



# IoT Asset Tracking on the Edge

Bring the power savings of cloud-based  
location solving to your asset tracking solution

[www.digitalmatter.com](http://www.digitalmatter.com)



# Edge Overview

Scale and diversify your IoT and telematics solutions with the latest in LPWAN asset tracking technologies

## Indoor/Outdoor Asset Tracking & Management

Performing where GNSS-only devices fail, Edge devices support multiple location technologies (GNSS, Wi-Fi AP MAC Address Scanning, and Cell Tower location or LoRaWAN® Geolocation Fallback), enabling new and affordable Indoor-to-Outdoor asset management applications in key areas such as logistics and supply chain visibility, high-value pallet and package tracking, kegs and returnables tracking, emergency and hospital equipment management, bin, cart and trolley tracking, and more.

## Cloud-Based Location Solving

Where most asset tracking devices handle position calculations on-device, Edge devices determine location in Digital Matter's cloud-based solver to significantly reduce power consumption - over 5-10 x lower power consumption than most on-device GNSS solutions.

## 'Deploy Once' Battery Life

With industry-leading battery life, the Edge portfolio reduces the total cost of device ownership for businesses by eliminating battery changes, device maintenance, and support costs. Intelligent power-saving features such as adaptive tracking, early registration abort, location scan throttling and more ensure Edge devices can perform on a single set of batteries for years, even at more aggressive tracking parameters.

## Ultimate Control

The Edge portfolio offers system integrators unprecedented control over device parameters and performance to best fit any indoor-outdoor asset tracking and management application. Enable, disable and customize location technologies to optimize performance, select between location service providers to meet accuracy or budget requirements, and take control of reporting frequencies, movement-based events, accelerometer sensitivity, and much more.



# YabbyEDGE

## LTE-M / NB-IoT and LoRaWAN®

Ultra-rugged and compact Indoor/Outdoor asset tracker. Features cloud-based location solving for over 10+ years of battery life.



### Standard IP67

Dimensions - 85 x 63 x 24 mm (3.35 x 2.48 x .94)

Weight - 82 g (2.9 oz)

Snap Housing (75 x 45 x 25 mm (2.95 x 1.77 x 0.98)) also available for smaller form factor (not IP rated). Livestock housing also available for securing device to animals.



### Indoor/Outdoor

GNSS, Wi-Fi AP MAC Address Scanning, and Cell Tower or LoRaWAN geolocation fallback for seamless indoor/outdoor asset management



### 'Deploy Once' Battery Life

Over 10+ years battery life at once-daily location updates - Edge devices are designed to outlive the viable life of most physical assets



### Adaptive Tracking

Periodic or optional movement-based tracking - tracks assets throughout the day and/or when movement occurs, entering sleep mode when inactive to conserve power and data usage



### Battery Life Alerts

"Battery Low" and "Battery Critical" alerts



### Cloud-Based Location

Position calculations are handled in the cloud (versus on-device) for substantial power savings



### Ultra-Rugged

IP67 rated housing ensures the device can withstand fine dust, high-pressure spray, submersion for 30 minutes in 1m of water

# OysterEDGE

## LTE-M / NB-IoT

Ultra-rugged, Indoor/Outdoor battery-powered asset tracker and Bluetooth® Gateway. Features cloud-based location solving for over 10+ years of battery life.



### Standard IP67

Dimensions - 108 x 86 x 31 mm (4.25 x 3.39 x 1.22)

Weight - 194 g (6.84 oz)



### Indoor/Outdoor

GNSS, Wi-Fi AP MAC Address Scanning, and Cell Tower location fallback for seamless indoor/outdoor asset management



### 'Deploy Once' Battery Life

Over 10+ years battery life at once-daily location updates - Edge devices are designed to outlive the viable life of most physical assets



### Bluetooth® 5.2

Reports on nearby Bluetooth tags and sensors for affordable tagged asset management and sensor monitoring applications



### Adaptive Tracking

Periodic or optional movement-based tracking - tracks assets throughout the day and/or when movement occurs, entering sleep mode when inactive to conserve power and data usage



### Battery Life Alerts

"Battery Low" and "Battery Critical" alerts



### Cloud-Based Location

Position calculations are handled in the cloud (versus on-device) for substantial power savings



### Ultra-Rugged

IP67 rated housing ensures the device can withstand fine dust, high-pressure spray, and submersion for 30 minutes in 1m of water



