Order picking, packing and dispatch

Process Definition Document (PDD): template and worked example

Example company (fictional): Nordhavn Distribution A/S, a distributor of consumer electronics accessories with a warehouse near Odense, Denmark (about 120 employees).

Document control

Field	Value
Process name	Order picking, packing and dispatch
Process owner	[Name, role]
Prepared by	[Name]
Reviewed by	[Names of the people who do the work]
Approved by	[Name, date]
Version	1.0 (as-is)
Status	Draft

How to use this template

This is a complete process definition document (PDD) for order picking, packing and dispatch, also called outbound fulfilment, warehouse order fulfilment or pick-pack-ship. It describes how customer orders are released to the floor in waves, picked, checked, packed, labelled, loaded on the carrier's truck and confirmed as dispatched. The company is fictional, but the roles, systems and exceptions are typical of a mid-sized warehouse serving retailers and a web shop.

Use it as a starting point. Replace the company details, keep the sections, and follow one order from release to the truck, because the real process usually has more waiting in it than the plan shows. Most warehouses change the wave cut-off times, the rule for short picks and the packing checks per customer. Returns, replenishment, kitting and international customs documents are left out on purpose.

- Replace the company, the WMS and the ERP with yours. If you use paper pick lists or a spreadsheet, say so, and describe how short picks are recorded.
- Set your own wave times and cut-offs. The 13:00 cut-off and four waves here depend on your carriers and your customer promises.
- Decide the short pick rule per customer: ship partly, ship complete, substitute or cancel. Write it into the customer record so the picker and the supervisor do not have to ask.
- Choose the packing checks that suit your risk: weight check, second scan, photo or none. Each adds seconds per order, so match it to the value and the complaint rate.
- Add your special flows: temperature-controlled goods, hazardous goods, serial numbers, pallets with cross-docking or marketplace labels.

1. Purpose and scope

This procedure describes how Nordhavn Distribution A/S fulfils customer orders from the warehouse, from the moment an order is released for picking to the moment the carrier has signed for the goods and the customer is told they are on the way. It gives planners, pickers, packers, the dispatch team and customer service one shared description of who does what, so that orders leave on the day promised, the right items are in the right box and every shipment has proof of dispatch.

In scope

- Orders from retail customers and the web shop, released from the ERP
- Wave planning, release and pick list generation
- Picking, including short picks and substitutions
- Packing, weighing, labelling and parcel documents
- Staging, loading and carrier handover
- Dispatch confirmation and tracking numbers sent to the customer

Out of scope

- Replenishment of pick locations
- Returns processing
- Kitting and value-added services
- Customs documents for shipments outside the EU

2. Process at a glance

Item	Description
Trigger	A confirmed customer order with stock available is released by the ERP to the warehouse.
Starts when	The Outbound Planner releases the first wave of the day to the WMS.
Ends when	The carrier has signed for the shipment, the dispatch is confirmed in the ERP and the customer has received the tracking number.
Inputs	Customer orders released from the ERP, Stock and location data in the WMS, Carrier cut-off times and collection slots, Customer packing and labelling requirements, Packing materials
Outputs	Wave and pick lists, Picked and checked items, Packed parcels and pallets with labels, Delivery note and carrier manifest, Dispatch confirmation in the ERP, Tracking numbers sent to the customer
Volume	About 310,000 order lines a year, roughly 1,200 lines and 380 orders per working day
Working hours	Two shifts, 06:00 to 22:00, Monday to Friday. Orders released before 13:00 leave the same day, and the last carrier collection is at 18:30.

