

# Standardisation: Uniform processes and components for efficient purchasing

Standardisation refers to the systematic unification of components, materials, specifications and procurement processes across products, sites and suppliers. For technical buyers, it is one of the most effective levers for cost reduction, as it pools quantities, reduces variant variety and makes delivery processes plannable. The term covers both technical standard parts and the harmonisation of procedures such as enquiries, order placement or supplier assessment. When standardisation succeeds, process costs and procurement risks fall at the same time.

## Key facts

- Standardisation reduces variety and pools volume, typically creating noticeable cost advantages in procurement.
- It operates on two levels: technical standardisation (standard parts, materials) and process standardisation (uniform workflows and documents).
- Full norming is not always sensible – differentiation costs and customer-specific requirements must be weighed up.
- A data catalogue of approved components is the central foundation for sustainable standardisation.
- KPIs such as the share of standard parts, the number of active items and purchasing volume per category make progress measurable.

## Definition: standardisation

Standardisation is the deliberate unification of products, materials, specifications and procedures in order to reduce variety to an economically sensible level. In procurement, it aims to cover identical or comparable requirements through uniform items and processes.

### Technical standardisation

Technical standardisation means replacing identical or similar components with uniform standard or series parts. Typical examples are screws, bearings, cables, seals or standard sensors to DIN, ISO or IEC. In practice, it is often possible to consolidate 20 to 40 per cent of the items in a commodity group without loss of function. This requires close collaboration between engineering, the standards office and procurement, as technical approvals are usually carried by development. Procurement contributes supplier knowledge, price structures and availability information and examines alternatives, for example using functional cost calculations or should-cost analyses.

- Replacement of drawing-specific parts with standard parts
- Harmonisation of materials and surface specifications
- Formation of part families instead of individual designs

### Process standardisation

Process standardisation harmonises procedures along the source-to-pay chain: uniform enquiry

formats, defined quick-turnaround price request processes for standard material, binding delivery schedule structures and standardised order placement. Documents such as the advance shipping notice (ASN) or freight cost breakdown then also follow uniform specifications. The benefits are evident in shorter lead times, lower error rates and better comparability of suppliers. In addition, category charters and clear governance in category management define who is responsible for which processes and approvals. Standardisation thus becomes the organisational foundation for economies of scale across sites and business units.

## **Methods and approach in day-to-day procurement**

Standardisation does not succeed by decree, but through a structured approach with a sound data basis, clear prioritisation and defined ownership.

### **Item consolidation via the data catalogue**

The starting point is sound item master data management. A central data catalogue with unique item identifiers and a defined data owner per commodity group creates transparency about duplicates and purchased parts. Classic analyses show how many identical parts are managed under different numbers – in practice often a significant share of the range. Cleansing is carried out step by step: first, similar items are identified, then technical alternatives are reviewed, and finally the number of approved parts is reduced. Binding approved-parts lists prevent engineering from subsequently specifying individual parts again.

### **Specifications and requirement specifications**

Standardisation already begins in requirements management. A precise requirement specification with harmonised test standards, material specifications and documentation requirements reduces scope for interpretation when it comes to supplier and bidder queries. When requirements are formulated functionally rather than drawing-based, bidders can offer standard solutions – this broadens the supplier base and lowers entry prices. Alignment with the category charter is important: not every commodity group tolerates the same depth of standardisation. For A-components, targeted differentiation may be more sensible than enforced uniformity.

### **Supplier and process harmonisation**

The supplier structure is also standardised: a small number of vetted suppliers per commodity group, uniform framework agreements and standardised supplier audit programmes for quality and process assessments. In addition, buyers harmonise logistics processes through delivery schedule specifications and ASN formats so that inbound deliveries become comparable across systems. When onboarding new suppliers, a standardised clarification round in tenders accelerates the comparability of offers.

## **Key KPIs for standardisation**

Without measurement, standardisation remains a declaration of intent. Proven KPIs capture technical variety, process quality and financial benefit.

### **KPIs for item and supplier consolidation**

Key metrics are the share of standard and standard parts in the total item base, the number of active items per commodity group and the distribution of purchasing volume across suppliers. A falling number

of items with a stable functional scope demonstrates effective consolidation. In addition, the share of automatically triggered purchase orders is measured to assess the maturity of process standardisation.

- Share of standard parts as a percentage of the item base
- Number of active items and duplicate rate
- Number of qualified suppliers per commodity group

### **Financial and operational KPIs**

On the impact side, process costs per purchase order, material cost deviations from reference prices and the total landed cost (TLC) are suitable as a holistic benchmark that combines purchase price, freight and logistics costs. Process KPIs such as lead time from enquiry to order placement or on-time delivery according to the delivery schedule also show progress. In practice, a small set of five to eight KPIs has proven its worth, reviewed regularly in the category management review.

## **Risks and controls in standardisation**

Standardisation creates dependencies and carries technical as well as organisational pitfalls. Control mechanisms keep the risk manageable.

