End-to-End Logistics: The Complete Warehouse Process

From inbound pallet arrival through storage, order management, picking, packing, and outbound dispatch — a comprehensive operational guide for warehouse professionals.

FULL PROCESS WALKTHROUGH

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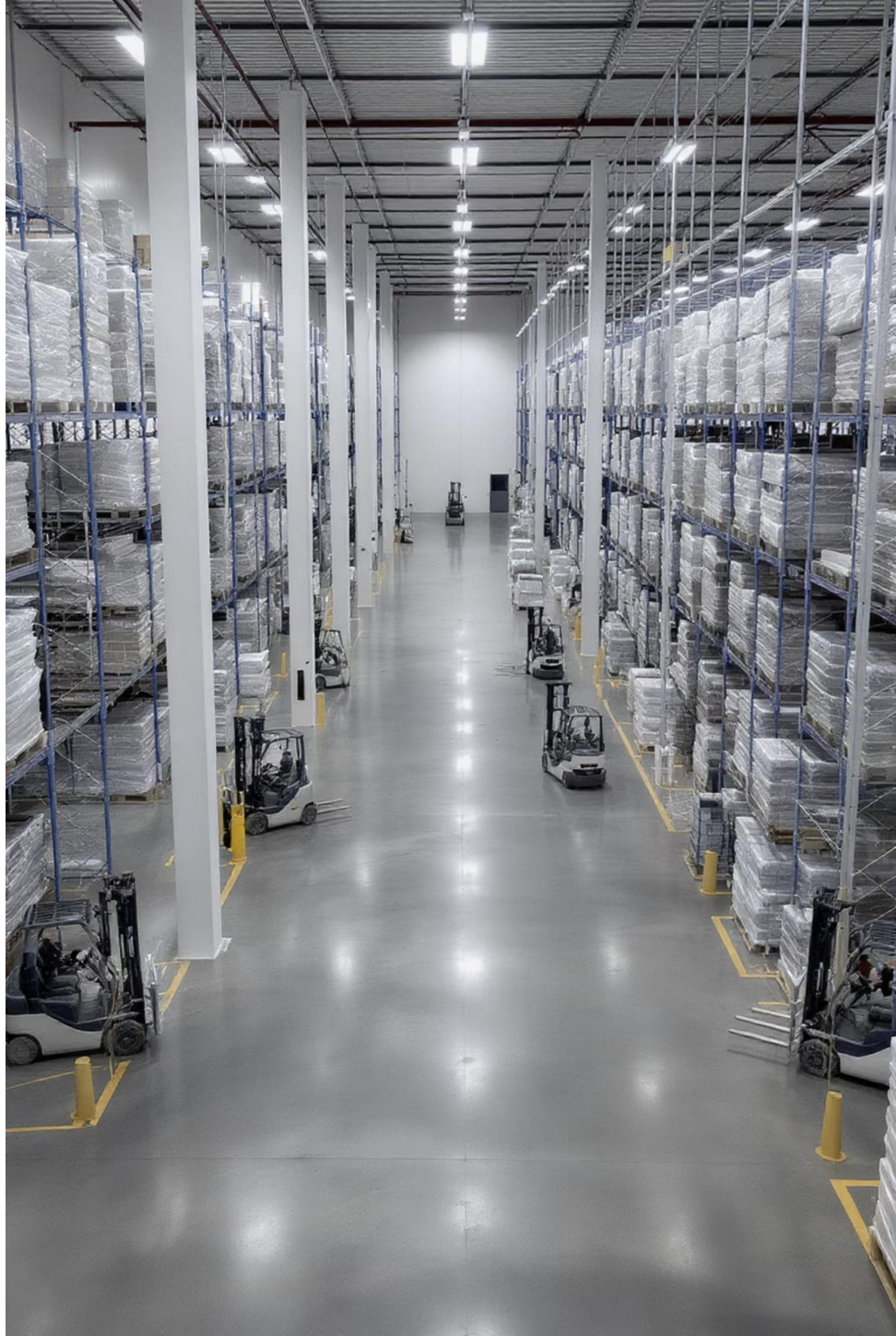
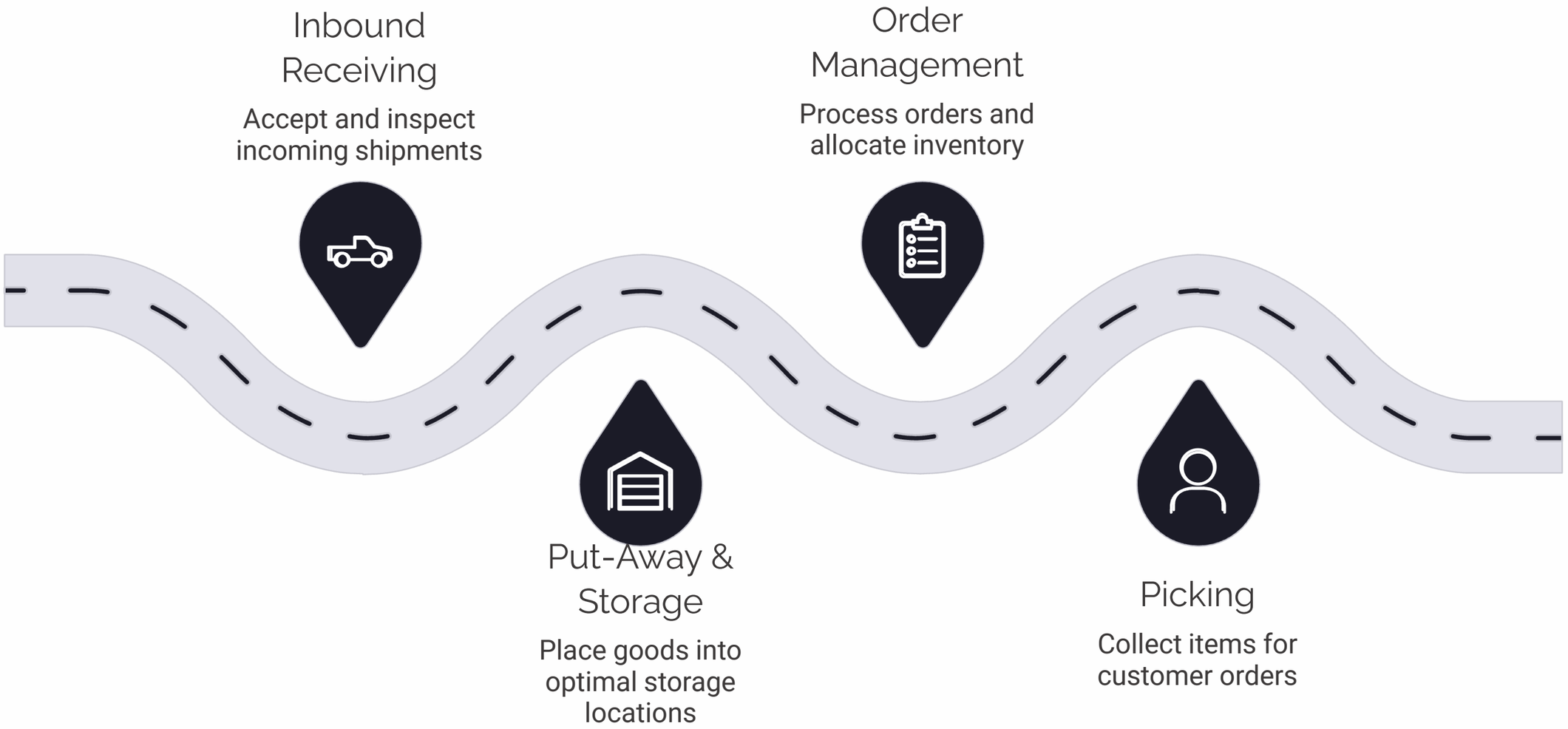


