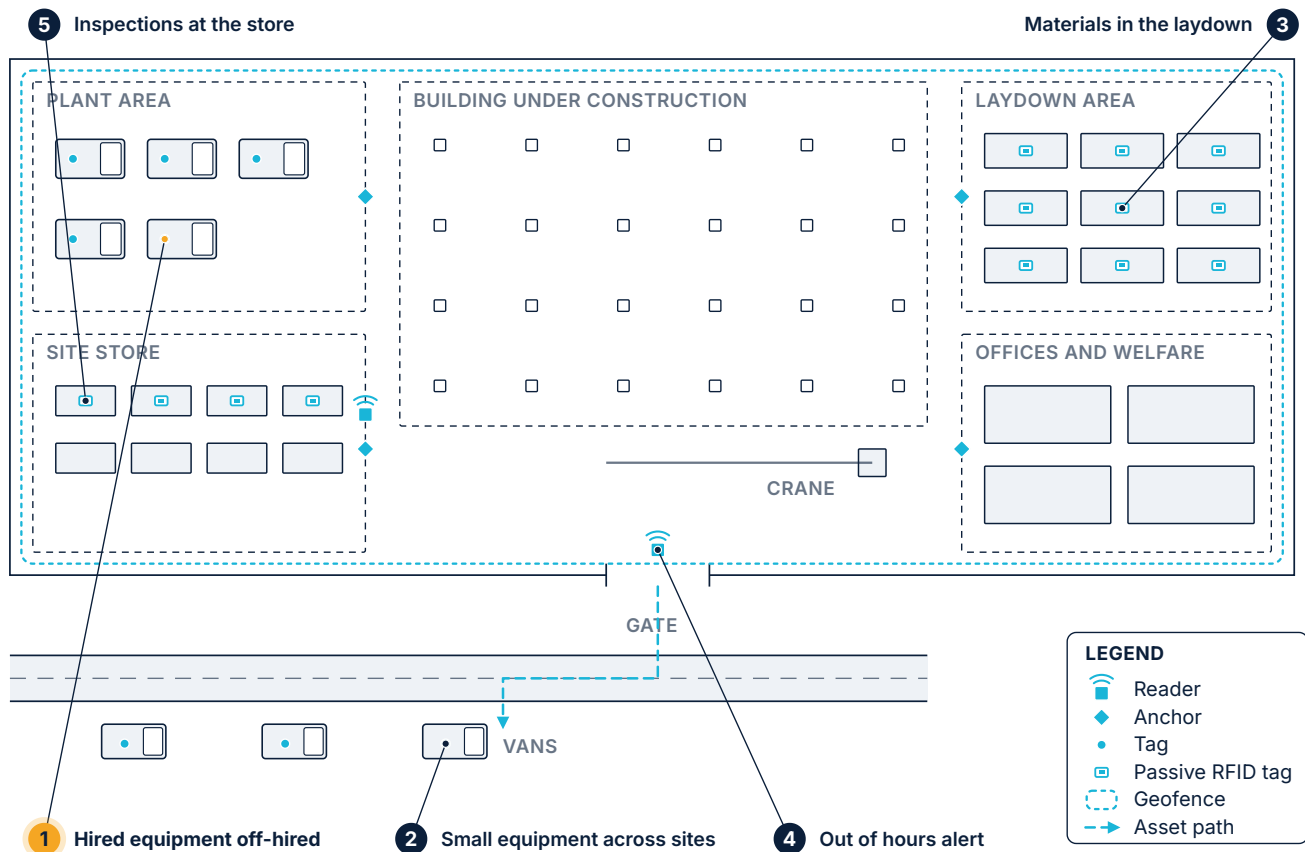


CONSTRUCTION · HIRED EQUIPMENT, SMALL EQUIPMENT, MATERIALS AND INSPECTIONS

The breaker is on hire. Nobody knows which site it is on.

A plain guide for contractors on tracking across sites: hired and owned equipment, small equipment that moves between jobs, materials in the laydown area, and lifting equipment that needs inspection. Tracking can mean GNSS trackers outdoors, battery tags picked up by site gateways, or RFID and 2D code scans at the site store.



