

Procurement process: phases, responsibilities and governance in industrial procurement management

The procurement process describes the structured sequence of all activities from needs identification through supplier selection and ordering to goods receipt, invoice verification and evaluation. In industry, it encompasses both strategic tasks such as sourcing strategies and contract negotiations and operational steps such as order processing and goods receipt. A clearly defined procurement process reduces procurement costs, secures supply and quality, and creates transparency over expenditure and supplier risks.

Key facts

- The procurement process typically runs in six to nine phases from needs identification to supplier evaluation.
- Direct materials and indirect goods often pass through different process variants with different approval rules.
- Key metrics are cycle time, three-way match rate, on-time delivery (OTD) and quality (PPM).
- Specifications should be formulated unambiguously with mandatory and optional criteria in order to avoid renegotiations and incorrect purchases.
- Compliance requirements such as confidentiality level, material compliance and Incoterms CFR or other delivery terms are an integral part of the purchase requisition.
- Digitalisation and AI-supported enquiries shorten lead times and improve data quality in the process.

Definition: procurement process

The procurement process is the rule-based procedure by which a company identifies demands for goods and services, procures them on the market and settles them. It links user departments, buyers, suppliers and finance into an end-to-end flow with defined interfaces. In practice, it is frequently divided into strategic sourcing and operational procurement.

Strategic and operational subprocesses

The strategic part comprises demand analyses, supplier market analysis, award readiness assessment and contract negotiation with a medium- to long-term horizon. The operational part covers purchase requisition, purchase order, goods receipt, invoice verification and renegotiation in the event of deviations. The two levels interlock: strategic framework agreements simplify operational execution, and operational insights feed back into strategy.

Direct and indirect materials

Production materials are subject to strict specifications, qualification obligations and supplier quality targets, whereas indirect goods and services are frequently procured via simplified catalogues or

free-text orders. Process effort is determined by procurement volume, risk and complexity. In practice, a differentiated process structure with tiered approval rules has proven effective.

Phases and workflow of the procurement process

An industrial procurement process generally follows a proven phase logic which, although it varies from company to company, remains reproducible in its essentials. Clear responsibilities and defined handovers prevent frictional losses between the user department, procurement and supplier.

Needs identification and specification

The process begins with the demand registration by the user department, including quantity, deadline and technical requirement. Specifications should be formulated as mandatory and optional criteria so that quotations remain comparable and suppliers know their scope for design. For licences, drawings or sensitive data, a confidentiality level is also defined and a non-disclosure agreement (NDA) is often agreed before distribution.

Enquiry, bid comparison and award

Based on the demand, the buyer prepares the enquiry and sends it to qualified suppliers. The bid comparison evaluates price, delivery date, quality, capacity and risks; for public sector clients, additional procurement law requirements apply, which must be examined on a case-by-case basis. After a cross-supplier evaluation follows the award including order confirmation and, where applicable, contract negotiation on Incoterms, payment terms and price adjustment clauses.

Purchase order, goods receipt and invoice verification

The purchase order triggers delivery; goods receipt checks quantity and quality against the order. During invoice reconciliation (three-way match), purchase order, goods receipt and invoice are compared automatically, and deviations result in clarification cases. After posting, the supplier evaluation completes the cycle and feeds lessons learned into the next demand phase.

Methods and approach for process design

The procurement process can be established methodically sound and continuously improved. A combination of process documentation, standardisation and risk-based differentiation by material group has proven effective.

Process map and differentiation by material group

First, all procurement routes are mapped and classified by volume, risk and criticality. For A-parts with high value creation, multi-stage processes with supplier qualification apply; for C-parts, short catalogue processes. Variant management and risk scenario planning help to keep spare parts and alternative suppliers available for critical positions.

Standardisation of enquiries and contracts

Standardised enquiry templates with price formula specifications, material compliance requirements and agreed delivery terms reduce queries and shorten response times. Price formulas, for example for raw material indexing, make quotations comparable across contract durations. Standard clauses on IP transfer and confidentiality safeguard intellectual property in development services.

Supplier integration and qualification

Prior to award, suppliers are qualified against defined criteria such as financial strength, capacity, certifications and load carrier management. A regular supplier day promotes the exchange of information on roadmaps and improvements. Supplier agreements define supplier quality targets, for example maximum defect rates, which are subsequently verified in measurable form.

Key KPIs in the procurement process

Without metrics, the procurement process remains opaque. A manageable set of KPIs combines lead times, quality, delivery reliability and process costs and is ideally fed automatically from ERP and procurement systems.

Process and lead time metrics

The process lead time from purchase requisition to purchase order shows how quickly procurement responds. The three-way match rate indicates how many invoices pass through without manual clarification; values above 95 per cent are considered a good level in practice. The proportion of free-text orders requiring approval signals standardisation potential.

Supplier and quality metrics

On-time delivery (OTD) and quality (PPM) assess delivery reliability and defect rate per supplier and feed into the supplier evaluation. Inventory turns show how efficiently procured material is turned over in stock. In the event of defects, complaint management provides input data; recurring deviations lead to action plans or supplier changes.

Value-based metrics

In addition to savings and budget compliance, cost tracking and cost-plus calculations in make-or-buy comparisons are gaining in importance. The emergency purchase rate and the number of suppliers per material group highlight dependencies and monopoly risks on the supply side. All metrics should be provided with target values and reporting intervals.

Risks and controls in the procurement process

In monetary and compliance terms, the procurement process is a high-risk area: incorrect purchases, supply failures, price volatility and conflicts of interest can have an immediate impact. Controls must therefore be built into the process, not merely added on afterwards.

