

# Bid Matrix: Structuring the Bid Matrix in Procurement Comparison

The bid matrix is a tabular bid overview in which the prices and terms of all bidders in a tendering process are set side by side. It makes price differences, item gaps and negotiation leeway visible at a glance. In day-to-day industrial procurement, it is a central working tool in the sourcing process, especially in tenders with multiple line items and comparable services.

## Key facts

- The bid matrix compares bids from different bidders line item by line item in a standardised table.
- It immediately reveals gaps, outliers and line items with significant price differences.
- Evaluation is frequently based on total cost criteria such as total cost of ownership, not just unit prices.
- The bidder matrix is the basis for negotiations, award decisions and documented compliance in the award process.
- A clean bid matrix presupposes uniform spec and requirements management; otherwise bids are not comparable.

## Definition: Bid Matrix

The bid matrix (also known as the bidder matrix) is a structured side-by-side comparison of all bids received in a tender. It arranges the enquiry line items as rows and the bidders as columns, so that every bid price per line item is directly comparable.

## Distinction from Bid Comparison and Scoring Matrix

The bid matrix is the raw picture of the prices. The bid comparison derived from it additionally evaluates the bids against qualitative and logistical criteria. A scoring matrix or scoring model in turn supplements the price level with weightings for quality, delivery performance and risk factors. In practice, all three instruments are often merged into a single document.

## Areas of Application in Industrial Procurement

Bid matrices are used for lot allocation, framework agreements, multi-year contracts and spot tenders. Especially in multi-stage award processes, the matrix serves as a control instrument before every award decision. It also provides a fact-based basis for decisions when requalifying suppliers or extending the Approved Vendor List (AVL).

## Structure and Methods: How Is a Bid Matrix Created?

The structure follows a schematic pattern: the tender line items form the rows, the bidders the columns. Depending on the maturity of the procurement process, the matrix is maintained manually in spreadsheets or automatically in e-sourcing platforms.

## Structure of the Matrix

A practical bid matrix contains at least the following columns per bidder: unit prices per line item, discounts, ancillary costs such as freight surcharges, tooling or set-up costs, delivery time, payment terms and total sum. A uniform unit of measure and a uniform spec set per line item are important. Missing line items are marked as gaps, not estimated.

## Normalisation and Comparability

Bids frequently differ in scope of supply, payment terms or options. Before comparison, all bids are normalised to a common cost basis, for example by converting payment terms into early payment discount effects or by adding freight and packaging costs. Only then are bidder prices fairly comparable.

## Total Cost Evaluation Instead of Pure Unit Price Comparison

In industrial procurement, a pure unit price comparison is often misleading. Tooling costs, minimum order quantities, off-take commitments, spare parts costs or quality risks shift the total cost balance. For this reason, the bid matrix is frequently extended in practice to include TCO criteria before a bidder ranking is drawn up.

## Key KPIs and Evaluations from the Bid Matrix

The bid matrix provides not only a ranking but also quantitative metrics on the quality of the competition. These KPIs feed into reports to management and into supplier development.

### Price and Spread Metrics

Typical metrics are the price difference between the best bidder and the second-best bid, the spread of all bids and the proportion of line items with only one bid. A narrow spread indicates a mature market; a wide spread indicates information asymmetries or differing understandings of the scope of services.

### Completeness and Quality Rate

The completeness rate indicates what percentage of the line items a bidder has priced. High item gaps prolong follow-up queries and bidder communication. The average processing time per bidder is also a practical indicator of the response to the tender.

### Benchmark Against Actual Prices and Market References

In addition to the bidder comparison, the matrix is often set against previous purchase prices and external market references. This internal benchmarking shows the concrete savings lever per line item and provides arguments for negotiation or for the later implementation of the result in the purchase order.

## Risks, Controls and Compliance

The bid matrix is not only an analysis tool but also a compliance document. Faulty or subsequently altered matrices can lead to award violations, bid challenges and reputational damage.

### Fairness and Equal Treatment of Bidders

All bidders must receive the same information and the same deadlines. Subsequent changes to specifications must be communicated via bidder communication to all participants, not just to individual ones. Violations of these principles can lead to a bid challenge or, in extreme cases, to claims for

damages.

### **Documentation and Traceability**

Every change to the bid matrix should be versioned and documented with date and author. Meeting minutes, queries and clarifications belong in the award file. For public tenders, more extensive documentation obligations must be observed; the requirements must be examined on a case-by-case basis.

