

# Service level target per commodity group: steering product availability systematically

The service level target per commodity group defines the level of product availability that a company bindingly aims to achieve for individual procurement or sales groups. Instead of a blanket target for the entire product range, differing requirements regarding availability, capital commitment and criticality are taken into account per commodity group. In this way, material planning can be steered in a targeted manner, safety stocks sized appropriately and unnecessary inventory costs avoided.

## Key facts

- The service level target describes the intended probability with which demand quantities can be covered from available stock.
- A distinction is typically made between the alpha and beta service levels: the former measures the proportion of orders not missed, the latter demand coverage by quantity.
- Highly critical A-items are frequently assigned targets of 98 to 99.5 per cent in practice, whereas C-items are often set considerably lower.
- Target values per commodity group are derived from item criticality, revenue significance, supply risk and margin situation.
- The service level is closely related to the KPI On-Time In Full (OTIF), but adds a forecast-based planning perspective.
- Regular review of target values forms part of procurement controlling and material planning.

## Definition: service level target per commodity group

The service level target per commodity group is the binding target product availability set for a group of items with similar procurement and demand characteristics. It serves as a control variable for inventory planning, in particular for sizing safety stocks and replenishment lead times.

### Distinction from a blanket service level

In practice, a company-wide average value often conceals important differences: critical spare parts and standard consumables require completely different availability strategies. Differentiation by commodity group ensures that scarce capital is not tied up in non-critical positions, while bottlenecks for decisive items are avoided. This turns the service level into an active management instrument rather than a retrospective measurement metric.

### Alpha, beta and gamma service levels

The alpha service level (also known as the order fill rate) indicates for what proportion of order transactions demand could be fulfilled entirely from stock. The beta service level (quantity fill rate) assesses the proportion of demand quantity covered without interruption or with acceptable delay. The gamma service level additionally considers adherence to delivery lead times, making it a precursor of

modern OTIF analysis. In practice, the beta service level is often the leading target metric, as it reflects the quantity-based impact on production and customers.

## Methods and approach for setting target values

Setting a service level target per commodity group follows a structured process: commodity group segmentation, criticality assessment, target derivation and subsequent calibrated fine-tuning. What is decisive is that procurement and material planning jointly own the targets and that values are not set ad hoc.

### ABC/XYZ analysis as the starting point

Commonly, an ABC analysis based on revenue or value significance is first combined with an XYZ analysis based on consistency of consumption. A-X items with high value and stable demand justify high target values, as safety stocks are plannable and efficient. C-Z items with low value and irregular demand, by contrast, are often deliberately managed with a lower target and assessed on a demand-driven basis via a slow-mover analysis. In practice, this combination forms the basis of almost every differentiated service level strategy.

### Assessing criticality and supply risk

In addition to value and consumption stability, criticality matters: how severely would an interruption affect production or delivery? Items with a supplier monopoly position, long replenishment lead times or sole-source usage generally receive higher target values than a pure ABC approach would suggest. A risk register documenting supply risks per commodity group supports this assessment systematically. Availability requirements from customer commitments also feed in here.

### Calibrating and approving target values

Target values should be defined jointly with sales, material planning and, where applicable, engineering, and documented in writing. In practice, it has proven useful to set initial values and calibrate them over several periods based on the values actually achieved. This produces a robust target structure grounded in real data rather than a purely theoretical specification.

## Key KPIs around the service level target

A service level target only has an effect if it is monitored in measurable form and linked to complementary KPIs. The key indicators include the achieved service level, OTIF, inventory coverage and inventory costs.

### Achieved service level per commodity group

In addition to the target value, the service level actually achieved is measured periodically per commodity group and evaluated in procurement controlling. A consistent measurement specification is important: order or line item count, measurement period, and definition of exclusions and special cases. Deviations below target are generally an early indicator of planning problems or supplier problems.

### Inventory costs and capital commitment

Every increase in the service level typically causes disproportionately rising safety stocks, as the required reserve does not grow linearly. The service level target per commodity group is therefore always weighed against inventory costs and capital commitment. In practice, inventory coverage and the

scrap or obsolescence rate per group are therefore additionally monitored. The combination of target achievement and inventory benefit shows whether a target value is economically sensible.

### **OTIF and early warning indicators**

The KPI On-Time In Full (OTIF) complements the internal view with the customer perspective on delivery reliability and completeness. In practice, commodity-group-specific service level data often explains deviations in OTIF and shows where the cause lies. Early warning indicators such as rising overdue rates or growing backorder lists also support proactive steering.

## **Implementation in material planning**

The service level target per commodity group takes concrete effect in material planning: it flows into the calculation of safety stocks, reorder points and order quantities and thereby directly influences ordering and planning behaviour.

### **Safety stock and replenishment parameters**

In most planning systems, safety stock is derived from the service level target, forecast variability and replenishment lead time. Higher target values generally lead non-linearly to higher reserves; even an increase from 95 to 99 per cent can significantly increase safety stock. Every target change should therefore always be accompanied by an inventory simulation. Order quantities, for example via the Economic Order Quantity (EOQ), are also reassessed in this context.

### **Procurement routes per target level**

In practice, high target values justify special procurement arrangements: framework agreements with reserve capacity at the supplier, agreed reserved quantities or strategic stockpiling. For non-critical groups, by contrast, flexible procurement routes with shorter response times are more economical than high stock levels. Cross docking or consolidation via quantity tiers can also be deployed in a targeted manner without jeopardising the service level.

