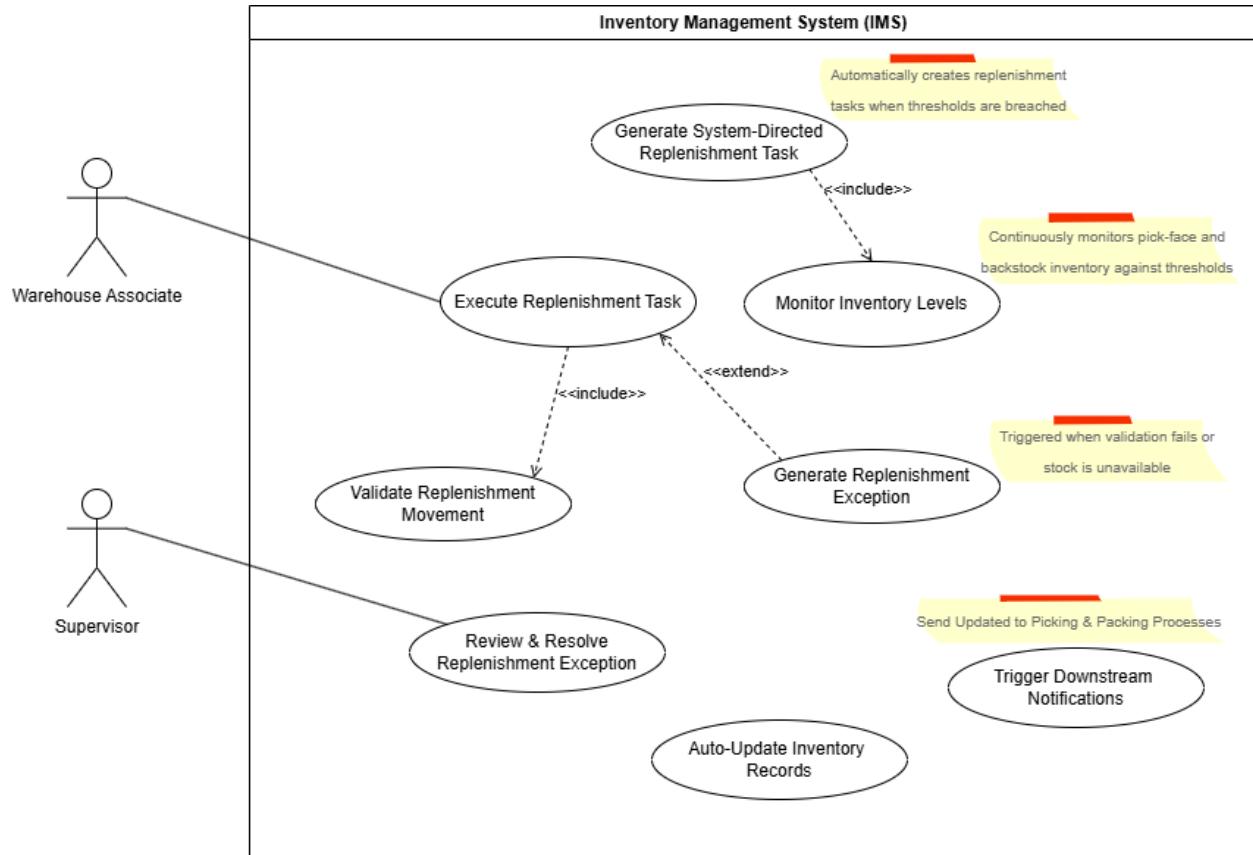


Use Case Diagram



Use Case Specifications & Wireframes

UC-RP-01: Monitor Inventory Levels

Primary Actor

IMS

Brief Description

Detect replenishment needs proactively.

