Material Availability Checking (ATP): Making Availability Plannable

Material availability checking, internationally often referred to as Available-to-Promise (ATP), is a planning procedure used to check whether, and to what extent, a material is actually available on the desired delivery date. It links stock levels, purchase and production orders and planned receipts with customer orders and manufacturing requirements. For buyers and supply chain managers, it is a key control instrument for making delivery commitments reliable and identifying shortages at an early stage.

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Key facts at a glance

01 ATP checks which quantity of a material is available on a given date, drawing on stock levels, confirmed receipts and planned movements.

02 A distinction is made between static, dynamic and cumulative ATP, each with different planning horizons.

03 The quality of the check depends largely on data quality in master data and stock management.

04 In ERP and APS systems, the check is usually performed automatically upon order creation or on a date-specific basis.

05 Delivery date commitments to customers should only be made on the basis of reliable ATP results.

06 ATP is closely interlinked with safety stock, purchasing planning and Sales and Operations Planning.

Definition: Material Availability Checking (ATP)

Material availability checking is a system-supported reconciliation between available and expected material stock on the one hand and demand on the other. It answers the question of by what date and in what quantity a material can be provided without conflicts.

Distinction from other disciplines

Material availability checking is not the same as demand determination or lot size planning. While purchasing planning forecasts future demand and triggers purchase orders, ATP checks at the moment of enquiry whether that demand is covered. It also differs from material requirements planning (MRP): MRP generates proposals for procurement and production, whereas ATP consumes and confirms the resulting availability.

Relevance for procurement

For buyers, the ATP result provides a reliable basis for prioritisation and escalation. If the check reveals gaps in the supply horizon, reordering can be initiated early, a Request for Quote (RFQ) for alternative suppliers can be launched, or safety stock can be adjusted. Without reliable ATP data, by contrast, there is a risk of emergency purchases, duplicate orders and costly production interruptions.

Legal and organisational classification

ATP results serve internal commitments; towards customers, it should be noted that a system-based availability confirmation does not replace a contractual delivery guarantee. Liability issues, such as the consequences of delay, should be governed by general terms and conditions and limitations such as the Limitation of Liability. Legal review is advisable in individual cases.

Methods and approach of availability checking

Several check variants have become established in practice, differing in planning horizon and level of detail. The choice of method depends on the industry, lot size structure and type of manufacturing.

Static ATP

Static ATP considers only the physical stock level at the time of the check. It is easy to implement and sufficient for C-items or trading assortments, but leads to misleading results with long procurement lead times because open purchase orders are not taken into account.

Dynamic and cumulative ATP

Dynamic ATP includes planned receipts and issues within a checking horizon, such as confirmed customer orders and running production orders. Cumulative methods check backwards and forwards along the timeline and can take production lead times into account. This makes it possible to determine whether a quantity can be shifted by bringing forward or postponing requirements.

Process in ERP and APS systems

Modern ERP systems perform the check automatically upon order creation and suggest a confirmed date in the event of a shortage. Advanced Planning Systems supplement this with multi-level checks across bills of materials and resources. A well-organised process is a prerequisite: clear responsibilities for stock corrections, maintenance of lead and replenishment times, and regular alignment with Sales

and Operations Planning.

Data basis and system prerequisites

The validity of any availability check stands or falls with the quality of the underlying data. Incorrect master data or stock discrepancies systematically distort the result.

Master data and stock management

Key input factors are replenishment lead times, safety stocks, lot sizes and planning strategies per material. If lead times are not kept up to date, the system confirms dates that cannot actually be met. A periodic stocktake, or at least a sample inventory, is essential in order to detect count variances before they feed into ATP results.

Supplier and order data

Open purchase orders should only be maintained with realistically confirmed delivery dates; supplier confirmation dates must be reported back promptly. Supplier master data management and vendor master data also indirectly influence the quality of the check, as they map delivery locations, lead times and delivery reliability. For subcontracting and services, the analogous principle applies to plant/service purchase orders with clearly scheduled commitments.

Transparency along the supply chain

Rising demands for supply chain visibility are increasingly extending availability checking beyond the boundaries of one's own systems. Supplier portals and shared stock or order data make it possible to include receipts at the supplier in the check. In practice, the maturity level for this varies; companies often start with A- and B-items.

Key KPIs for availability assurance

In order to manage the quality of material availability checking, measurable KPIs are required. They show both system performance and the supply situation and provide starting points for structured deviation analysis.

Supply and schedule metrics

Core metrics are the delivery service level, measured by on-time and complete deliveries, as well as the proportion of delivery dates confirmed and met on time. Date adherence for open purchase orders shows whether the promised and actual worlds are drifting apart.

Planning and stock KPIs

In addition, KPIs such as stock cover, the proportion of critical materials without coverage within the checking horizon and the number of triggered expedited orders should be reviewed regularly. Through purchasing cost centre reporting, the downstream costs of shortages – such as express freight – can

also be traced.

Risks and controls around ATP

Even a functioning ATP system does not protect against mismanagement if processes and responsibilities are unclear. Typical risks and effective controls can be clearly identified.

