

Logistics Costs: Managing Transport-Specific and Warehouse-Related Costs in Procurement

Logistics costs cover all costs incurred in connection with the physical flow of goods – from transport and warehousing to packaging, handling and inventory financing. For technical buyers, they are an essential component of the Total Cost of Ownership and therefore directly relevant to their role. Their structure is often opaque, as they are spread across freight invoices, in-plant materials logistics and internal processes. Those who record and manage them systematically unlock savings potential that is often greater than pure discounts on the material price.

Key facts

- Logistics costs typically include transport, packaging, warehousing, transshipment, handling and inventory financing.
- In practice, they often range between 5 and 15 percent of material costs, depending on the type of goods and supply chain.
- Transport costs can be specifically influenced through bundling, Incoterms management and the negotiation of purchasing terms.
- Inventory and warehousing costs are closely linked to order quantities and inventory coverage.
- Incoterms determine which contractual party bears which logistics cost segments.
- Clean-sheet calculations make freight and handling costs transparent and negotiable.

Definition: Logistics Costs

Logistics costs are all costs incurred through transport, warehousing, packaging, transshipment and information processing along the supply chain. They are usually attributed to direct material costs, even though they partly appear in supplier prices and partly on separate invoices.

Types of costs at a glance

The classic breakdown distinguishes transport costs, warehousing costs (including capital tie-up and shrinkage), packaging costs, handling and order picking costs, as well as administrative costs for freight invoicing and tracking. Added to this are indirect follow-on costs such as expedited deliveries triggered by supplier reminders, buffer stocks or consolidated transport for shortfalls. These hidden costs are frequently underestimated in practice, although they significantly distort the actual cost position.

- Transport (road, rail, air, sea, courier)
- Warehousing and capital tie-up
- Packaging and transshipment
- Handling, order picking, rework

Delineation from delivery costs and transport costs

From a buyer's perspective, the term delivery costs describes the total costs of a procurement including

freight, whereas transport costs are narrower and relate only to physical carriage. Logistics costs go beyond even that, as they also include warehousing and handling on the receiving side. This clear delineation is a prerequisite for meaningful KPIs and reliable comparisons between suppliers.

Cost drivers and influencing factors

Logistics costs are determined by an interplay of production structure, volume profile, delivery geography and contractual design. Buyers who know the cost drivers can target the right levers.

Quantity, lot-size and delivery frequency effects

The optimal order quantity balances ordering costs against warehousing costs and thus directly influences the logistics cost structure: smaller lots reduce capital tie-up but increase freight frequency and unit costs per shipment. In practice, particularly with foreign suppliers, poor load utilisation and residual pallet quantities have a noticeable impact on freight expenditure. A Delivery Schedule Agreement smooths call-offs and improves load utilisation.

Incoterms and contractual design

The agreed Incoterm determines which party bears transport, insurance and risk – and thus also who negotiates the transport costs. EXW gives the buyer full control but requires in-house freight competence; DDP passes the costs to the supplier, often with a surcharge. The choice should be part of the purchasing terms and the negotiation protocol, not left to case-by-case decisions.

Delivery geography and delivery time

Distance, customs costs, customs clearance and required delivery time fundamentally determine the cost level. Air freight as an emergency mode typically costs a multiple of sea freight in practice – a risk policy issue managed via service levels and safety stocks. The service level target per product group also defines which logistics costs are acceptable for which product group.

Methods and approach for cost recording and reduction

No reduction without reliable data: the path to lower logistics costs begins with transparency and leads through calculation, bundling and negotiation.

Creating transparency: cost splitting and data lakes

Logistics costs must be extracted from invoices and price components and allocated by type of goods, supplier and route. In larger organisations, a data lake supports the consolidation of freight data, call-off data and inventory data. Without this allocation, savings remain hidden buffers within unit prices.

Clean-sheet calculation and freight negotiation

With a clean-sheet calculation, the legitimate freight and handling expenditure is determined bottom-up: palletisation, weight, route, capacity utilisation. This allows supplier offers to be evaluated objectively and exaggerations in DDP terms to be uncovered. The results belong in the negotiation protocol and in future purchasing terms.

Bundling, spot purchases vs. framework agreements and freight optimisation

Bundling across suppliers, plants and time horizons reduces costs through better utilisation. Here, the strategic question of spot purchases vs. framework agreements also applies to freight services: spot

purchases offer flexibility in volatile conditions, framework agreements ensure calculability. A supplier capacity check helps synchronise load planning and call-off quantities before transports are booked.

Key KPIs for managing logistics costs

Metrics make logistics costs manageable and create the basis for target systems and supplier discussions. The linking of cost and service metrics is essential.

Cost-related metrics

Key metrics are logistics costs per unit of goods, freight costs as a percentage of material costs and the warehousing cost ratio including capital tie-up. In addition, it is worth evaluating expedited and emergency transport costs, as they carry the highest unit costs. These KPIs should be differentiated by product group, not presented as a company-wide average.

Inventory and service metrics

Inventory coverage and service level show whether cost reduction was bought at the expense of supply security or actually won. Cycle counting keeps inventory data reliable so that warehousing costs and inventory variances are realistically assessed. Order prioritisation in the plant determines whether expedited shipments are really necessary.

Risks and controls

Logistics costs are prone to opacity, perverse incentives and market shocks. Systematic controls ensure the sustainability of savings.

