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# Indoor/Outdoor IoT Asset Tracking Solutions

Track and Manage your assets as they move from Indoors to Outdoors with **Edge Devices**

Supporting multiple location technologies on one device **(GNSS for outdoor location, Wi-Fi AP MAC Address Scanning for indoor location, and Cell Tower location fallback)**, the Edge portfolio reduces the cost and complexity of Indoor-to-Outdoor IoT asset management.

Wirelessly installed or concealed on assets such as **equipment, pallets, returnable packaging, medical equipment, and more**, Edge devices seamlessly switch between location technologies to provide the most accurate position regardless of where your asset is transported or stored.



# 'Deploy Once' Battery Life with Cloud-Based Location Solving

Unlike most GNSS asset tracking devices in the market today that conduct location calculations on-device, Digital Matter Edge devices employ a unique approach by offloading the location processing workload to the cloud to **significantly reduce power consumption.**

The shift to cloud-based location solving offers a distinct advantage over traditional asset tracking devices. Unlike devices that demand frequent battery replacements or manual recharging, cloud-based solutions substantially extend the operational lifespan of your solution, minimizing device maintenance requirements.

Lower power consumption not only reduces costs associated with battery management but also streamlines the coordination of maintenance activities across a multitude of assets.

As a result, businesses can mitigate downtime, decrease support overheads, and embrace a more cost-effective ownership model for their asset management solution.

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- Asset Location
  - Geofencing
  - Impact Detection
  - Rotation Counting
  - Run Hours
  - Sensor Monitoring
  - Theft Recovery
  - Tilt Detection



**Barra Edge**



**Yabby Edge**



**Yabby Edge LoRaWAN**



**Oyster Edge**

<b>Connectivity</b>	LTE-M and NB-IoT	LTE-M and NB-IoT	LoRaWAN®	LTE-M and NB-IoT
<b>Environment</b>	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor
<b>Location Technologies</b>	GNSS Scanning Wi-Fi Scanning Cell Tower Location	GNSS Scanning Wi-Fi Scanning Cell Tower Location	GNSS Scanning Wi-Fi Scanning	GNSS Scanning Wi-Fi Scanning Cell Tower Location
<b>Cloud-Based Location Solving</b>	Yes	Yes	Yes	Yes
<b>Bluetooth®</b>	-	-	-	5.2 Gateway
<b>Housing Size</b>	149 x 51 x 21 mm (5.9 x 2.0 x 0.8 in)	85 x 63 x 24 mm (3.35 x 2.48 x 0.94 in)	85 x 63 x 24 mm (3.35 x 2.48 x 0.94 in)	108 x 86 x 31 mm (4.25 x 3.39 x 1.22 in)
<b>Magnetic Activation and Tamper Detection</b>	Yes	-	-	-
<b>IP Rating</b>	IP68 Rugged Waterproof	IP68 Rugged Waterproof	IP68 Rugged Waterproof	IP68 Rugged Waterproof
<b>Batteries</b>	2 x AA Lithium 1.5V	3 x AAA Lithium 1.5V	2 x AAA Lithium 1.5V	3 x AA Lithium 1.5V
<b>Battery Life Monitoring</b>	Battery Low and Critically Low Alerts	Battery Low and Critically Low Alerts	Periodic battery status uplinks give a breakdown of power use	Battery Low and Critically Low Alerts
<b>*Battery Life (Daily)</b>	10+ Years	10+ Years	12+ Years	10+ Years
<b>*Battery Life (Movement-Based)</b>	7+ Years	3+ Years	6+ Years	7+ Years
<b>*Battery Life (Hourly)</b>	3+ Years	2+ Years	1+ Year	4.5+ Years

\*Battery life estimates are influenced by several factors including temperature, installation and orientation of the device, the frequency of location updates, network coverage, sensor integrations, peripherals, accelerometer settings, and more. Devices can be configured to provide more frequent location updates when the asset is in motion. Movement-based estimates are based on 2 hours of movement daily, 5 days a week.



# Enhance Your Solution with Bluetooth® Low Energy

The Oyster Edge combines Indoor/Outdoor location tracking and Bluetooth, enabling affordable asset management and sensor monitoring applications.



