

# Replenishment decision map

Separate the buffer, trigger, quantity and date questions. Tools help review a policy; they do not place orders or guarantee availability.

**Prepare one item at one location.** Match units, demand intervals and the lead-time day basis. Use completed supplier history; missing records are not zero. [Safety Stock data preparation sheet](#) helps collect observations.

## STOCK POLICY

### Buffer / [Safety Stock](#)

**How much extra stock covers modeled variation?**

Demand and lead-time means/variation + your cycle-service target -> whole-unit buffer and related trigger.

Normal-model assumptions matter. Cycle service differs from observed fill rate; neither is guaranteed.

### Trigger / [Reorder Point](#)

**When does inventory position reach the trigger?**

Daily demand × matching lead time + safety units -> rounded-up threshold.

Position = on hand + on order - backorders. The gap to the trigger is **not the order quantity**. Check when incoming stock is usable.

## PARALLEL CHECKS

### Dates / [Lead Time](#)

**When would entered stages finish?**

Supplier + transit + receiving + buffer days -> a dated sequential plan on one selected calendar.

A plan is not historical variation. Working days differ from elapsed days; buffer days differ from safety units.

### Quantity / [EOQ](#)

**What quantity minimizes this cost model?**

Annual demand + cost per order + relevant annual holding cost/unit -> economic quantity and cost comparison.

A parallel decision: review packs, minimums and capacity. EOQ does not set an order date or forecast demand.

**Information handoffs:** history -> Safety Stock -> buffer into Reorder Point. Annual costs -> EOQ alongside the trigger. Lead Time checks dates and day basis before action. This is not an automatic timeline or a dated stock projection.

### Measure / [Freight Density](#)

Greatest packed dimensions + gross weight + quantity -> mass ÷ outside volume. It supplies neither a carrier price nor an official freight class.

### Cost / [Landed Cost](#)

Known shared shipment charges + quantities/costs + disclosed basis -> reconciled SKU/unit cost. It does not determine a tariff or replace scheduling.

**Method:** [Oracle NetSuite: inventory optimization](#) explains variation/service-factor limits. BiznTools methods state the trigger, rounding and date conventions. More checked examples and sources on page 2.

# Check the decision in numbers

Three independent synthetic examples. Keep each scenario's scope and units; no stocking policy or sales forecast is certified.

## A. A trigger is not a delivery schedule

Calendar-day demand **30 units/day**, replenishment **5 days**, entered safety **20 units**.

Reorder point =  $30 \times 5 + 20 = \mathbf{170 \text{ units}}$ .

On hand 100 + on order 100 - backorders 0 = **200 units**: above the trigger.

Yet  $100 \div 30$  gives about **3.33 days** of on-hand cover. A receipt on day 5 leaves about **1.67 days** between estimated depletion and receipt at constant demand. Review arrival dates even when position is above the trigger; this is not a daily stock forecast.

## B. Quantity is a separate annual model

Annual demand **7,200 units**; cost per order **\$25**; relevant annual holding cost **\$4/unit**.

EOQ =  $\sqrt{2 \times 7,200 \times 25 \div 4} = \mathbf{300 \text{ units}}$ .

Annual ordering =  $7,200 \div 300 \times \$25 = \mathbf{\$600}$ .

Cycle-stock holding =  $300 \div 2 \times \$4 = \mathbf{\$600}$ . Sum: **\$1,200**.

Purchase cost and fixed/unaffected costs are excluded. A 170-unit trigger from another scenario would not make 170 the quantity to buy. Check real minimums, packs and capacity.

## C. Counted days and elapsed dates differ

Start **Monday, 5 October 2026**. Enter 2 supplier + 2 transit + 1 receiving + 0 buffer = **5 counted days**.

**Calendar mode**: finish Saturday, 10 October; 5 elapsed calendar days.

**Monday-Friday, no holidays**: finish Monday, 12 October; 7 elapsed calendar days.

The start date is excluded. Match the demand interval to the duration used in your reorder model. Planned buffer days are not measured safety-stock units.

**Before ordering**: confirm item/location and day basis; verify open-supply arrival; distinguish trigger from chosen quantity; check minimums, packs and capacity; keep omitted charges visible.

**Sources**: [ACCA: stock control](#) · [Microsoft: working-day calendars](#) · [NMFTA: packed density](#). ACCA separates timing/quantity and relevant EOQ costs. Microsoft explains working calendars; NMFTA specifies packed measurements. Examples independently checked; no endorsement claimed.

# Review inventory performance

Turnover diagnostic · Supplement to the two-page replenishment map

Use turnover to review your reporting period. Keep the buffer, reorder trigger and order quantity as separate decisions.

**Same year. Same cost basis.**

Annual cost of goods sold

\$120,000

Average inventory at cost

\$30,000

Reporting period

365 days

4.00 turns

Inventory turnover in this year

\$120,000 ÷ \$30,000 = 4

91.25 days

Days inventory outstanding (DIO)

365 ÷ 4 = 91.25

The year's COGS was four times the average inventory balance. DIO expresses that average balance as days of the same period's cost flow.

**Read the ratio alongside availability**

**Compare like periods.** Match COGS, inventory at cost and period days. Use COGS rather than revenue, which includes markup.

**Choose a useful average.** Opening and closing balances give a simple average. Use representative records when seasonality or large receipts change the balance.

**Check service too.** Faster turnover can coexist with stockouts. Review availability and slow-moving items beside the ratio.

**Keep each decision separate**

Inventory Turnover

Reporting-period turns and DIO from costs.

Safety Stock

Extra units for modeled demand and lead-time variation.

Reorder Point

The unit threshold for reviewing replenishment.

EOQ

Order quantity under the annual cost assumptions.

**Different from on-hand cover:** current units ÷ daily unit demand answers a current coverage question. DIO uses period costs and average inventory. Neither result sets a purchase-order quantity.

Use a positive inventory average. With zero COGS, turnover is zero and DIO is undefined.

**Methods:** [Intuit: turnover and days](#) · [ACCA: working capital](#). Synthetic example independently checked; no endorsement claimed.

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