

Stockholding Strategy: Demand-Based Planning Instead of Speculative Stocking

The stockholding strategy defines which materials a company holds in stock, in what quantity and for what period. It balances product availability, capital tied up and warehousing costs. For technical buyers, it is a central instrument for shortening replenishment lead times and avoiding production stoppages – without unnecessarily tying up liquidity.

Key facts

- The stockholding strategy defines which materials are held in stock, in what quantity and for what period.
- Typical target metrics are product availability, capital tied up, warehousing costs and inventory record accuracy.
- Proven approaches include safety stock, min-max levels and the ABC/XYZ analysis.
- Higher stockholding reduces transport and supply risks but increases capital tied up and obsolescence risk.
- Forms of stockholding include central warehouse, decentralised plant warehouses, consignment stock and vendor-owned stock at the supplier.
- The strategy should be regularly aligned with the category strategy and the supplier strategy.

Definition: Stockholding Strategy

The stockholding strategy is a company's documented plan of which articles, raw materials and components are stocked, in what quantity, at which location and according to which planning rules. It translates supply chain and demand risks into concrete inventory targets.

Distinction from Materials Planning

The stockholding strategy is the overarching direction of inventory management, usually set annually. Materials planning implements it operationally, for example via minimum stock, safety stock and reorder point calculation in the ERP system. While materials planning reacts continuously to demand and supply data, the strategy is the framework within which these rules apply. Both levels are closely linked to suppliers' replenishment and delivery lead times: the longer and more unstable these are, the higher the required safety stock typically is.

- Strategic: what to stock, where, in what quantity?
- Tactical: planning rules and lot sizes
- Operational: daily order proposals and goods receipt

Objectives and Conflicting Objectives

The main objective is high product availability or a high service level towards production and customers. This is offset by capital tied up, warehousing costs, shrinkage and the risk of outdated stock. In practice, stockholding strategies therefore typically aim to balance these conflicting objectives: critical A-articles

with long procurement lead times are stocked at higher levels, standardised C-articles minimally.

- Availability typically above 95 to 98 per cent for A-articles
- Reduction of capital tied up without loss of service
- Minimisation of downtime caused by bottleneck materials

Methods and Approaches in Stockholding

Proven methods help make stockholding decisions systematically rather than on gut feeling. The core is the combination of ABC and XYZ analysis, supplemented by classic planning methods.

ABC and XYZ Analysis as a Basis

The ABC analysis evaluates articles by value impact or procurement importance, while the XYZ analysis evaluates them by consumption regularity: X stands for stable, Y for fluctuating and Z for sporadic demand. The combination yields nine classes with different stockholding rules. AX articles, for example, can be supplied efficiently via a kanban system, while AZ articles (high value, irregular demand) often only make sense as demand-driven individual procurement with a defined emergency stock.

- AX/AY: automatic replenishment control, e.g. kanban system
- AZ/ZX: individual procurement or minimum stock
- ZY/ZZ: no fixed stockholding, demand enquiry

Safety Stock, Reorder Point and Min-Max Method

Safety stock buffers demand and supply fluctuations and is frequently calculated, production-ready, using the formula based on average demand, lead time and their variance. The min-max method automatically orders the quantity up to the maximum stock level when the minimum stock falls below the threshold. Both methods require reliable master data – in particular correct manufacturer part number (MPN) and realistic replenishment lead times – otherwise planning errors are pre-programmed.

- Parameters: demand, lead time, variance, service level
- Regular review of master data
- Automatic order proposals with approval process

Warehouse Types and Procurement Concepts

Stockholding can be physically organised in different ways: as a central warehouse, decentralised plant warehouses, consignment stock at the company's own site, or as vendor or supplier-managed stock. Catalogue buying and frame agreements with call-off orders reduce the company's own capital tied up, while volume rebate tiers tend to favour higher identified call-offs. The choice follows the category strategy: strategic A-parts tolerate different models than standard C-parts.

Key KPIs for Controlling Stockholding

Without sound KPIs, any stockholding strategy remains theory. The key metrics measure availability, inventory quality and capital efficiency.

