created for each of these developer kits. These include templates and dashboards.

**Select a Personal Plan**

Test Drive

**2 Months Free**

- Messages **30K (Max)**
- Devices **5 (Max)**
- Users **5 (Max)**

[SUBSCRIBE NOW](#)

No Credit Card Required.

## Sign up for Free Trial

Using the provided link from the quick start guide, sign up for a free /IOTCONNECT account and demo all of the design acceleration features.



Temperature: 30.979  
Pressure: 843.168  
Humidity: 14.746

Env Sensors

Device Command

Command Executed On (UTC) Status Executed Count

## Start Developing

With dynamic dashboards and easy onboarding widgets, /IOTCONNECT makes designing for your application simple, secure, and scalable.

# Appendix

# /IOTCONNECT Supports All Devices

AVNET



**AWS IoT Core**



**AWS IoT Core for**  
**LoRaWAN** **amazon sidewalk**



**AWS IoT Greengrass**

**Device Types**



Connected Devices



Gateway & Child Devices



Private LoRaWAN Base Station



Private LoRaWAN Concentrator



Public LoRaWAN Device

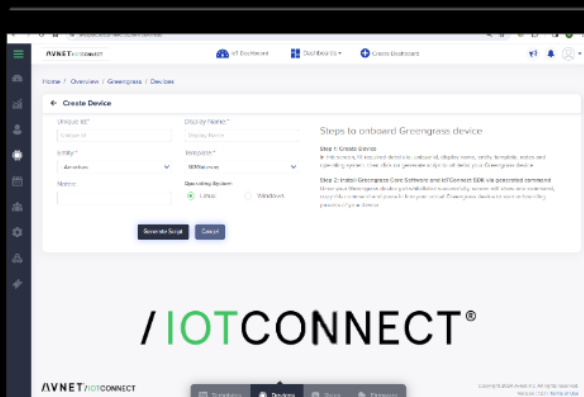


Amazon Sidewalk Device



Edge Server or Gateway

**Device Enablement**

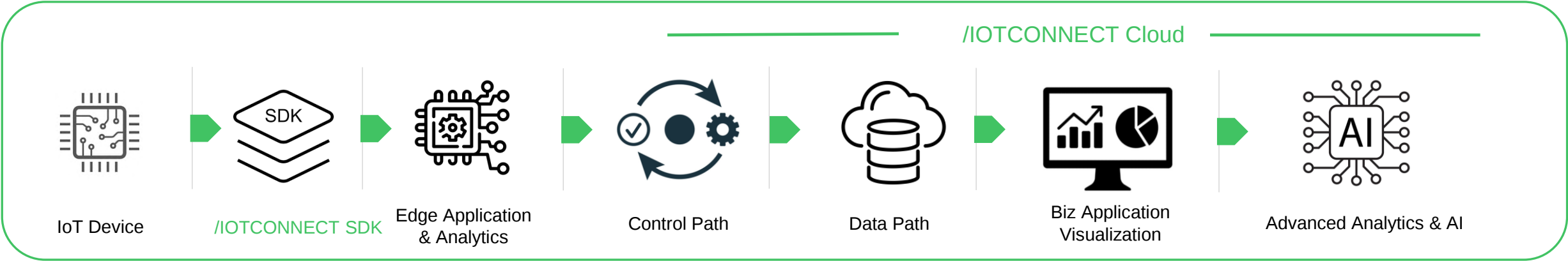


AWS IoT Greengrass



/IOTCONNECT enables ALL devices types through a single pane of glass.