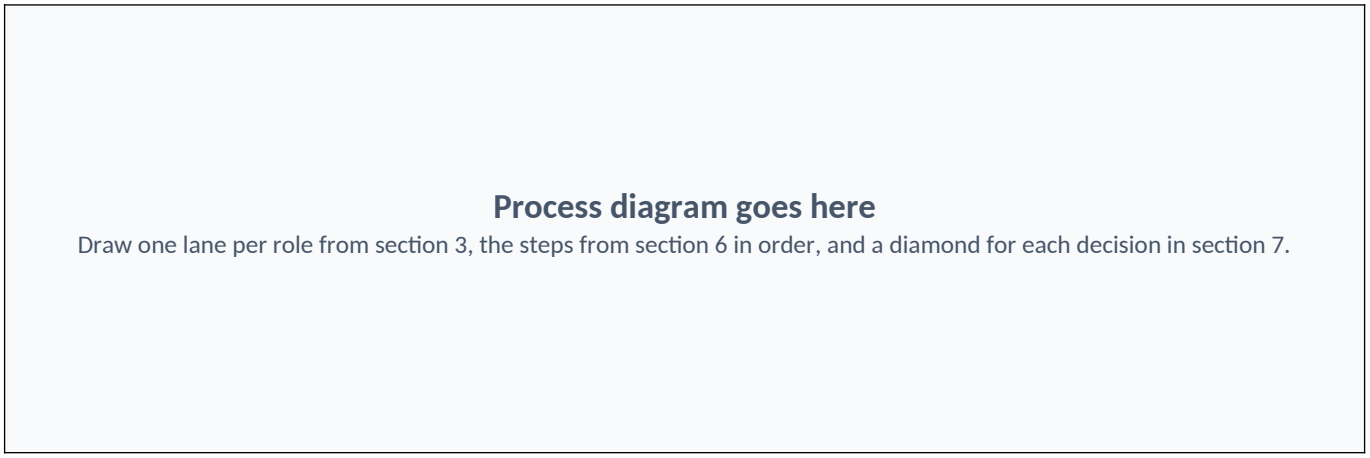
3. Roles and responsibilities

Role	Responsibilities
Customer (external)	Places the order, states the delivery requirements and receives the goods and the tracking information.
Carrier (external)	Collects the parcels and pallets from the dock, signs the manifest and delivers to the customer.
Outbound Planner	Releases waves, balances the workload between zones, sets priorities for urgent orders and watches the carrier cut-off times.
Picker	Picks items from the locations on the pick list using a handheld scanner, reports short picks and brings the items to packing.
Packer	Checks picked items against the order, packs them, weighs the parcel, prints and applies labels and moves the parcel to staging.
Dispatch Clerk	Checks parcels in staging against the carrier manifest, supervises loading, hands the manifest to the driver and confirms the dispatch.
Warehouse Supervisor	Decides on short picks, approves substitutions and cancellations with customer service, and handles stock differences and blocked locations.
Customer Service Agent	Contacts customers about shortages and delays, and answers questions about where an order is.
Mecalux WMS (system)	Builds waves and pick routes, allocates stock, creates parcel labels and sends the dispatch confirmation to the ERP.

4. Systems

- Mecalux Easy WMS: waves, picking, packing and stock
- Microsoft Dynamics 365 Business Central: orders and invoicing
- Handheld scanners with voice picking in zone A
- Packing stations with scales and label printers
- Carrier booking and tracking portals
- Excel sheet for the daily cut-off board

5. Process map



6. Procedure, step by step

#	Step	Who	What happens	System	Output
1	Check the orders ready for release	Outbound Planner	Reviews orders that were confirmed with available stock, flags urgent orders and orders with special packing rules, and checks the carrier cut-off. This takes 20 minutes at the start of each shift.	Business Central, Mecalux WMS	Orders ready for release
2	Release the wave	Outbound Planner	Releases orders in waves by carrier and zone, about four waves a day. The WMS allocates stock and creates pick lists. Late orders go into the next wave.	Mecalux WMS	Wave with pick lists
3	Allocate stock and plan the route	Mecalux WMS (system)	Allocates stock by oldest batch first, groups lines into pick tours and sends them to the handhelds. No one keys this step.	Mecalux WMS	Pick tours on the scanners
4	Pick the items	Picker	Follows the pick tour, scans the location and the product and confirms the quantity into the tote or onto the pallet. A tour of 25 lines takes about 35 minutes.	Handheld, voice picking	Picked totes and pallets
5	Report a short pick	Picker	If the location holds less than the pick list says, enters the quantity found and confirms a short pick. About 2.5% of lines are short.	Handheld	Short pick recorded
6	Decide on the short pick	Warehouse Supervisor	Checks the location, orders a recount or finds stock in another location. If there is none, decides to ship the order partly, wait or cancel the line. This takes 10 to 25 minutes.	Mecalux WMS	Short pick decision
7	Inform the	Customer	Contacts the customer about a partial	Business	Customer

#	Step	Who	What happens	System	Output
	customer about the shortage	Service Agent	shipment or a delay and records the answer. Customers with a rule 'ship complete' keep the order on hold until all lines are available. About 1.5% of orders are affected.	Central, email	decision on the order
8	Bring picked goods to packing	Picker	Delivers the totes to the packing area and scans them to the packing station. Totes wait at the station for 15 to 40 minutes at peak.	Trolley, handheld	Totes at the packing station
9	Scan and check items against the order	Packer	Scans each item against the order. The WMS shows the packing instructions for the customer, for example 'no supplier name on the box' or 'one SKU per carton'. This takes 2 to 4 minutes per order.	Mecalux WMS, scanner	Order checked
10	Resolve a mismatch	Packer	If the item scanned is wrong or damaged, sets the order aside and calls the supervisor. This happens in about 1% of orders.	Mecalux WMS	Order held or corrected
11	Pack and weigh the parcel	Packer	Chooses a carton, adds filling, closes it and weighs it. The WMS compares the weight with the expected weight and flags a difference over 3%. This takes 2 to 3 minutes.	Packing station, scale	Packed and weighed parcel
12	Print and apply the labels	Packer	Prints the carrier label, the delivery note and any customer-specific label, and applies them. The WMS books the shipment with the carrier and gets the tracking number.	Mecalux WMS, label printer	Labelled parcel
13	Move the parcel to staging	Packer	Scans the parcel into the staging lane for its carrier and route. Pallets are wrapped and labelled with a pallet label before staging.	Handheld, conveyor	Parcel in the staging lane
14	Watch the carrier cut-off	Outbound Planner	Compares open orders with the cut-off time of each carrier, moves people to packing and asks the carrier for a later collection if a wave is late. This is a constant check from 14:00.	Cut-off board, Mecalux WMS	Orders on track or escalated
15	Check staged parcels against the manifest	Dispatch Clerk	Scans the parcels in each lane against the carrier manifest before the truck arrives. Missing parcels are traced back to packing or picking. This takes 15 to 30 minutes per carrier.	Mecalux WMS, scanner	Verified manifest
16	Supervise loading	Dispatch Clerk	Scans each parcel or pallet as it goes on the truck, checks the pallet condition and the number of units loaded. This takes 20 to 40 minutes per truck.	Handheld, dock	Loaded shipment
17	Sign the manifest	Carrier	The driver checks the number of parcels and pallets, notes any visible damage and signs the manifest. The Dispatch Clerk keeps a copy or a photo.	Paper manifest, driver app	Signed manifest
18	Confirm the dispatch	Dispatch Clerk	Closes the shipment in the WMS. The ERP is updated, stock is reduced and the invoice is released. This takes about 5 minutes. Late closing is the main cause of invoices going out a day late.	Mecalux WMS, Business Central	Dispatch confirmed in the ERP
19	Send tracking to the customer	Mecalux WMS (system)	Sends the tracking number to the customer by email, and to the web shop for the order status page.	Mecalux WMS, email	Customer informed