Typical risks

Common pitfalls include the lack of freight cost separation in supplier prices, one-sided focus on the material price with costs shifted into logistics, and freight cost explosions during capacity bottlenecks. Customs and compliance risks in international procurement can also trigger follow-on costs, for example through retroactive freight costs and documentation requirements. A risk matrix helps identify critical routes and single-source connections.

Control instruments and processes

Established purchasing terms with defined logistics conditions, freight audit processes and regular freight benchmarking create binding rules. In requirements management, logistical requirements (packaging, delivery time, units of measure) should be specified early via a specification document before packaging and transport concepts are fixed in the series release process. Subsequent changes are expensive and complicate capacity alignment with the supplier.

Current developments

Regulation, sustainability requirements and volatility are noticeably changing the logistics cost landscape. Buyers must integrate cost and sustainability objectives.

Sustainability and emission costs

Transport emissions are becoming increasingly economically relevant due to CO levies and customer requirements. Initiatives such as Science Based Targets compel companies to record and reduce Scope

3 emissions from transport as well. The Corporate Sustainability Due Diligence Directive (CSDDD) also tightens due diligence obligations along the supply chain, which can affect logistics and supply chain decisions. Legal details should be examined on a case-by-case basis.

Digitalisation and volatility

Digital freight booking, telematics data and AI-supported forecasts improve utilisation planning and reduce empty runs. At the same time, price volatility in fuel, port congestion and customs changes create planning uncertainty that must be hedged through spot and framework strategies. Content enrichment in catalogues and master data – e.g. with weight and package unit details – improves freight calculation and reduces queries.

Typical metrics

Logistics costs as % of material costs: 5–15 % (typical guideline value)

Evaluate differentiated by product group, not as a company-wide average.

Freight costs per tonne-kilometre or shipment: Benchmark per route and mode of transport

Basis for freight negotiations and clean-sheet calculations.

Share of expedited/emergency shipments: < 5 % of freight volume

High unit costs; analyse triggers systematically via order prioritisation.

Inventory coverage: product-group-specific, e.g. 20–60 days

Reduction lowers warehousing costs but must be weighed against service level targets.

Load factor: > 80 %

Low utilisation indicates suboptimal lot sizes or call-off patterns.

Practical example

A mid-sized mechanical engineering company with a foreign sourcing share of around 40 percent found during a TCO analysis that its logistics costs had quietly risen by almost a third over several years. Main causes: fragmented freight bookings by individual plants, a high share of DDP suppliers with uncalculated freight surcharges, and sometimes considerable expedited shipments during parts shortages.

- Consolidation of all freight volumes into a framework agreement with defined tariff tiers and freight audit
- Clean-sheet calculation for the top 20 transport routes as a negotiation basis
- Conversion of critical articles to Delivery Schedule Agreements to smooth call-offs and load factors
- Introduction of an approval threshold for expedited shipments, linked to order prioritisation

Conclusion

Logistics costs are not a peripheral issue in procurement but a structurally significant cost block that influences TCO, supply capability and the sustainability balance alike. Transparency is crucial: anyone who does not separate costs by product group, supplier and route can neither negotiate nor manage. The most effective levers lie in the bundling of volumes, clear contractual design via Incoterms and purchasing terms, and the interplay of order quantities and service level targets. In addition, sustainability regulation and volatility are strategically raising the importance of logistics. Buyers who treat logistics costs as an independent management task secure lasting cost advantages and supply

security.

Frequently asked questions

What is included in logistics costs?

Logistics costs include transport costs, warehousing and inventory costs, packaging and transshipment costs, handling and order picking, as well as administrative costs of logistics processing. Follow-on costs such as expedited shipments, buffer stocks or reverse logistics are often also included. What is crucial is a consistent delineation so that KPIs and comparisons are reliable.

How high are logistics costs on average?

In practice, logistics costs typically range between 5 and 15 percent of material costs, depending on the type of goods, distance and delivery concept. For bulky or temperature-sensitive goods, as well as for air freight, the share can be significantly higher. Flat-rate figures are therefore only suitable as a rough guide, not as a basis for calculation.

How can procurement reduce logistics costs?

Effective levers are the bundling of freight volumes, the agreement of favourable Incoterms with freight control by the buyer, clean-sheet calculations for price verification, and the optimisation of order quantities and call-off patterns. Supplier consolidation and the shift from air to sea freight given reliable planning also reduce costs sustainably. A prerequisite is always robust cost transparency.

Which Incoterms are most favourable from a buyer's perspective?

This depends on your own freight competence: EXW or FCA give the buyer control over transport and costs, which is usually cheaper with bundled volumes. DDP appears convenient but often contains uncalculated supplier surcharges. The choice should be made strategically depending on volume, route and supplier structure.

What is the difference between logistics costs and transport costs?

Transport costs relate only to the physical movement of goods between two points. Logistics costs go beyond this and include warehousing, packaging, transshipment, handling and the administrative processes of the supply chain. Transport costs are therefore a subset of logistics costs.

Which KPIs are suitable for managing logistics costs?

Key metrics are logistics costs per unit of goods, freight costs as a percentage of material costs, warehousing cost ratio, inventory coverage and service level. In addition, expedited and emergency transport costs should be evaluated separately, as they reveal outliers. Differentiation by product group is essential for meaningful cost management.