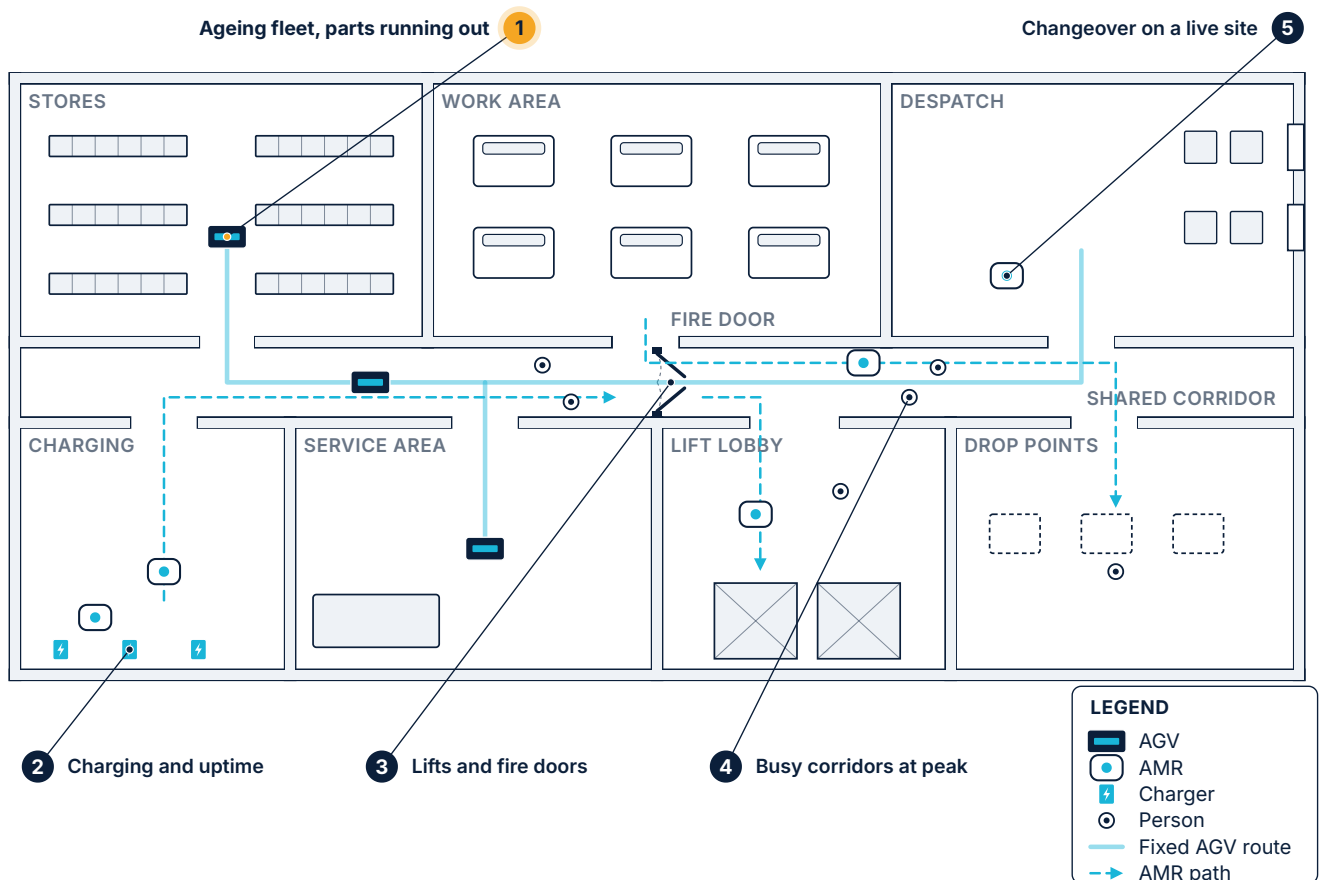


AMR AND AGV FLEETS · CHOOSING, SPECIFYING, REPLACING AND RUNNING AUTOMATED VEHICLES

The robots work in the demo. Then they meet your lifts, doors and peak hour.