### **Typical Sources of Error**

Common mistakes are inconsistent units of measure, overlooked ancillary costs, missing normalisation of payment terms and the premature weighting of unit price over total cost considerations. Unclear specifications also lead to bidders pricing different services, distorting the matrix in content terms.

## **Current Developments and Digitalisation**

Bid matrices are increasingly created digitally and generated automatically from e-sourcing platforms. This is changing the creation process and significantly expanding the analytical possibilities.

### **E-Sourcing and Automated Matrices**

Modern e-sourcing systems generate the bid matrix automatically from the submitted bids and enable live comparisons during the bidding phase. Reverse auctions and dynamic price enquiries deliver a continuously updated matrix. This accelerates the sourcing process and reduces manual sources of error.

### **Integration with Inventory and Planning Systems**

In practice, the bid matrix gains in value when it is linked with data from inventory management and the planning horizon. Volume forecasts from reorder point procedures or from planning requirements then flow directly into the tender quantities. This improves volume discounts and reduces subsequent renegotiations.

### **Data Analytics and AI Support**

Analysis tools today automatically identify outliers, cluster patterns by commodity group and potential lot allocation options. AI-supported analyses can also incorporate price histories and supplier risks. The result is no longer a pure price table but a data-based decision-making basis for the award.

## **Typical metrics**

#### **Price spread: typically 5–20 %**

Difference between the best and worst bid per line item

#### **Completeness rate: > 95 %**

Proportion of priced line items per bidder

#### **Line items with a single bid: < 10 %**

A high proportion indicates insufficient competition

#### **Savings lever: frequently 3–10 %**

Potential compared with previous purchase prices

## Practical Example

A medium-sized mechanical engineering company issues an invitation to tender for a package of 48 different steel sheet parts with an annual requirement of around 120,000 units. Three approved suppliers from the Approved Vendor List (AVL) and one new potential supplier submit bids. The bid matrix shows that the incumbent main supplier is the best bidder for 38 line items, the new supplier is significantly cheaper for nine line items, and one item was not priced at all. After clarifying the open item via bidder communication and normalising freight and tooling costs, a savings lever of around seven per cent emerges for the overall package.

- Bid matrix normalised for freight, tooling and payment term effects
- Lot allocation between two suppliers examined to reduce supplier risk
- Result archived as a version-documented award file
- Framework agreement provided with a price adjustment mechanism and off-take commitment

## Conclusion

The bid matrix is the central tool for comparing bids in a more structured, fairer and more robust way. It does not replace a strategic procurement decision but provides the analytical foundation for it. What matters is a clean specification, consistent normalisation of the bids and a documented, traceable evaluation. Those who combine the matrix with total-cost-of-ownership criteria and internal benchmarks identify not only the best bidder but also the actual savings lever. In this way, the bid matrix contributes directly to the safeguarding, efficiency and compliance of the entire award process.

## Frequently asked questions

### What is a bid matrix?

A bid matrix is a tabular comparison of all bids in a tender, sorted by line items and bidders. It makes price differences, gaps and outliers immediately visible. In practice, it serves as the basis for bid comparison, negotiation and the award decision.

### How do you create a bid matrix?

First, all tender line items are set up as rows and all bidders as columns. Unit prices, discounts, ancillary costs, delivery times and payment terms are then entered for each bidder. Before comparison, all bids are normalised to a common cost basis, for example by including freight and tooling costs.

### What is the difference between a bid matrix and a bid comparison?

The bid matrix simply presents the raw bid data in a structured form. The bid comparison additionally evaluates this data against qualitative, logistical and total cost criteria. It is only the evaluation, often supplemented by a scoring matrix, that leads to an award recommendation.

### Why is a bid matrix important for compliance?

The bid matrix documents in a traceable way how bids were compared and how the award decision came about. It is therefore a central element of the award file. Faulty or subsequently altered matrices can lead to bid challenges or legal disputes.

### Which criteria belong in a bid matrix?

At minimum: unit prices per line item, volume discounts, ancillary costs such as freight surcharges or

tooling costs, delivery times, payment terms and the total sum. Options, minimum order quantities and quality certificates are also useful. The more complete the matrix, the more robust the comparison.

### **How does AI support the creation of a bid matrix?**

AI-supported e-sourcing platforms generate bid matrices automatically from the submitted bids and detect outliers or gaps. In addition, price histories and supplier risks can be incorporated. This shortens the sourcing process and improves data quality, but does not replace the professional evaluation by the buyer.