Process Overview

This presentation follows a shipment through every stage of the warehouse lifecycle — from the moment a supplier's pallet arrives at the gate to the point the customer receives their goods and tracking link. Seven major process areas are covered in detail.



Each stage is tightly integrated with the Warehouse Management System (WMS), ensuring full traceability, stock accuracy, and operational efficiency throughout the supply chain.

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CHAPTER 1

🚚 Inbound Logistics: Receiving the Pallet

The inbound process is the critical first link in the warehouse chain. Every subsequent operation — storage accuracy, order fulfilment, and inventory integrity — depends on how rigorously goods are received, verified, and registered at the point of arrival.

1.1 Pre-Arrival Activities

Supplier Sends ASN

The Advanced Shipping Notice (ASN) is transmitted ahead of delivery and must include pallet count, full SKU list, batch and lot numbers, expiry dates, and expected arrival time. This data pre-populates the WMS before the truck arrives.

Warehouse Preparation

The warehouse team schedules a **dock time slot** to prevent congestion across receiving bays. The WMS automatically pre-creates expected inbound tasks, so operators are briefed and equipment is positioned in advance — minimising dwell time at the gate.

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1.2 Arrival at the Warehouse Gate

Driver Check-In

Driver reports to security, identity is confirmed, and the vehicle registration is logged against the expected delivery.

Document Verification

CMR / Bill of Lading, packing list, ASN, and temperature logs (cold chain shipments) are all checked before unloading is authorised.

Dock Door Assignment

The vehicle is directed to a specific dock door. WMS updates dock status to prevent double-booking and coordinate equipment deployment.

1.3 Unloading Process

Physical Unloading

A forklift operator removes pallets from the vehicle and places them in the inbound staging area. Every pallet undergoes an immediate **visual inspection** before being moved further into the warehouse.

Visual Inspection Checklist

- Shrink wrap fully intact
- No leaning or unstable stacking
- No crushed corners or structural damage
- Labels clearly visible and undamaged

Quarantine Protocol

Any pallet failing the visual inspection is immediately **isolated in the quarantine zone**. It is flagged in the WMS, preventing stock from being inadvertently allocated to live orders. A damage report is raised and the supplier is notified promptly.

