

Source-to-Pay (S2P): The complete digitalised procurement process from purchase requisition to payment

Source-to-Pay (S2P) denotes the end-to-end procurement process, frequently digitally supported in practice, from demand identification through supplier selection and ordering to goods receipt and invoice processing. The term classically combines separately managed sub-processes into an end-to-end value chain. For buyers and supply chain managers in industry, S2P is the central framework for making transparency, compliance and cost impact in procurement measurable. This article explains the structure, methods, KPIs and risks of the S2P process from the perspective of technical procurement.

Key facts

- Source-to-Pay covers all process steps from the purchase requisition through sourcing and contract to order, goods receipt and invoice approval.
- The term combines the sub-processes Source-to-Contract (S2C) and Procure-to-Pay (P2P).
- In practice, end-to-end S2P processes typically lead to shorter cycle times, fewer sources of error and a better data basis for negotiations.
- Central building blocks are purchase requisition, supplier discovery, bid comparison, e-auction, blanket order, purchase order, goods receipt and invoice verification.
- Typical KPIs are Process Cycle Time, Spend under Management, maverick buying and order-to-pay cycle time.
- Legally relevant elements such as Incoterms, procurement compliance and right to audit should be secured contractually and procedurally.

Definition: Source-to-Pay (S2P)

Source-to-Pay (S2P) describes the complete process chain of procurement, starting with demand identification through strategic and operational procurement to payment processing. The term originates from procurement management and was coined with the digitalisation of the procurement function. S2P is deliberately broader than Procure-to-Pay, as it also includes the upstream sourcing activities.

Delineation from Source-to-Contract and Procure-to-Pay

In technical terminology, S2P is divided into two major blocks. Source-to-Contract (S2C) covers requirement clarification, supplier search, the tendering phase, negotiation and contract conclusion. Procure-to-Pay (P2P) then begins with the purchase requisition or purchase order and ends with goods receipt, invoice verification and payment. Anyone who defines these interfaces cleanly avoids the typical friction losses between strategic and operational procurement.

Significance for technical procurement

In technical procurement, S2P also includes discipline-specific steps such as first sample submission (EMPB), approval processes for new parts and technical specification. Because manufacturing suppliers often deliver critical, drawing-bound components, quality assurance, scheduling and order prioritisation are integral parts of the process. An S2P understood purely administratively would fall short of these industrial particularities.

Process steps in the Source-to-Pay cycle

The S2P cycle can be divided into clearly delineated phases, which in practice are often mapped through an integrated system with workflow support. Each phase generates data that is reused in downstream steps, such as in negotiations or supplier evaluations. The higher the degree of digitalisation, the lower the manual coordination effort.

Demand, research and sourcing

At the start is the purchase requisition with technical specification, quantity framework and scheduling. This is followed by supplier research (supplier discovery), supplemented by a procurement portfolio analysis to clarify which demand should be addressed strategically. For standardised goods, a catalogue or framework agreement is often sufficient; for complex components, a structured enquiry follows with bid comparison and, where applicable, a cost breakdown for cost transparency.

Negotiation, contract and order

In the negotiation phase, a wide range of instruments is used depending on the market environment – from classical negotiations through competitive rounds to e-auctions for comparable services. The result is a framework agreement or blanket order with defined prices, delivery terms and Incoterms. The operational purchase order then triggers the actual procurement transaction, ideally automated from the contract.

Goods receipt, invoice and payment

After delivery comes the goods receipt with quantity and quality inspection; for chemical or material-critical goods, frequently upon presentation of a Certificate of Analysis or corresponding material certificates. The invoice is matched against the purchase order and goods receipt (three-way match); discrepancies are routed into a structured exception management. After approval, payment follows, often with early payment discount terms such as 2/10 net 30.

