

/ Avnet /IOTCONNECT Solutions Suite

Smart Fleet Management

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 Fleet Management powered by IoT and AI

Real-time fleet monitoring capabilities Solution features Real-time fleet visibility Optimal real-time routing Engine data via on-board sensors Speed/idling real-time feedback Monitor the entire fleet Geo-fencing and tracking Real-time cargo monitoring Monitor the vehicle's idling time More accurate ETA predictions Streamlined routes Detailed location data Breakdown notifications Monitor driver activity Identify where the drivers are at all times Roadside/emergency assistance for drivers Monitoring of misuse such as hard braking, etc.

Visit Our Marketplace Listings



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 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) with 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.

[View purchase options](#)
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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 Fleet Management Solution

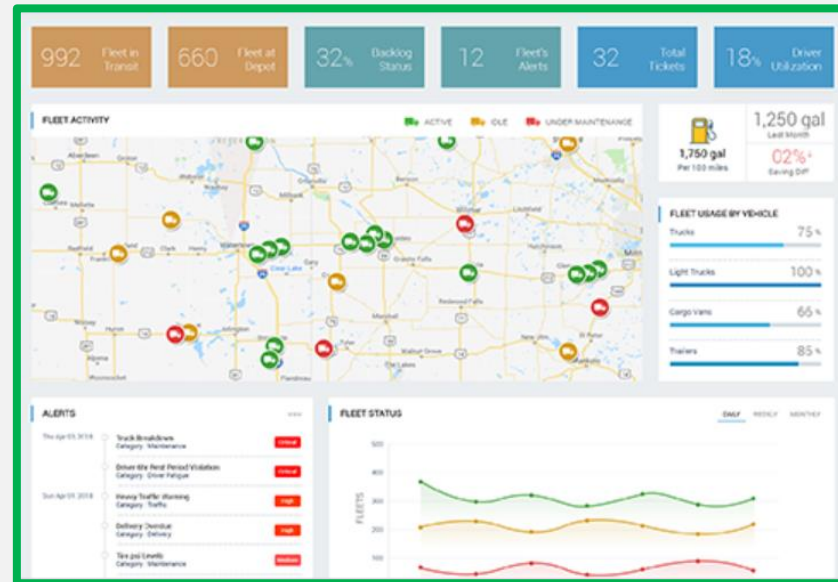
The Smart Fleet Management Solution offers comprehensive real-time fleet monitoring and management capabilities designed to enhance efficiency, safety, and compliance for transportation and logistics companies. The solution utilizes /IOTCONNECT, powered by AWS, which integrates cloud-based analytics, IoT connectivity, and advanced sensor technologies to deliver actionable insights.

Increase driver safety: Identify where drivers are at all times and quickly dispatch roadside or emergency assistance if needed.

Longer vehicle lifespan: In-vehicle sensors provide engine data, speed/idling time and other metrics so you can proactively address any issues.

More efficient routing: Track vehicle locations in real time to get breakdown notifications, provide more accurate delivery time estimates, and streamline routes.

Easier compliance: Better visibility into operations through built-in analytics and reporting make it easier to comply with industry and government standards.



Sample Dashboard

Features

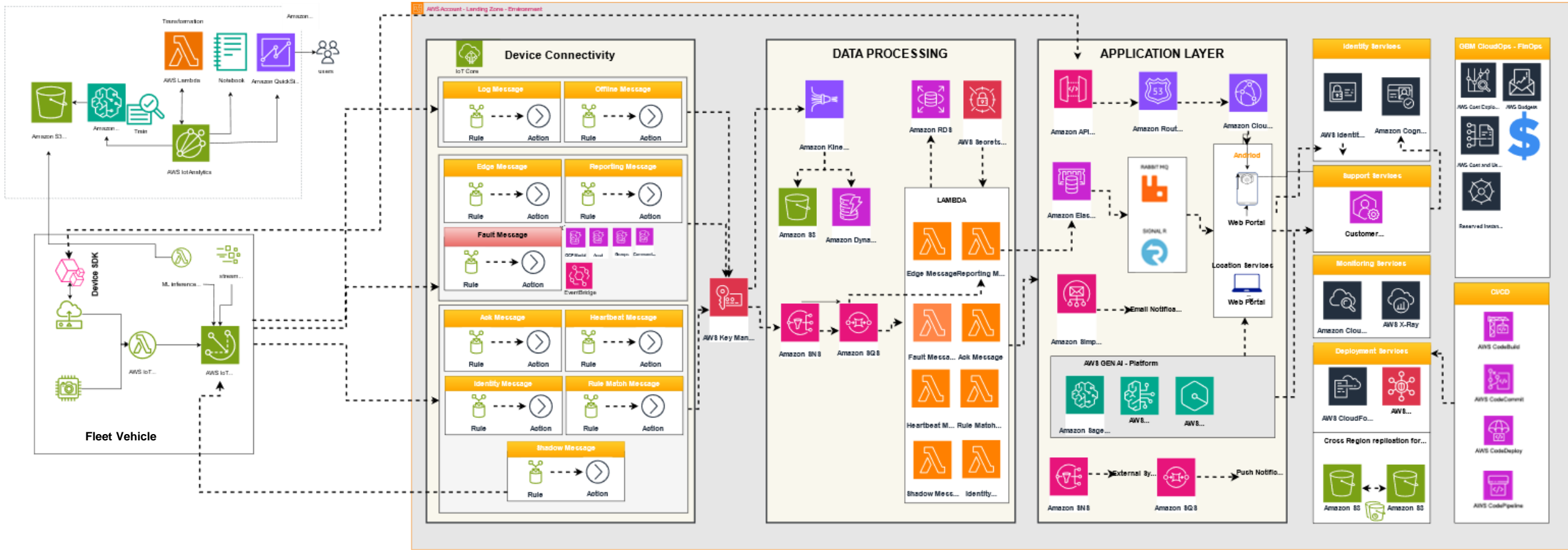
Our Fleet Management solution helps you to organize and manage your fleet operations, improve efficiency and reduce costs; developing a better understanding of the condition and usage of your fleet in real-time.

