

/ Avnet / IOTCONNECT Solutions Suite

Smart Warehouse 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 Warehouse Monitoring powered by IoT and AI

The modern warehouse has evolved into a dynamic hub for streamlined operations, driven by the need for efficiency and cost reduction. Our Smart Warehouse Monitoring solution, powered by Amazon AWS, integrates IoT technologies, Automated Control Systems (ACS), and Warehouse Management Systems (WMS) to optimize operations. The solution offers real-time monitoring of assets, geofencing, and inventory management using beacons and tags, ensuring transparency and security across locations. It enhances operations with proximity marketing, secure building access, authentication verification, and location-aware logistics. With features like smart logistics, workflow optimization, contact tracing, and keyless entry, the solution improves worker safety, prevents inventory shrinkage, and optimizes storage and pallet movements.

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**
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- softweb solutions Data and Analytics Consulting Services: Data 360 workshop**
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- softweb solutions IoT 360° Program: Transform Your Business with Advanced IoT Intelligence**
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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**
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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](#)
[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

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 Warehouse Monitoring Solution

Avnet's Smart Warehouse Monitoring Solution leverages /IOTCONNECT, powered by AWS and connected technologies to transform modern warehouses into dynamic, efficient hubs. As warehouses shift from being simple storage facilities to complex operational centers, organizations are adopting IoT-enabled Automated Control Systems (ACS) and Warehouse Management Systems (WMS) to optimize efficiency and reduce costs.



Reduced warehouse operating costs



Effective, real-time location tracking



Integration with warehouse management systems



Improved operational efficiency



Optimization of location bin & space utilization



Enhanced forecasting accuracy



Features

Our Smart Warehouse Monitoring Solution is designed to help organizations keep an automated track of all inventory-related activities. Our solution facilitates business managers to achieve increased profitability, performance and accuracy as well as provide widespread support for fleet management to enhance logistics.

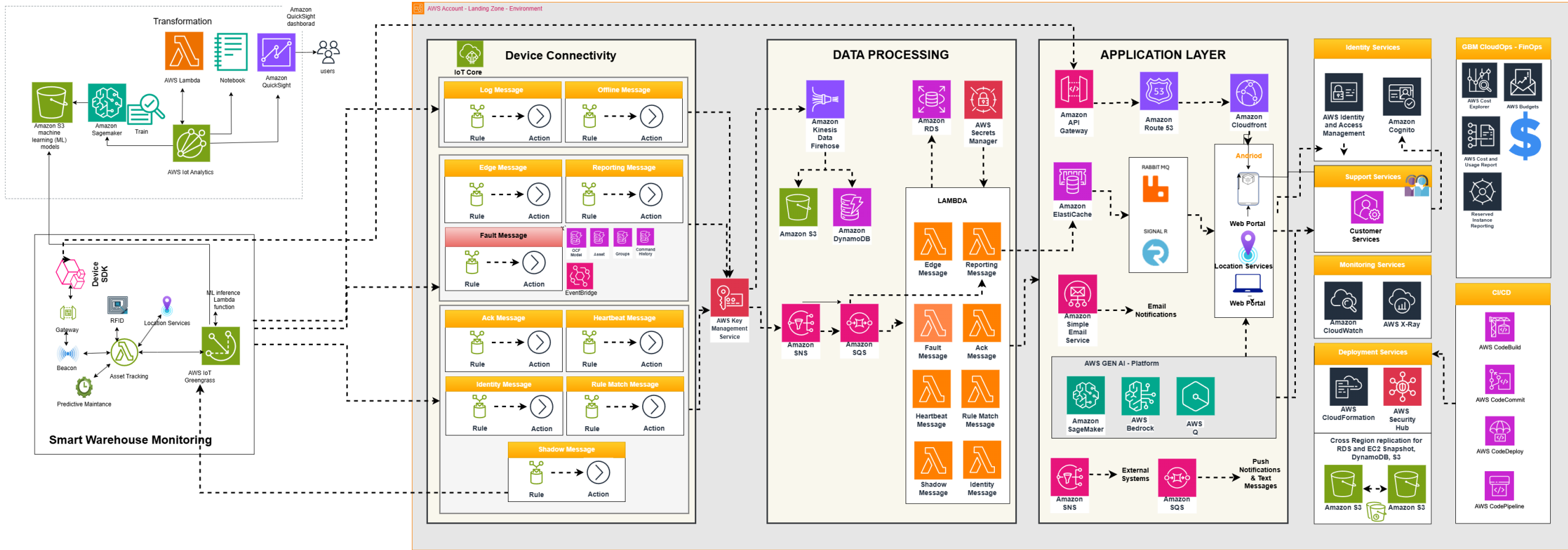
- Smart warehouse management
- Warehouse pallet tracking & monitoring
- Environment & storage area monitoring