1.4 Verification & Registration

Each pallet is scanned using its **SSCC barcode** or an internal pallet ID label. The WMS cross-references the scanned data against the pre-loaded ASN in real time.

✅ Match Confirmed

Pallet is accepted into the system. Stock status is set to "In Receiving" and the pallet is queued for quality control.

⚠️ Mismatch Detected

A discrepancy report is automatically generated. The procurement team and/or supplier are notified immediately. The pallet is held pending resolution.

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1.5 Quality Control (QC)

QC procedures vary by product category. Each product type carries its own regulatory and operational requirements, and the WMS enforces the correct check sequence for each.

Food & Pharma

Temperature verification, expiry date check (FEFO rules enforced), and batch number validation against purchase order.

Electronics

Serial number capture, packaging integrity check, and confirmation of correct model and SKU against order documentation.

Hazardous Goods

ADR label verification, MSDS compliance check, and confirmation of correct segregation requirements before put-away.

QC Outcomes

✅ Accepted

Goods pass all checks. Stock is released and queued for system-directed put-away. WMS generates put-away task automatically.

❌ Rejected

Goods fail QC. Moved to quarantine zone. Supplier notified. Return or disposal process initiated per SOP.

Accepted with Deviation

Minor non-conformance noted. Goods stored separately with deviation flag. Procurement and quality teams notified for follow-up.

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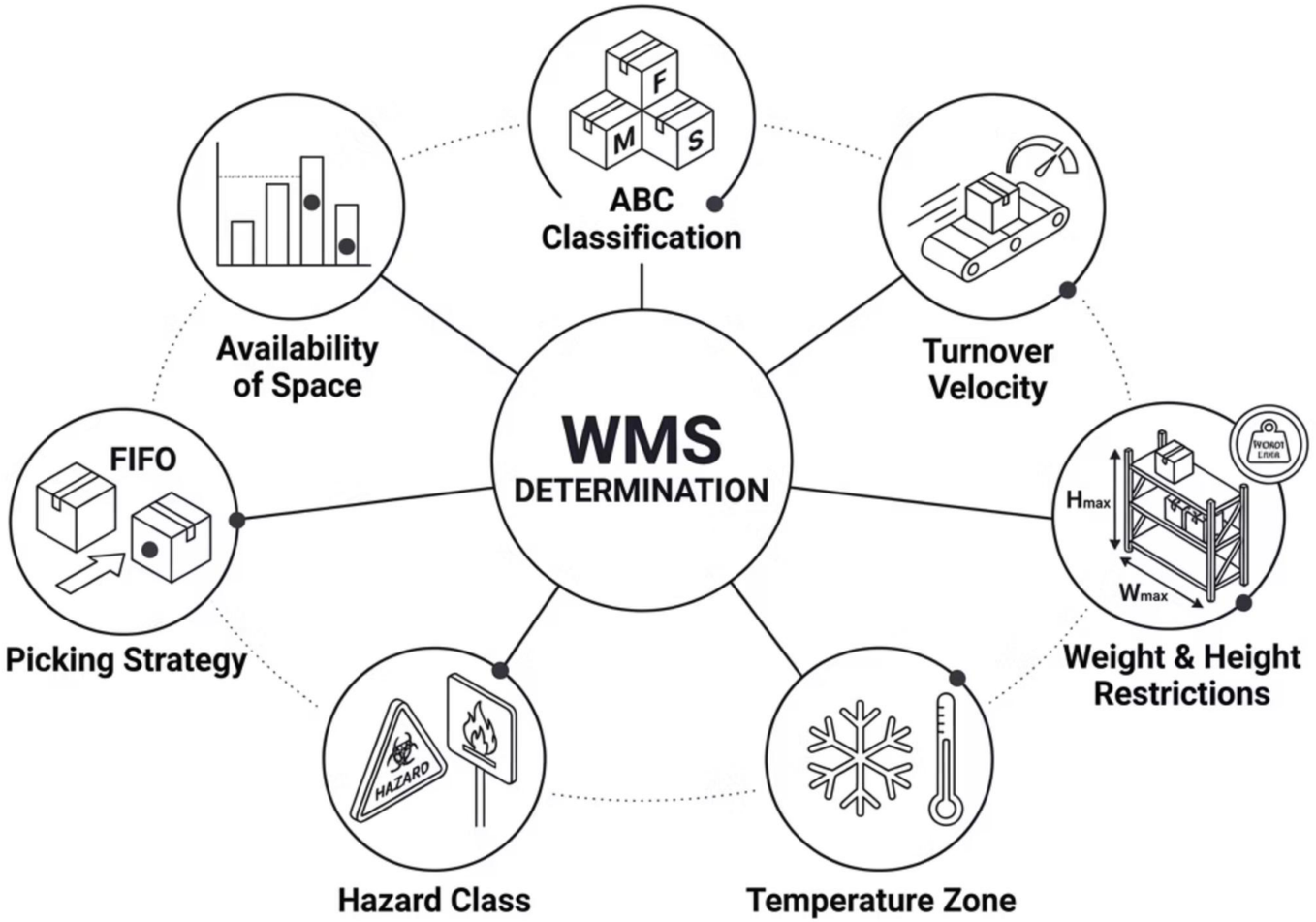
CHAPTER 2