- On-demand operations
- Easy to learn and use
- IFTA reporting
- Seamless deployment and integration
- Driving behavior analysis
- Fuel level monitoring
- Water level monitoring
- Tire pressure monitoring
- Engine temperature monitoring

[Learn more](#)

[Marketplace Listing](#)

Solution Architecture - Smart Fleet Management



Twitter: @AWS - awscloudops

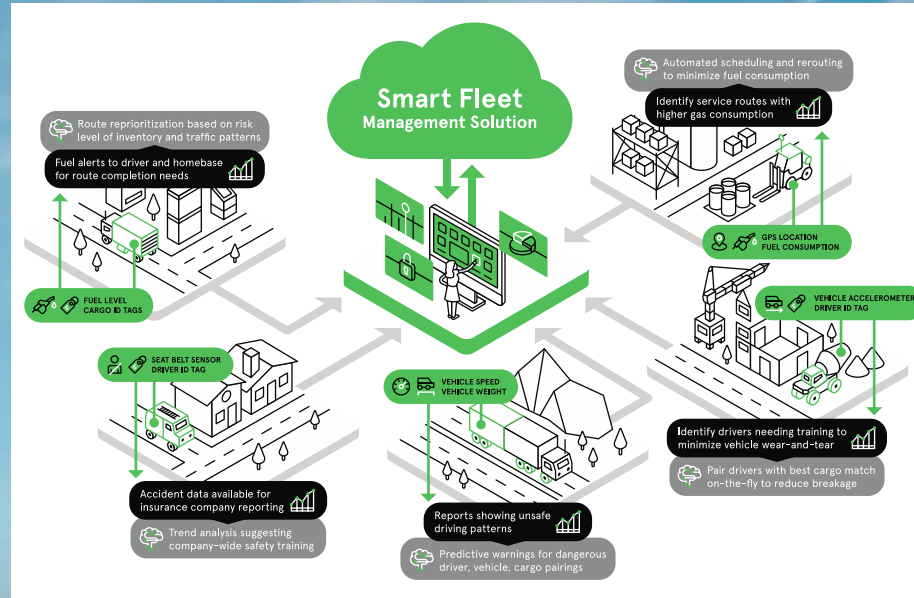
World-class decoking company

SITUATION:

- Customer stated they needed help optimizing their fleet operations, their goals were:
 - Reduce truck downtime
 - Improved control and visibility of fleet activity
- Accessibility to dashboards and analytics to gain new insights such as:
 - Fuel level
 - Battery charging
 - Vehicle speed
 - Engine RPM

VALUE PROPOSITION:

- A complete and proven prebuilt solution
- Removing the complexity of IoT based fleet management systems
- Real time GPS asset tracking
- Deeper insights leading to predictive maintenance
- Optimize fleet operations for more profit



→ [READ MORE](#)

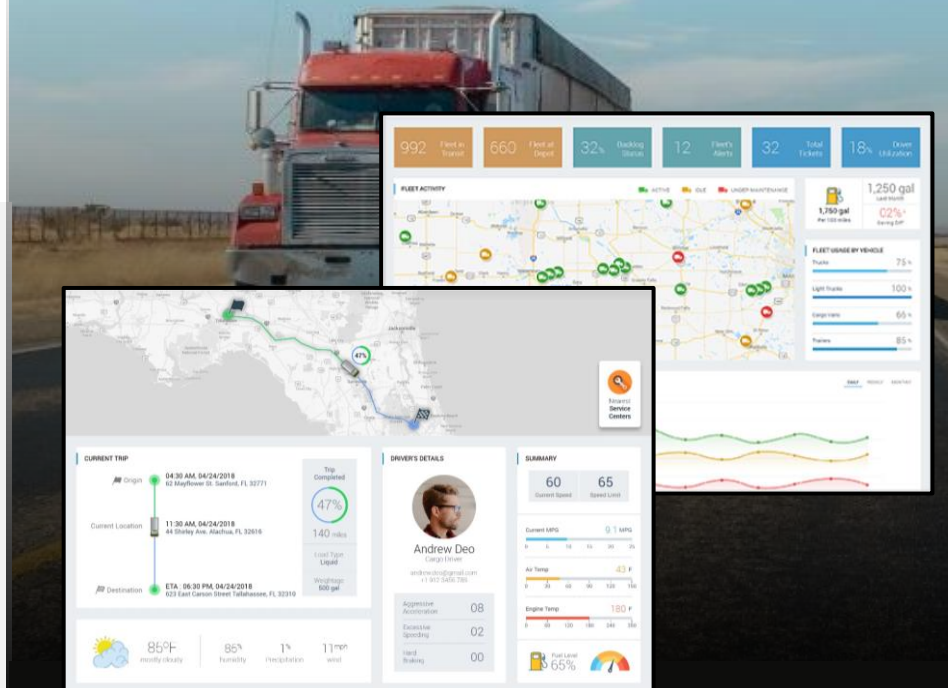
DEPLOYING IOT WITH AVNET HAS ENABLED:

