Governing AI in warehouse management: managing automated exception handling

AI in warehouse management can help identify emerging bottlenecks and summarize operational exceptions. Decisions about dispatch, order priority, labour or dock allocation still affect service promises, safety rules and local operating limits. A supervisor needs to see the relevant evidence, know which policy applies and retain clear authority over exceptions.

Make an exception actionable

A warehouse alert is only a starting point. A blocked dock, delayed inbound load or order backlog must be interpreted in context: which orders are affected, what service commitments apply, whether inventory is available, what constraints are active and which alternatives can be executed. If the workflow lacks the required information, it should show the gap instead of presenting a recommendation as ready to run.

AI can help group related signals, surface likely causes or compare feasible actions. The warehouse's own rules define the priority and the decision boundary. For example, a routine sequence adjustment may be handled within a supervisor-approved envelope, while a decision that changes a customer commitment or safety condition needs an explicit review.

Keep the supervisor in control

Set the controls before introducing automated action: which roles may approve a change, which orders or areas are in scope, how long an approval remains valid, and what happens when a proposal changes. A decision record should preserve the context considered, the policy applied, the person or agent proposing the action, the approver, the exact instruction and the execution response.

Test peak periods and failure cases. What if WMS inventory is delayed? What if a priority order is on quality hold? What if an approved action cannot be executed? A clear pause and escalation route can prevent an automation from silently making a poor trade-off under pressure.

Measure the workflow

Possible measures include time to resolve an exception, dock or order delays, backlog age, service impact, overrides, policy exceptions and rework. Agree definitions and a baseline with warehouse operations. Evaluate control quality as well as speed; fewer escalations are not automatically better if the process hides exceptions.

Where Aidecis fits

Aidecis keeps one authority model and one decision record across your people, your own algorithms and every vendor’s agents. Aidecis never writes into your systems: your people, systems or bots execute the approved action, and Aidecis reads each execution back and reconciles it against the approval, so SAP stays your single source of truth. With enforced control, your own integration checks Aidecis's single-use grant before it executes. Agents and algorithms that write in their own systems are checked against their registered role and limits afterwards, and flagged within minutes if they went outside them: observed control, which does not prevent an action but shows it. It does not replace a WMS or make an AI model the warehouse decision owner. The exact system connections and available capabilities are confirmed for each project.

Explore Aidecis use cases and discuss a pilot.

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