

Dual-Sourcing Ratio: Proportion of Items with at Least Two Suppliers

The dual-sourcing ratio indicates what proportion of procured items or material groups is covered by at least two qualified suppliers. It is a key metric in supply risk management and makes a procurement function's hedging strategy measurable. For buyers and supply chain managers in the DACH region, it serves as an early warning indicator of supplier failures, price risks and production bottlenecks.

Key facts

- The dual-sourcing ratio sets the number or value of items with at least two qualified suppliers in relation to total volume.
- In practice, a target ratio of typically 70 to 90 per cent is pursued for A and B items.
- The metric can be calculated on a quantity, value or item basis; the value-based approach best reflects procurement risk.
- Dual sourcing reduces dependencies but usually remains cheaper than multi sourcing, as economies of scale are partially retained.
- Establishing dual supply requires qualification effort, approved second sources, contractual fallback arrangements and ongoing monitoring processes.
- C-standard parts are often deliberately excluded from the ratio in practice, provided availability is secured through inventory standards.

Definition: dual-sourcing ratio

The dual-sourcing ratio is a procurement KPI that expresses the share of items or material groups with at least two active, qualified suppliers as a proportion of total procurement volume. It is regarded as a yardstick for supply security and negotiating power in procurement.

Calculation variants

Three calculation methods are used in practice: item-based (share of item numbers with a second source), value-based (share of procurement volume) and quantity-based (share of order items or delivery schedules). The value-based variant is the most informative as it prioritises critical volumes. A consistent definition across the company is important, because without a clear reference framework the ratio is barely comparable.

- Item-based: number of items with a second source / total number of items
- Value-based: spend with dual sourcing / total spend
- Quantity-based: order items with dual sourcing / total items

Distinction from multi and single sourcing

Dual sourcing is the middle ground between single sourcing (one supplier, maximum economies of scale, high failure risk) and multi sourcing (three or more suppliers, maximum protection, higher effort).

For many industrial sectors the rule of thumb is: typically a genuine second source is enough for critical parts to cushion failures. The split of volume is often in a ratio of 70:30 to 80:20, with the share allocated proportionately via delivery schedules.

- Single sourcing: price advantage, but high dependency
- Dual sourcing: protection at moderate additional cost
- Multi sourcing: maximum risk diversification, higher administrative effort

Positioning within supply risk management

The ratio is a core indicator of supply risk management. It shows protection not only against supply failures but also against price deviations from the order in times of market price fluctuations, because an alternative supplier remains relevant in negotiations. It is closely linked to the definition of safety capacity and the maintenance of alternative suppliers in the master data process.

Methods and approach: how to build up dual sourcing

Establishing a genuine second source follows a structured process: classify, prioritise, qualify, integrate and monitor. Without this approach, the ratio remains a mere paper metric.

Classification and prioritisation

First, items are assessed by criticality and spend, often via an ABC-XYZ analysis. A and critical B items are given priority for building second sources; C-standard parts can be secured via safety stock and framework agreements. Demand reporting from design and production additionally shows which new parts should be set up with dual supply from the outset.

Qualifying second sources

Qualification includes technical approval, sampling inspection of sample parts, capacity verification and, if necessary, on-site audits. With external manufacturing or joint development manufacturing (JDM), the second supplier should be involved in development projects at an early stage in order to share component knowledge and tooling access. These costs must be factored into the savings forecast, otherwise a distorted savings picture emerges.

Contractual and operational integration

Contractually, terms and conditions of purchase, minimum offtake, capacity reservations and emergency processes are fixed; with international suppliers, Incoterms such as CIF or other delivery clauses and the CMR consignment note govern transport responsibility. Operationally, the second source remains active through small routine quantities in the delivery schedule so that it can ramp up immediately in an emergency. A second source that never supplies is not a source in a failure scenario.

Key KPIs around the dual-sourcing ratio

The dual-sourcing ratio does not operate in isolation. A KPI set that combines protection, cost-effectiveness and control makes sense.

Core KPIs and target values

Besides the ratio itself, several indicators are relevant which together provide a picture of the supplier strategy. In practice, target values are guided by criticality, not by a blanket mandate.

- Dual-sourcing ratio value-based, typically a target of > 70 % for A items
- Time to qualify a second source, often 6–18 months
- Share of activated second suppliers in demand monitoring

Supplementary procurement KPIs

As supplements, the delivery reliability of the second supplier, the price deviation from the order between the sources and the metric spend under management provide indications of actual control. The preferred supplier programme also influences the ratio: those who include second sources in the programme reduce qualification effort and increase loyalty. Dynamic discounting can additionally make payment terms attractive for the small volumes with second suppliers.

Reporting and control

The ratio should be reported quarterly per commodity group and linked to actions. A falling value usually signals uncritical growth in single-source new items via the master data process. Process optimisation in procurement means, concretely: a mandatory check of the dual-sourcing logic at order release for new items.

Risks and controls in dual sourcing

Dual sourcing reduces risks but creates its own: additional costs, quality variation, increased coordination effort and a false sense of security when second sources become outdated.

Economic risks

Split volumes typically mean higher unit prices and duplicated tooling, approval and administrative costs. Procurement offsets this disadvantage through targeted negotiation techniques, comparison tenders between the two sources and price escalation or exchange rate clauses in international procurement. A pure ratio orientation without a cost-effectiveness assessment leads to expensive protection.