Reduced downtime and maintenance costs – repair before breakdown occurs, for example

Increased miles per vehicle in fleet resulting in more profitable operations

Accelerated design and deployment of solution by utilizing /IOTCONNECT's prebuilt smart fleet solution

Better control and visibility of the fleet using a centralized monitoring system



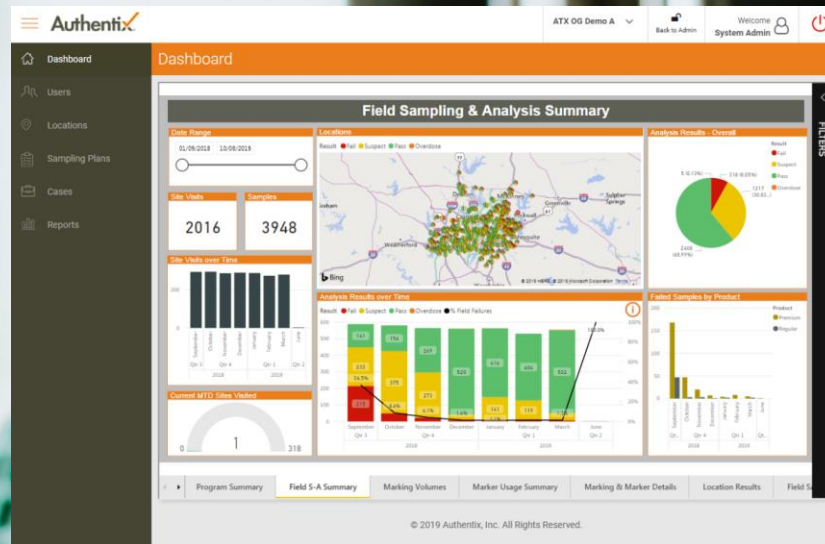
Safeguarding the integrity of global commerce

SITUATION:

Our Customer helps organizations to thrive in supply and distribution chain complexity. They provide advanced authentication solutions for governments, central banks and commercial products, ensuring local economies grow, banknote security remains intact and commercial products have robust market opportunities.

VALUE PROPOSITION:

- Complete visibility on demand and supply pattern
- Identify the access points of the illegal product
- Advanced analytics and detailed reports with time stamps
- Actionable safety information and intelligence on demand
- Accelerate decision making process with complete visibility into supply chain performance
- Gain competitive advantage



[→ READ MORE](#)

DEPLOYING IOT WITH AVNET HAS ENABLED:

Data science and IoT-enabled solution that provides information of all distribution points

Monitor all major supply chain functions with sophisticated time-stamps ledger

Anomaly detection to improve your supply chain

Ability to find improvement opportunities in the supply chain with the facility to generate the report for sampling status to meet governance and compliance

PRODUCTION IMPROVEMENTS:

- 21 assets made connected and smart
- 17% increase in productivity
- 20% decrease in downtime
- Overall profitability increased to 10% in just 6 months of implementation.

Summary & Next Steps

Benefits

1. **Easy implementation:** Our Smart Fleet 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. **Comprehensive Fleet Monitoring:** Provides real-time visibility and tracking of the entire fleet, including engine data, driver activity, cargo, and idling time, ensuring constant monitoring.
2. **Enhanced Route and Driver Efficiency:** Offers optimal real-time routing, more accurate ETA predictions, and detailed location data, improving route planning and overall driver performance.
3. **Improved Safety and Compliance:** Enables geo-fencing, breakdown notifications, emergency assistance, and identifies misuse (e.g., hard braking), enhancing driver safety and operational compliance.

Next Steps

Let's team up to monitor your fleet from beginning till end

Contact us: IoT@Avnet.com

More about Avnet /IOTCONNECT and Softweb solutions (an Avnet company)

