

Three-Way Match Rate: A KPI for smooth purchase order processing

The Three-Way Match Rate is a process KPI in procurement that indicates what percentage of all purchase orders can be processed without manual clarification through the interplay of purchase order, goods receipt and invoice. It is regarded as a key early indicator of data quality, delivery discipline and the efficiency of accounts payable accounting. The higher the rate, the lower the manual checking effort and the faster the payment release.

Key facts

- The Three-Way Match Rate relates automatically matched document combinations of purchase order, goods receipt and invoice to the total number of invoices.
- In practice, a rate of over 95 to 98 percent is typically considered the target value for a stable ordering process.
- Deviations frequently arise from quantity or price differences, missing order references or tolerance exceedances.
- The KPI links procurement, goods receipt and financial accounting and strengthens data control across the entire process.
- A high match rate is a prerequisite for the concept of Exemplary Payments (Payment on Match) and shortens supplier payments.

Definition: Three-Way Match Rate

The Three-Way Match Rate describes the percentage share of invoices where purchase order, goods receipt and incoming invoice match completely and within the defined tolerances. It is usually reported monthly or quarterly per site, supplier or commodity group.

Distinction from two-way and four-way matching

In a two-way match, only the purchase order and invoice are compared, for example for services without a goods receipt. The four-way match extends three-way matching by adding the quality inspection, for example based on a Certificate of Analysis or an inspection report. The match rate in a four-way match is correspondingly stricter, as quality data must also match.

Position within the ordering process

The KPI is closely linked to materials management, as the goods receipt provides the quantity and quality data. If the order reference is missing or the delivered material report deviates, the case remains stuck in clarification and lowers the rate. Clean data management in the procurement data model is therefore a fundamental prerequisite for high match rates.

Methods and approach for improving the match rate

A high Three-Way Match Rate is not created in accounting but beforehand in the procurement process. Decisive factors are disciplined purchase order creation, reliable delivery data and clear tolerance rules.

Clean purchase order creation and catalogue procurement

Many deviations already arise at the purchase requisition stage: unclear item descriptions, incorrect units or missing material numbers. Catalogue and contract procurement with stored prices systematically reduces price deviations. A delivered specification of services should be reflected in order items so that invoices can be clearly assigned.

Defining tolerances and escalation rules

In practice, percentage price and quantity tolerances have become established, typically in the range of a few percent depending on the commodity group. If a deviation exceeds the tolerance, the case is automatically escalated to procurement or accounting. Clear escalation levels with processing deadlines prevent clarification cases from remaining open indefinitely.

Involving suppliers in the process

Suppliers who send order confirmations, delivery notes and invoices consistently with an order reference contribute directly to a high match rate. The requirements can be incorporated into supplier evaluation criteria and managed via the supplier score. With strategic partners, co-creation with suppliers can be used to jointly optimise interfaces such as EDI invoices.

Key KPIs around three-way matching

The match rate should never be viewed in isolation. Only the combination with further process KPIs shows where deviations arise and what costs they cause.

Core KPIs at a glance

In addition to the Three-Way Match Rate, the clarification case rate, the cycle time from invoice receipt to payment and the proportion of manually processed invoices are particularly relevant. The data quality of purchase orders should also be measured, for example the proportion of orders without a price or without a material number.

- Three-Way Match Rate: share of invoices automatically passed through
- Clarification case rate and average clarification case duration
- Proportion of purchase orders with a complete order reference
- Invoice processing time from receipt to release

Link to supplier KPIs

Deviation causes can often be localised at the supplier, for example chronically incorrect prices or partial deliveries without notification. The supplier score should therefore also reflect process discipline. In addition, a cost driver analysis can show how much the manual clarification effort per case actually costs.

Target values and reporting cadence

In practice, established industrial processes typically achieve match rates of 95 to 98 percent; below 90 percent indicates structural problems. A monthly report per supplier and commodity group makes

improvements measurable. For procurement business planning, this allows the ROI in procurement of process improvements to be estimated.

Risks and controls in three-way matching

Three-way matching is primarily a control instrument: it prevents payments without proof of performance and uncovers irregularities. At the same time, a poorly configured process carries its own risks.

Five typical causes of low match rates

The most common sources of disruption can be addressed systematically. Often, the root cause analysis within the team is already the fastest lever.

- Invoices without or with an incorrect order number
- Price deviations compared with the purchase order or framework agreement
- Quantity deviations due to partial or over-deliveries
- Missing goods receipt postings or late receipt recording
- Inconsistent article master data and units between systems

Internal controls and compliance

Matching is part of the internal control system and supports compliance: no payment without proven performance. At the same time, it applies that tolerances configured too generously weaken the control, while tolerances set too strictly generate clarification cases en masse. The configuration should be documented and reviewed regularly, in individual cases in consultation with the auditor and, where applicable, tax advisors.

