

Procurement planning: from demand determination to an effective procurement plan

Procurement planning is the systematic preparation and structuring of all procurement activities of a company over a defined planning horizon. It translates production- and project-related demands into concrete procurement measures such as purchase orders, framework agreements and requests for quotation. It thus forms the backbone of the procurement process and determines whether materials are available on time, in the right quantity and at competitive costs.

Key facts

- Procurement planning links strategic procurement objectives with operational scheduling at daily and weekly level.
- Core components are demand determination, demand consolidation, supplier selection, budget reconciliation and deadline monitoring.
- In practice, good planning typically significantly reduces emergencies, special freight costs and duplicate purchases.
- It relies heavily on reliable master data, in particular parameter maintenance (MRP) in the ERP system.
- Typical time horizons range from annual plans and rolling plans to short-term scheduling.
- Risks such as supply failures are addressed through escalation processes and Business Continuity Plans.

Definition: procurement planning

Procurement planning refers to the early, structured determination of which materials, parts and services must be procured, in what quantities, by which deadlines and with what budget. It is part of the overarching procurement process and links sales, engineering, production and controlling. The result is a binding procurement plan that serves as a control basis for scheduling and supplier management.

Distinction from scheduling and procurement

Scheduling works on a day-to-day basis with scheduling records, stock levels and demands in the ERP system, while procurement planning covers the medium and long term. It decides on procurement routes, contracts, budget frameworks and priorities. The actual order processing then follows as an operational step within the planned framework.

Strategic and operational level

At strategic level, the focus is on sourcing strategies, supplier portfolios, material group planning and the procurement budget. The operational level translates these specifications into demand coverage, order proposals and deadline tracking. Both levels must provide mutual feedback, for example when

short-term demand spikes change the strategy for a material group.

Methods and approach in procurement planning

A proven approach follows several stages: demand collection, consolidation, evaluation, decision preparation and implementation. What matters is a regular planning cycle, usually monthly with a rolling horizon of twelve to eighteen months. This keeps plan and reality aligned without every deviation triggering a complete re-planning.

Demand determination and consolidation

The basis is provided by bills of materials, work plans, project schedules and forecasts from sales and production. Information from the requirement source is consolidated into quantity structures and reconciled against inventories, remaining quantities and open purchase orders. Recurring demands can often be bundled into aggregated and framework demands, which improves negotiating power and unit price.

Procurement strategy and deadline structuring

For each material or supplier group, it is determined whether procurement takes place via framework agreement, individual purchase order, stockholding or direct consumption. This is complemented by Incoterms provisions such as FCA or Incoterms CIP, which clearly allocate transfer of risk and transport costs. Delivery chains are derived backwards from the production or project deadline, including buffers for quality inspection and the dock-to-stock process.

Budget reconciliation and approvals

Every plan must be coordinated with the procurement budget and the investment and cost plans of controlling. Approval and signing authorities as well as internal policies define which volumes require which consent. Before tenders, a request for quotation is often prepared, whose bid opening is documented in terms of timing and in accordance with the four-eyes principle.

Key KPIs and control metrics of procurement planning

Planning quality is reflected in measurable metrics. Core metrics are on-time delivery, planning accuracy, inventory levels and procurement cycle times. KPIs only have an effect if they are reported regularly and actively discussed in coordination meetings – for example in monthly planning meetings with production and sales.

Demand and planning accuracy

Forecast or planning accuracy measures the deviation between planned and actual demand, typically at item and monthly level. High deviations lead to inventories or missing parts and burden the overall cost calculation. Root cause analysis should be carried out systematically; errors often lie in bills of materials, parameters or communication with sales.

On-time delivery and delivery chain

Supplier reliability is frequently measured via on-time delivery or OTIF and shows whether planned deadlines can be met. In addition, Payment Term Adherence as payment reliability and the order confirmation quality metric are relevant. Slippage in the delivery chain should trigger a defined escalation process before stoppages occur.

Process and inventory metrics

Procurement lead time, proportion of urgent orders, emergency volumes and inventory coverage complete the picture. The ratio of framework agreements to individual orders also shows how well planning exploits contractual lead services. A rising proportion of urgent orders is a typical early warning signal of planning gaps.

Risks, controls and crisis preparedness

Procurement planning must deal with uncertainties: demand spikes, supply failures, price fluctuations and regulatory changes. Robust plans therefore contain scenarios, buffers and clearly assigned responsibilities. Controls ensure that plan deviations become visible and correctable at an early stage.

Supplier failures and emergency preparedness

For critical parts and single-source suppliers, alternative sources, safety stocks and a Business Continuity Plan (BCP) are part of the basic toolkit. A procurement emergency team defines who decides quickly in the event of a failure and which priorities apply. A complementary Disaster Recovery (DR) approach protects the IT systems on which planning data runs.

Master data and data quality

Many planning errors are rooted in poor master data: incorrect replenishment times, outdated prices or incomplete bills of materials. Effective Master Data Governance ensures that master data is up to date, unambiguous and maintained with clear process ownership. Parameter maintenance (MRP) – such as batch sizes, lead times and safety stocks – is a key lever here.