A plain guide for anyone buying, replacing or running automated vehicles: in hospitals, warehouses and distribution centres, factories, airports and ports. An AGV (automated guided vehicle) follows fixed routes; an AMR (autonomous mobile robot) plans its own way around obstacles. This brief covers where projects go wrong and the questions to ask before you sign.



Callouts match the cards on page 2. Legend: an **AGV** follows a fixed route; an **AMR** plans its own path; a **charger** is a fixed charging point; a **fire door** must close on alarm, whatever a vehicle is doing.

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 logistics managers

Page 2: where projects go wrong, and the KPIs you would own.

Estates, facilities and engineering

Page 2: cards 2 and 3, charging, lifts and fire doors.

Health and safety leads

Page 2: card 4, people and vehicles sharing the same space.

Teams replacing an ageing system

Page 2: cards 1 and 5, obsolescence and the changeover.

IT and OT, finance, procurement, leadership

Page 3: vehicle types, links and payback. OT: operational technology, the systems that run the site.

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

Parts running out

The fleet still runs, but spares, support and know-how are going.

Stuck at the door

Vehicles wait at lifts and fire doors, or staff prop doors open.

Fine until peak

At shift change or a despatch wave, vehicles queue and jobs slip.

Locked to one supplier

Every change goes back to the original supplier, at their price.

WHERE PROJECTS GO WRONG

Numbered to match the site plan on page 1. Each card ends with a question to ask before you sign.

1 Ageing fleet and obsolescence

Pain: The old system runs until a part, or the one laptop with its software, fails. Nobody planned the exit.

What good looks like: You know what is at risk, and replacement is planned, not forced by a breakdown.

Ask: Which spares, support and updates are promised for later years, in the contract?

2 Charging and uptime

Pain: Uptime figures assume perfect charging. In real shifts, vehicles queue or run low at peak.

What good looks like: Charging fits your shifts and peaks; availability is defined your way.

Ask: Does your availability count waits for a charger, lift or repair?

3 Lifts, doors and fire doors

Pain: Each lift and door link is a project of its own, often missing from the quote.

What good looks like: Every lift and door on the routes has an owner, and fire alarm behaviour is agreed.

Ask: Which lifts and doors are in your price, and who owns each link later?

4 Peak hour, people in the way

Pain: Routes are planned for a quiet site. At peak, people and forklifts fill the corridors.

What good looks like: The fleet is judged at your busiest hour, not on an empty floor during a demo.

Ask: Will you show the fleet at our peak, on our routes, before acceptance?

5 Changeover, acceptance and handover on a live site

Pain: Old and new fleets share a working site. Acceptance is often a signature on a quiet day.

What good looks like: A changeover with a fallback, and acceptance in real use before the old system goes.

Ask: What is the fallback if the new fleet is not ready, who pays, and what do we own at handover?

ALSO COVERED

- **AGV or AMR?:** how the two differ, in plain terms.
- **Forklift tracking:** manual trucks beside automated ones.
- **Mixed fleets:** several suppliers, one fleet manager.
- **Collision avoidance:** alerts that support safety measures.

KPIS TO TRACK

A KPI is a number you track before and during the pilot.

KPI

Fleet availability, measured your way

Downtime and fault rate

Missions completed on time

Response time to requests

Vehicle utilisation, charging and idle time

Manual moves avoided and staff time returned

Safety incidents and near misses

Cost to run per year

WHO OWNS IT

Engineering and maintenance

Engineering and maintenance

Operations manager

Shift, porter or dispatch lead

Fleet owner

Operations manager

Health and safety lead

Finance

We agree how each KPI is measured, and the baseline, in the pilot plan.