/ About 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

A

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

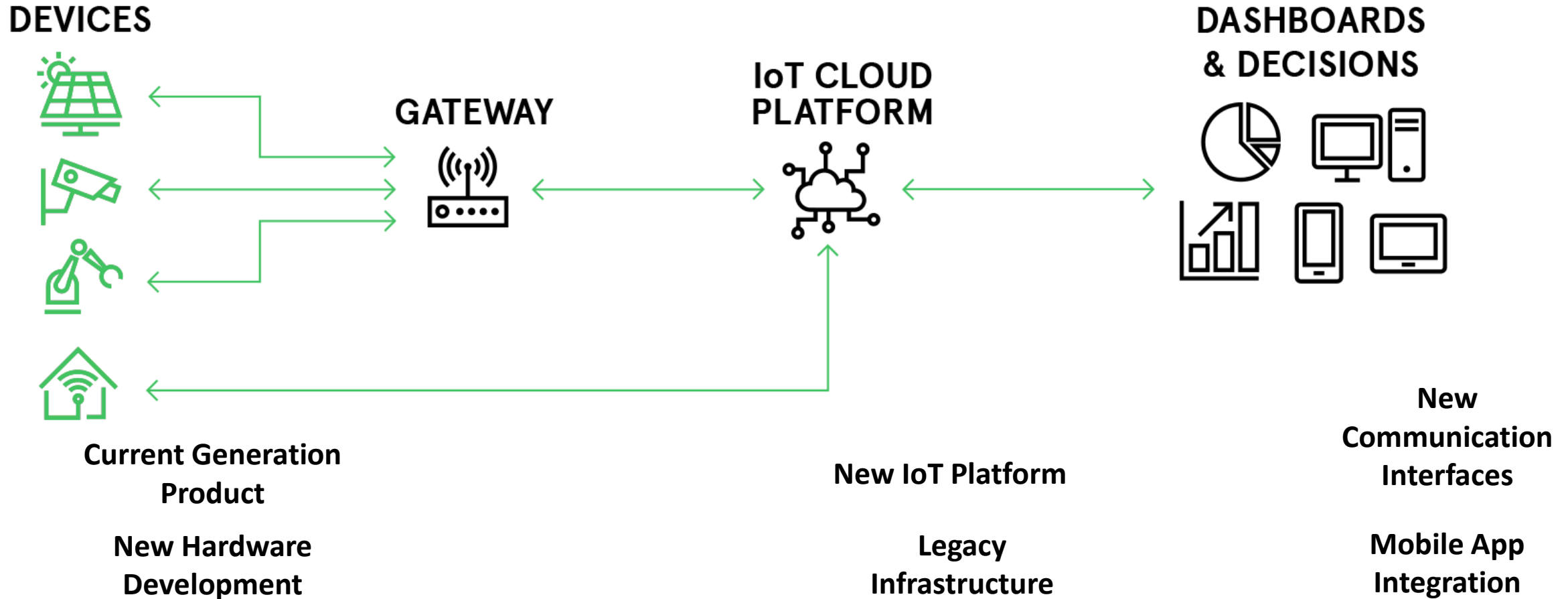


Lifecycle Management

Digital Managed Services, OTA updates, post sales support

Gives us Unmatched Capabilities

/ Challenge of IoT



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

/ Challenge of IoT

DEVICES



GATEWAY



IoT CLOUD PLATFORM



DASHBOARDS & DECISIONS



← / IOTCONNECT® →

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

Things



Dehumidifiers



In-Wall Moisture
Sensors

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

Things



Dehumidifiers



In-Wall Moisture
Sensors

extracts