## Condition Monitoring

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



## Tagged Asset Management

Third-party Bluetooth tags can be installed on lower value assets that may not require a full tracking solution. 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 fleet management solution.

## Impact and High-G Force Detection

Receive instant alerts when, and at what locations, high-value assets or dangerous goods are mishandled during transit.

## Door Open/Close Monitoring

Integrate with a variety of Bluetooth sensors to enable door open/close monitoring for tamper detection, reporting, and/or compliance.

## Inventory and Asset Management

Bluetooth Location Tags can be used to manage stock, inventory, pallets, tools, small pieces of equipment, or other assets where a larger (and more expensive) full GPS device may not make commercial sense.

## Cold Chain Management

Install Bluetooth Low Energy sensors in temperature/humidity-sensitive trucks, freezers, or packages to maintain safety and compliance.

## Enhanced Fleet Management

Utilize 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.



**USE CASE**

# Enhancing Global Supply Chain Visibility

## Indoor/Outdoor Asset Tracking and Condition Monitoring for Critical Aircraft Parts

As a result of COVID-19 lockdowns in 2020, one of the world's largest manufacturers of high-value aircraft parts was forced to leave critical assets unattended in an uncontrolled environment. Due to high humidity levels, the aircraft parts corroded and were unusable, resulting in a substantial (hundreds of millions of dollars) financial loss for the company and its aviation partners.

To improve visibility in their supply chain, the manufacturer selected the Oyster Edge to track and monitor the location and condition of thousands of their aircraft assets as they move globally through production, storage, and delivery.

**Device** - Oyster Edge

**Connectivity** - LTE-M/NB-IoT



### Award-Winning Solution

This deployment was recognized as a 2022 Top Supply Chain Projects Award recipient!

# Improving Security and Accessibility



## Rescue-Ready: Tracking Automated External Defibrillator (AEDs)

Heart of the Nation, a non-profit charity founded by Greg Page, the original Yellow Wiggle, is leveraging IoT asset tracking technology to enhance Automated External Defibrillator (AEDs) accessibility across Australia.

AED locations are displayed in real-time in the Heart of the Nation Mobile App and Web Platform.

Heart of the Nation actively urges local councils to safeguard their AEDs, ensuring both security and easy accessibility for the public. In the event of loss or theft, Recovery Mode is initiated to facilitate retrieval.



**Device** - Yabby Edge  
**Connectivity** - LTE-M/NB-IoT



## USE CASE

# Improving Safety and Customer Experience

## Indoor/Outdoor Asset Management for Battery Recycling Bins

As Bunnings' official battery recycling partner, Envirostream manages the provisioning and maintenance of the battery collection units deployed in the hardware chain's retail sites across Australia.

Located at the front of all Bunnings stores, the battery collection bins make it convenient for customers to drop off used batteries.

With over 350 collection bins currently deployed, Envirostream required a robust battery-powered GPS asset tracking device to track and manage their bins indoors and outdoors.

**“With the Yabby Edge installed on all bins, we were able to assess delivery delays in real-time and more effectively communicate with our partners and stakeholders.”**



**Device** - Yabby Edge  
**Connectivity** - LTE-M/NB-IoT



# Tracking and Optimizing Returnable Assets

## Skip Bin Tracking and Management

Operating over 600 waste and communal skip bins and containers across worksites throughout Finland, Delete Group is tracking and optimizing their business-critical waste management assets with the Yabby Edge.

**“The Yabby Edge ticked all of Delete Group’s bin tracking requirements as a robust, rugged, and future-proof battery-powered asset tracking device,” says Petter Kroneld, Co-founder at Prisma Quality.**

“Maintaining a bird’s eye view of where, how many, and how long their bins are deployed across worksites is critical in optimizing and improving the utilization of their most important assets and reducing downtime.”



**Device** - Yabby Edge  
**Connectivity** - LTE-M/NB-IoT



# Connect more

## About Digital Matter

Digital Matter is a leading global developer and supplier of IoT asset tracking, sensor monitoring, and advanced telematics solutions. Engineered to outperform, we offer a versatile range of 'deploy once' hardware with the largest portfolio of battery-powered IoT asset tracking devices across a range of connectivity technologies.

Connect with us at [www.digitalmatter.com](http://www.digitalmatter.com)