Put-Away & Storage

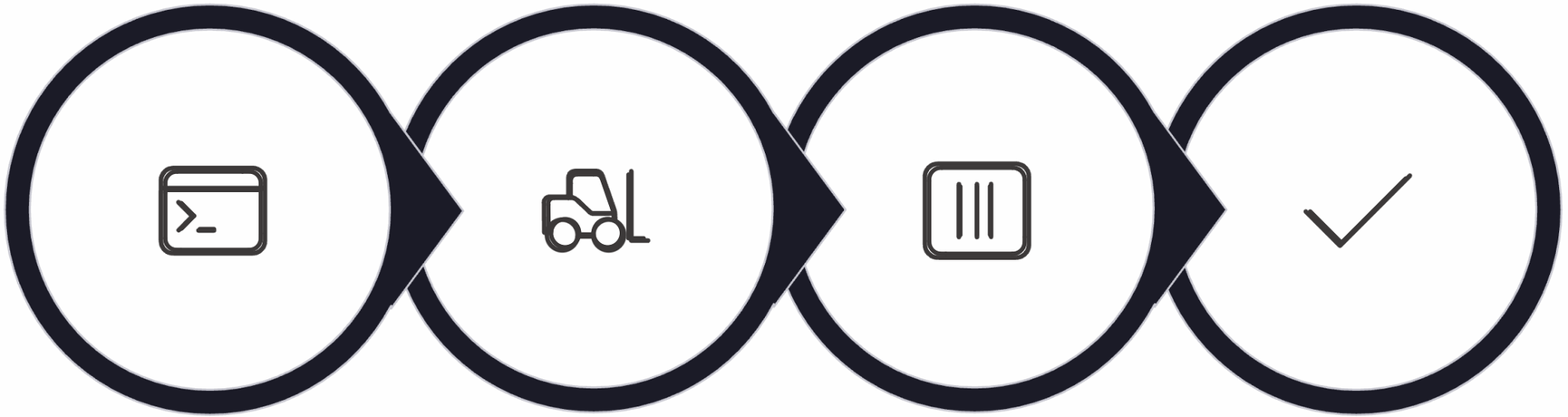
Effective put-away is far more than simply finding an empty space. The WMS applies intelligent location logic to maximise space utilisation, support correct picking strategies, and protect stock integrity from the moment goods enter storage.

2.1 System-Directed Put-Away

The WMS calculates the optimal storage location for every inbound pallet before the operator moves it. Location assignment considers multiple variables simultaneously.



2.2 Physical Put-Away Execution



Receive Task

Drive & Scan

Scan Rack

Place & Confirm

The scan-confirm workflow ensures that every pallet placement is recorded in real time. If the operator scans an incorrect location, the WMS raises an immediate alert — preventing stock from being lost or misplaced within the facility.

2.3 Inventory Status Update

Stock Becomes Available

Once placement is confirmed, the WMS changes the stock status from **"In Receiving"** to **"Available"**. The inventory is immediately visible for order allocation, replenishment planning, and cycle count scheduling.

WMS Record Updated

The system simultaneously updates four data fields for the stock line:

- **Location** — precise rack address
- **Quantity** — units confirmed at receipt
- **Batch / Lot number** — full traceability
- **Expiry date** — FEFO compliance enforced

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CHAPTER 3

Order Management

Order management bridges the commercial world and the warehouse floor. Every customer order must be validated, allocated against available stock, and planned into an efficient wave before a single pick task is generated.

3.1 Order Receipt

How Orders Enter the WMS

→ EDI

Electronic Data Interchange from retail or wholesale partners — fully automated, no manual input required.

→ ERP Integration

Direct feed from the business's own enterprise system (SAP, Oracle, etc.).

→ Customer Portal / Manual

Web portal submissions or email orders keyed in by customer service.

Order Data Fields

Every order must carry the following fields to proceed through the WMS:

- Delivery address and customer code
- Full SKU list with quantities
- Required delivery date
- Carrier preference or routing code
- Special instructions (e.g., "no mixed pallets", "fragile")

3.2 Order Validation

Before any pick task is generated, the WMS runs a structured validation sequence. This prevents the warehouse floor from attempting to fulfil orders that cannot be completed correctly.

1

Stock Availability

Confirms sufficient on-hand quantity exists and is in "Available" status — not quarantined or reserved for another order.

2

Batch & Lot Requirements

Verifies that the correct batch is available, especially for orders specifying particular production runs or country-of-origin restrictions.

3

FEFO / FIFO Rules

Enforces date-based picking rules. For food and pharma, the nearest-expiry stock is always allocated first.

4

Customer Restrictions

Applies customer-specific rules such as minimum shelf-life requirements, no partial shipments, or pallet configuration standards.

