Traceable Quality ®

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Asset Tracking 101

What should you use & when?

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What Is Asset Tracking?

Asset tracking allows you to:

- identify & track physical assets such as inventory, equipment, or people
- in different environments and
- integrate this information with a centralised business management system.

Common Technologies

- **QR/NFC**: Affordable solutions for check-in/check-out tracking.
- **RFID**: Bulk scanning for high-speed operations.
- **BLE**: Continuous indoor tracking for high-value or sensitive goods.
- **GPS**: Continuous outdoor tracking over long distances.

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What Should You Track?

We help you identify and define the "unit of traceability". This could be:

- A single asset, e.g. a product such as a phone or watch - typically BLE, RFID or QR
- A product carrier, e.g. a crate, pallet or box - especially for small or low-value assets - typically RFID or QR
- An indoor moving asset, e.g. a fork lift or a person - typically BLE or RFID
- A vehicle - typically GPS and RFID

Our platform works with any and all of these technologies and you can switch at any time.

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Use Case	Tech	Comment
High-value items (<1,000 units)	BLE	Continuous real-time tracking, theft prevention, and multi-year reuse.
High-value items (>1,000 units)	RFID	Bulk scans, theft prevention via SOP
Large-scale inventory (>50,000)	QR/RFID	Cost-effective paper tags.
Small Parts	QR/RFID	Part or carrier tracking
Real-time location tracking	BLE/GPS	BLE for indoor, GPS for outdoor.
Temperature-sensitive goods	BLE	Built-in temperature sensors for monitoring storage conditions.
Integration with smartphones	QR/NFC/BLE	Smartphones are BLE-compatible, reducing infrastructure costs.
Printing labels on tags	QR/RFID	RFID tags can be printed with QR and human-readable text if required.

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Detection and Performance

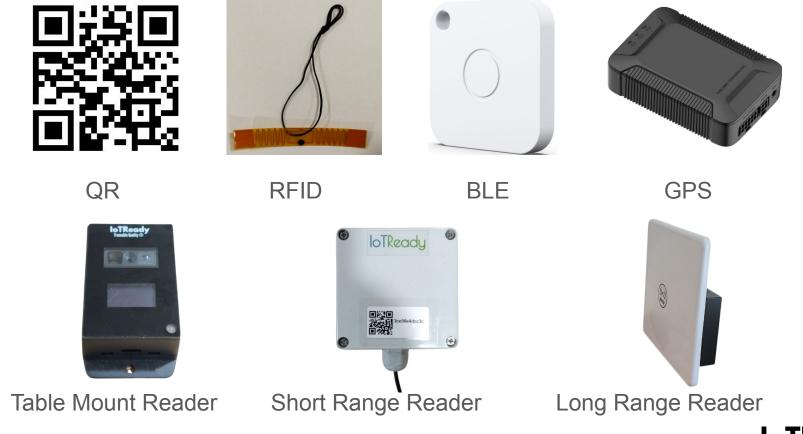| Feature	QR	NFC	RFID	BLE	GPS
Range	1m	1m	10m	100m	20000+ km
Simultaneous Scanning	Ineffective	Ineffective	Highly Effective	Effective	Highly Effective
Dusty Environment	Ineffective	Highly Effective	Highly Effective	Highly Effective	Highly Effective
Metal Heavy Environment	Highly Effective	Effective*	Effective*	Effective*	Effective*
Counting Precision	Highly Effective	Highly Effective	Effective	Highly Effective	Highly Effective
Continuous Tracking	Ineffective	Ineffective	Effective	Highly Effective	Highly Effective

* - might need special tags.

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Cost & Usability

Feature	QR	NFC	RFID	BLE	GPS
Tag Cost	Low	Medium	Medium	High	High
Reader Cost	Low	Low	High	Medium	NA
Tag Battery Life	NA	NA	NA	3 years	1 week
Printable Labels	Yes	Yes	Yes	No	No
Sensors (Temp etc)	No	No	Yes*	Yes	No
Anti-Theft	No	No	No	Yes	Yes
Reusable	No	No	No		

* - might need special tags.

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Tags & Readers

QR

RFID

BLE

GPS

Table Mount Reader

Short Range Reader

Long Range Reader

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Case Study 1 - Warehouse/Factory Assets

Crates & Pallets

- These are relatively low value assets
- We recommend **QR** or **RFID** for these assets
  - Choose QR if manual scanning is acceptable - limited by operator speed
  - Choose RFID if bulk scanning is essential - up to 50 crates per second

Trolleys & Scales

- These are relatively high value assets
- We recommend **RFID** or **BLE** for these assets
  - Choose RFID if check-in / check-out flows are acceptable
  - Choose BLE if real-time indoor monitoring is essential

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Case Study 2 - IT Assets

Highly Distributed

- High value assets - **fewer than 50 units/location**
- We recommend **QR** or **BLE** for these assets
  - Choose QR if manual audits are acceptable - limited by operator speed
  - Choose BLE if real-time monitoring is essential - however, review TCO based on gateway cost

Highly Concentrated

- High value assets - **more than 50 units/location**
- We recommend **RFID** or **BLE** for these assets
  - Choose RFID if check-in / check-out flows are acceptable
  - Choose BLE if real-time indoor monitoring is essential

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Case Study 3 - High Value Inventory

Jewellery Store

- High value assets - more than 100 units/location
- We recommend **RFID** or **BLE** for these assets
  - RFID tags are available for different form factors and won't interfere with customer experience
    - Use our reminder-driven audit workflows to ensure regular inventory
  - Choose BLE if real-time theft detection is essential
    - RFID tags can be masked to prevent detection.

Medical/Audio Equipment

- High value assets - **more than 20 units/location**
- We recommend **RFID** or **BLE** for these assets
  - Choose RFID if check-in / check-out flows are acceptable
  - Choose BLE if real-time indoor monitoring is essential

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Questions & Feedback

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