

Work-In-Process tracking with V-Tag active RFID

Passive RFID reads at gates; work-in-process rarely passes through one. Here is how V-Tag active mesh tags give continuous, hands-free, zone-level visibility of jobs and tooling as they move across a plant floor — no chokepoints required.

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ABSTRACT

Work-In-Process (WIP) tracking follows the location and status of work orders, assemblies and components as they move through a manufacturing or MRO facility. Because WIP moves between benches rather than through a single gate, gate-based passive RFID struggles to see it. V-Tag active tags report their own zone as they move, giving supervisors and scheduling a live floor-plan view without scan stations.

01 The visibility gap on the floor

Passive RFID works by reading a tag as it passes a fixed reader — a gate. That is a good fit for a dock door or a portal, but most work-in-process never passes through a single choke point. Jobs move between work centres and benches across an open floor, and a supervisor who needs to know where an assembly is right now has no gate to consult.

V-Tag active tags close that gap. Rather than waiting for a job to pass a reader, each tag reports the zone it is in as it moves — **no gates, no scan stations, and nothing for an operator to remember to do.**

02 How V-Tag WIP tracking works

- **Tag the work.** A V-Tag rides on the engine stand, cart, fixture or work-order carrier that moves through the process.
- **Define the zones.** Fixed reference tags placed in each work centre or zone mark the areas you want to distinguish.
- **See it on the map.** AssetWorx! shows the current zone of every tagged job on a floor-plan map, updating as jobs move.
- **Keep the history.** A Location History report logs every zone transition with a timestamp, so you can measure how long each job spent in each area.

Location is **zone / room-level** and settles in about 3–4 minutes as the mesh reconciles — more than enough resolution to answer “which station is this engine at, and how long has it been there?” without any manual scanning.

03 Illustrative scenario — an aircraft-engine MRO facility

Consider a Maintenance, Repair & Overhaul (MRO) facility that moves aircraft engines through a repair process. It is a demanding case, and a useful one to reason about.

The challenge

- Engines are large, high-value assets that move between many work centres.
- Supervisors and scheduling need to know each engine's status at any moment.
- There is no central gate the engines pass through — they move between benches on the floor.

The solution

- V-Tags attach to the engine stands or work-order carriers.
- Fixed reference tags mark each work centre or zone.
- AssetWorx! displays the current location of every engine on a floor-plan map.
- A Location History report shows how long each engine spent in each zone.

The business value

- **Visibility** — know which zone every engine is in, without a floor walk.
- **Bottleneck detection** — see which stations have WIP piling up.
- **Throughput measurement** — every zone transition is time-stamped automatically.
- **No manual scan stations** — location is hands-free.

04 What WIP tracking gives you

CAPABILITY	WHAT V-TAG WIP DELIVERS
HANDS-FREE LOCATION	Jobs report their own zone as they move — no scan stations, no gates
ZONE-LEVEL POSITION	Room / work-centre level, settling in about 3–4 minutes after a move
WHOLE-FLOOR COVERAGE	The self-healing mesh scales across a facility from a handful of gateways
LOCATION HISTORY	A timestamped log of every zone transition, per asset
DWELL / BOTTLENECK ALERTS	Alert when a job sits in one station beyond its target time
MANY ASSET TYPES	Engines, carts, tooling and molds tracked together
PARENT-CHILD	Associate sub-components and tooling to a parent work order

05 Where it applies

- **MRO / aerospace** — engine, airframe and component repair.
- **Injection molding** — mold location and preventive-maintenance tracking.
- **Automotive** — chassis and sub-assembly movement through the line.
- **Defense** — equipment and tool-crib items through work stages.
- **Medical device** — device tracking through clean-room stages.

06 Data & integration

AssetWorx! is the platform behind V-Tag WIP tracking: the floor-plan map, the asset database, the Location History report and dwell-time alarms all live there. Its open REST API lets the same location and history data feed your ERP, MES, scheduling and analytics, so WIP visibility becomes part of the systems your team already uses. AssetWorx! runs on-premises or in the cloud, delivered through an authorised reseller network.

HOW TO READ V-TAG'S ACCURACY HONESTLY

V-Tag reports **zone / room-level** location over a self-healing Zigbee mesh; a position settles in about **3–4 minutes** as the mesh reconciles. It is an active-RFID zone-location system — not RTLS, not real-time or sub-second, not Bluetooth, and not a beacon-positioning system.

Bring WIP visibility to your floor.

Tell us how your jobs move and we'll scope a V-Tag WIP pilot on AssetWorx!

REQUEST A QUOTE

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