# Qualcomm® Terrestrial Positioning Service (TPS)
## Geolocation optimized for industrial IoT

### Accurate & precise positioning
Premier location services pre-integrated with Qualcomm® chipsets to position industrial IoT devices even in challenging signal environments

### Flexible integration options
Add geopositioning to any kind of hardware, device, application, or platform using a suite of APIs and software packages

### Battery-efficient approach
Algorithms provide always-on or intermittent location using Wi-Fi, cellular, and Bluetooth® Low Energy (BLE) beacons - alongside or independent of GPS

### Offline location capability
Using a suite of tokening and caching techniques, Qualcomm TPS provides location for devices even when they're offline

### Popular Uses for Qualcomm TPS

**Asset Tracking & Supply Chain**
Enhance operational visibility by knowing the location of goods, fleets, and assets moving through warehouses, during last mile deliveries, in urban areas, and other challenging signal environments

**Retail Payment Solutions**
Power interactive and regional user experiences, track assets and optimize frictionless payments

**Wearables**
Locate site employees for greater operational visibility

**Talk to an expert**

### How Qualcomm TPS Improves IoT Products & Services

- Seamless Integration - Add location capabilities to IoT devices of all shapes and sizes. Visualize location results through custom cloud dashboards
- Battery Savings - Positioning approaches that require minimal to no incremental battery use to help promote extended device life
- Variety of Capabilities - Locate devices, assets, and goods, even in challenging signal environments, to help streamline operations, reduce inefficiencies, avoid loss, and reduce spoilage
- Hybrid Approach to Location - Uses Wi-Fi access points, cellular signals, and Bluetooth® Low Energy (BLE) beacons independently or alongside GNSS

### Multiple Options for Easy Integration

- A variety of software packages, APIs, SDKs, and more make Qualcomm TPS easy to integrate at any layer of the tech stack, for full-featured and resource-constrained devices
- Qualcomm TPS is already pre-integrated on many Qualcomm® and Qualcomm Dragonwing™ products, making deployment extremely easy

### More Key Features

- Offline location capabilities allow devices to resolve location requests locally without the need for a network transaction, or when devices regain connectivity
- Helps meet E911 and AML location requirements on connected devices including wearables, and mPERS devices, to help first responders quickly and accurately locate users in the event of an emergency
- Enhanced indoor positioning capabilities using existing infrastructure after completing a venue survey
- Ability to add and tune access points and cells through cloud APIs

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