Business Insights



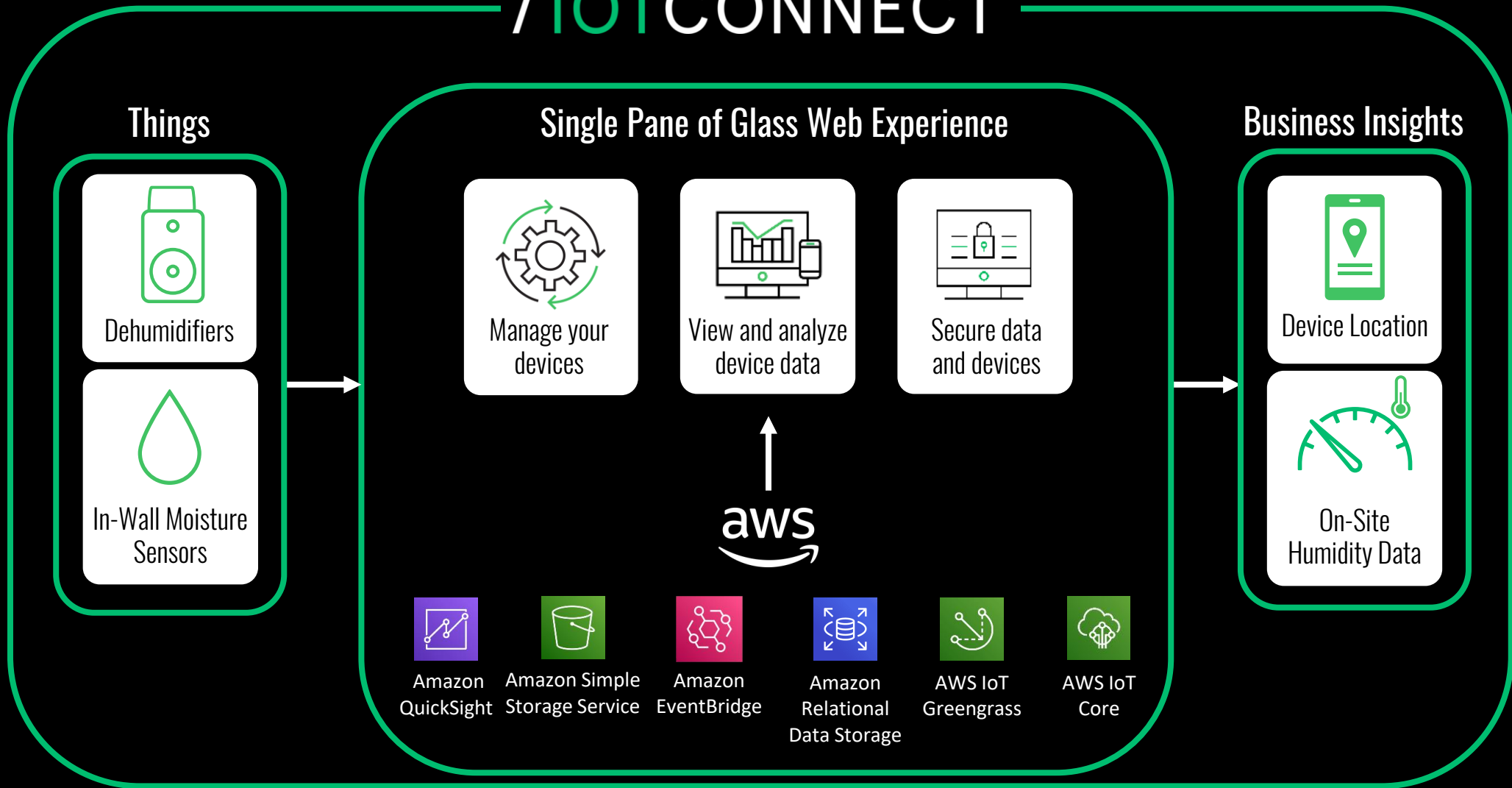
Device Location



On-Site
Humidity Data

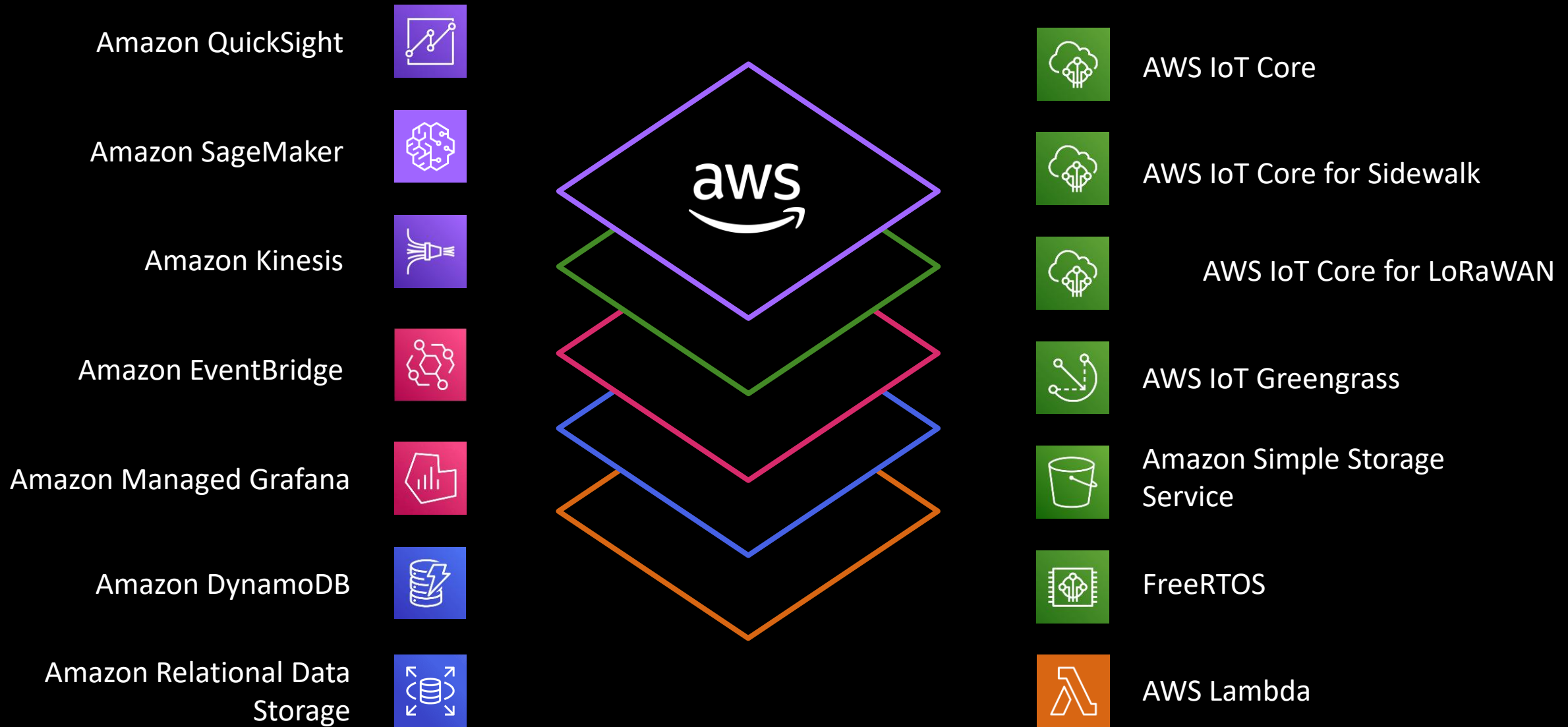
and **extracts valuable insights** to improve business intelligence

/IOTCONNECT[®]



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

that's **built on AWS**



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

/ IOTCONNECT[®]

Solutions Suite



One interface for AWS
services

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

/IOTCONNECT SaaS Application in Action

Dashboard

Total Jobs: 40

Total Devices: 2598

Total Users: 5

Total Notifications: 8

Welcome You have 28 active jobs | 1255 of your 2598 total devices in use.