# /IOTCONNECT Building Blocks w/ AWS



FreeRTOS



Python



Greengrass



IoT Core



RDS



QuickSight



SageMaker



C



EventBridge



S3 Data Lake



Grafana

Transport



LoRaWAN™

PRIVATE | PUBLIC



Kinesis



S3



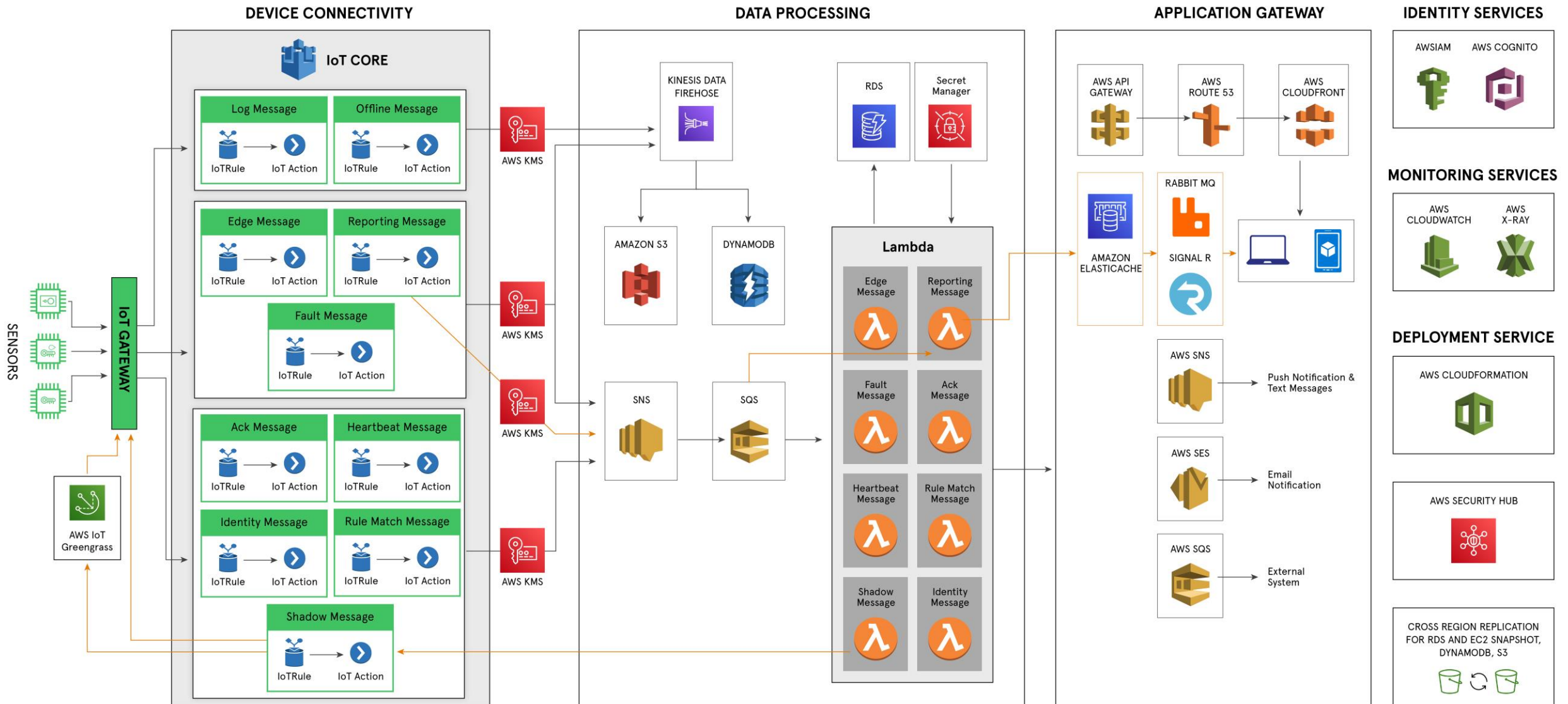
Lambda



DynamoDB

/IOTCONNECT®

# /IOTCONNECT Platform Architecture



# //IOTCONNECT Developer Personas



- Device, User, Roles, and Entity Admin
- Security manag
- Basic dashboarding
- Internal Ops

**Device Builders & Deployment Managers**



- RESTful API
- Predictable URLs
- Intelligent error handling
- OAuth 2.0 authentication
- Access to all IoT functions

**Application & UX Developers**



- Dynamo DB, S3
- Signal R
- MQTT
- Grafana
- AWS SNS

**Cloud Developer & Data Science**

# /IOTCONNECT SDKs: Deliver a Positive Developer Experience

AVNET



## Objectives:

- Deliver device-builders a positive developer-experience
- Integrate into the Avnet Supplier's development flow and ecosystem
- Provide confidence for a successful outcome at the onset of our customer's IoT journey



## Software Resources

- /IOTCONNECT Enablement, Witekio, and Softweb service teams
- Access to global and scalable Avnet software services
- Skills: C, Python, Java, OS/RTOS, Applications, AI/ML



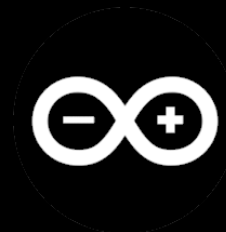
## Deliverables

- /IOTCONNECT Library
- SDK (C / C# / Python / ...)
- Test Strategy
- Platform Targeted Samples
- Developer Guide
- QuickStart Experience