### **Automation and master data quality**

Service level targets should not be maintained manually but cleanly stored in master data management and systematically used by material planning. This includes regular maintenance of replenishment lead times, forecast parameters and base values. For standardised replenishment orders, high data quality also enables no-touch order processes in which purchase orders are triggered without manual intervention.

## **Risks and controls**

Differentiated service level management entails typical pitfalls: overambitious targets, outdated target values, lack of measurement consistency and unclear responsibilities. Systematic controls minimise these risks.

### **Excessive targets and inventory inflation**

The most important risk is the creeping increase in target values, often triggered by individual disruption events. Such isolated cases must not automatically translate into higher permanent targets but should be examined. A controlled target review prevents safety stocks, and with them capital commitment, from continuously growing without generating real benefit.

## Measurement consistency and data quality

Missing or changing measurement specifications render target comparisons worthless. The measurement logic should therefore be documented, applied consistently and regularly reviewed within procurement controlling. Master data management also plays a key supporting role here: implausible replenishment lead times or outdated commodity group interfaces distort every target achievement rate.

## Supplier-side factors

In practice, high service level targets for groups with a limited supplier base can only be achieved with clear agreements. Clear supply contracts, a documented risk register and, where necessary, alternative procurement routes are important here. Onshoring decisions can also become relevant for critical groups in order to shorten replenishment lead times.

## Current developments and outlook

Setting service level targets is becoming more flexible through data-based planning and access to external procurement platforms. At the same time, expectations are rising to assess service level together with sustainability and resilience.

### Data-based target calibration

Modern procurement and planning systems increasingly use centralised data pools, such as a data lake, to bring together consumption data, lead times and market data. Via defined ETL processes in procurement, external signals flow into material planning, enabling target values to be adapted to real conditions more quickly. Machine learning-based forecasts are a supporting tool in this context but do not replace the expert definition of targets.

### Resilience and sustainability in the target catalogue

Service levels are increasingly assessed not only economically but also strategically: supply chain resilience and carbon accounting are coming into focus. For some commodity groups, target values are deliberately kept moderate in order to reduce transport effort, emissions or stock levels. The target catalogue thereby becomes part of a broader procurement strategy that also takes Scope 1 emissions and sustainability requirements into account.

### Digitalised procurement as a lever

Digital award processes such as e-sourcing and systematic consolidation levers make it possible to achieve high target values more economically. Where procurement via marketplaces and structured tenders is faster, replenishment lead times fall – and with them the required safety stock. In practice, this shifts the relationship between target value and stockholding.

## Typical metrics

### Beta service level for critical commodity groups: typically 98–99.5%

High targets are only justified where criticality is high and margin impact is material.

### Beta service level for C-Z-items: often 85–92%

Deliberately low in order to limit capital tied up in non-critical items.

### On-Time In Full (OTIF): target often > 95%

Customer perspective on delivery reliability and completeness; complements internal service level measurement.

## **Inventory coverage: individual per commodity group**

Must be weighed against the service level target to avoid inventory inflation.

## **Practical example**

A medium-sized mechanical engineering company with around 20,000 active items previously applied a single service level of 97 per cent across its entire range of materials. Following an ABC/XYZ analysis, five commodity groups were defined with individual targets: critical A-X spare parts at 99 per cent, standard blanks at 97 per cent, C-Z-items at 90 per cent and long-lead items managed on an order-specific basis without a stock target. Within one year, total inventory in the C range could be noticeably reduced without any significant production interruptions.

- ABC/XYZ analysis per commodity group as the basis for target setting
- Alignment of target values between sales, engineering and material planning
- Linking target values to safety stock and ordering parameters in the ERP system
- Quarterly target review by procurement controlling including variance analysis

## **Conclusion**

The service level target per commodity group translates abstract notions of product availability into manageable, item-group-specific specifications. It links service quality with inventory costs and thus forms a key control variable in material planning. Clean target derivation from criticality and consumption behaviour, consistent measurement and a controlled, calibrated review process are decisive for success. Anyone observing these principles achieves high availability where it is genuinely needed and avoids unnecessary capital commitment elsewhere.

## **Frequently asked questions**

### **What is a service level target per commodity group?**

This is the binding target level of product availability set for a group of similar items. Instead of a blanket company-wide target, different target values apply per commodity group. These govern safety stock and material planning and are usually measured using the alpha or beta service level.

### **How high should the service level be?**

There is no universal value. In practice, critical A-items are often set at 98 to 99.5 per cent, standard items at 95 to 97 per cent, and C-Z-items considerably lower. The target value should be derived from criticality, supply risk and inventory holding costs.

### **What is the difference between the alpha and beta service level?**

The alpha service level measures the proportion of order transactions that could be fulfilled entirely from stock. The beta service level assesses demand coverage by quantity. In practice, the beta service level is usually more meaningful because it reflects the quantity-based impact on production and customers.

### **How does the service level affect safety stock?**

Higher target values generally increase safety stock disproportionately, as the reserve does not grow linearly with the service level. Even an increase from 95 to 99 per cent can significantly increase safety stock. For this reason, every target change should always be accompanied by an inventory simulation and an economic viability assessment.

### **Who sets the service level targets?**

Responsibility typically lies with a combination of procurement, material planning and, where applicable, sales or engineering. Targets should be agreed jointly and documented in writing. Periodic review within procurement controlling ensures that target values remain up to date and economically sound.

### **What is the difference between service level and OTIF?**

The service level is an internal planning metric, often forecast-based, used to steer inventory. On-Time In Full (OTIF) measures from the customer's perspective whether deliveries arrived on time and complete. The two KPIs complement each other: deviations in OTIF can often be explained through commodity-group-specific service level analyses.