Typical sources of error

Common problems are outdated replenishment lead times, uncounted stock, unposted goods receipts and manual stock transfers without system documentation. Mechanical lot sizing without regard to transport and inspection lead times also produces system dates that fail in reality. Changes to design or bills of materials additionally create transition requirements which, without integrated change management, distort availability.

Controls and escalation paths

Effective controls include deviation workflows for quantity and date deviations, the quantity deviation workflow for under-deliveries, and regular supplier audits of critical sources. A structured supplier development workshop can help with recurring reliability problems. In the case of geopolitical risks – export controls, port congestion, raw material restrictions – an additional risk assessment per source and region is recommended, for example along the lines of geopolitical risk.

Contractual safeguards

Binding confirmation deadlines, notification obligations in the event of delays and, where appropriate, contractual penalties should be agreed with suppliers. For critical materials, a quantity-based framework using volume tiers has proven effective, keeping alternative sources economically viable. Whether establishing a second source is worthwhile can also be decided based on the ESG Risk Rating and the logistical maturity of the existing source.

Current developments and outlook

Material availability checking is undergoing change: from a static stock enquiry towards forward-looking, network-wide availability planning. Drivers are volatile supply chains and rising customer expectations regarding delivery commitments.

Forecast-based availability

Newer approaches combine ATP with sales and demand forecasts and calculate availability scenarios across several tiers of the supply chain. So-called CTP (Capable-to-Promise) additionally checks whether missing quantities can still be produced in time through adjusted manufacturing. For procurement, this provides an earlier signal for procurement marketing and strategic supply assurance measures.

Implications for procurement strategy

Persistent availability gaps are an argument for insourcing critical assemblies or for deliberately increasing safety stock for long-lead imported items. Within Lean Procurement, ordering processes are also streamlined so that planning responses take effect more quickly. How the procurement organisation is structured – centralised, decentralised or lead-buyer model – determines who identifies and escalates ATP deviations.

Typical metrics

Metric	Typical value
Delivery service level	typically > 95 % *Proportion of complete and on-time deliveries; A-items often have a higher target value*
Date adherence for open purchase orders	> 90 % *Proportion of purchase orders whose confirmed date is met*
Stock cover of critical items	typically 2–8 weeks *Guideline value depending on replenishment lead time and demand stability*
Proportion of expedited orders	< 5 % of purchase order items *A high proportion indicates planning weaknesses or data errors*

Practical example

A medium-sized mechanical engineering company with around 15,000 active items previously confirmed delivery dates largely manually. Recurring shortages of electromechanical standard components led to production interruptions and express freight shipments. After switching to a dynamic availability check with a weekly shortage report and binding confirmation deadlines for its top 50 suppliers, the supply situation stabilised within a few months.

- Introduction of a dynamic ATP with a checking horizon beyond the cumulative production lead time
- Binding date confirmations and mandatory supplier feedback via a supplier portal
- Weekly shortage report with deviation analysis and defined escalation levels
- Increased safety stock for three critical imported items and establishment of a second source via an RFQ

Conclusion

Material availability checking combines stock, demand and procurement data into a reliable answer to the question of what is available and when. Its quality depends less on the chosen method than on

well-maintained master data, clean stock management and disciplined procurement processes. For technical buyers, it is both an early warning system and a prioritisation tool. Those who systematically analyse ATP deviations and counter them contractually and strategically sustainably reduce shortage costs and delivery date risks. Combined with a functioning S&OP foundation, availability checking thus evolves from an IT feature into a genuine control instrument for the supply chain.

Frequently asked questions

? What does material availability checking (ATP) mean?

Material availability checking, known in English as Available-to-Promise (ATP), checks whether a material is available in the required quantity on the desired date. It nets out stock levels, open purchase orders, production orders and requirements against each other. The result serves as the basis for binding delivery date commitments.

? What is the difference between ATP and CTP?

ATP only checks quantities that have already been planned or scheduled, i.e. what is available. CTP (Capable-to-Promise) additionally checks whether shortfalls can be produced or procured in time through adjusted production or procurement. CTP is more complex, but provides more realistic commitments for make-to-order manufacturing.

? How does the availability check work in the ERP system?

When a sales order or production order is created, the system calculates the available quantity per date from stock levels, receipts and issues. In the event of a shortage, it suggests the next feasible date. Prerequisites are maintained lead times, safety stocks and current supplier order confirmation dates.

? Which data is crucial for a reliable ATP?

Decisive factors are accurate stock data, realistic replenishment lead times, correct lot sizes and promptly maintained delivery dates for open purchase orders. Incorrect master data or unposted goods receipts systematically distort the result. Regular physical inventories and deviation workflows ensure data quality.

? Which KPIs are suitable for managing material availability?

Typical KPIs are the delivery service level, order date adherence, stock cover and the proportion of items without coverage within the checking horizon. In addition, the number of triggered expedited orders is a useful indicator of supply weaknesses. All figures should be reviewed regularly and with a focus on deviation-relevant item groups.

? How is ATP related to safety stock?

Safety stock buffers demand and supply fluctuations and flows directly into the ATP calculation as available stock. A stock level that is too low leads to short-term shortages, while one that is too high ties up unnecessary capital. The level should be reviewed on an ongoing basis based on supplier

delivery reliability per material.

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