[Learn more](#)

[Marketplace Listing](#)

Solution Architecture - Smart Warehouse Monitoring

powered by /IOTCONNECT





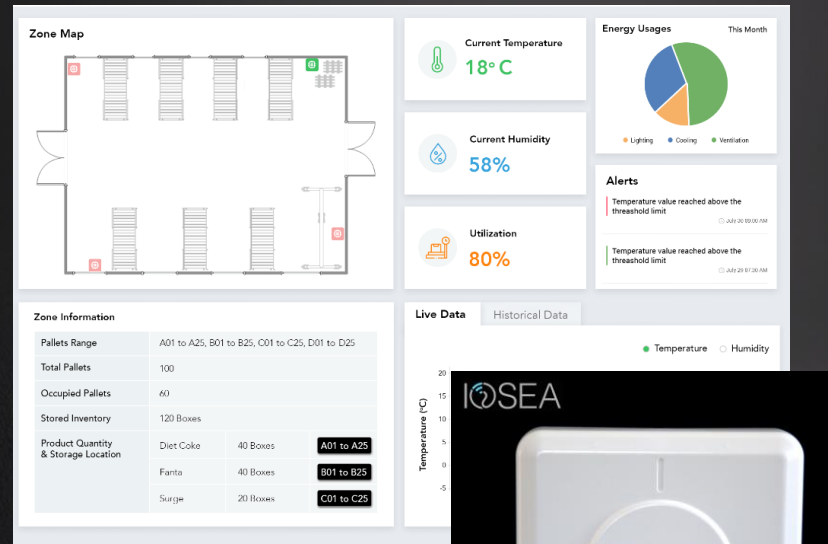
Smart Warehouse, Asset & Worker Multi-Partner Solution

SITUATION:

IOSEA is a private company focused on developing precision indoor location technology. IOSEA's asset tracking sensor is designed to provide real-time location data, enabling businesses to track and manage their assets more efficiently. The sensor uses advanced electromagnetic and signal processing algorithms enabling high accuracy and scalability.

VALUE PROPOSITION:

- Target Customers
 - Cruise lines, warehouses / cross-docks, mines, and other use-cases requiring dead-reckoning, locations where a GPS fails inside facilities)
- >100,000 connected devices
- Multi-Partner Engagement (IOSEA, Avnet, Nordic, Renesas, Panasonic (Silicon Labs, Ublox))



[→ READ MORE](#)

IOTCONNECT ENABLED SOLUTION OUTCOMES:

Data science and IoT-enabled solution that provides information of Asset & People Monitoring

Monitor all major assets within a facility to increase operational efficiencies

Customized Experience with Avnet's Acceleration Frameworks

Ability to find improvement opportunities in the facility to generate safety compliance reports



BEACONS & TAGS

- **Asset Management**
tracking against theft, geofencing, inventory management
- **Proximity Marketing**
contextual marketing, behavioral analytics
- **Access Control**
secure building access
- **Authentication Verification**
verification of person or asset location



NETWORKING & HOME DEVICES

- **Real-Time Location System**
way-finding, indoor navigation, finding objects
- **Operations and Logistics**
smart logistics, location-aware scheduling
- **Device/Process Automation**
track and trace, workflow optimization and safety