Preconditions

- SKU thresholds configured
- Inventory records available

Postconditions

- Replenishment need identified

Main Success Scenario

1. IMS monitors pick-face inventory continuously
2. Compares levels against min/max or ROP
3. Flags SKUs requiring replenishment

Business Rules & Notes

- Thresholds may vary by SKU and category
- Monitoring runs continuously

UC-RP-02: Generate System-Directed Replenishment Task

Primary Actor

IMS

Brief Description

Create replenishment tasks automatically.

Preconditions

- Replenishment need detected

Postconditions

- Task ready for execution

Main Success Scenario

1. IMS creates replenishment task
2. Assigns source (backstock) and destination (pick-face)
3. Queues task for associate

Business Rules & Notes

- One active replenishment task per SKU-location
- Tasks prioritized by urgency

SYSTEM-DIRECTED REPLENISHMENT

Task ID:
[RP-55641]

SKU:
Milk 2L (SKU-060)

Required Qty:
40 units

From (Backstock):

Zone B | Rack 07 | Bin 21

To (Pick Face):

Aisle A | Shelf 03 | Slot 08

Scan Source Location

Scan Destination Location

Confirm Replenishment

Flag Issue

System Message:

✓ Replenishment recorded successfully

UC-RP-03: Execute Replenishment Task

Primary Actor

Warehouse Associate

Brief Description

Replenish pick-face inventory.

Preconditions

- Task assigned and visible

Postconditions

- Replenishment executed or exception raised

Main Success Scenario

1. Associate selects replenishment task
2. Moves stock from backstock to pick-face
3. Scans SKU and destination location
4. Submits completion

Alternative Flow

- If stock unavailable → UC-RP-05

Business Rules & Notes

- Location and SKU must match task
- Partial replenishment must be confirmed

UC-RP-04: Validate Replenishment Movement

Primary Actor

IMS

Brief Description

Ensure replenishment accuracy.

Preconditions

- Associate submits replenishment

Postconditions

- Movement validated

Main Success Scenario

- IMS validates SKU and location
- Confirms quantity moved
- Approves replenishment

Business Rules & Notes

- Validation is real-time
- Invalid scans trigger exception

UC-RP-05: Generate Replenishment Exception

Primary Actor

IMS

Brief Description

Escalate replenishment issues.

Preconditions

- Validation failure or stock shortfall

Postconditions

- Exception awaiting review

Main Success Scenario

1. IMS creates exception
2. Routes exception to supervisor

Business Rules & Notes

- Exceptions logged with reason codes
- Duplicate exceptions not allowed

UC-RP-06: Review & Resolve Replenishment Exception

Primary Actor

IMS

Supporting Actors

Warehouse Supervisor

Brief Description

Resolve replenishment issues efficiently.

Preconditions

- Exception generated

Postconditions

- Exception resolved

Main Success Scenario

1. Supervisor reviews exception
2. Approves adjustment, reroutes task, or rejects
3. Confirms resolution

Business Rules & Notes

- Supervisor approval required
- All actions audit logged

REPLENISHMENT EXCEPTION REVIEW

Exception ID: [RP-EX-8831] SKU: Milk 2L (SKU-060)

Issue Detected:

Insufficient backstock

Location inaccessible

Suggested Actions:

- Delay replenishment
- Assign alternative location
- Escalate to Inventory Control

Supervisor Notes:

Confirm Action

UC-RP-07: Auto-Update Inventory Records After Replenishment

Primary Actor

IMS

Brief Description

Maintain inventory accuracy.

Preconditions

- Replenishment validated or exception approved

Postconditions

- Inventory synchronized

Main Success Scenario

1. IMS updates QOH and ATP
2. Records transaction history

Business Rules & Notes

- Updates must be atomic
- No manual override allowed

UC-RP-08: Trigger Downstream Notifications

Primary Actor

IMS

Brief Description

Maintain operational flow.

Preconditions

- Inventory updated

Postconditions

- Downstream processes resumed

Main Success Scenario

1. IMS notifies picking and planning
2. Clears replenishment blockages

Business Rules & Notes

- Notifications are asynchronous
- Failures logged but do not block updates