Methods and approach for building an effective S2P

A functioning S2P process does not arise from software alone, but from clear roles, standardised interfaces and a shared data model. A step-by-step approach has proven its worth, defining the process architecture first and then the system support. It is important to separate and interlink strategic and operational responsibility at an early stage.

Clarify roles and responsibilities

The foundation is a clear allocation of roles according to the procurement roles scheme (RACI). Who raises a requisition, who approves, who negotiates, who releases invoices – these questions must be answered before any system implementation. In particular, approval paths, budget responsibility and technical approvals should be documented and mapped in the system in order to avoid lengthy approval

loops.

Standardise processes and steer exceptions

S2P thrives on standardisation: catalogue orders run through without manual intervention, while exceptions are specifically channelled into exception management. Framework agreements, simplified ordering processes for C-parts and clear escalation paths reduce maverick buying. At the same time, a defined special process remains necessary for exceptional cases – such as first sample submission (EMPB) or safe launch for new series parts.

Data quality and supplier master data

No S2P cycle works without clean supplier and material master data. Duplicates, outdated terms and missing certification evidence cause friction losses at every interface. In practice, it has proven worthwhile to explicitly assign master data ownership and to regularly qualify supplier data – including risk information on supplier cyber risk and certificates.

Key KPIs in the Source-to-Pay process

S2P becomes measurable when KPIs are captured consistently along the process chain. It is essential not only to look at costs, but also at process speed, compliance and supplier performance. In practice, a manageable set of KPIs and regular review meetings have proven effective.

Process and cycle time KPIs

Typical KPIs are the Process Cycle Time from enquiry to purchase order, the order-to-pay cycle time and the share of purchase orders processed automatically (touchless rate). High cycle times often indicate complex approval structures or poor data quality. In addition, the exception rate in exception management shows how stable the standard process actually runs.

Spend, compliance and supplier performance

The share of procurement volume under management (Spend under Management) shows how much spend volume flows through managed processes and contracts. Maverick buying should typically be below ten per cent. On the supplier side, KPIs such as delivery reliability, carrier performance and complaint rates are added; for service providers, service level agreements (SLAs) with defined service credits supplement the steering.

Risks and controls in the S2P process

An end-to-end S2P process carries its own risks: process automation without control can reproduce compliance violations faster and at scale. Conversely, a well-controlled S2P cycle creates evidence for internal and external audits. Key control areas are compliance, supplier risk and contract enforcement.

Compliance and legal certainty

The focus is on procurement compliance: applicable procurement policies, approval thresholds, sanctions list screening and documented award decisions. Delivery terms should be precisely regulated – for example via Incoterms CIP or Incoterms EXW, depending on who bears transport and risk. Tax and contractual details must be reviewed individually; this article does not constitute legal advice.

Supplier risks and audit rights

Supplier failures, insolvency or cyberattacks affect the entire S2P cycle. Risk monitoring of supplier cyber risk, a procurement portfolio analysis for dependency assessment and contractual right-to-audit clauses create the basis for evidence and rapid response. For critical components, dual sourcing strategies and safeguarding agreements such as a consignment agreement provide additional protection.

Cost control and claims management

Retroactive costs frequently arise from incorrect order terms, deviating freight invoices or unagreed additional services. A systematic freight audit checks transport invoices against agreed terms and ocean freight cost components. In addition, SLA requirements should be linked to service credits so that agreements have economic effect in the event of non-compliance.

Current developments in Source-to-Pay

S2P is evolving from pure process automation towards a data-driven steering function. Drivers are AI-supported demand detection, better supplier data and integration with planning and production systems. For SMEs and the supplier industry, S2P is thus increasingly becoming an early indicator of supply chain protection and resilience.

AI and data integration

Modern approaches use AI for spend classification, for detecting anomalies in orders and invoices, and to support supplier selection. The decisive factor is the data basis: without harmonised master data, algorithms deliver hardly any reliable results. In practice, an incremental build-up has proven effective, starting with classified spend and clean supplier master data.