3.3 Wave Planning & Batch Planning

How Orders Are Grouped

The WMS groups orders into **waves** — logical batches of work released to the floor simultaneously. Grouping criteria include carrier and route alignment, cut-off time windows, picking zone proximity, and order size.

What the Wave Generates

Once a wave is released, the WMS automatically creates:

- **Picking tasks** — sequential location instructions for each operator
- **Replenishment tasks** — triggered when pick-face locations are empty or below minimum stock level
- **Consolidation tasks** — for multi-zone orders requiring assembly

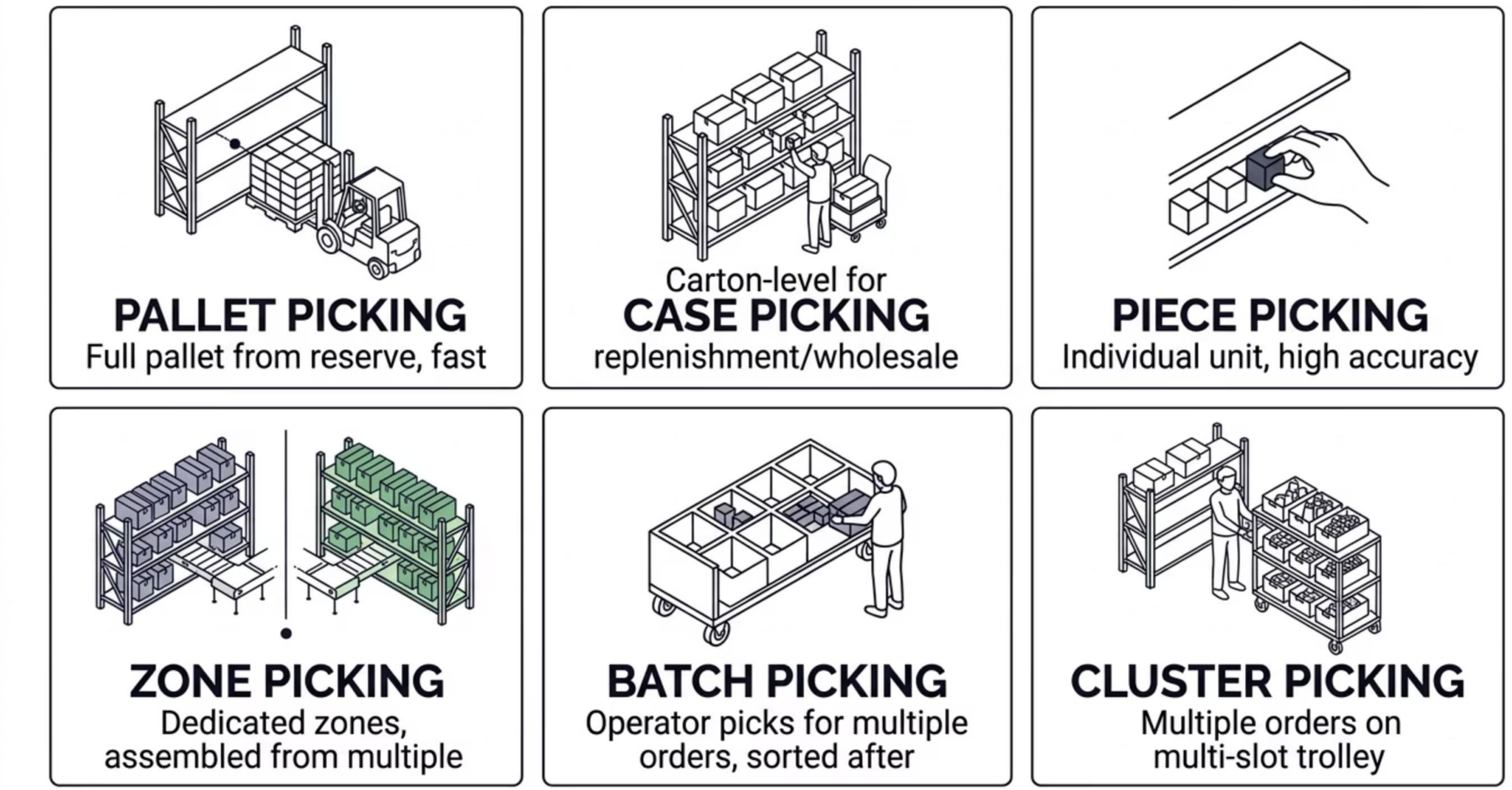
CHAPTER 4

👨‍🔧 The Picking Process

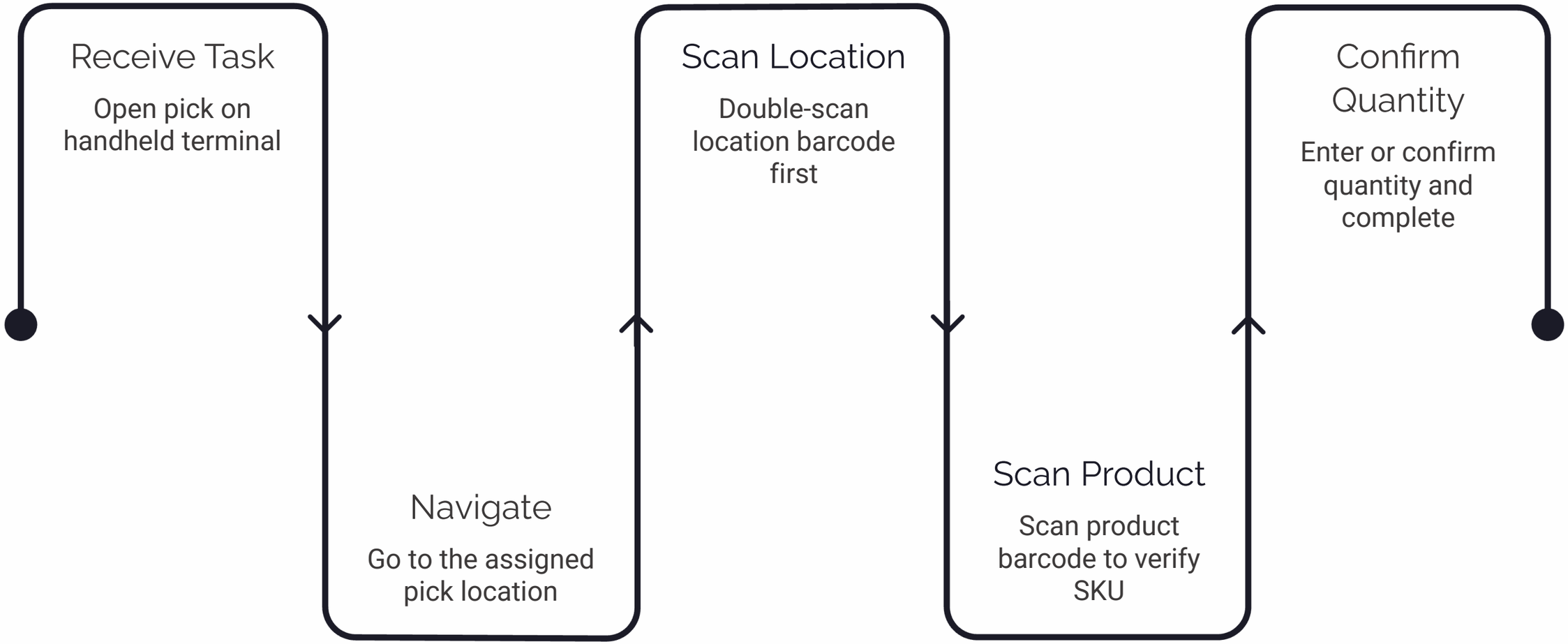
Picking is the most labour-intensive process in any warehouse and the primary driver of both operational cost and order accuracy. The right picking method, combined with disciplined WMS-guided execution, is the difference between a profitable operation and one drowning in mis-picks and re-work.

4.1 Picking Methods

The optimal picking method depends on order profiles, warehouse layout, and throughput requirements. Most operations use a combination of methods across different product categories.



4.2 Picking Execution



The double-scan method — location first, then product — is a critical error-prevention control. It is impossible for an operator to confirm a pick at the wrong location or with the wrong product without triggering a WMS alert, dramatically reducing mis-pick rates.

4.3 Exception Handling During Picking

Short Pick

Operator cannot find sufficient stock at the pick face. Exception is raised in WMS. System automatically reallocates from an alternative location if available, or creates a replenishment task from reserve storage.

Replenishment Task

If the pick face is empty, a forklift task is generated to bring reserve stock forward. Picking of the affected order is paused until replenishment is confirmed complete in the WMS.

Stock Discrepancy

If physical quantity does not match WMS quantity, a cycle count is triggered for that location. The discrepancy is logged and reviewed by the inventory control team before the pick is completed.

4.4 Consolidation

Why Consolidation Is Needed

When an order is picked across multiple zones — for example, ambient goods from zone A and chilled products from zone B — the items must be brought together before packing. Without a formal consolidation step, incomplete orders can progress to the packing station undetected.

Consolidation Area Process

- All picked totes and cases for an order are routed to a designated consolidation area
- Operator scans each tote to confirm all zones have contributed
- WMS verifies order completeness before releasing to packing
- Missing items are flagged immediately for resolution