SMARTPHONES & WEARABLES

- **Contact Tracing / Social Distancing**
safety and workflow optimization
- **Smart Surroundings**
location-aware devices
- **Keyless Entry**
secure multi-point verification
- **Augmented Reality**
interact with others through context awareness

Summary & Next Steps

Benefits

1. **Easy implementation:** Our Smart Warehouse 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:** Integrates IoT, ACS, and WMS for real-time monitoring, inventory management, and workflow optimization, streamlining warehouse operations.
2. **Improved Security and Transparency:** Utilizes geofencing, beacons, tags, secure building access, and authentication to ensure transparency and security across locations.
3. **Increased Worker Safety and Loss Prevention:** Features like proximity marketing, contact tracing, and keyless entry improve worker safety, prevent inventory shrinkage, and optimize storage and pallet movements.

Next Steps

Let's team up to automate your warehouse

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

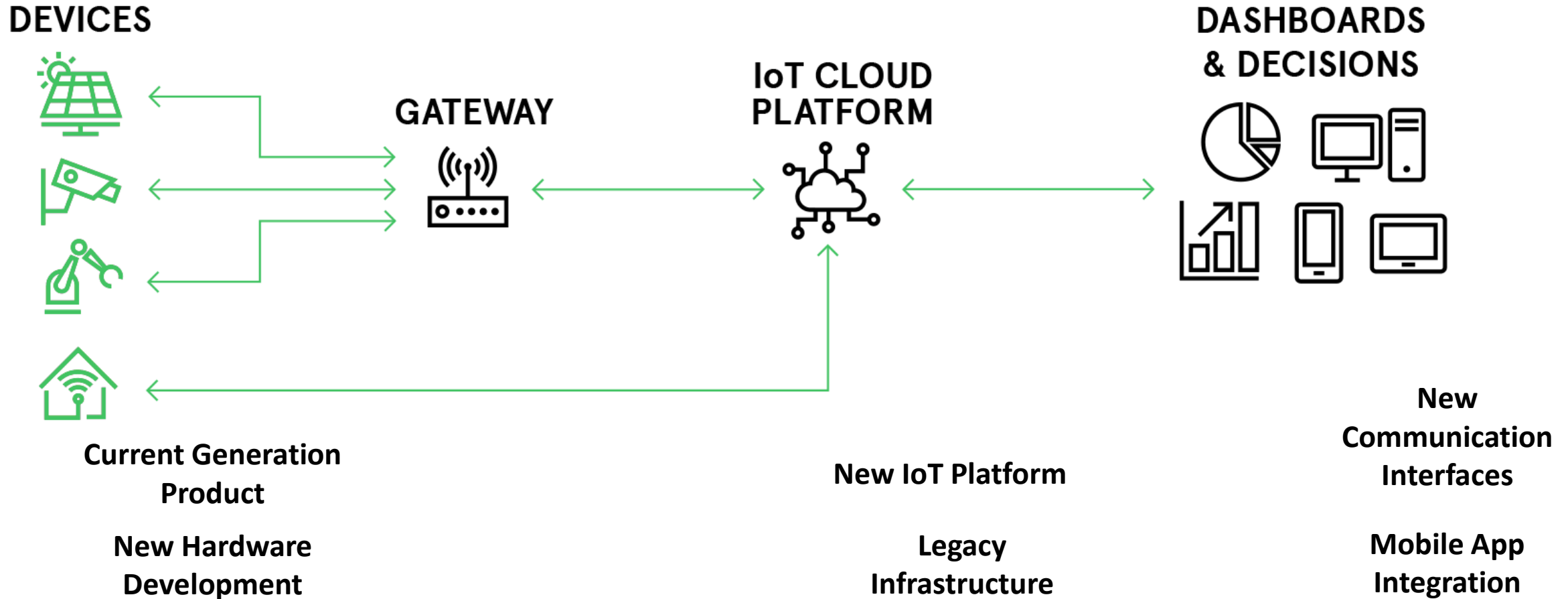


