

THE TRAKMY GUIDE

Supply chain optimisation

How to calculate your return on investment: the ROI method, a concrete manufacturing use case, the principles of reliable IoT and an evaluation checklist – to make your non-powered assets visible and run your flows on data.

100,000+

CONNECTED ASSETS

74+

COUNTRIES COVERED

-20%

TARGET COST REDUCTION

01 Why now?

The blind spot: non-powered assets

02 The ROI method

Framing the problem & breaking down the costs

03 The initial investment

A worked example, step by step

04 Lever 1 – Cut asset costs

Losses, fleet size, service life, maintenance

05 Lever 2 – Optimise the flows

Search time, stock, express shipments

06 The total return

Summary, payback & qualitative gains

07 Use case: manufacturing

From visibility to value

08 Choosing the right solution

The 4 pillars of reliable IoT

09 Due diligence checklist

8 points to validate before investing

10 The TRAKmy solution

Hardware, platform & integrations

● EXECUTIVE SUMMARY

Three convictions, twelve years of field lessons

STRAIGHT ANSWER

If you only take away three things before investing in asset tracking.

1 · The value is settled, the execution is not

Asset tracking cuts costs by up to 20% and improves productivity by 10% or more. The real obstacle is no longer cost or standards: it is operational robustness.

2 · Data is only worth something if it is trusted

Many solutions convince in a pilot but become fragile at scale. Real value appears when the data is reliable enough to change behaviour.

3 · Hardware, network, security, cloud, support: inseparable

A solution never fails as a whole: it gives way at its weakest link. Too many IoT investments fail because these fundamentals are overlooked at evaluation time.

"Real value emerges when domain experts can rely on their asset data without ever questioning its quality."

Why now?

STRAIGHT ANSWER

Timing is relative; the pain is not. For a growing number of manufacturers, asset visibility has moved from "nice to have" to operational backbone.

Supply chain leaders are facing inflation, labour shortages, macroeconomic uncertainty, sustainability pressure and the rise of AI all at once. Connecting non-powered assets does not always top the list – until the day the absence of data has to be paid for in cash.

The blind spot: non-powered assets

Industrial chains run on returnable transport packaging (RTP): racks, containers, crates, jigs, special pallets, coolboxes and so on. They circulate between suppliers, warehouses, plants, customers and repair centres, yet remain invisible because they have no power supply of their own.

The more complexity grows, the more inefficiencies multiply: over-purchasing of containers, reactive maintenance, loss of visibility and control. Fitting a tracker to this packaging creates a **digital twin** of every asset and turns a blind spot into a source of decisions.

The dependency test

There is a simple sign that data has become critical: the day it stops, the impact is immediate and the business wants to be reconnected fast. That is the threshold at which data becomes part of the operational foundation.

-20%

observed cost reduction

+10%

productivity gains

75%

fewer RTP losses

Calculating your ROI, step by step

STRAIGHT ANSWER

To make the case for tracking tangible, let us work through a numerical example: a fictitious company equipping 1,000 assets. Assumptions are rounded and deliberately conservative.

Reasoning in three stages

- 1. The investment** — what the rollout costs: hardware (one-off purchase) plus connectivity and platform (recurring, annual).
- 2. The savings pools** — two levers: asset management (losses, fleet size, service life, maintenance) and flow optimisation (time, stock, transport).
- 3. The total return** — the difference, expressed annually and then projected over the service life of the assets.

Breaking down the costs

Two items structure the investment, and they should be kept separate because they do not share the same timing: the **one-off cost** (purchasing the trackers) and the **annual charges** (network connectivity plus the platform licence).

What to anticipate

Keep other real-world factors in mind: installation, end-of-life battery replacement, damage. A well-designed solution minimises them by construction (pre-installed and correctly sized batteries, industrialised installation, planned swaps).

NOTE

All the amounts in this guide are **illustrative assumptions**, intended to demonstrate the method. Your real figures depend on volume, configuration and platform plan: they are set out in a **tailored quotation**.

Structuring the investment

STRAIGHT ANSWER

The investment comprises two items of different natures. Its size depends on your volume and your configuration: it is set out in a tailored quotation.

Hardware cost — one-off

Purchasing the trackers (and, where relevant, the zone infrastructure and sensors). This is a one-time investment, amortised over the service life of the assets (up to 10 years).

Recurring cost — annual

Connectivity (network) and the platform licence, billed per tracker per year. This is the item that funds the service over time.

What the recurring cost funds

- ✓ Validated NB-IoT / LTE-M connectivity, with guaranteed data recovery.
- ✓ Platform access (mapping, geofences, alerts, reports, API).
- ✓ OTA firmware updates, end-to-end security and support.

What to anticipate

- ✓ Installation (optional), end-of-life battery replacement, occasional damage.
- ✓ A well-designed solution minimises these: pre-installed and correctly sized batteries, industrialised installation, planned swaps.

