

Dual sourcing: risk minimisation through two suppliers per component

Dual sourcing refers to the procurement strategy of deliberately sourcing a good, a component or a service from two suppliers rather than relying on a single provider. The aim is to reduce supply risks, strengthen the negotiating position and maintain security of supply in the event of failures. The strategy is a central building block of modern supplier and risk management concepts in industrial procurement.

Key facts

- Dual sourcing means deliberately splitting the procurement volume of an item between two suppliers.
- Typical volume splits in practice range between 70/30 and 50/50, depending on the level of risk and dependency.
- The strategy increases security of supply, but also coordination and qualification effort.
- Dual sourcing strengthens the negotiating position, but may reduce economies of scale compared with single sourcing.
- The foundation is a sound material group and ABC analysis as well as defined criteria for supplier selection.
- Key control instruments are supplier quality targets such as parts per million (PPM) and clear contractual and pricing structures.

Definition: dual sourcing

Dual sourcing is a procurement strategy in which an identical item or material group is sourced permanently from two suppliers. Both suppliers are qualified, approved and capable of taking on the total volume or a significantly higher share if required. The concept is distinguished from single sourcing (one supplier) and multiple sourcing (more than two suppliers).

Distinction from single and multiple sourcing

With single sourcing, the entire volume is awarded to one supplier, which maximises economies of scale but carries a high risk of dependency. Multiple sourcing distributes the volume across three or more providers and maximises flexibility, but increases administrative and qualification effort. Dual sourcing sits in between: it secures redundancy at manageable effort and is therefore the practical compromise for many industrial core components.

Active versus passive dual sourcing

With active dual sourcing, both suppliers deliver regularly and as planned, typically according to defined volume keys. With passive dual sourcing, a main supplier receives the volume while the second supplier is qualified and kept on standby at low volumes so that it can ramp up quickly in a crisis. The choice depends on the failure risk, switch-over costs and the availability of alternative providers.

Objectives and benefits of dual sourcing

The strategy primarily pursues risk minimisation, but also delivers commercial and technical benefits. It works against both supply failures and price and power asymmetries in the supplier relationship.

Security of supply and risk diversification

Failures caused by insolvency, fire damage, natural disasters, geopolitical disruptions or quality problems only affect part of the demand if two sources exist. The switch-over time to the second supplier is significantly shorter if it is already approved and manufacturing occasional volumes. For critical material classes with long lead times, this is often business-critical.

Stronger negotiating position

Two qualified suppliers mean competition for the volume. Cost breakdowns, discount tier reviews and annual and ongoing price and terms management become more credible because the supplier knows the alternative exists. In practice, this frequently leads to better prices, more flexible terms and greater willingness to provide service, even when no full tender is running.

Competitive benchmarking and innovation impulses

Operating two sources in parallel provides a continuous, real benchmark for quality, on-time delivery and costs. Deviations in part quality or price development can be compared directly. In addition, two suppliers bring different technological approaches and capacity headroom, unlocking innovation and flexibility potential in the sense of pooling.

Methods and approach for introducing dual sourcing

Dual sourcing only succeeds with a systematic approach: from demand analysis through supplier acquisition to operational volume control.

Analysis: which items are suitable?

The starting point is an ABC analysis across material groups based on volume, criticality and supply failure risk. Candidates are typically A and B items with a high failure risk, a tight supplier market or long lead times. For standardised C items, the qualification effort frequently exceeds the benefit; here, cross-material-group bundling or pooling makes more sense.

Supplier search and qualification

Through supplier acquisition and structured pre-qualification, candidates are identified and assessed for capacity, technology, financial stability and compliance, including supplier sanctions screening. Technical qualification then follows with sample parts, first article inspection and formal material approval. For quality-relevant products, accompanying documents such as the certificate of analysis or defined supplier quality targets are an integral part of the approval.

Volume split and operational control

The distribution is controlled via framework agreements, call-off schedules or fixed quotas in the ERP system. Common models are fixed splits (e.g. 70/30), performance-based threshold models or dual awards for every lot. When netting across several plants, procurement organisations balance demands so that both sources receive the agreed minimum quantities and economies of scale are not lost.

Key KPIs and control variables

Without measurable targets, dual sourcing remains theory. KPIs show whether both sources remain capable of performing and whether the desired risk reduction can be enforced.

Quality and delivery KPIs

Key measures are on-time delivery in full (OTIF), quality measured in parts per million (PPM) and the contractually agreed supplier PPM target. If one supplier permanently falls below the level of its partner, this is a trigger for volume reallocation. Response times to component changes and failure costs per supplier are also routinely compared.

Cost and price control

In addition to unit price and total cost of ownership, price stability instruments play a role: price bands/price corridors and price index linkages prevent abrupt market adjustments and keep competition between both sources fair. The discount tier review ensures that the shared volume split does not inadvertently cost volume discounts; where necessary, tiers are bundled group-wide.

Risk and process KPIs

Typical metrics are the share of dual-sourced items within the criticality volume, the second-source share of the volume and the switch-over time to the second supplier in an emergency. In payment transactions, the DPO effect simulation shows how different payment terms of the two suppliers affect cash flow; in the suppliers' order-to-cash environment, payment run times reflect their liquidity, making default risks visible at an early stage.

Risks, costs and controls

Dual sourcing is not a walk in the park: additional effort, lower volumes per source and coordination costs can diminish the benefits. Clear controls defuse the typical pitfalls.