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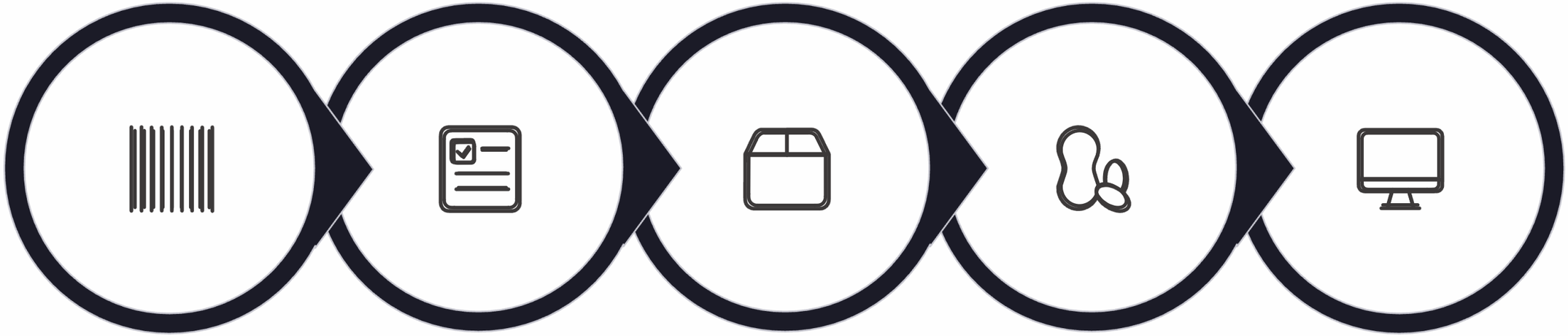
CHAPTER 5

📦 The Packing Process

Packing is the final point of quality verification before goods leave the facility. Every item must be confirmed, correctly packaged, accurately labelled, and accompanied by the right documentation — whether for a domestic parcel or an international export shipment.

5.1 Packing Station Workflow



Scan Order

Verify SKUs

Select Packaging

Add Protection

Confirm in WMS

The WMS displays the expected items on screen as the packer works. Any discrepancy between physical items and the system expectation triggers an alert before the box is sealed — catching errors that would otherwise result in a customer complaint or return.

5.2 Packaging Selection

📦 Box / Carton

Standard choice for piece-level or case-level orders. Sized to minimise void fill and reduce carrier dimensional weight charges.

🪵 Crate

Used for heavy, irregular, or fragile goods requiring rigid outer protection. Common in industrial or machinery parts supply chains.

🛞 Pallet

Full pallet shipments — typically for bulk or wholesale orders. Wrapped and strapped to prevent movement in transit.

✉️ Envelope / Mailer

Lightweight documents, flat goods, or small e-commerce items. Reduces material costs for eligible shipments.

5.3 Labelling

Standard Labels

- **Carrier shipping label** — barcode, destination address, service level, carrier routing code
- **SSCC pallet label** — GS1-compliant Serial Shipping Container Code for palletised shipments

Customer-Specific Labels

Many major retail partners (Amazon, Walmart, Tesco, etc.) mandate their own label formats, placement rules, and barcode specifications. Non-compliance results in chargebacks. The WMS stores customer label templates and automatically selects the correct format at print time.

5.4 Documentation

Packing List

Line-by-line breakdown of all items in the shipment. Required for receiving at the customer's end and for carrier check-in verification.

Delivery Note

Legal document transferring goods to the carrier and confirming order details. Signed by driver at dispatch.

Export Documents

For international shipments: commercial invoice, export declaration, and certificate of origin. Errors cause customs delays and may result in fines.

CHAPTER 6

Outbound Shipping

Outbound shipping is the operational handover from the warehouse to the carrier network. Accurate staging, disciplined loading, and clean dispatch data ensure that goods depart on time, in the right vehicle, and with all necessary documentation to reach the customer.

6.1 Staging Area Management

How Orders Are Staged

Once packed and labelled, orders are moved to the **outbound staging area**. The WMS assigns each consignment to a specific staging lane based on carrier, route, and planned departure time. This prevents mixing of different carriers' freight and enables efficient loading.

Staging Sort Criteria

- **Carrier** — each carrier's freight remains in dedicated lanes
- **Route** — freight sorted in reverse delivery sequence for efficient unloading
- **Departure time** — earliest departures staged closest to dock doors

6.2 Loading Process

1

Scan Before Loading

Every shipping unit is scanned against the load plan before it enters the vehicle. This confirms the correct consignment is being loaded onto the correct trailer, preventing costly misdirection.

2

Follow the Load Plan

Heavy pallets are positioned at the rear and bottom. Fragile goods are loaded last, positioned on top and secured. Route sequence is followed strictly — last delivery loaded first, first delivery loaded last.

3

Secure and Seal

Load is secured with straps or load bars. Trailer is sealed where required by customer, carrier, or customs regulations. Seal number is recorded in the WMS against the shipment.

6.3 Dispatch & Customer Notification

Dispatch Completion

Driver signs the loading documents, confirming receipt of the goods. The WMS records the departure time and updates the shipment status to **"Dispatched"**. Tracking number is confirmed and linked to the shipment record.

Customer Communication

Upon dispatch, the following are automatically triggered to the customer:

- **ASN** — Advanced Shipping Notice with shipment details
- **Tracking link** — carrier tracking number for real-time visibility
- **Invoice** — commercial invoice transmitted electronically

CHAPTER 7

🔁 Inventory Control & Continuous Improvement

Inventory control is the discipline that keeps the entire logistics system honest. Cycle counting, exception management, and KPI monitoring are the ongoing mechanisms that identify drift, correct errors, and drive continuous improvement across all warehouse processes.