### **Supply and dependency risks**

Consolidation onto a small number of items or suppliers increases dependence on the remaining supplier. If this supplier fails, several production lines are often at a standstill. Buyers counter this with a well-developed risk mitigation plan: second-source capability for critical parts, documented contingency processes and regular reviews of the suppliers' financial situation. In international procurement, sanctions list screening and compliance rules are part of the standard repertoire; for sensitive supply chains, certifications such as AEO. Price elements such as discounts must also be examined systematically, for example through discount tier checks when consolidating volumes.

### **Technical and organisational controls**

From a technical perspective, there is a risk that an ostensibly equivalent standard part will not fully perform a function. Approval processes involving engineering, quality and, where applicable, customers are therefore indispensable, especially in regulated industries. Organisationally, standardisation often fails due to local autonomy: sites continue to order familiar legacy parts. Effective controls are approval logics in the ERP system, a named data owner per commodity group and clear governance in category management that documents and periodically reviews exceptions.

## **Current developments and outlook**

Megatrends such as resilience, digitalisation and sustainability are significantly changing the role of standardisation in procurement.

### **Resilience and reshoring**

Supply chain disruptions have shown that maximum standardisation without safeguards can be fragile. At the same time, standardisation makes it easier to switch between suppliers and sites, because standardised parts can be manufactured by multiple sources. With the trend towards reshoring, standardised manufacturing processes and documented specifications are gaining additional value, as domestic suppliers can switch to defined parts more quickly. Buyers are therefore increasingly balancing consolidation against strategic multi-sourcing capability.

## Digitalisation, data quality and sustainability

Digital tools accelerate standardisation: AI-supported item duplicate detection, networked data catalogues and automated price enquiries significantly reduce the workload. At the same time, expectations of data quality are rising, which is why the data owner role is being staffed more professionally. In sustainability, standardised material specifications and uniform requirement profiles enable transparent assessments, for example of the carbon footprint of parts. Those who think about standardisation and sustainability requirements together avoid duplicated effort in specification and supplier qualification.

## Typical metrics

### Share of standard parts: 20–40 %

typical target range for consolidatable commodity groups, depending on the industry

### Duplicate rate in item master data: < 5 %

typical target value after data cleansing

### Process costs per purchase order: declining year after year

indicator of process standardisation

### Degree of automation in order placement: > 80 %

typical benchmark for standard material in mature organisations

## Practical example

A medium-sized mechanical engineering company with three European plants identified around 2,400 identical purchased parts under different item numbers in a stock analysis. Over 18 months, components were consolidated and enquiries standardised.

- Establishment of a data catalogue with an approved-parts list and a named data owner per commodity group
- Replacement of 380 special parts with standard parts following review by engineering and quality
- Transition to uniform delivery schedule and ASN processes at key suppliers
- Introduction of a risk mitigation plan with second sources for critical standard parts

## Conclusion

Standardisation is one of the most sustainable levers in technical procurement because it pools volume, reduces process costs and makes supply chains more plannable. However, it requires more than declarations of intent: clean item data, clear approval processes and supported governance between procurement, engineering and quality. Those who actively manage dependency risks and continuously evaluate KPIs can combine consolidation with security of supply. In view of resilience requirements and digitalisation, standardisation will in future be designed less maximally and more intelligently – with deliberate exceptions where differentiation creates customer benefit.

## Frequently asked questions

### What does standardisation mean in procurement?

Standardisation in procurement refers to the unification of components, specifications and procurement processes across products and sites. It reduces item variety and pools purchasing volume with a small

number of suppliers. This typically lowers material and process costs, while quality and on-time delivery become easier to manage.

### **What benefits does standardisation offer companies?**

The main benefits are cost reduction through volume consolidation, less complexity in warehousing and planning, and consistent quality through approved parts and processes. In addition, standardised processes shorten lead times from enquiry to purchase order. In the long term, standardisation also improves the comparability of suppliers and quotations.

### **What risks does excessive standardisation entail?**

Excessive standardisation can create dependencies on individual suppliers or components and hinder innovation if customer-specific requirements are neglected. Technological transition phases also sometimes require deliberate variety. A risk mitigation plan, second sources and regular reviews of approved-parts lists mitigate these risks.

### **How do you start a standardisation project in procurement?**

In practice, the project starts with a duplicate analysis of the item master data and the nomination of a data owner for each commodity group. Buyers then prioritise commodity groups with high volume and high variety and align alternatives with engineering and quality. Finally, approved-parts lists and standardised procurement processes secure the results on a permanent basis.

### **What is the difference between standardisation and norming?**

Standardisation is the formal establishment of technical rules by committees, for example in DIN or ISO standards. Standardisation in procurement is broader: it also covers internal company-wide unification of items, specifications and processes. Standard parts are often one building block of standardisation, but not its entire scope.

### **Which KPIs measure the success of standardisation?**

Typical KPIs are the share of standard parts in the item base, the number of active items and process costs per purchase order. The total landed cost (TLC) is also suitable for evaluating consolidation benefits beyond the pure purchase price. In addition, on-time delivery and order lead times indicate process quality.