Lifecycle Management

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



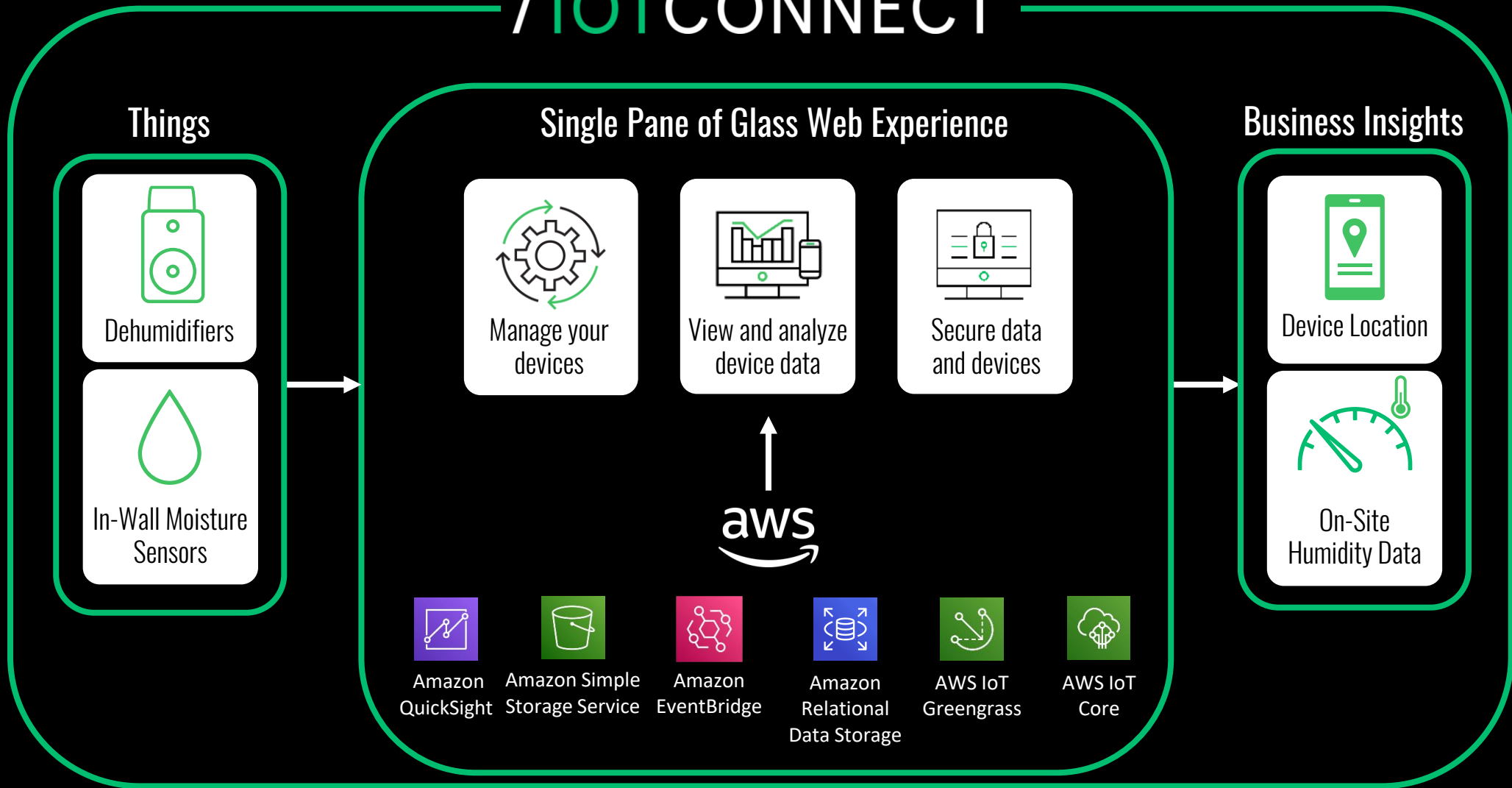
Device Location



On-Site
Humidity Data

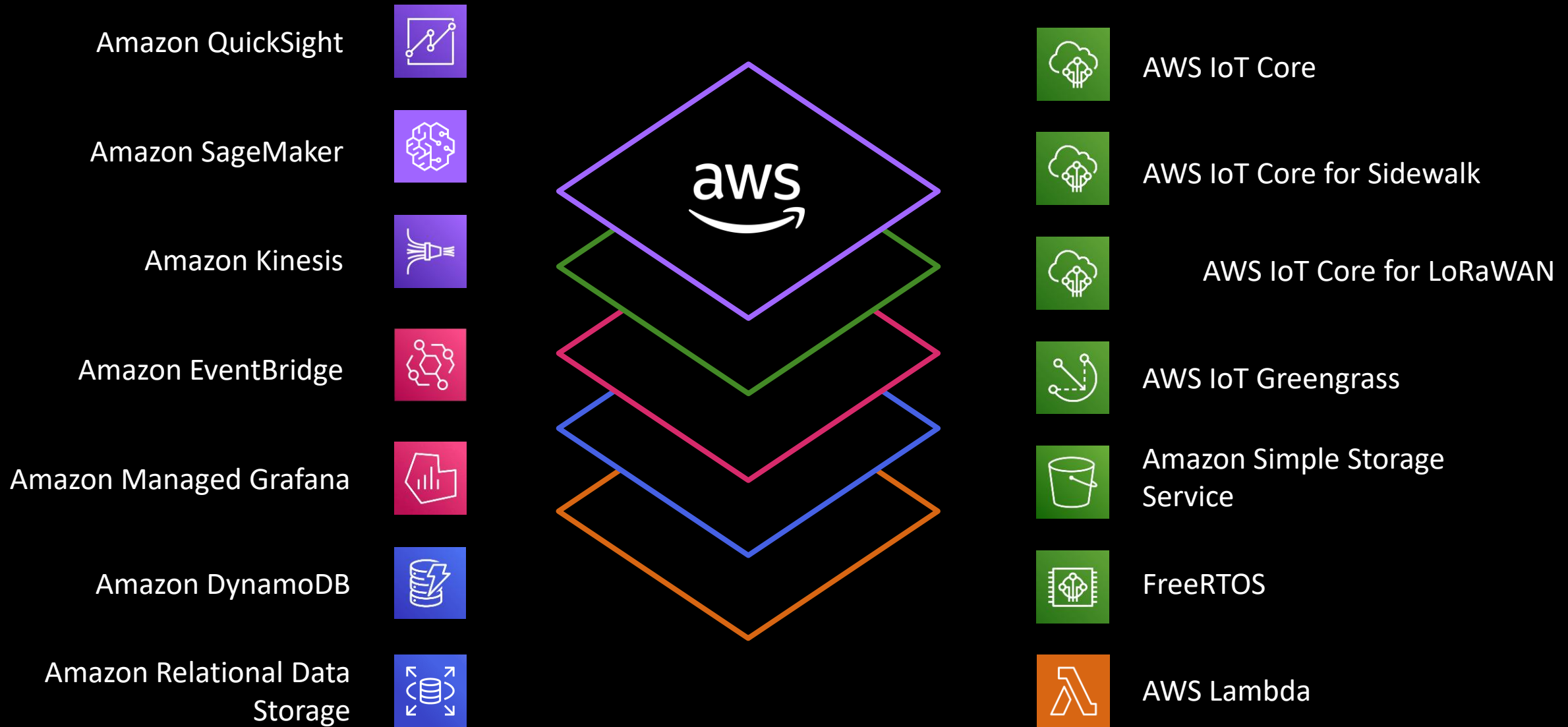
and **extracts valuable insights** to improve business intelligence

/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

Legend: Pending (Yellow), Active (Green), Completed (Blue), Closed (Red)

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

Command Center PRO

Job #112 Main St

Basement

DEVICES (1)