Service Level and Product Availability

The service level indicates what percentage of demand requirements can be met from stock without shortage. Typical target values in practice are 95 to 99 per cent depending on the commodity group. In

addition, the number of production interruptions caused by material shortages is tracked, as these incur follow-on costs that often far exceed the inventory savings.

- Service level per material class
- Stockout rate and stockout days
- Number of production stoppages due to material shortage

Inventory and Turnover KPIs

Inventory coverage, inventory turnover and inventory carrying costs quantify capital tied up. Obsolete or aged stock is made visible through stock ageing analysis. It is important to distinguish between safety stock, batch stock and speculative residual stock in order to take targeted action – for example on bottleneck materials with high coverage or on C-articles whose minimum stock is long outdated.

Forecast Quality and Master Data Quality

Since stockholding is based on demand forecasts, forecast errors (forecast accuracy) and the shortage rate are key early indicators. If the shortage rate rises, planning master data or lead times no longer reflect reality. Inventory record accuracy between system stock and physical stock also increases in importance as a hygiene factor for the reliability of automated order proposals.

Risks and Controls in Stockholding

Higher stock is not an end in itself but a deliberately accepted risk with a price. Without clear controls, capital tied up, value loss and misdirection loom.

Obsolescence, Shrinkage and Technical Changes

Particularly in mechanical and plant engineering, products or standard parts may change due to engineering changes. Without coordination between design and stockholding, worthless residual stock is created. Engineering changes should therefore be systematically linked to a residual quantity assessment. In the case of deviating deliveries, the process must be clearly governed via the deviation approval so that no unapproved material stock enters production.

- Change management with residual quantity assessment
- Regular obsolescence stocktakes
- Approval process for deviating materials

Quality of Stored Material

Warehousing postpones quality risks into the future: shelf-life dates, corrosion, shrinkage or defective upstream products only become apparent late. Incoming goods inspection with quality testing therefore remains mandatory even for stocked articles, and batch traceability should be maintained. For critical parts, it must be defined whether and for how long stored stock is re-inspected before use in production.

Supplier and Market Risks

High stockholding of an article with one supplier effectively strengthens that supplier's position in contract negotiations. In addition, risk factors such as supplier credit checks, the assessment of transport risk for long-distance deliveries and alternative sourcing options should be factored into the decision. For complex procurement projects, a competitive dialogue with potential suppliers can also help evaluate realistic supply and stockholding models.

- Supplier credit check as an early warning instrument
- Covering transport risk on long trade routes
- Second-source strategy for critical articles

Organisation and Integration into the Procurement Process

A stockholding strategy only works if procurement, logistics, production and sales commit to the same rules and review them regularly.

Roles and Coordination

Procurement contributes market and supplier knowledge, logistics masters inventory and warehouse data, production knows the demand path, and sales provides planning signals. The stockholding strategy should therefore be documented as a jointly agreed policy – ideally derived from the category strategy – and approved by management. A defined escalation process governs who decides in the event of impending shortages or inventory conflicts.

Digitalisation and System Support

Modern ERP and advanced planning systems support statistical forecasting, simulation of inventory scenarios and automatic derivation of planning parameters. Match-and-merge rules help to consistently bring together different data sources such as demand notifications and delivery schedules. It is important that system proposals are not adopted uncritically: master data maintenance and regular plausibility checks remain the responsibility of the functional departments.

- Demand planning coordinated with sales and production
- Scenario simulation (demand peaks, supply failures)
- Automatic order proposals with approval

Regular Review and Adjustment

Stockholding rules quickly become outdated when lead times, demand patterns or product ranges change. In practice, a periodic review – frequently semi-annual or annual, depending on the commodity group – has proven effective, in which inventory structure, obsolescence and service level are reviewed. Exceptional events such as supply failures, new tariff preferences or geopolitical risks should also trigger short-term adjustments to specific stockholding rules.

Current Developments in Stockholding Practice

Supply chain disruptions and geopolitical and commodity risks have sharpened awareness of more resilient procurement. Many companies have adjusted their stockholding strategy accordingly.