Additional costs and tier effects

Every additional supplier means effort for qualification, management, tool duplication and smaller lot sizes. Volume discounts are smaller and fixed cost shares are difficult to spread. Cost comparisons should therefore always set the costs of a potential supply failure – downtime, penalties, expedited shipments – against the ongoing costs; in practice, these one-off costs often exceed the ongoing additional costs many times over.

Quality and consistency management

Two sources mean two process chains, two sets of tooling and potentially slightly different component characteristics. Even with a shared drawing and approved specifications, tolerance position, surface finish or material batch may vary. Traceability extends down to the individual batch, material approvals are granted per source, and changes are only implemented in synchronisation and with documented approval.

Contractual and ethical controls

Contracts govern minimum and maximum volumes, capacity exclusivity clauses, price stability and failure scenarios. With group suppliers, a parent company guarantee can strengthen protection against default. Sustainability requirements, for example along the product environmental footprint (PEF) or for

the sustainable commodity group packaging, are anchored uniformly in both supply contracts in order to avoid compliance gaps.

Current developments and digitalisation

The crises of recent years have made a permanent theme of resilience and strategically upgraded dual sourcing. At the same time, digital tools are making implementation considerably easier.

Resilience as a procurement objective

Supply chain disruptions, energy price shocks and export controls have anchored resilience factors in procurement target agreements. Dual sourcing is regarded as one of the most effective, albeit most costly, measures. It is often combined with regionalisation, nearshoring and longer-term safety stocks – whereby stockholding is formally attributed to the ops team but must be strategically interlocked with the sourcing decision.

Digital support

ERP and SRM systems control quota allocation, approvals and processing automatically. Mobile approval (P2P) accelerates ordering and approval processes across both sources. Project procurement and tender-based awards – for example via tender processes – ensure the periodic market review of both suppliers. Simulation models such as the DPO effect simulation help to assess payment behaviour and liquidity risks when using multiple sources.

Sustainability and reporting

Supply chain reporting and sustainability obligations increase the audit effort per supplier; at the same time, two qualified sources provide redundancy if one partner fails to meet sustainability requirements. KPIs such as the product environmental footprint (PEF) can be compared per supplier and factored into volume control. This also makes dual sourcing an instrument of sustainable and transparent procurement.

Typical metrics

On-time delivery in full (OTIF): > 95%

typical target value per supplier; comparison between both sources is mandatory

Supplier PPM target: < 500 PPM

common guideline for mechanical parts; stricter depending on the industry

Second-source volume share: 20–50%

common split in practice; critical items tend towards 50/50

Switch-over time to the second supplier: < 4 weeks

realistic for a qualified second supplier delivering at regular intervals

Practical example

A medium-sized machinery manufacturer had sourced a critical casting for years 100% from a single European supplier. After a production standstill lasting several days caused by a fire at the supplier, the company introduced a systematic second-source strategy for its twenty most critical material classes.

- ABC analysis and criticality assessment of all material classes, selection of dual sourcing candidates

- Supplier acquisition and pre-qualification of a second foundry specialist, including sanctions screening
- Technical qualification with first article inspection, material approval and a defined supplier PPM target
- 70/30 volume split with annual performance reviews and performance-based adjustments

Conclusion

Dual sourcing is a proven strategy for increasing security of supply and negotiating power without bearing the effort of multiple sourcing. It only succeeds with sound prioritisation, professional supplier qualification and measurable control variables such as PPM and on-time delivery. The additional costs arising from split volumes are real, but in practice usually turn out lower than the consequential costs of a supply failure. Digitalised processes – from approval to volume control – significantly lower the barriers. For critical A items and tight-market components, dual sourcing is therefore now frequently the standard rather than the exception.

Frequently asked questions

What does dual sourcing mean in procurement?

Dual sourcing means procuring an item or material group from exactly two suppliers simultaneously. Both are fully qualified and approved for the material. The goals are security of supply, risk diversification and a stronger negotiating position vis-à-vis both suppliers.

What is the difference between dual sourcing and multiple sourcing?

Dual sourcing uses exactly two suppliers, multiple sourcing three or more. Dual sourcing reduces the effort required for supplier management and qualification, while multiple sourcing offers maximum redundancy and flexibility. In practice, dual sourcing is often the economically sensible compromise for critical items.

What are the benefits of dual sourcing?

The key benefits are protection against supply failures, ongoing price and quality comparison between two suppliers and an improved negotiating position. In addition, dependence on a single site decreases. Two suppliers also bring different technological strengths to the table.

What are the drawbacks and risks of dual sourcing?

Disadvantages are lower volumes per supplier, smaller volume discounts, duplicated qualification and management effort, and possible quality variances between the two sources. Tooling and set-up costs are incurred twice. A sound cost-benefit analysis against the failure scenario is therefore essential.

How does dual sourcing work in practice?

First, critical items are identified by means of an ABC analysis. This is followed by the supplier search with pre-qualification, sample part inspection and formal material approval. Framework agreements and ERP-based quota allocation then control the volume split, typically 70/30 or 50/50, with regular performance reviews.

When is dual sourcing worthwhile and when is it not?

It is worthwhile where criticality or failure risk is high, supplier markets are tight and lead times for resupply are long. For standardised C items with many suppliers and low volumes, the effort usually

outweighs the benefit. Here, bundling, pooling or group-wide discount tier reviews are often more efficient.