Quality and process risks

Two suppliers mean two processes, two material alternatives and potentially different batch quality. Sampling inspection, ongoing sampling when changes occur and clear change-order processes for design changes are mandatory to keep both sources synchronised. Otherwise, the second source will not be technically capable of delivery in an emergency.

Control mechanisms

Effective controls include, among others: periodic trial orders with the second source, capacity audits, documented emergency ordering processes and defined switchover times. For logistics protection, transport insurance and coordinated inbound concepts also count. If only one source has safety capacity, the risk is merely shifted rather than removed.

Current developments and digital implementation

Supply chain events of recent years have turned dual sourcing from an option into an obligation in many industrial companies. At the same time, the focus is shifting away from pure diversification towards intelligent hybrid scenarios.

Regulatory and political pressure

Supply chain acts, export controls and raw material sourcing zones significantly increase the qualification effort for new sources. Legal obligations regarding supplier vetting should be examined legally on a case-by-case basis. For critical raw materials and components from strongly concentrated procurement markets, the pressure is growing to build up second sources in other regions even if they are more expensive.

Digital support

Supply risk platforms, commodity group cockpits and AI-supported market scouting tools accelerate the identification and monitoring of second sources. In procurement marketing, digital supplier searches replace laborious manual research; the master data process with automatic second-source tagging makes the ratio visible in real time. What remains important: software structures the topic, but the strategic decision and qualification continue to take place in procurement.

Hybrid strategies: dual sourcing plus insourcing

Increasingly, manufacturers combine the second source with insourcing of critical production steps or with second-life use and reconditioning of components. This creates multi-layered protection: an active second source, an internal reserve option and material recovery as a final safety net. These hybrid strategies are particularly valuable where replenishment lead times are long.

Typical metrics

Dual-sourcing ratio (value-based): > 70 %

typical target value for A and critical items

Dual-sourcing ratio (item-based): > 60 %

a helpful supplement, less informative than value-based

Time to qualify a second source: 6–18 months

depends on the industry, longer in certified sectors

Share of activated second sources: > 90 %

share of second sources with regular routine volume

Practical example: mechanical engineering company with critical castings

A medium-sized mechanical engineering company sourced castings for gearbox assemblies from a single foundry supplier for over 80 per cent of the value. A three-month failure at this supplier blocked parts of the assembly line and drove up special transport costs. The company then defined a minimum value-based dual-sourcing ratio of 80 per cent for all A-grade castings and built this up systematically over eighteen months.

- Critical items prioritised via ABC-XYZ analysis and a second-source roadmap created for each commodity group
- Second foundry onboarded with sample approval, sampling inspection and a small routine volume of around 20 % in the delivery schedule
- Terms and conditions of purchase extended to include emergency ordering processes, capacity reservation and a price escalation clause

- Dual-sourcing ratio monitored quarterly in the commodity group report, mandatory check introduced at order release for new items

Conclusion

The dual-sourcing ratio makes the procurement function's hedging strategy measurable and prevents supply security from becoming a passing fad. It is only valuable if second sources are actively supplied, remain technically synchronised and the additional effort is economically justified. Blanket target ratios are of little help; what matters is differentiation by criticality and spend. Combined with safety capacity, contractual fallback arrangements and ongoing monitoring, dual sourcing becomes a stable component of supply risk management. Companies that consistently manage the ratio also negotiate from a stronger position and respond faster to supply failures.

Frequently asked questions

How is the dual-sourcing ratio calculated?

The most common and most informative variant is value-based: procurement volume for items with at least two qualified suppliers active, divided by total volume. Alternatively, it can be calculated on an item-based or quantity-based basis. What matters is a consistent definition across the company and a clear demarcation of when a supplier counts as actively qualified.

What value for the dual-sourcing ratio is good?

There is no universal target value. In practice, many industrial companies typically aim for 70 to 90 per cent for A-items and critical items, while C-standard parts are secured via inventory strategies. The target value should be guided by criticality, replenishment lead time and market concentration, not by a blanket mandate.

What is the difference between dual sourcing and multi sourcing?

Dual sourcing means exactly two active suppliers per item or material group, multi sourcing three or more. Dual sourcing is usually cheaper because economies of scale are partially retained, and it is sufficient for most failure scenarios. Multi sourcing offers greater risk diversification but entails significantly higher qualification and administrative effort.

What are the disadvantages of dual sourcing?

Typical drawbacks are higher unit prices due to split volumes, duplicated tooling and approval costs, potential quality variation between the two sources and greater coordination effort. There is also the risk of the second source becoming outdated if it is rarely supplied. Regular trial orders and synchronised change processes mitigate these risks.

For which items is dual sourcing worthwhile?

It is particularly worthwhile for critical items with high failure impact, long replenishment lead times or strongly concentrated procurement markets, regardless of absolute value. Even individual low-cost parts can be critical if they cannot be substituted in production. Standard parts with high market density are often secured more efficiently via safety stock.

How long does it take to establish a second source?

Depending on the industry and product complexity, typically six to eighteen months, and significantly longer in certified sectors such as automotive or medical technology. Sample approval, capacity

verification and trial orders incur qualification and inspection costs that must be factored into planning. Second sources should therefore be developed proactively, not only in a crisis.