Job list Add New Job

DRIEAZ LGR 6000Li

AMAZINGLY QUIET SCREAMING LGR PERFORMANCE

Copyright © 2022 Legend Brands - All Rights Reserved. Version: 1.0.1

Command Center PRO

Job #112 Main St

Basement

DEVICES (1)

Bluetooth Wi-Fi

Command Center PRO

Devices

Revolution -123456

Serial Number: 654321

Turn On Purge

Dehu: Off

Humidistat: Idle

On 40%

Model	REVOLUTION
Life Hours	1
Firmware	8.9.0 1.4.3
Pump	Off
Compressor	Off
Fan	Off

Next Steps

AVNET

/IOTCONNECT®


Avnet's Smart Fleet Management powered by IoT and AI

Challenges
An IoT-powered and GPS-enabled fleet tracking solution


Managing a fleet efficiently can be challenging, but Avnet's cloud-based solution, powered by AI and IoT, addresses these difficulties comprehensively. It goes beyond basic tracking to provide in-depth analysis of route planning, fuel analytics, and driving patterns, thereby enhancing productivity and cost savings. The integration of AI and machine learning enables autonomous dispatching and routing, allowing fleet managers to predict vehicle health and driving habits based on utilization and driving behavior. This advanced solution empowers fleet managers to make informed decisions, ultimately improving the overall efficiency and longevity of their fleet.

Avnet IoTConnect Solution
Track, analyze and optimize your fleet operations

The Smart Fleet Management Solution offers comprehensive real-time fleet monitoring and management capabilities designed to enhance efficiency, safety, and compliance for transportation and logistics companies. Built on Amazon AWS, the solution leverages cloud-based analytics, IoT connectivity, and advanced sensor technologies to deliver actionable insights.



Highlights



Easy implementation:

- Our smart fleet management solutions are powered by a modern networking infrastructure platform that works with the current system with minimal disruption.

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.


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.

Avnet Contact: C660-KR | C660-KR@Avnet.com

AVNET

es



Fleet Visibility
Monitor the location and status of your fleet, ensuring complete


Routing
Real-time to streamline routes, optimize, and provide more accurate estimates.

Sensor Data
Collect data, speed, idling time, through on-board sensors, for maintenance and planning.

and Tracking
Track vehicles, triggering alerts when vehicles enter or leave

Go Monitoring
Monitor in real-time to ensure safety throughout the transportation

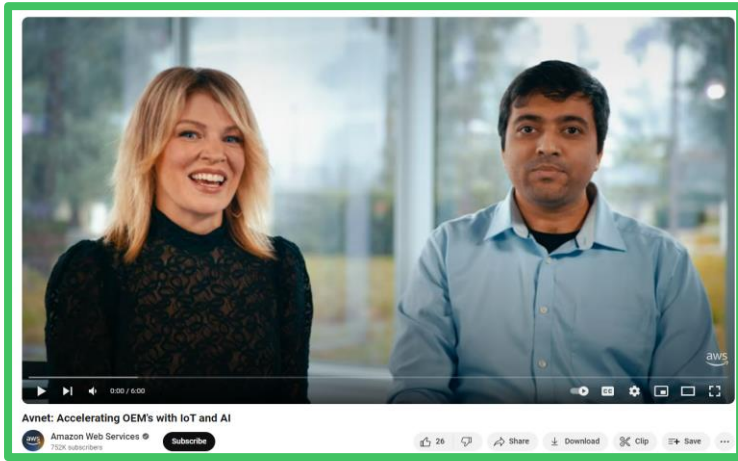
Available for a free marketplace



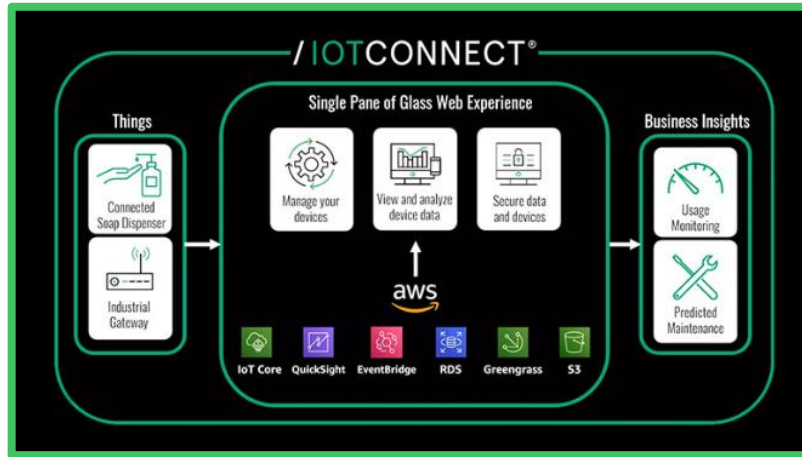
Contact us!