Callouts match the use cases on page 2. Legend: a **reader** reads passive RFID (radio-frequency identification) tags with no battery; a **tag** is a battery radio tag; an **anchor** here is a fixed receiver (gateway) that picks up battery tags; the dotted line is a **geofence**, a virtual boundary. Terms used: BLE: a common low-energy radio standard, used in small battery tags; GNSS: global navigation satellite system, for satellite positioning; 2D code: a square barcode.

WHO SHOULD READ WHAT

KPI: key performance indicator, a measure you track. Everyone: your own row and KPI are in the table on page 4.

Operations and project managers

Page 2 use cases, page 3 payback.

Plant and equipment managers

Page 2: use cases 1, 2 and 4 and the KPIs you would own.

Site managers and site logistics

Page 2: use case 3, materials in the laydown area.

Health and safety leads

Page 2: use case 5, inspections at issue.

IT, finance, procurement, leadership

Page 3: technology, links and payback.

One next step: book a free 30-minute call to talk through your site and your use case.

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Book a free 30-minute call

What goes wrong today

Paying for idle hire

Hired equipment sits unused and stays on hire after the job.

Equipment that vanishes

Small equipment moves between sites and vans and is not seen again.

Materials hunted for

Crews search the laydown area before the crane slot.

Inspections on paper

Lifting equipment is checked against paper registers.

USE CASES

Numbered to match the floor plan on page 1. Each card ends with the technology that usually fits.

1 Hired equipment off-hired on time

Pain: Hired items stay on hire after the job because nobody knows they are idle.

What good looks like: Each hired item shows its site and recent use, so idle items are checked and off-hired.

Fit: Hire firm data, or trackers fitted with its agreement

2 Small equipment across sites

Pain: Generators, breakers, lasers and pumps go missing between sites and vans.

What good looks like: Owned items show their last known site. Items not seen for a set time are flagged.

Fit: BLE tags with gateways, or GNSS on larger items

3 Materials in the laydown area

Pain: Crews search for the right steel or precast units.

What good looks like: Items are scanned as they arrive and are placed, so crews see the bay before the lift.

Fit: Passive RFID or 2D code on delivery labels

4 Equipment leaving out of hours

Pain: Equipment taken from the compound overnight is found missing in the morning.

What good looks like: An alert flags tagged equipment leaving out of hours, for your security team to check.

Fit: GNSS trackers with a geofence (a virtual boundary)

5 Lifting equipment and harness inspections

Pain: Inspection dates are on paper, so items past their date can still be issued.

What good looks like: Items past inspection or thorough examination dates are stopped at issue. Pre-use checks stay.

Fit: Passive RFID or 2D code, with the inspection register

ALSO COVERED

- **Plant across sites:** where excavators, telehandlers and generators are and how much they are used.
- **Tool control:** tools issued from the site store and returned.
- **Lone workers:** an alarm someone can act on when a person working alone needs help, alongside your lone working procedure.
- **Mustering:** a headcount at muster points to support your roll call, which stays.
- **Site zones:** entry to work zones checked against site induction.
- **Time on site:** time on site records, with a lawful basis and worker consultation first.

A KPI is a number you track. Measure it the same way before and during the pilot, by sample if needed.

KPI	WHO OWNS IT	HOW TO MEASURE IT
Hire days on idle equipment	Operations or project manager	Hire records against recorded use.
Equipment not found	Plant and equipment manager	Missing-item reports per month.
Time to find materials	Site manager or site logistics	Timed searches on sample days.
Equipment lost out of hours	Security lead	Loss reports against alerts.
Items issued past inspection	Health and safety lead	Issue records against the register.

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Technology fit

Pick the simplest option that answers the question you have

Technology	Where it fits here	Watch for
Barcode or 2D code (square barcode)	Material labels, store issue and inspection records.	Needs someone to scan. No location between scans.
Passive RFID (radio-frequency identification, no battery)	Tagged items passing the store or gate, or handheld checks.	Reads only at read points or by hand. Metal and weather affect reads.
BLE (low-energy radio tags with a battery)	Small equipment by site or store, picked up by gateways.	Gateways need power on each site. Batteries need replacing.
GNSS with LPWAN or cellular	Plant and larger equipment across sites. LPWAN means low-power wide-area network.	Weak indoors and below ground. Check coverage on your sites.