Integration with planning and production

S2P is increasingly being interlinked with demand and capacity planning. Methods such as Rough Cut Capacity Planning (RCCP) on the supplier side and early order prioritisation help to identify bottlenecks in the procurement environment in good time. First sample submission (EMPB) and safe launch processes are also being integrated more strongly into the S2P chain to safeguard series launches.

Typical metrics

Spend under Management: typically > 80 %

Share of procurement volume under managed processes and contracts

Maverick Buying Rate: typically < 10 %

Share of purchases outside defined processes and framework agreements

Process Cycle Time: commonly 5–15 working days (complex requirements)

From purchase requisition to purchase order; highly variable depending on complexity

Touchless Order Rate: typically > 60 % for catalogue demand

Share of purchase orders processed automatically without manual intervention

Order-to-Pay Cycle Time: typically < 30 days

Time from purchase order to paid invoice including matching

Practical example

A medium-sized mechanical engineering company with around 250 employees had fragmented procurement channels: technicians ordered directly, framework agreements were hardly used, and invoices were checked manually. As part of a realignment towards S2P, the company standardised the process from purchase requisition to payment and moved C-parts onto a coordinated procurement platform. Within one year, the manual verification effort fell significantly, the cycle time from enquiry to purchase order shortened noticeably, and the negotiating position for standardised components improved through consolidated volumes.

- Introduction of uniform approval paths based on RACI logic with defined budget thresholds
- Establishment of a supplier master data model including certificate and risk information
- Conversion of recurring demand to blanket orders with agreed Incoterms
- Introduction of a three-tier exception management for invoice and quantity discrepancies

Conclusion

Source-to-Pay is more than a software category: it is the end-to-end organisational and procedural bracket around the entire procurement function. Those who build S2P systematically gain transparency over spend, cycle times and supplier risks – and create the data basis for better negotiations and robust compliance. Decisive factors are clear roles, clean master data and a realistic step-by-step introduction. Industrial companies with complex purchased components should include discipline-specific processes such as sample submission and quality approval from the outset. This turns S2P from an administrative project into a genuine lever for cost, security and delivery capability.

Frequently asked questions

What does Source-to-Pay (S2P) mean?

Source-to-Pay describes the entire procurement process, from the purchase requisition through supplier selection, negotiation and ordering to goods receipt and invoice payment. It combines the sub-processes Source-to-Contract and Procure-to-Pay. The aim is a seamless, controlled and, wherever possible, digitalised workflow.

What is the difference between S2P and P2P?

Procure-to-Pay (P2P) only covers the operational stretch from order to payment. Source-to-Pay additionally includes the upstream sourcing activities: requirements analysis, supplier search, bid comparison, negotiation and contract conclusion. S2P is therefore the more comprehensive process term.

Which steps belong to the Source-to-Pay process?

Typical steps are purchase requisition, specification, supplier research, enquiry and bid comparison, negotiation, contract conclusion, purchase order, shipping and goods receipt inspection, invoice verification, approval and payment. For technical goods, sample submission (EMPB), quality approval and compliance with agreed Incoterms are added.

What benefits does Source-to-Pay bring in procurement?

In practice, end-to-end S2P processes lead to shorter cycle times, less maverick buying, better cost transparency and a solid data basis for negotiations. In addition, compliance and audit reliability

increase, as approvals and award decisions are documented.

How do you implement Source-to-Pay in SMEs?

A step-by-step approach has proven its worth: first clarify roles and approval paths using RACI, then build master data and standard processes, and finally introduce system support. It is important to manage exceptions via exception management and to handle C-parts through simple catalogue or framework processes.

Which KPIs are measured in the S2P process?

Typical KPIs are Spend under Management, Process Cycle Time, maverick buying rate, order-to-pay cycle time and the share of automated purchase orders. In addition, delivery reliability, carrier performance and complaint rates provide insights into supplier performance along the chain.