Learn more

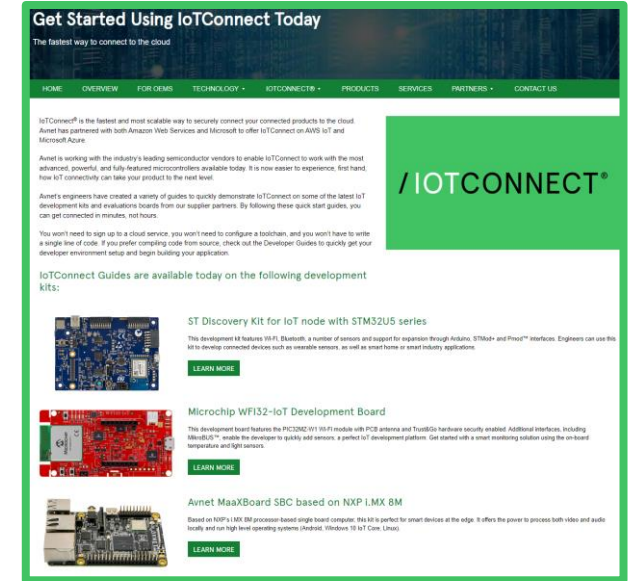
/Resources



[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:

- 1** **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 Proton™ 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 WiFi32-IoT Development Board**
This development board features the PIC32MZ101 WiFi module, with PCB antennas and TrustZone hardware security engine. Additional interfaces, including MicroBlaze™, 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.

2

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.

3

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.