	Yabby Edge		Oyster Edge
<b>Connectivity</b>	LTE-M / NB-IoT	LoRaWAN®	LTE-M / NB-IoT
<b>*Battery Life (Daily)</b>	10 Years	10+ Years	10+ Years
<b>*Battery Life (Smart Movement-Based)</b>	4 Years	6 Years	7 Years
<b>*Battery Life (Hourly)</b>	2 Years	3 Years	4.5 Years
<b>Off-the-Shelf Batteries</b>	3 x AAA Alkaline or Lithium (recommended)	2 x AAA Lithium	3 x AA Alkaline or Lithium (recommended)
<b>Environment</b>	Indoor/Outdoor		Indoor/Outdoor
<b>Housing Rating</b>	IP67		IP67
<b>Bluetooth 5.2</b>	-		Gateway
<b>Battery Life Monitoring</b>	Battery Low and Critically Low Alerts		Battery Low and Critically Low Alerts
<b>GNSS</b>	GPS / BeiDou		GPS / BeiDou
<b>GNSS Sensitivity</b>	-134 dBm autonomous / -141 dBm aided		-134 dBm autonomous / -141 dBm aided
<b>**Wi-Fi Access Point Scanning</b>	Yes		Yes
<b>Cell Tower / LoRaWAN® Geolocation</b>	Yes		Yes
<b>Cloud-Based Location Solving and Filtering</b>	Yes		Yes
<b>Tracking Modes</b>	Periodic, Accelerometer Movement-Based		Periodic, Accelerometer Movement-Based
<b>Hardware Cost</b>	\$		\$\$

\* Battery life is influenced by several factors including temperature, installation location and orientation of the device, the frequency of location updates, network coverage, sensor integrations, peripherals, accelerometer settings, and more.

\*\* Wi-Fi Positioning Systems are used for indoor localization where GPS is not available, devices do not connect to Wi-Fi for data transfer.



# Track More for Less with Bluetooth® Low Energy

The Oyster Edge combines location tracking and Bluetooth, enabling new and affordable asset management and sensor monitoring applications

## Tagged Asset Management

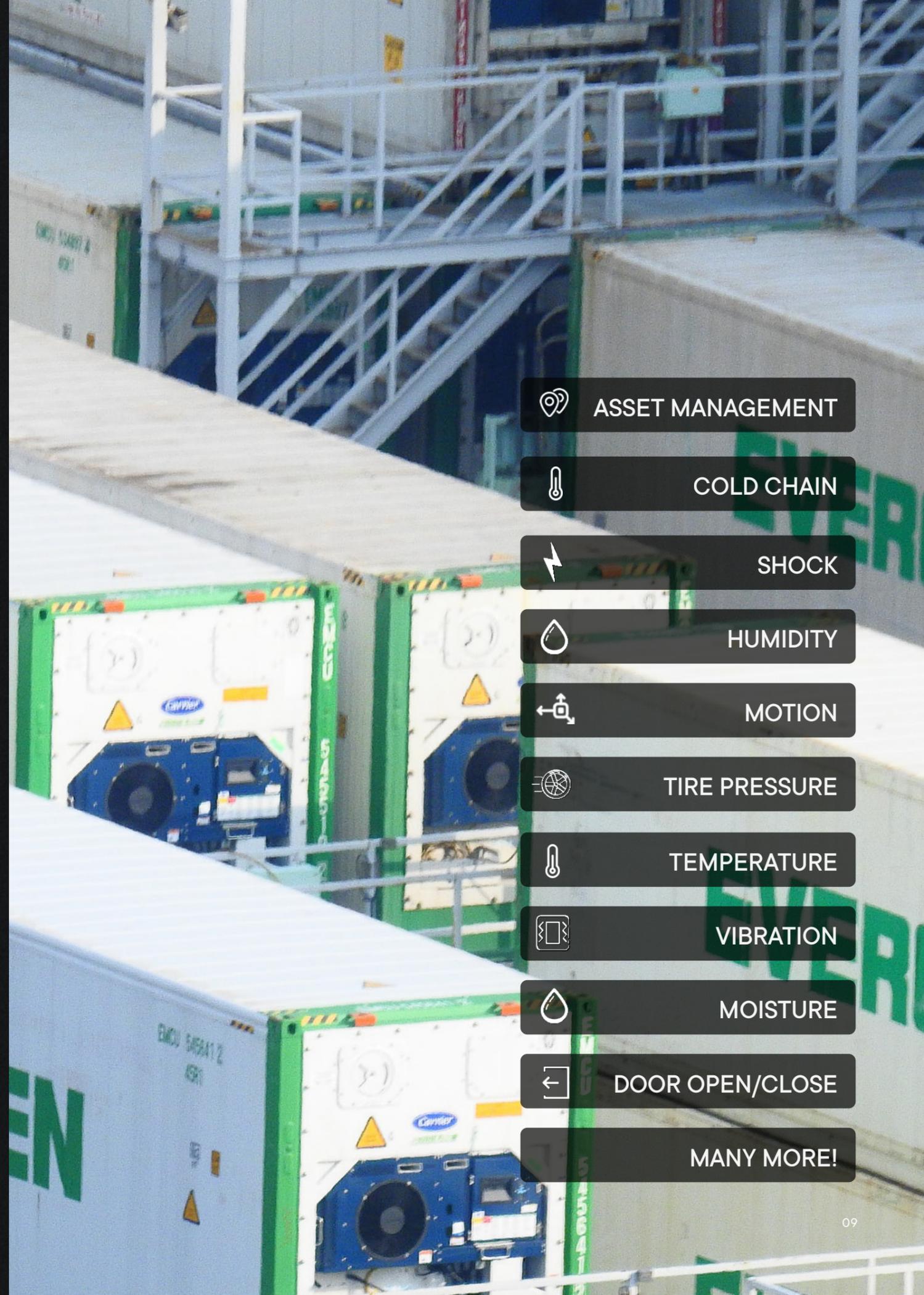
Third-party Bluetooth tags can be installed on lower-value assets that may not require a full tracking solution, such as inventory, pallets, tools, small equipment, and more. Tags will report their approximate location to the Oyster Edge for an affordable asset management solution.