Supplier and supply risks

Failures, insolvencies or logistics disruptions frequently affect critical parts. Supplier risk management evaluates suppliers systematically by probability of failure and impact, supplemented by second sources and risk scenario planning. Well-established load carrier management also prevents losses and disputes over reusable containers and pallets.

Compliance and conflicts of interest

Four-eyes principles, approval limits and documented bid comparisons protect against manipulation and arbitrary award decisions. Confidentiality levels and NDAs protect trade secrets vis-à-vis suppliers; IP transfer provisions clarify usage rights to developments. In the event of group or cartel risks on the supplier side, the monopoly position of the source of supply must be assessed at an early stage.

Contract and price risks

Missing price adjustment clauses or unclear Incoterms CFR or other delivery terms lead to renegotiations in the event of disputes. Binding specifications and defined mandatory and optional criteria reduce interpretation conflicts. Regular contract reviews and structured renegotiation when framework conditions change keep terms market-appropriate.

Current developments and digitalisation

The procurement process is changing noticeably: manual enquiries and email distribution lists are being replaced by digital platforms, AI-supported enquiry creation and automated evaluation. The focus is shifting from pure price pressure towards resilience, sustainability and data quality.

Automation and the use of AI

Digital enquiry tools create tenders in a structured way, distribute them to suitable suppliers and automatically compare responses. AI supports specification analysis, quotation normalisation and risk indicators; human review remains indispensable for strategic decisions. Electronic confirmations and status updates improve planning quality for production.

Sustainability and resilience

Supply chain due diligence and reporting requirements increase the documentation effort regarding origin, material compliance and CO2 data. Suppliers are increasingly being surveyed and evaluated according to ESG criteria. Resilience targets such as diversification, buffer strategies and regional procurement complement classic cost optimisation.

Data-driven governance

Increasingly, procurement managers steer their process via dashboards showing OTD, PPM, lead times and budget utilisation in real time. Spend analyses reveal bundling potential and price differences across sites. An improved data situation also facilitates collaboration with production and development across the entire life cycle.

Typical metrics

Process lead time (requisition to purchase order): in practice often 3–10 working days

depending on material group and approval levels; longer for critical parts

Three-way match rate: > 95%

proportion of invoices processed without manual clarification; above 98% is best-in-class level

On-time delivery (OTD): > 95%

punctual deliveries within the agreed delivery window, measured per supplier

Quality (PPM): < 500 PPM

defect rate per supplier; serial production is stricter depending on industry

Emergency purchase rate: < 10%

proportion of unplanned ad-hoc demands; an indicator of process efficiency

Practical example

A medium-sized mechanical engineering company with around 400 employees struggled with long

enquiry lead times, a high number of invoice clarification cases and recurring delivery date deviations for purchased parts. Following a process analysis, procurement routes were reorganised by material group and key metrics introduced.

- Introduction of a standardised enquiry template with mandatory and optional criteria, delivery terms and material compliance requirements.
- Establishment of a supplier qualification process with defined supplier quality targets and regular evaluation via OTD and PPM.
- Automated three-way match to reduce manual invoice clarifications.
- Supplier risk management with second sources for critical A-parts and an annual supplier day for strategic partners.

Conclusion

The procurement process is the backbone of every industrial procurement function and has a decisive influence on costs, security of supply and quality. What matters is a clear phase structure with defined responsibilities, tiered by material group and risk. Measurable metrics such as lead time, three-way match rate, OTD and PPM make the process steerable and provide the basis for improvements. Compliance and risk controls must be firmly embedded in the workflow, not appended at its end. Companies that regularly evaluate their procurement process and consistently digitalise it respond more quickly to market fluctuations and secure more sustainable supplier relationships.

Frequently asked questions

Which phases does the procurement process comprise?

Typically six to nine phases: needs identification, specification, request for quotation, bid comparison, award, purchase order, goods receipt, invoice verification and supplier evaluation. Depending on the material group, phases are shortened or extended, for example by supplier qualification or contract negotiation. Crucial are defined responsibilities and clear interfaces between the user department, procurement and finance.

How do strategic and operational procurement differ within the process?

Strategic procurement plans sourcing strategies, selects suppliers for the long term and negotiates framework agreements. Operational procurement handles concrete requirements: requisition, purchase order, expediting and invoice clarification. The two levels are interlinked, because operational experience feeds into strategy and strategic framework conditions simplify operational execution.

Which KPIs are particularly relevant in the procurement process?

Key metrics are process lead time, three-way match rate, on-time delivery (OTD) and quality (PPM). In addition, inventory turns, the emergency purchase rate and savings ratio provide insight into efficiency and supply quality. What matters is a manageable selection of KPIs with target values, generated automatically from systems.

How can the procurement process be optimised?

A proven approach is a combination of standardised enquiries and contracts, differentiation by material group and automation of the ordering and invoicing process. Supplier evaluations and lessons learned ensure continuous improvement. Digital enquiry tools and AI support shorten lead times and improve data quality.

What is the difference between procurement and purchasing?

Procurement is the umbrella term for the entire supply of goods and services, including logistics and warehousing. The procurement process is the market-facing core of procurement: meeting demand on the market, selecting suppliers, ordering and executing transactions. In many companies, however, the terms are used synonymously.

Which compliance requirements affect the procurement process?

Relevant requirements include, among others, conflict-of-interest rules, documented bid comparisons, confidentiality agreements such as a non-disclosure agreement (NDA) and supply chain and material compliance requirements. For public sector clients, procurement law requirements additionally apply. The specific obligations depend on industry, legal form and type of contract and should be examined on a case-by-case basis.