Bluetooth Wi-Fi

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 Warehouse Monitoring powered by IoT & AI

Challenges
Perform smarter, streamline business processes and maximize space utilization

Today, warehouses are more than storage and inventory facilities. Many organizations are therefore investing in IoT-enabled warehouses for better automated control systems (ACS) and warehouse management systems (WMS) to improve their operational efficiency by reducing costs. Our Smart Warehouse Monitoring solution enables real-time monitoring of warehouse assets/equipment by providing transparency and traceability of all goods across different locations. The collected data generates meaningful insights on the status of inventory and storage and gives visibility of the stock. It helps the warehouse operator to prevent inventory shrinkage and improves the safety of workers. Such valuable insights also help to optimize storage locations, pallet journeys, warehouse throughput and workforce.

Avnet IoTConnect Solution
Take your warehouse operations to the next level using IoT

Avnet's Smart Warehouse Monitoring Solution leverages Amazon AWS and IoT technologies to transform modern warehouses into dynamic, efficient hubs. As warehouses shift from being simple storage facilities to complex operational centers, organizations are adopting IoT-enabled Automated Control Systems (ACS) and Warehouse Management Systems (WMS) to optimize efficiency and reduce costs.

Benefits

- Reduced warehouse operating costs
- Improved operational efficiency
- Effective, real-time tracking
- Integration with warehouse management systems
- Optimization of location bin and utilization
- Enhanced forecasting accuracy

Highlights



Easy implementation:

- Our smart Facility 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: Carlo Kik | Carlo.Kik@avnet.com

AVNET

es




Warehouse management
Inventory of goods starting from pick-ups, storage, to retrieval
Items by monitoring their status and
any warehouse processes without

Pallet tracking &
Exit of pallets from the warehouse
Count of pallets with warehouse
Location of pallets that are lost or

Storage area
Raw materials, finished products,
and process chemicals
Condition of the inventory stock
Temperature control - temperature, cold
Humidity, CO2 levels and HVAC

**Available for a free
demo**

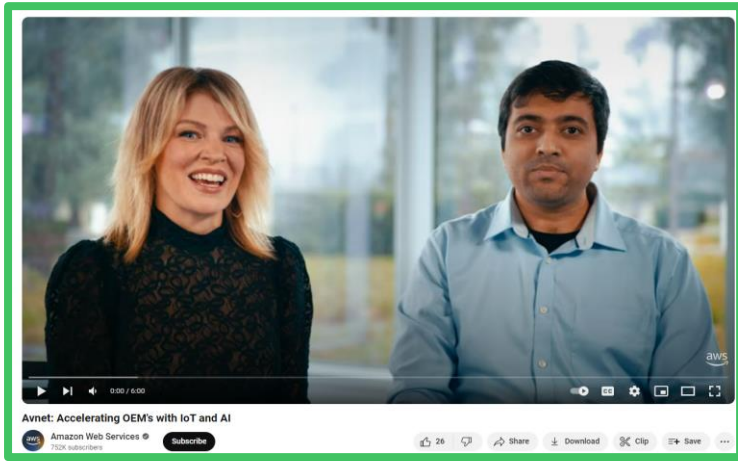


**aws
Qualified
Software**

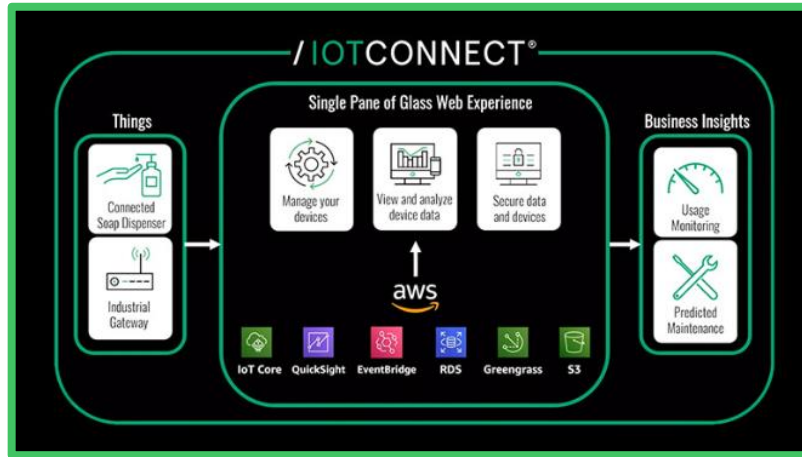
Contact us!