## Wire-Free Fleet Management

Covertly place the Oyster Edge in your fleet of vehicles and integrate with Bluetooth fuel level and fuel flow monitoring probes, axle load meters, tire pressure and temperature sensors, and more for a robust and wire-free fleet management solution.

## Sensor Monitoring

Integrate with hundreds of third-party Bluetooth sensors such as temperature, humidity, shock, vibration, and more to capture and report on critical sensor data.



-  ASSET MANAGEMENT
-  COLD CHAIN
-  SHOCK
-  HUMIDITY
-  MOTION
-  TIRE PRESSURE
-  TEMPERATURE
-  VIBRATION
-  MOISTURE
-  DOOR OPEN/CLOSE
-  MANY MORE!

# Location Engine

## Cloud-based location solver and data enrichment engine

Location Engine eliminates the complex development work and technical systems required to integrate, optimize, and secure your cloud-based asset tracking solution

### OTA Device Management

Securely provision, monitor, and remotely manage Edge devices over-the-air at scale. Features the same device management functionalities of our standard Device Management Platform.

### Location Solver

Resolves GNSS scan data to locations and manages Wi-Fi Access Points, Cell Tower timing data or LoRaWAN® Geolocation lookups in the cloud (versus on-device) for significant power savings.

### Customize Location Services

Enable and disable location services and select between providers to find the right balance between accuracy, battery life, and cost.

### Optimized GNSS Scanning

Efficient almanac file updates with estimated position and time reference to maximize the accuracy and performance of GNSS scans.

### Forward Error Correction

Robust and reliable data transmission with built-in redundancy for uplink and downlink messages on LoRaWAN® networks.

### Faster Integration

Easy Edge device integration without having to develop complex data-enrichment or device management processes.

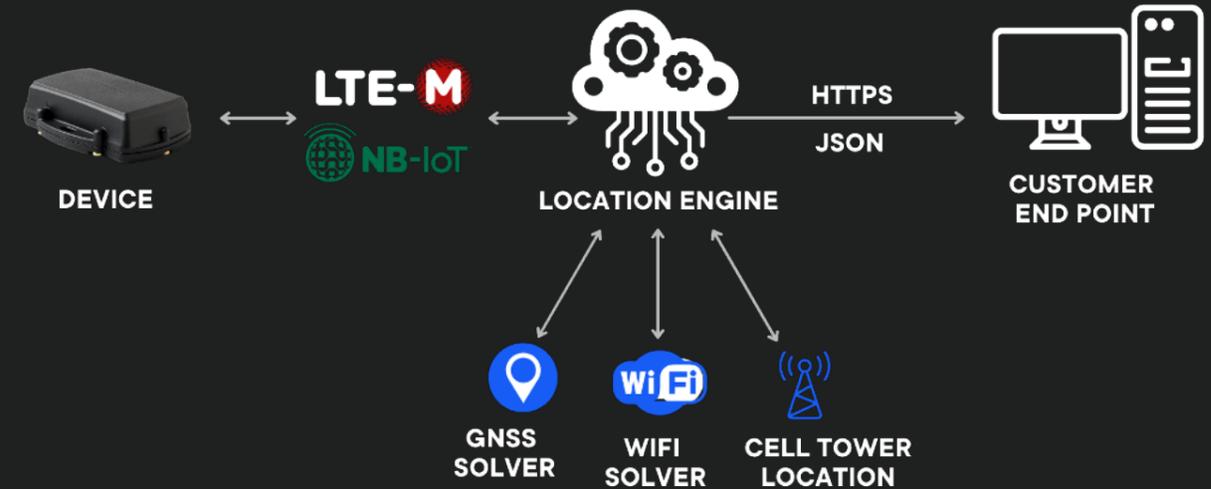
### Security

Military-level encryption to protect the integrity and confidentiality of your telematics data from device through to your endpoint.

## LTE-M/NB-IoT

### DIGITAL MATTER DEVICE MANAGEMENT PLATFORM

- Flexible data conduit to your end point
- Provision, monitor, and remotely manage your devices at scale
- Data Enrichment
- Almanac and Location Management
- Firmware Management



## LoRaWAN®

### DIGITAL MATTER DEVICE MANAGEMENT PLATFORM

- Flexible data conduit to your end point
- Provision, monitor, and remotely manage your devices at scale
- Data Enrichment
- Almanac and Location Management
- Firmware Management