From Just-in-Time to Just-in-Case

After years of inventory minimisation through just-in-time production, many companies have deliberately safeguarded critical materials with higher safety stocks or multiple sources. Just-in-case does not mean blind stockpiling, but differentiated stockholding of articles classified as critical. The foundation remains a structured assessment of criticality and supply risk per article.

- Higher safety stocks for critical articles
- Dual sourcing against single-source risks
- Additionally defined contingency stocks with review cycle

Sustainability and Inventory Management

Excessive stock ties up not only capital but also resources: warehouse space consumes energy, and outdated stock is frequently disposed of. In the context of sustainability reporting and life cycle assessment (LCA), the avoidance of obsolete stock is moving more into focus. The stockholding strategy can thus also make a measurable contribution to sustainability responsibility.

Typical metrics

Service level / product availability: typically 95–99 %

Depending on commodity group and criticality; direction: higher for critical A-articles.

Inventory turnover: industry-dependent, frequently 4–12 per year

Low values indicate overstock or obsolescence.

Inventory record accuracy: > 98 %

Prerequisite for reliable automatic order proposals.

Obsolete stock: < 2 % of stock value

Indicator of outdated planning rules and missing change management.

Stockout rate: < 1 % of demand positions

Direct measure of inadequate stockholding of critical articles.

Practical Example

A mid-sized mechanical engineering company with around 250 employees suffered from recurring production stoppages due to missing standard components, while at the same time stock levels of many C-articles were running excessively high. Procurement, together with logistics, carried out a structured inventory and risk analysis and derived a differentiated stockholding strategy from it.

- ABC/XYZ analysis of all approx. 12,000 articles and derivation of differentiated planning rules
- Kanban system for standardised fasteners and standard parts with stable consumption
- Defined safety stock and second sources for longer-lead electronic and hydraulic components
- Semi-annual inventory review with obsolescence check, linked to the engineering change process

Conclusion

The stockholding strategy is a key control instrument between product availability and capital efficiency. It does not work as a blanket rule but as a differentiated assignment of materials to stockholding levels based on value, consumption pattern and supply risk. Prerequisites are well-maintained master data, reliable KPIs and close coordination between procurement, logistics and production. Companies that set up their stockholding systematically and review it periodically reduce both production stoppages and inventory costs. In times of disrupted supply chains, the topic is gaining further strategic importance.

Frequently asked questions

What is meant by a stockholding strategy?

A stockholding strategy is the systematic approach of defining which materials a company stores, in what quantities and at which locations. It governs the criteria by which articles are stocked and the replenishment rules according to which supply is procured. The aim is to balance product availability,

capital tied up and warehousing costs.

Which stockholding strategies are there?

Typical approaches are stockholding with safety stock, the min-max method, demand-driven individual procurement and kanban systems for standardised parts. In addition, there are consignment warehouses and vendor-managed inventory, where the stock is held at the supplier or at the customer under contractually agreed terms. Selection is often based on ABC/XYZ classes.

How high should safety stock be?

Safety stock depends on demand fluctuation, lead time and the desired service level and is typically calculated statistically from these parameters. In practice, it often covers demand fluctuations ranging from a few days to a few weeks. Regular review is important, as outdated safety stocks tie up capital unnecessarily.

What is the difference between stockholding and materials planning?

The stockholding strategy is the overarching policy defining which articles are stocked and according to which rules. Materials planning implements this strategy operationally by controlling order proposals, reorder points and lot sizes in the ERP system. In short: the strategy defines the framework, materials planning the day-to-day process.

What are the disadvantages of high stockholding?

High stocks tie up capital, cause warehousing and capital costs and increase the risk of obsolescence and shrinkage. Moreover, industry or product changes can quickly reduce the value of residual stock. The negotiating position towards suppliers can also deteriorate where there is strong dependence on individual stocked articles.

How does replenishment lead time affect stockholding?

The longer and more variable an article's replenishment lead time, the higher the safety stock typically needs to be to achieve the same availability. Articles with long and fluctuating lead times are therefore usually either stocked at higher levels or not stocked at all and procured on demand. Realistic representation of lead times in the system is crucial for this.