Learn more

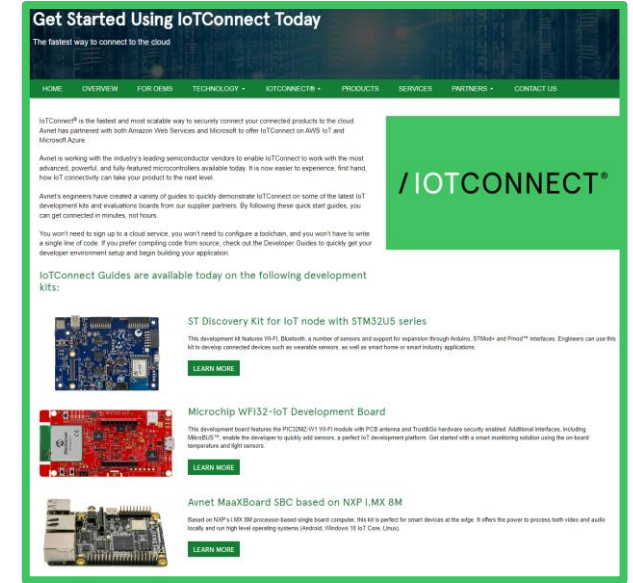
/Resources



[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:

- 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 MicroBUS™, 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