yocto  
PROJECT



free  
RTOS



AWS IoT Greengrass

# / Device Enablement: SDKs

## Generic SDKs

### Multiple Languages and Environments



## Platform-specific SDKs

### Development Boards and Embedded Hardware

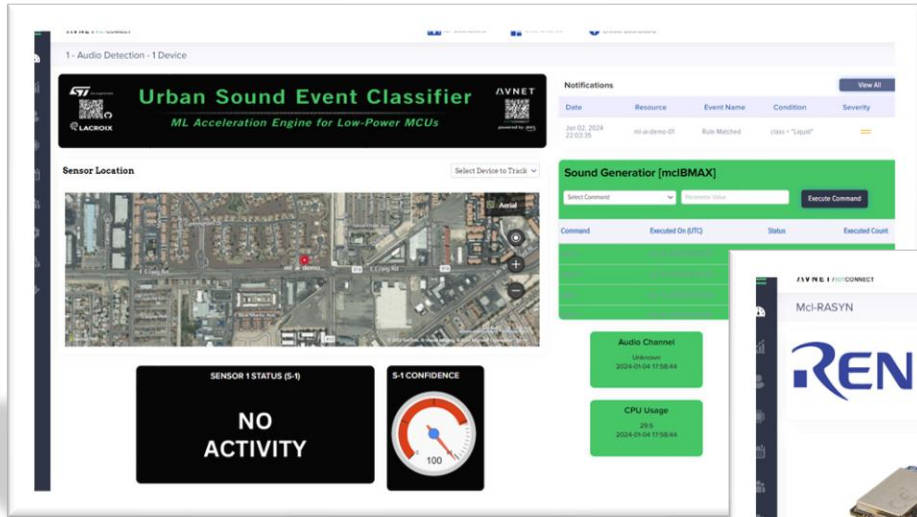


 <https://docs.iotconnect.io/iotconnect/sdk/>

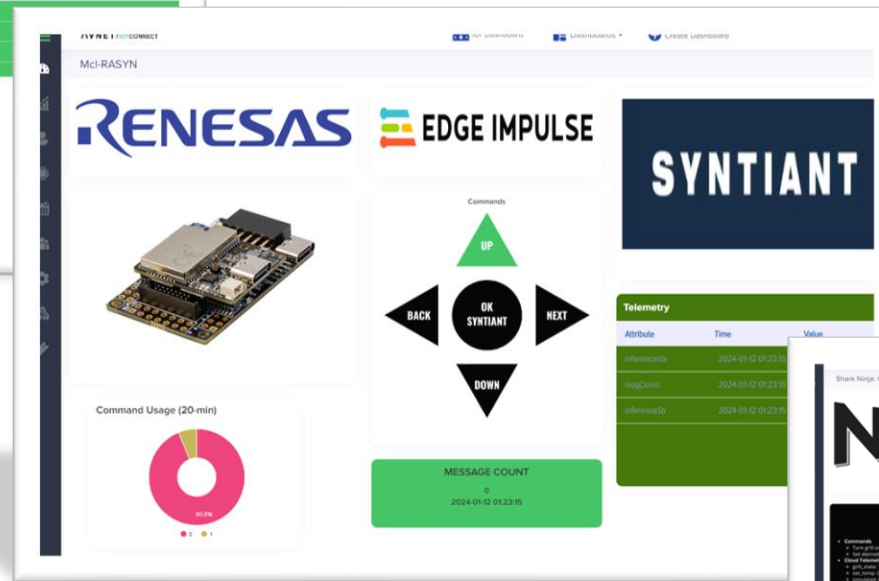
 <https://github.com/avnet-iotconnect/>



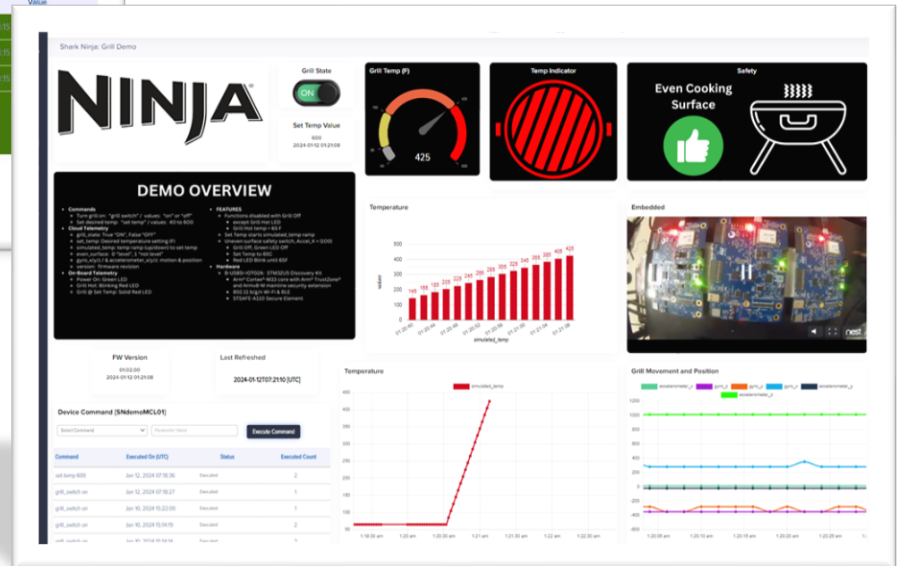
# /IOTCONNECT AWS Demo Examples



AI/ML Audio Classification



Edge ML Voice and Motion Detection



Consumer Indoor Grill