ON QUOTATION

Precise costing (one-off hardware plus annual recurring) is prepared by your TRAKmy contact according to volume, tracker configuration and the platform plan chosen. This guide concentrates on the **value generated** — the savings — detailed in the following chapters.

Cutting asset-related costs

STRAIGHT ANSWER

Real-time container tracking drives the annual loss rate down and unlocks a cascade of further savings. In our example: €171,825 a year on asset management alone (a fleet of 1,000 units).

Asset management	€ / year (example)
Reduced losses (-75%)	€45,000
Smaller fleet — purchases avoided	€37,500
Longer service life (+17%)	€36,325
Better planned maintenance	€20,000
Maintenance on a smaller fleet	€15,000
Repairs charged to the right party	€10,000
Off-contract use (-80%)	€8,000
Total saving	€171,825

Six saving mechanisms

- ✓ **Fewer losses:** tracking cuts the RTP loss rate by up to 75%.
- ✓ **A better-sized fleet:** analysing actual utilisation shrinks the fleet by 10 to 20%.
- ✓ **Off-contract use controlled:** -80% of RTP diverted to other uses.
- ✓ **Repairs charged to the right party:** costs attributed to the partner responsible.
- ✓ **Maintenance on actual usage:** planned by utilisation, up to -20%.
- ✓ **Longer service life:** +17% in the example, meaning fewer replacement purchases.

Optimising the flows

STRAIGHT ANSWER

Real-time visibility over stock levels and journeys removes hours of searching, manual counting and avoidable express shipments. In our example: €101,440 a year.

Flow optimisation	€ / year (example)
Search time (-90%)	€37,440
Manual counting eliminated	€20,800
Express shipments reduced (-75%)	€18,000
Collection/delivery errors (-90%)	€16,200
Empty container collection optimised	€9,000
Total saving	€101,440

Four sources of gains

- ✓ **An end to time-consuming searches:** knowing where every container is, ~€37,440/year.
- ✓ **Manual counting eliminated:** real-time stock visibility, ~€20,800.
- ✓ **Fewer express shipments:** -75%, ~€18,000 (plus €9,000 from optimised collection).
- ✓ **Fewer errors** in collection and delivery: -90%, ~€16,200.

BEYOND THE NUMBERS

Greater visibility helps remove bottlenecks, manage carrier performance and reduce cycle time (WIP) – major gains that are often confidential but very real.

The total return

STRAIGHT ANSWER

Adding the two levers together, the company in our example cuts its operating costs by €273,265 a year.

€273,265

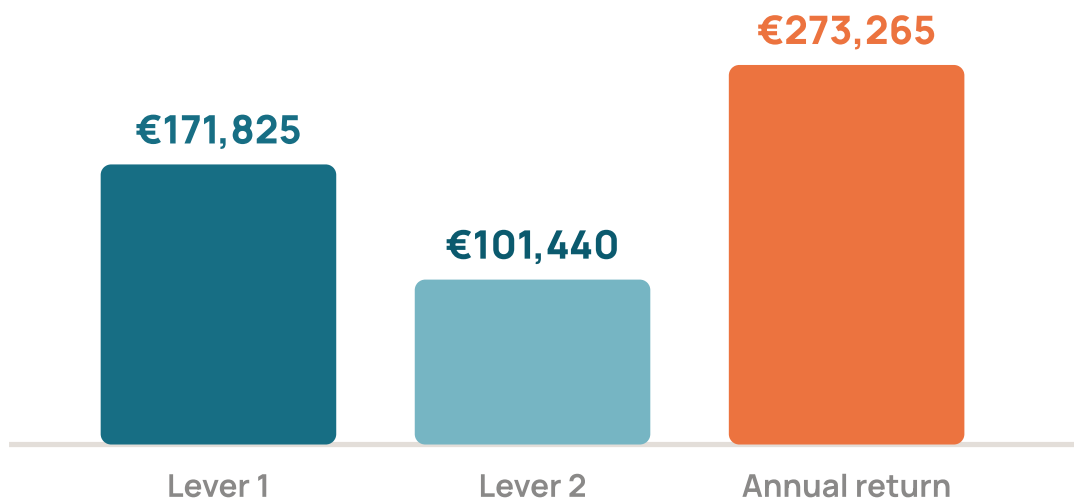
saved per year (example)

-20%

operating costs

several €m

cumulative savings over asset life



Annual savings by lever (example based on 1,000 assets).

Beyond year one

The savings repeat every year, whereas the hardware cost is one-off: the benefit-to-cost ratio improves mechanically over time. Set against an investment established by quotation, these savings typically cover the rollout within a few months.

Lasting qualitative gains

- ✓ Competitive differentiation, brand image
- ✓ Less waste, more sustainable operations
- ✓ Better relationships across the ecosystem, better customer experience

Manufacturing: from visibility to value

STRAIGHT ANSWER

A manufacturer of industrial machinery depends on complex RTP flows between suppliers, a central warehouse, plants, customers and a repair centre. By fitting a tracker to each packaging unit, it creates the digital twin of its supply chain.

