aws | partner network | SEMTECH | TensorIoT

# Asset Tracking IoT Reference Kit

## Challenges
## Automated Accurate Inventory, Industry 4.0 & Compliance

"Given the high prices of enterprise and industrial assets, especially fleet equipment, the need for monitoring and tracking these assets is paramount. Further, in a bid to determine the total cost of ownership, managers across industries are finding the need for a centralized system that provides critical information such as location, maintenance history, contract (if any) among others, for all assets, in real-time."
Asset Tracking Market - Growth, Trends, and Forecast (2020 - 2025), Mordor Intelligence

Customers across industries have challenges for example with finding cars and vehicles in large yards. Racks of inventory without any tracking or manual scanning generates substantial cost. Industry 4.0 standards require much more automation in the way of data exchange for manufacturing for example in having visibility into the supply chain and minimizing the event of oversupply and undersupply.

## The Semtech & TensorIoT Solution
## Asset Tracking IoT Reference Kit

The Asset Tracking IoT Reference kit offers customers value out-of-the-box. The kit is priced at $1500 and includes a LoRaWAN®-enabled outdoor IP67 gateway from Browan, which are built using AWS IoT Core for easy over the air updates. The kit also includes 6 asset tracker devices. The location of these trackers are rendered onto a cloud dashboard which provides a street level map to show where the assets are and as they move about in near real-time. The cloud dashboard is hosted on S3 leveraging technologies such as AppSync, Amplify and React. The cloud application is built "serverless" on AWS using services such as AWS IoT Core, AppSync, DynamoDB, API Gateway, S3, Lambda, Cognito, IoT device shadow, Route53, and Kinesis Firehose.

## Benefits

The kit simplifies the process of procuring and connecting tracker devices into the Cloud, by providing a fast, simple, out-of-box experience to allow asset owners to instantly locate those assets on a map.

**Off-the-shelf Solution**
Everything needed to start tracking your assets included in the box. Gateway with pre-provisioned SIM connects directly to cloud and allows trackers to start sending data which is rendered in the application.
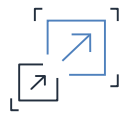
**Extensible**
All components within the kit are readily available in source code. Customizable for data to be used with other applications.

**Best in Class Power Consumption**
Asset trackers can last up to 1-2 years with minimal movement however trackers which move multiple times a day can last up to 1 months. Battery level visible on portal.

**Scalable & Cost effective**
Cloud dashboard is built natively on AWS IoT using "serverless" technology which means the application can scale up and down as more trackers are added/removed. Pay for only what you use.

# Semtech and TensorIoT on AWS

Semtech, TensorIoT and AWS produced a joint solution – an Asset Tracking IoT Reference Kit – which includes all necessary hardware and connectivity, and a web user interface to deliver a superior out-of-box-solution for asset owners looking to experience the power of IoT. The kit enables customers to quickly deploy sensors and gain insight into where their assets are at any given time. The solution utilizes AWS IoT services under the hood, and is easily extensible such that customers can add additional sensors and capabilities on their own or through SI services from TensorIoT.

## Features
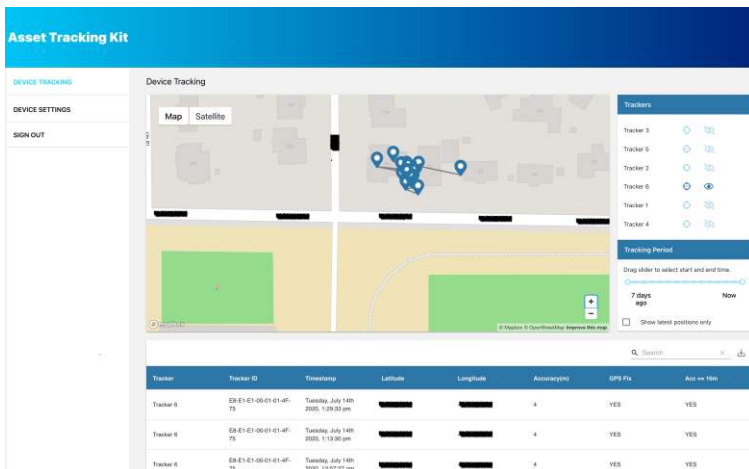


### Cost Advantage

Unlike cellular/mobile network based asset tracking solutions, this solutions does not require paying a monthly per tracker fee. Instead, all the trackers talk through a single gateway which can be connected via existing Ethernet connections or if required a single cellular connection to the cloud.
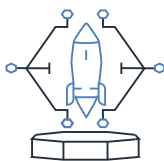
### Connectivity Out-of-the-Box



## Customer Profile

### Challenges

Customer need to find and locate their assets quickly to improve operational efficiency and improve service delivery. They would like a device to cloud solution but don't have all the skills to pull this together end to end.

### Solution

Customers can purchase the kit and immediately place the trackers on their assets instantly locate devices on a map. Customizations are made simple through the availability of source code and services from TensorIoT.

### Results

After successfully tracking your asset on a map, a customer can utilize other AWS services such as AWS SNS for example to send text messages should an asset move outside a particular geofence or easily integrate alerts and alarms into existing line of business applications.

## Get started with the Smart Building IoT Reference Kit on AWS