Contractual and compliance risks

Planning should include inspection obligations for customs, export control and trade formalities, for example an ATA Carnet for temporary exports in trade fair or repair traffic. On the financial side, payment term rules and the correct handling of payment obligations such as retention in construction and assembly services must be observed. Legal questions in individual cases – such as contractual penalties or warranty – should always be reviewed by qualified experts.

Current developments and digitalisation of procurement planning

Procurement planning is becoming increasingly data-driven and platform-supported. Planning data converges in ERP and PPS systems, suppliers interact via a supplier portal, and AI support assists with demand forecasting and request creation. At the same time, requirements are growing due to sustainability and regulation.

Digital systems and catalogue purchasing

Standard materials are increasingly transferred directly from shopping baskets into the ERP system via catalogue and punchout scenarios with OCI interfaces. This reduces transfer errors and speeds up the ordering process. For all parties involved, data quality remains central: without clean master data, no automation works.

Sustainability and regulation

Supply chain decarbonisation is becoming part of planning, for example when emission requirements are factored into supplier selection and transport choice. Packaging law requirements such as the

PPWR influence packaging specifications and thus packaging costs and logistics. Planning should anchor these criteria early as selection and evaluation factors.

Skills and roles in procurement

Buyers are developing into planners and data analysts; market knowledge and communication skills remain crucial. New areas of responsibility such as Supplier Innovation expand the role: procurement involves suppliers early in engineering and product development. A design freeze marks the point from which changes are frozen and planning certainty increases.

Typical metrics

Planning accuracy: > 85 %

common guideline value for monthly demands; the higher, the more stable the supply

On-time delivery (OTIF): > 95 %

proportion of complete deliveries delivered on time

Proportion of urgent orders: < 5 %

a high proportion indicates planning gaps

Procurement lead time: planned value $\pm$ 10 %

deviations indicate outdated master data

Practical example

A medium-sized mechanical engineering company with around 250 employees struggled with frequent missing parts and a high proportion of urgent orders. The company introduced a rolling monthly planning cycle with a twelve-month horizon and at the same time cleaned up its master data: lead times, batch sizes and safety stocks were corrected in the parameter maintenance (MRP). Critical parts were equipped with a Business Continuity Plan (BCP) and defined alternative sources. Within a few months, according to an internal review, emergencies fell significantly and supplier on-time delivery measurably improved.

- Rolling monthly plan with consolidation of all demands from production and project business
- Clean-up of MRP parameters and introduction of Master Data Governance for procurement master data
- Bundling of recurring demands in framework agreements including clear Incoterms provisions
- Establishment of an escalation process and a procurement emergency team for critical parts

Conclusion

Procurement planning is more than a bureaucratic add-on: it determines whether production and project deadlines can be met and what procurement costs arise. Successful planning combines reliable master data, clear processes and regular coordination with sales, production and controlling. Digital tools provide support but do not replace the professional assessment of demands and risks. Companies that plan systematically noticeably reduce emergencies, inventories and friction losses. Those who also integrate crisis preparedness and sustainability requirements future-proof their procurement.

Frequently asked questions

What is meant by procurement planning?

Procurement planning is the structured determination of which materials and services are to be procured, in what quantities, by which deadlines and with what budget. It links strategic procurement decisions with operational scheduling. The result is a procurement plan that serves as a binding control basis for procurement, production and controlling.

Which steps are part of procurement planning?

Typical steps are demand determination, consolidation of demands, reconciliation with inventories and budgets, definition of procurement routes as well as scheduling and prioritisation. In addition, preparation of requests for quotation and monitoring of implementation are included. A rolling planning cycle keeps the plan up to date.

How does procurement planning differ from scheduling?

Scheduling works on a day-to-day basis with inventory records, stock levels and demands in the ERP system. Procurement planning looks further ahead and defines strategies, framework agreements, budgets and priorities for weeks to years. The two levels interlock and should be based on common, well-maintained data.

Which KPIs are important in procurement planning?

Key metrics are forecast or planning accuracy, on-time delivery performance (OTIF), procurement lead time, the proportion of urgent orders and inventory coverage. In addition, the ratio of framework agreements to individual orders and Payment Term Adherence show the quality of planning. What matters is regular evaluation with actionable measures derived from it.

How do you plan for demand peaks and supply failures?

Proven tools include safety stocks, alternative sources for critical parts, long-term framework agreements and a defined escalation process. For key suppliers, a Business Continuity Plan (BCP) and a procurement emergency team with clear decision-making authority are recommended. Scenario planning helps secure capacities at an early stage.

What role does IT play in procurement planning?

ERP and PPS systems form the data foundation; their parameters, for example in parameter maintenance (MRP), largely determine planning quality. Supplier portals and catalogue interfaces such as OCI automate the exchange. What remains crucial is data maintenance, because planning systems are only as good as their master data.