4

Temperature: 30.979
Pressure: 843.168
Humidity: 14.748

Env Sensors

Device Command

Start Developing

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

Appendix

/IOTCONNECT Supports All Devices



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

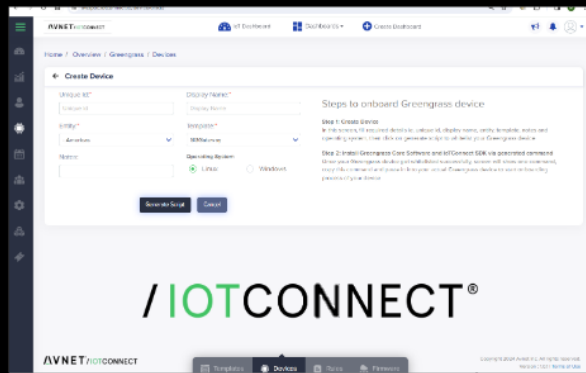


Amazon
Sidewalk
Device



Edge Server
or Gateway

Device
Enablement

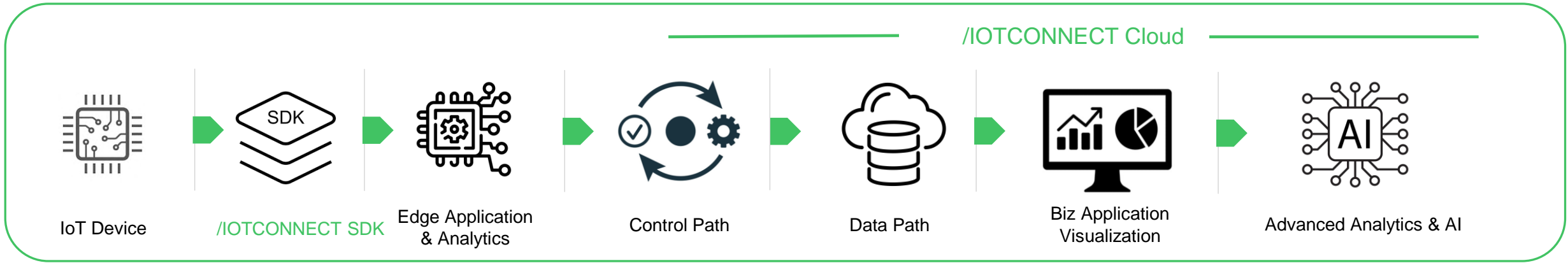


AWS IoT Greengrass



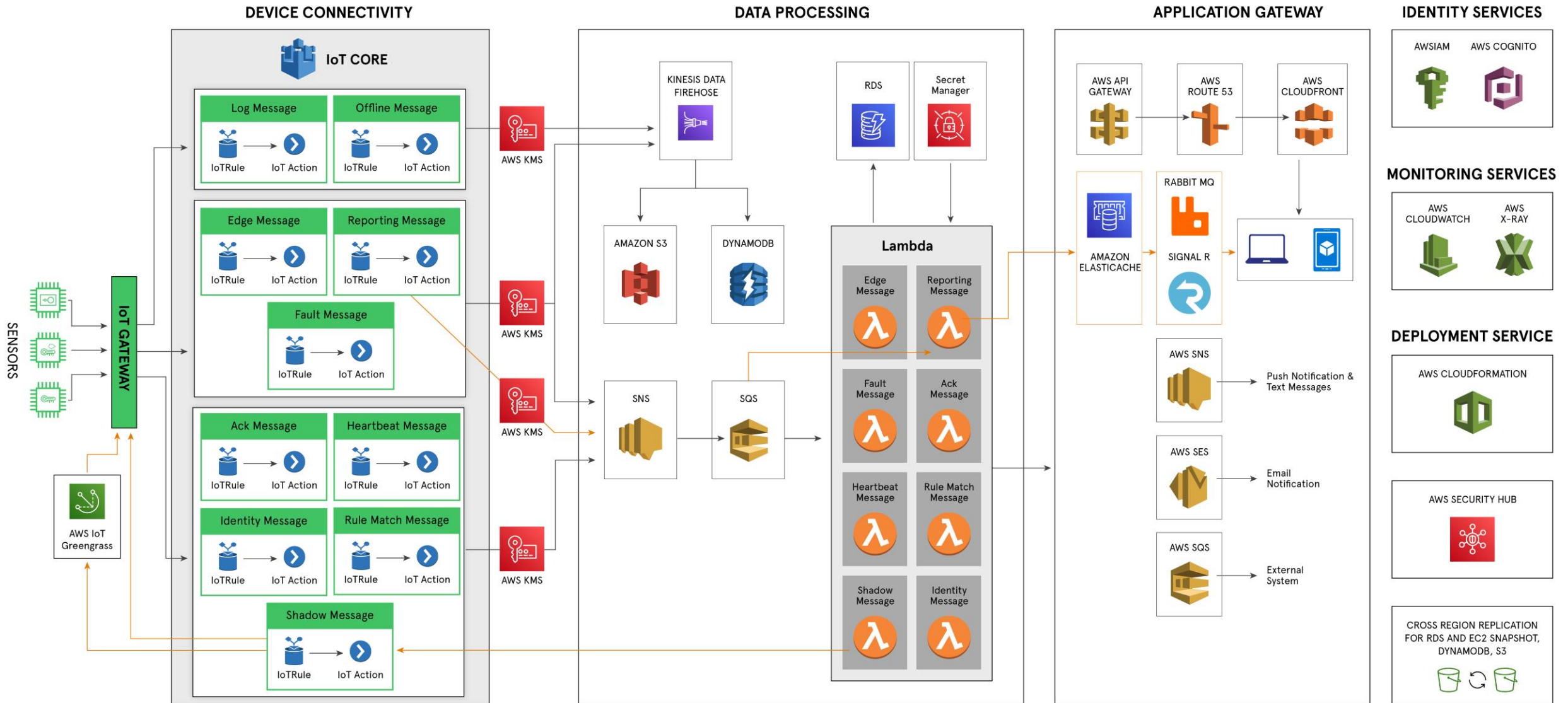
/IOTCONNECT enables ALL devices types through a single pane of glass.

/IOTCONNECT Building Blocks w/ AWS



FreeRTOS	Python	Greengrass	IoT Core	RDS	QuickSight	SageMaker
C			EventBridge	S3 Data Lake	Grafana	
amazon sidewalk	LoRaWAN™ PRIVATE PUBLIC		Kinesis	S3		
			Lambda	DynamoDB		

/IOTCONNECT Platform Architecture



// IOTCONNECT Developer Personas



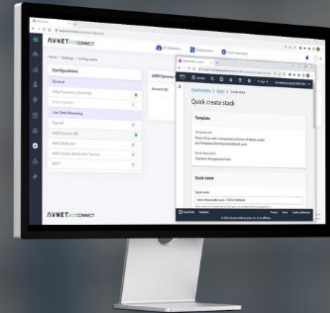
- Device, User, Roles, and Entity Admin
- Security manag
- Basic dashboarding
- Internal Ops

Device Builders & Deployment Managers



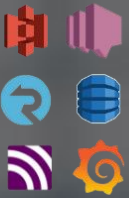
- RESTful API
- Predictable URLs
- Intelligent error handling
- OAuth 2.0 authentication
- Access to all IoT functions

Application & UX Developers



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

Cloud Developer & Data Science



/IOTCONNECT SDKs: Deliver a Positive Developer Experience



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



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



1 - Audio Detection - 1 Device

Urban Sound Event Classifier

ML Acceleration Engine for Low-Power MCUs

Sensor Location: [Map]

Sound Generator (mciBMAX)

NO ACTIVITY

Date	Relevance	Event Name	Condition	Severity
Jan 02, 2024 22:02:30	High	Gun Matched	Class = "Gun"	High

AI/ML Audio Classification

RENESAS EDGE IMPULSE SYNTIANT

Commands: UP, DOWN, BACK, NEXT

MESSAGE COUNT: 0

Attribute	Time	Value
MessageCount	2024-01-12 01:23:15	1
msgCount	2024-01-12 01:23:15	1
MessageID	2024-01-12 01:23:15	1

Edge ML Voice and Motion Detection

NINJA

Grill State: ON

Grill Temp (F): 425

DEMO OVERVIEW

FW Version: 01.00.00 (2024-01-12 01:23:15)

Last Refreshed: 2024-01-12 01:23:15 (UTC)

Device Command (NINJA_MCL01)	Executed On (UTC)	Status	Executed Count
set temp 500	Jan 12, 2024 01:16:36	Success	2
grill enable on	Jan 12, 2024 01:16:27	Success	1
grill enable on	Jan 10, 2024 12:22:00	Success	1
grill enable on	Jan 10, 2024 10:16:19	Success	2

Consumer Indoor Grill