Incident management and supply continuity

Where critical materials are affected, match disruptions can also indicate supply difficulties, for example partial deliveries during a supply disruption. Here, integration with the Business Continuity Plan (BCP) and, in an emergency, a crisis team helps. The supplier credit limit can also play a role in such situations if open clarification cases block payments.

Current developments: automation and digital processes

Digitalisation is significantly changing three-way matching. Uniform electronic documents and machine assignment increase the match rate and noticeably reduce manual effort.

E-invoicing, EDI and AI-supported assignment

With the growing adoption of structured e-invoicing formats, automatic assignment to purchase order and goods receipt becomes more reliable. Even invoices without an order reference can in part be assigned automatically using text recognition, although human control remains sensible here. The prerequisite is consistent master data management, for example unambiguous supplier identifiers across all systems.

Lean Procurement and Payment on Match

In the spirit of Lean Procurement, approval levels are reduced and invoices are paid automatically as soon as matching is successful. This accelerates payments and measurably improves supplier relationships. The prerequisite is that ordering and goods receipt processes work just as disciplined as

invoicing.

Inclusion in supplier management and reporting

Match rates per supplier can be integrated directly into supplier management, for example in supplier acquisition criteria for new providers or in risk monitoring via a Risk Heatmap. With onshoring initiatives too, the process quality of new suppliers can be assessed early via the match rate. For strategic topics such as Confidentiality or Change of Control with suppliers, matching remains a subordinate, though data-wise relevant, element.

Typical metrics

Three-Way Match Rate: > 95 %

Common target value in practice for established industrial processes; above 98 % is considered very good

Clarification case rate: < 5 %

Proportion of invoices requiring manual clarification

Clarification case cycle time: < 5 working days

Typical benchmark; longer durations tie up resources and delay payments

Proportion of purchase orders without price information: < 2 %

Early indicator of later price deviations in matching

Invoice processing time: < 7 days

From invoice receipt to payment release; dependent on early payment discount terms

Practical example

A mid-sized mechanical engineering company with around 12,000 invoices per year determined a Three-Way Match Rate of only 86 percent. A cost driver analysis showed that the manual clarification effort per case typically caused several dozen euros in processing costs. Through four targeted measures, the company increased the rate to over 97 percent within one year.

- Introduction of binding tolerance rules for price and quantity deviations by commodity group
- Mandatory order reference for all suppliers, communicated via onboarding and supplier evaluation criteria
- Conversion of strategic suppliers to EDI invoices and order confirmations
- Monthly matching reporting per supplier as part of the supplier score

Conclusion

The Three-Way Match Rate is more than an accounting KPI: it makes process quality across procurement, goods receipt and finance visible in a single figure. High rates reduce processing costs, accelerate payments and strengthen the internal control system. Low rates indicate weaknesses in master data, ordering discipline or supplier processes. Companies should evaluate the KPI regularly, address root causes systematically and anchor it in supplier management. This turns three-way matching from a mandatory control point into a genuine efficiency lever in procurement.

Frequently asked questions

What is the Three-Way Match Rate?

It indicates what percentage of incoming invoices can be processed automatically through the matching of purchase order, goods receipt and invoice, without manual clarification being required. The figure is typically reported as a percentage per period or per supplier. A high rate signals clean processes and good data quality.

What is a good value for the Three-Way Match Rate?

In practice, values above 95 percent are considered good, and above 98 percent very good. Below 90 percent usually indicates structural problems with master data, purchase order creation or supplier processes. Target values should be set differentially by commodity group and supplier segment.

What causes lower the Three-Way Match Rate?

The most common causes are missing or incorrect order references, price and quantity deviations, late goods receipt postings and inconsistent article master data. Partial deliveries without notification or invoices without an order reference also contribute. A systematic root cause analysis by supplier and commodity group reveals the key levers.

How does three-way matching differ from two-way and four-way matching?

In a two-way match, only the purchase order and invoice are compared, for example for services without a goods receipt. Three-way matching includes the goods receipt, and four-way matching additionally includes the quality inspection. The more documents are included, the stricter the control, but also the higher the demands on data quality.

How can procurement improve the Three-Way Match Rate?

Key factors are clean purchase order creation with stored prices and material numbers, clearly defined tolerances, and a commitment from suppliers to order references and uniform documents. EDI and e-invoicing connections further increase the automation rate. Supplier process discipline should be incorporated into supplier evaluation.

What role does three-way matching play in payment release?

Only after a successful match is the invoice released for payment, which prevents payments without proof of performance. Many companies apply the principle of Payment on Match: after a successful match, payment is made automatically without additional approvals. This shortens cycle times and improves the relationship with the supplier.