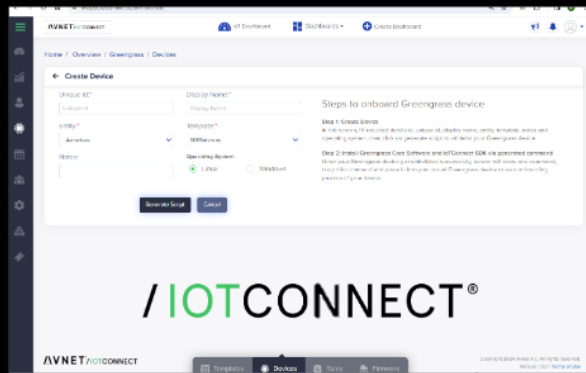


Amazon Sidewalk Device



Edge Server or Gateway

Device Enablement

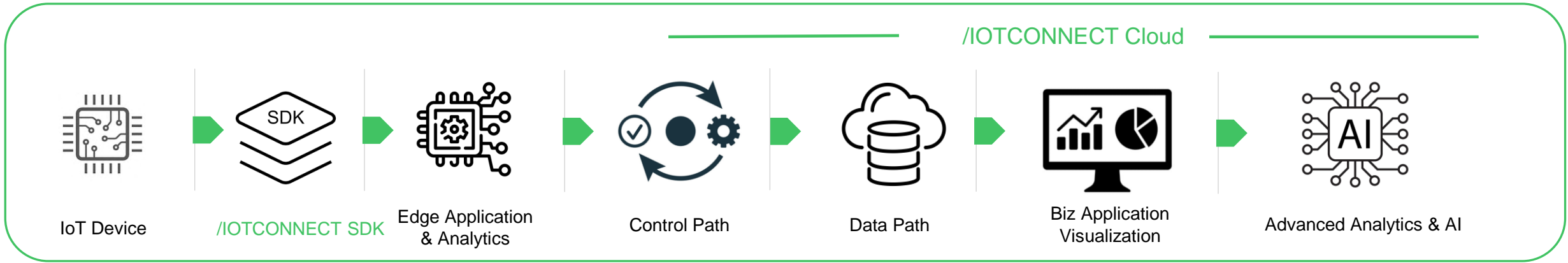


AWS IoT Greengrass



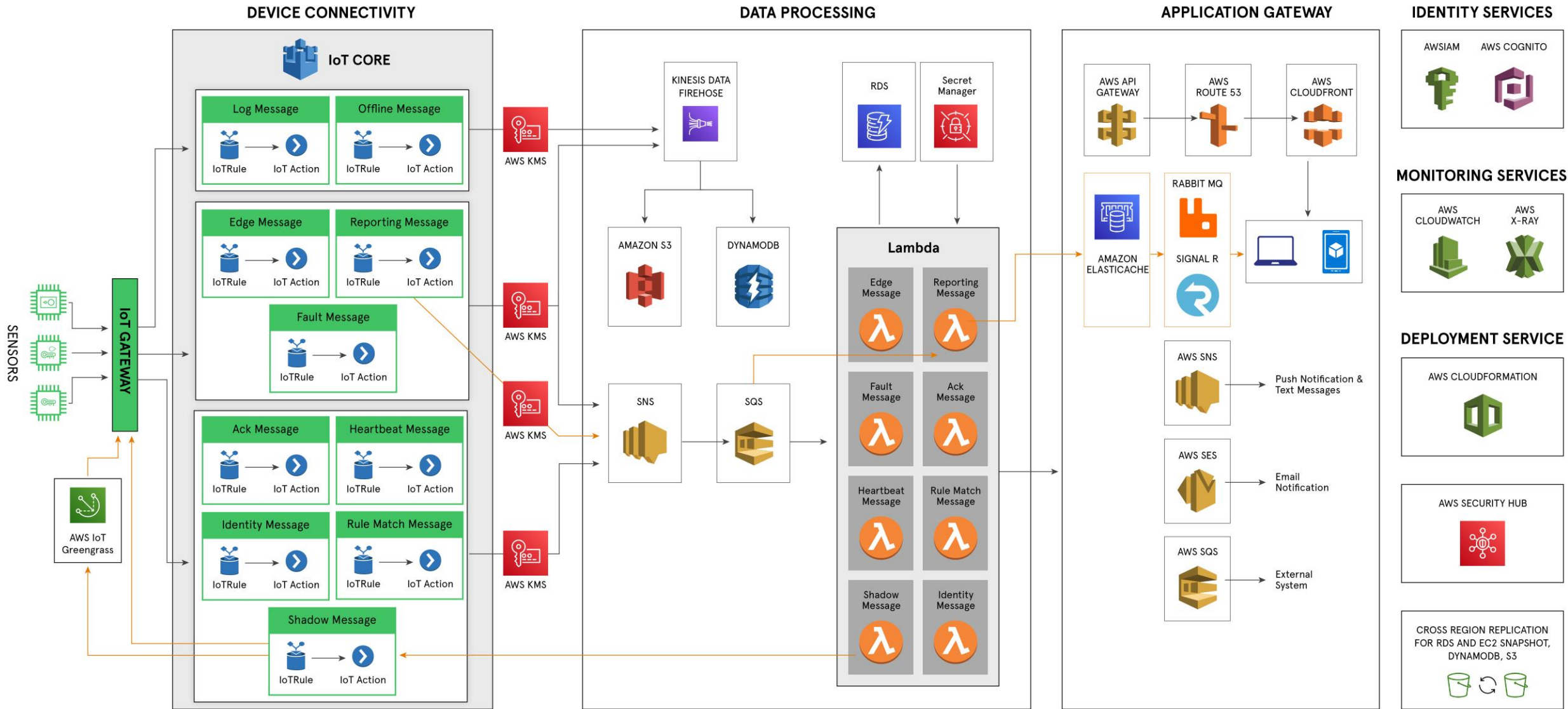
/IOTCONNECT enables ALL devices types through a single pane of glass.

/IOTCONNECT Building Blocks w/ AWS



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

Temperature: [Bar Chart]

Grill Movement and Position: [Line Graph]

Consumer Indoor Grill