Integration

Site and use can reach your plant and hire records, under your change control

- **Plant and hire records:** once a link is agreed, site and use feed your plant or hire system. Until then, the pilot can use a separate view.
- **Inspection register:** inspection dates and scans reach your register, so the store sees status at issue.
- **Site set-up:** gateways move with the job, so plan power and mounting early on each site.
- **People:** check local privacy and employee-consultation rules, such as works councils or unions, before tracking people, or tools and equipment linked to people.



ROI AND PAYBACK

ROI (return on investment) compares what you gain with what you spend. Payback is the time until the savings cover the cost. The method below works out payback from your own pilot data, not technology provider averages.

Payback (months) = $\frac{\text{one-off cost}}{(\text{annual benefit} - \text{annual running cost})} \times 12$

Annual benefit = $(\text{hire days avoided} \times \text{hire rate per day}) + (\text{replacement cost of items no longer lost}) + (\text{search hours saved} \times \text{loaded hourly rate})$

The annual benefit is an estimate: count only savings you can really make, and count each one once. If it is not bigger than the running cost, there is no payback. Loaded hourly rate means pay plus on-costs such as tax, pension and overheads.

Inputs to gather

- **One-off cost:** tags, trackers, gateways, survey, installation, integration, training.
- **Running cost per year:** licences, support, batteries, data plans, staff time.
- **Hire spend today**, and the hire days on idle items, from your baseline.
- **Losses each year:** items written off or replaced.
- **Hours today** spent finding equipment and materials.

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What it means for you: find your role and your KPI

YOUR ROLE	WHAT IT MEANS FOR YOU	YOUR KPI
Operations or project manager	Less spent on idle hire and lost equipment.	Hire days on idle equipment
Plant and equipment manager	Equipment found and off-hired on time.	Equipment not found
Site manager or site logistics	Materials found before the lift.	Time to find materials
Security lead	Out-of-hours moves flagged for a check.	Equipment lost out of hours
Health and safety lead	Items past inspection blocked at issue.	Items issued past inspection
IT teams	Data into plant records, under your change control.	Events reaching plant records
Finance, procurement and leadership	Payback from one site, then a go or no-go.	Payback months, go or no-go

Events reaching plant records: the share of updates that arrive without manual entry.

How a TRACIO project works: five stages

1 Discovery

Your pain points, site, process and KPIs.

2 Assess and shortlist

Site survey, then the options that fit compared.

3 Pilot with KPI baseline

KPIs measured first. Pass marks agreed in writing before set-up.

4 Integrate

If useful, one agreed link into your plant or hire system, under your change control.

5 Multi-site roll-out

After a go decision, one site or region at a time.

How a pilot runs: set-up, then live weeks in normal use, then a short written report with a go or no-go. Timings are agreed per site.

Questions we hear

"We already have a system."

We give a free second opinion and check how it performs against your KPIs, using your live data and a site visit.

"How do we know it will work here?"

Judge us on method: a pilot, KPIs measured before and during it, and a written go or no-go.

"Can you bid with us, or for us?"

Yes. We team with integrators, or act as the buyer's independent adviser, but never both on the same bid.

"Do you sell or resell hardware?"

Yes, if you choose. Advice comes first; we can then supply, lease and integrate the equipment you pick. We also rent pilot equipment and offer survey and installation support.

Free second opinion

Send us your technology provider's quote or spec for a free second opinion. What to send: the quote or spec, a floor plan or site photos, item counts and your current process. Bring it to the call or send it via tracio.com/contact.

TRACIO consultancy fees

- **UK:** £3k to £30k per project, £1,200 a day
- **Europe:** €3.5k to €35k per project, €1,400 a day
- **US and Canada:** \$4k to \$40k per project, \$1,600 a day
- **Middle East and Australia:** \$4k to \$40k per project, \$1,600 a day
- **Rest of the world:** \$3.5k to \$35k per project, \$1,400 a day

Scoped per project, no packages. Fees cover our work only; hardware, software licences and other supplier costs are separate. \$ = US dollars. Travel extra.

Why TRACIO: we work for you, not for the technology providers. We compare the options across the market that fit your site, provide site surveys and installation support, and work worldwide under your change control.

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