7. Decision points and business rules

- Is the order released before 13:00 and fully allocated? Yes: it joins a same-day wave. No: it goes into the next wave or waits for stock (steps 1 and 2).
- Does the location hold the quantity on the pick list? No: the picker confirms a short pick and the supervisor decides (steps 5 and 6). About 2.5% of lines.
- Does the customer accept a partial shipment? No: the order stays on hold until the missing line arrives, or is cancelled (step 7). About 1.5% of orders.
- Does the scanned item match the order? No: the packer sets the order aside and calls the supervisor (step 10). About 1% of orders.
- Does the parcel weigh within 3% of the expected weight? No: the packer opens the parcel and checks the contents (step 11). About 3% of parcels.
- Is a wave late for the carrier cut-off? Yes: the planner moves staff or asks the carrier for a later collection (step 14).
- Does the parcel count on the manifest match the staged parcels? No: the Dispatch Clerk traces the missing parcels before the truck leaves (step 15). About 2% of trucks.

8. Exceptions

- Urgent order after the cut-off (about 5% of orders): shipped by express courier, booked and paid by the customer, packed outside the wave.
- Pallet over the height or weight limit of the carrier (under 1%): split into two pallets, which adds about 20 minutes.
- Carrier truck arrives late or not at all (about 3% of days): parcels stay in staging and ship the next morning, and customer service informs customers who were promised same-day dispatch.
- Serial-numbered product: every serial number is scanned at packing, which adds about 1 minute per item.

9. Controls

- Segregation of duties: the person who picks an order does not pack it, so every order is checked by a second person.
- Weight check at packing catches missing items, extra items and the wrong carton.
- Dispatch is only confirmed after the carrier has signed the manifest, which gives proof of handover in case of a claim.
- Short pick decisions are recorded with the user and the reason, and recounts are triggered for locations with repeated differences.
- Every WMS transaction records the user, time and scanner ID.
- Cycle counts run weekly for the fastest-moving locations.

10. Known issues today

- Waves are released late when the ERP confirms orders in a batch at 12:50, which leaves no time before cut-off.
- Short picks are discovered at the location, after a long walk, because stock accuracy in the pick zone is not reliable.
- Totes wait at packing stations while pickers are busy, and packers stand idle in the morning and overloaded in the afternoon.
- Customer-specific packing rules sit in the WMS comments and are sometimes missed.
- Dispatch confirmation is done in one batch at the end of the day, so invoices and tracking numbers go out hours late.

11. RACI matrix

R = responsible (does the work), A = accountable (owns the outcome), C = consulted, I = informed.

Activity	Planner	Picker	Packer	Dispatch Clerk	Supervisor	Customer Service
Plan and release waves	A/R	I	I	I	C	
Pick items	I	A/R			C	
Decide on short picks	I	R			A	C
Inform customers about shortages					C	A/R
Pack, weigh and label		I	A/R		C	
Monitor the carrier cut-off	A/R	I	I	C	C	
Check the manifest and load the truck	I		C	A/R	I	
Confirm the dispatch and send tracking	I			A/R		I

12. KPIs

KPI	Definition	Target
On-time dispatch	Share of orders released before the cut-off that leave on the same day. Target: 98%.	[set]
Order accuracy	Share of orders delivered with the right items and quantities, measured by customer complaints and claims. Today 99.3%.	[set]
Short pick rate	Share of order lines that could not be picked in full at the first attempt.	[set]
Lines picked per labour hour	Order lines picked divided by picker hours worked, reported per zone and per shift.	[set]
Release to dispatch time	Average hours from wave release to dispatch confirmation.	[set]
Late dispatch confirmations	Number of shipments confirmed in the ERP more than 2 hours after the truck left.	[set]

13. Revision history

Version	Date	Author	Change
1.0	[date]	[name]	First as-is version

Free template from processfix.ai. You may copy and adapt it. The company in the example is fictional.