7.1 Cycle Counting

Cycle counting replaces the traditional annual stock take with a continuous, structured programme of partial counts. This delivers higher accuracy with less operational disruption.

ABC-Based Counting

A-class items (fastest moving, highest value) are counted most frequently — often daily or weekly. B and C items are counted monthly or quarterly respectively. Frequency is proportional to risk and value.

Random Sampling

A percentage of locations are selected randomly each day, irrespective of ABC classification. This ensures no area of the warehouse becomes a blind spot over time.

Triggered Counts

Any WMS discrepancy — short pick, over-pick, or negative stock — automatically triggers an immediate recount of the affected location. This closes the loop on exceptions without waiting for the next scheduled count.

7.2 Exception Handling

Every exception must be logged, root-caused, and resolved with a corrective action. Recurring exceptions in the same category signal a systemic process failure that requires management intervention.

7.3 KPI Monitoring

Performance measurement must be consistent, meaningful, and actioned regularly. The following KPIs are the standard benchmarks for a high-performing warehouse operation.

OTIF — On Time In Full

The percentage of orders delivered on time and complete. The primary customer-facing metric. Target typically ≥98% for major retail accounts.

Picking Accuracy

Percentage of order lines picked correctly first time. World-class operations target ≥99.9%. Measured via customer claims and internal quality checks.

Dock-to-Stock Time

Time elapsed between a pallet arriving at the dock and becoming "Available" in the WMS. Drives inbound throughput and replenishment speed.

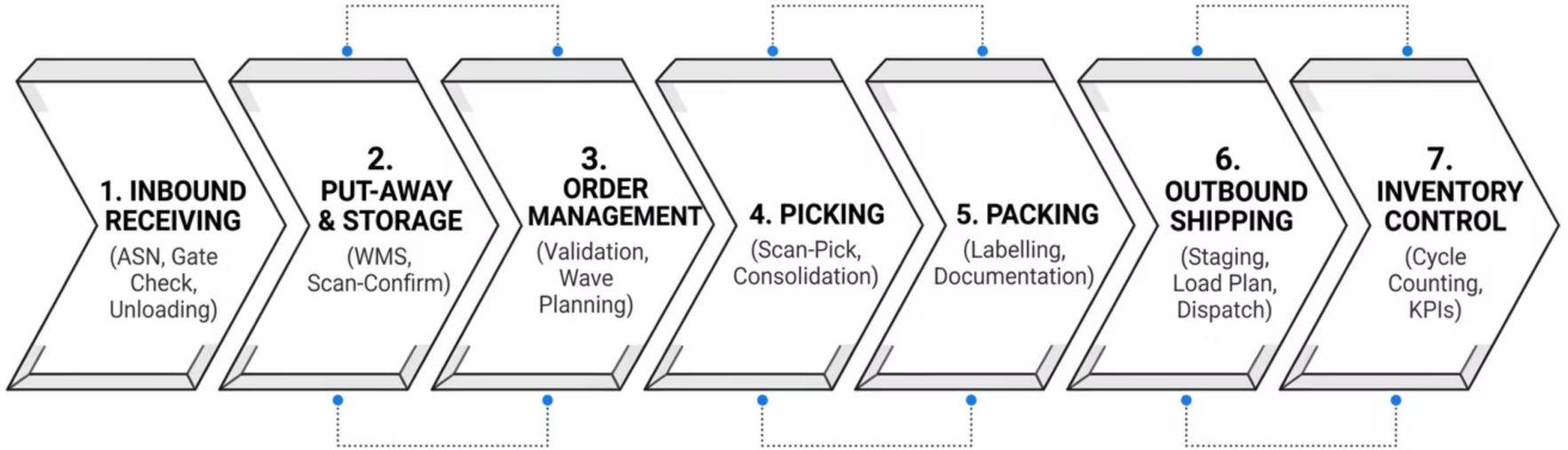
Order Cycle Time

Total elapsed time from order receipt to dispatch. A key driver of customer satisfaction and carrier cut-off compliance.

Inventory Accuracy

Percentage alignment between physical stock and WMS records. Measured via cycle count results. Best-in-class operations achieve ≥99.5%.

The Full Logistics Cycle at a Glance



Every stage is interdependent. A failure at any single point — a missed QC check, an unresolved discrepancy, an incorrect label — propagates downstream. Operational excellence is built through disciplined execution at every step, not just at the visible outbound stage.

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Key Takeaways for Operational Excellence

Scan Everything

Every movement must be confirmed with a scan. Verbal confirmations and manual entries are the primary source of inventory inaccuracy.

Act on Exceptions Immediately

Unresolved discrepancies compound. Every exception closed within the same shift is an error that cannot become a customer complaint.

Measure What Matters

OTIF, picking accuracy, and inventory accuracy are the metrics that define operational credibility with customers and commercial leadership alike.

Continuous Improvement

Every exception, every KPI miss, and every process delay is a signal. Build a culture where data drives daily decisions and improvement is everyone's responsibility.