Four families of flow

- ✓ **Supplier flows:** empty RTP sent out, returned loaded (glass, gears, motors).
- ✓ **Production flows:** parts from the warehouse to the plants, machines sent back.
- ✓ **Customer flows:** finished machines shipped; empty packaging returned.
- ✓ **Repair flows:** damaged RTP routed to the repair centre.

Alerts that prevent problems

- ✓ Wrong customer delivery, missing warehouse return
- ✓ RTP sent to the wrong supplier, immobilised too long
- ✓ Under-performing carrier (SLA), asset in a suspicious area (theft)

Diverse assets, all trackable

- ✓ **Motor RTP, containers, stillages, jigs:** permanent location.
- ✓ **Coolbox:** BLE temperature sensor (proof of transport compliance).
- ✓ **Foldable crates:** orientation sensor (open or folded).

KPIs that steer the fleet

Stock levels and dwell time per zone, flows between zones, utilisation rate — filterable by asset type to pinpoint dormant assets. Maintenance programmes (annual inspection, distance-based): OK / watch / overdue.

The 4 pillars of reliable IoT

STRAIGHT ANSWER

A successful rollout does not hinge on a feature, but on fundamentals. Here are the four pillars we apply.

1 · As strong as its weakest link

- ✓ Batteries pre-selected, pre-installed and correctly sized (up to 10 years).
- ✓ Ruggedised housing validated beyond the ratings (IP67/68/69K, IK09): moulded seals, controlled torque, impact and UV resistance.
- ✓ NB-IoT/LTE-M connectivity validated and governed, with guaranteed data recovery.
- ✓ End-to-end security: unique keys, ChaCha20 encryption, signed firmware.

2 · Validated at scale

- ✓ Devices ready to use straight from the factory.
- ✓ Predictable, quick installation by non-specialists.
- ✓ Fleet management over time (ageing, swaps with data continuity).

3 · An accountable partner

- ✓ A single partner accountable for the end-to-end outcome — one who resolves rather than redirects.
- ✓ European support, service continuity, follow-up over time.
- ✓ Documentation, training and shared experience.

4 · Designed for adoption

- ✓ Team autonomy: configure, integrate and evolve without expensive professional services.
- ✓ Integration into your tools (TMS, ERP, BI) rather than one more screen.
- ✓ Clean data through a documented API: ready for BI and AI.

"Simplicity is the hardest feature to build — and the one that decides adoption."

Due diligence checklist

STRAIGHT ANSWER

To be validated against genuine long-running customer references — not pilots or slides. This checklist highlights the most common blind spots.

1 • Battery reality

Multi-year life proven in real conditions? Batteries pre-installed and validated for your use case? References at scale?

2 • Hardware survival in the field

Designed by industrial experts? Survived several outdoor seasons? Ruggedisation validated beyond the laboratory?

3 • Connectivity under control

Validated end to end? Multi-operator redundancy? Roaming validated in the field? Battery and cost overruns prevented by design?

4 • End-to-end security

From device to cloud? Protection against cloning and spoofing? Periodic external penetration testing?

5 • Data reliability

Validated and consistent over time? Gaps handled automatically? Reliable enough to change your processes?

6 • Proven scalability

Large-scale deployments delivered? Devices installable by non-specialists? Swap processes defined?

7 • Cloud architecture & integrations

Cloud designed for asynchronous bursts? Application intuitive and documented? TMS/ERP/BI integrations? Documented API (so you stay independent)?

8 • Accountability

A single partner accountable for the complete solution, who resolves rather than redirects?

● CHAPTER 10 · THE SOLUTION

How TRAKmy answers

An end-to-end solution — ruggedised hardware, governed connectivity, an open platform and European support — making your assets visible and dependable for years.



REF. 1110

COMPACT

NB-IoT · GPS/Wi-Fi/BLE · IP68. Small packaging, tools. Up to 7 years.



REF. 1141

ULTRA N

NB-IoT · GPS/BLE · IP68/69K · IK09. Outdoor, large fleets. 10 years.



REF. 1101

ULTRA N+

NB-IoT · GPS/Wi-Fi/BLE + sensors (temperature, shock, orientation).



REF. 1105

ULTRA L+

NB-IoT + LTE-M · maximum coverage, critical assets.



REF. 1203

REACT

4G LTE · powered vehicles and plant, real time.

Infrastructure & sensors

Geobeacon and the ZA 3515 anchor for indoor use; BLE sensors (temperature/humidity, contact, fill level) turn every asset into a data source.

Platform — 3 plans

Plan	Zones	Alert rules	API / BI
Essential	50	10	—
Professional	100	25	MQTT
Analytics	200	50	MQTT + Power BI

TAKE THE NEXT STEP

Turn the blind spot into a decision

Let us estimate the ROI on your real fleet together: asset types, volumes, flows and objectives. We will build a tailored costing and a deployment roadmap.

[Request a quote](#)