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Vehicle types

Pick the simplest vehicle that does the job you have

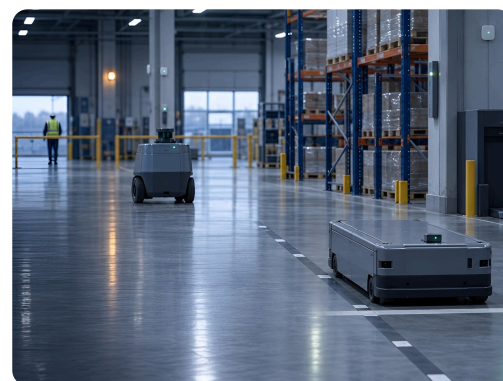
Vehicle type	Where it fits	Watch for
AGV on fixed routes	Repeat runs on stable routes: lines, stores, service corridors.	Route changes need the supplier. A blocked route means a stopped vehicle.
AMR (plans its own route)	Changing layouts and areas shared with people.	Slows or stops in crowds. Behaviour at peak must be seen, not assumed.
Tugger and towing vehicles	Trains of carts on longer runs: meals, parts, baggage.	Coupling, loading and who checks the load.
Automated forklifts and pallet movers	Pallets at docks, stores and line side.	Mixed traffic with manual forklifts. Rack and floor condition.
Cart and trolley movers	Meals, linen, waste and pharmacy in hospitals.	Trolley condition and the hand-off to staff.

The right mix depends on your site. We confirm it in the survey.

Integration

The vehicles are only as good as their links to your site

- **Site systems:** jobs can come from your WMS (warehouse), MES (production) or hospital systems such as an EMR (patient record), under your change control.
- **Building systems:** lifts, doors, fire alarm and access control belong to estates. Agree early who changes them and who signs them off.
- **Data:** make sure mission, fault and map data is yours, in a form you can use without the supplier.
- **People:** vehicles with cameras work among staff and the public: check privacy and consultation rules early.



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. If the benefit is not bigger than the running cost, there is no payback.

Where ROI usually comes from

- Staff time freed from manual moves
- Fewer delays waiting for goods, meals, samples or parts
- Lower support and running cost than an ageing fleet
- Fewer handling injuries and damaged loads

Watch for in ROI claims

- Staff savings that will not really happen
- Uptime taken from a demo, not from your peak
- Lift, door and support costs left out
- No cost for running two fleets during the changeover

Bring to the call

- Any supplier quotes or ROI claims you already have
- Rough fleet size and age, routes, and the lifts and doors on them
- Today's manual moves, delays and running costs, from your records

We work out payback with you from your own numbers, not technology provider averages. **Bring rough figures to a free 30-minute call.**

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 it means for you: find your role and your KPI

YOUR ROLE	WHAT IT MEANS FOR YOU	YOUR KPI
Operations or logistics manager	Jobs done on time at peak, not just in the demo.	Missions completed on time
Shift, porter or dispatch lead	Fewer manual moves and chases for late deliveries.	Response time to requests
Estates and facilities	Lifts and doors that work with vehicles, each link with an owner.	Waits at lifts and doors
Engineering and maintenance	A fleet you can support, with spares and software you control.	Downtime and fault rate
Health and safety lead	People and vehicles sharing space, with near misses recorded.	Safety incidents and near misses
IT and OT teams	Links to site and building systems under your change control.	Jobs reaching the fleet automatically
Finance, procurement and leadership	A fair specification, a clear exit and payback on your numbers.	Cost to run per year, go or no-go

How a TRACIO project works: five stages

1 Discovery

Your pain points, site, routes, fleet 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 site systems, under your change control.

5 Multi-site roll-out

After a go decision, one area or building 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 fleet."

We give a free second opinion on how it performs against your KPIs, what is at risk as it ages, and your options.

"Our supplier wrote the specification."

Then it may fit only their product. We help you set requirements that any capable supplier can bid on, so the comparison stays fair.

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

Yes. We team with integrators, or work for the buyer independently, but never both on the same bid.

"Do you sell or resell vehicles?"

No. We don't sell vehicles or hardware, so our view stays independent. We offer survey and installation support and rent pilot equipment.

Free second opinion

Send us your technology provider's quote or spec for a free second opinion. What to send: the quote or specification, a site plan with routes, lifts and doors, fleet size and age and your current process. Bring it to the call or send it via tracio.com/contact.

Who you will work with

TRACIO is a UK company specialising in indoor location and RFID systems. Independent: we sell no hardware. Our team has around 15 years delivering RTLS (real-time location systems) and RFID, working with AMR and AGV providers and fleet manager providers on multi-fleet setups. Every project is scoped individually, with no fixed packages. We work worldwide and can run engagements in your language.

Why TRACIO: we work for you, not for the vehicle or software suppliers. We compare the options across the market that fit your site, provide site surveys and installation support, and link to your site systems under your change control.

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