Negotiating from Knowledge: Putting Manufacturing Intelligence in the Hands of the Direct Materials Buyer

How aiSource Closes the Expertise and Visibility Gap in Direct Materials Negotiation

SOLUTION SPOTLIGHT

PROCUREMENT SOLUTION INTELLIGENCE

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ABOUT APRIORI

aPriori is a product manufacturing intelligence platform that connects design, sourcing and production decisions through physics-based, geometry-driven manufacturing simulations.

Founded in 2003 and headquartered in Massachusetts, USA, the company built its platform on the premise that the cost of manufacturing a part can be modeled directly from its geometry, material and process, independently of what any single supplier chooses to disclose. Physics-based cost simulation remains the platform's most established capability and the clearest expression of the broader manufacturing intelligence it delivers.

aPriori's platform integrates directly into the design environments where parts originate, including major CAD and PLM systems, and maintains. It maintains digital factories that ground its cost and manufacturing simulations in real manufacturing conditions.

Its customer base spans discrete manufacturers across the automotive, aerospace, industrial, medical device and energy sectors, reflecting the complexity of assembled, engineered products where direct materials spend is both substantial and difficult to manage.

aiSource, the focus of this report, extends that product manufacturing intelligence, historically the domain of cost and manufacturing engineers, into the hands of the procurement organization itself.

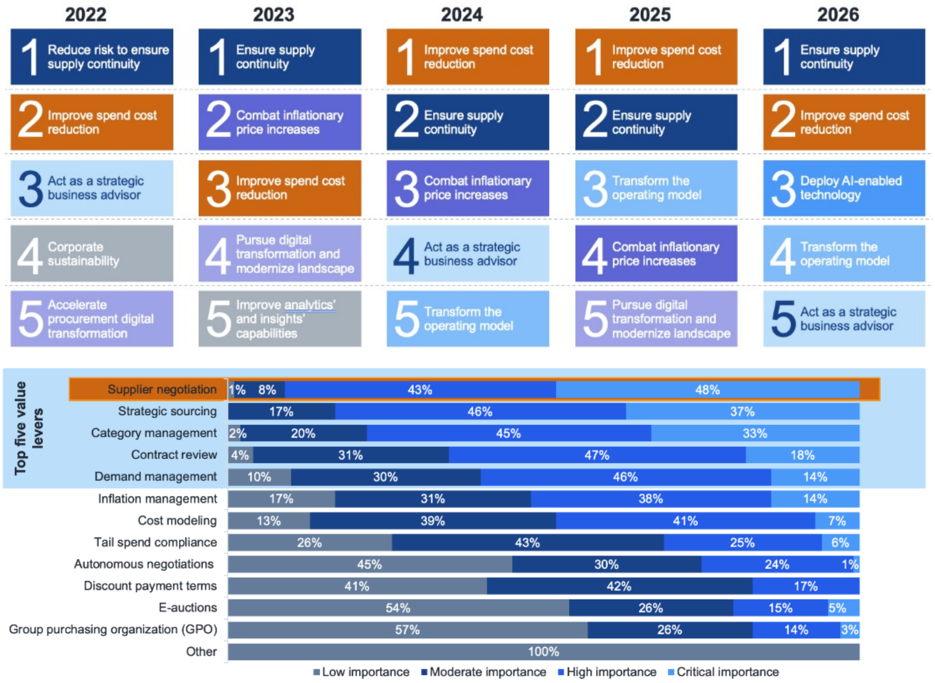
SOLUTION SPOTLIGHT

INDUSTRY CHALLENGES
The Direct Materials Challenge

Cost reduction has ranked among procurement's top two priorities every year since 2022 and remains closely tied to the priority that has now overtaken it. In 2026, supply continuity moved into the number one position for the first time in two years, with cost reduction close behind in second place. The two are increasingly intertwined – optimizing cost and managing supply risk both depend on the same underlying capability: understanding what a part actually costs to make across suppliers, regions and manufacturing processes.

The technique procurement leaders are counting on most to close the savings gap is not a new sourcing process or system; it is supplier negotiation itself.

But negotiating direct materials effectively requires cost and manufacturing expertise that most procurement organizations lack at scale and cannot easily build.



That shortfall reflects a structural position, not simply a skills gap.

Procurement sits between engineering (which defines what gets made) and suppliers (which make it). To hold a meaningful conversation with either side, buyers need two things they typically lack: the expertise to interpret manufacturing costs and visibility into what a part should cost to make, independent of what the supplier chooses to disclose.

Without a shared, fact-based understanding of cost, negotiation stays positional and slow. With a shared fact base in place, negotiation becomes a collaborative search for the best outcome achievable for the buyer, the engineer and the supplier alike.

Source: 2026 Procurement Agenda and Key Issues Study, The Hackett Group®

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HACKETT INSIGHTS

According to The Hackett Group's *2026 Procurement Agenda and Key Issues Study* and its *2024 Spend Orchestration Study*, four converging findings define the direct materials sourcing challenge procurement faces today.

Finding 1: Supplier negotiation is the number one savings lever. Procurement leaders are clear about where 2026 savings will come from. Supplier negotiation ranks first among all techniques expected to drive increased savings and value realization, rated “high” or “critical” importance by 95% of respondents (54% high, 41% critical) and ahead of strategic sourcing, category management, contract review and demand management.

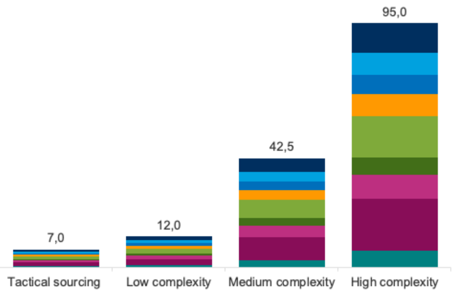
Finding 2: Negotiation consumes the most time in sourcing. Across the nine subprocesses that make up a sourcing event, contract negotiation consumes the largest share of time at 21%, ahead of supplier evaluation and selection (17%) and requirements definition (12%). In high-complexity sourcing events, which average 95 business days from initiation to signature, that 21% translates to roughly 20 business days spent in negotiation alone.

Finding 3: Skills and expertise are the number one barrier. The challenge is not motivation but capability:

- 63% of procurement organizations cite the required combination of skills and expertise as the number one barrier to effective category management, ahead of the manual activity burden and collaboration demands.
- At the same time, supplier negotiation is rated the single most important skill for strategic sourcing, cited by 91% of respondents.

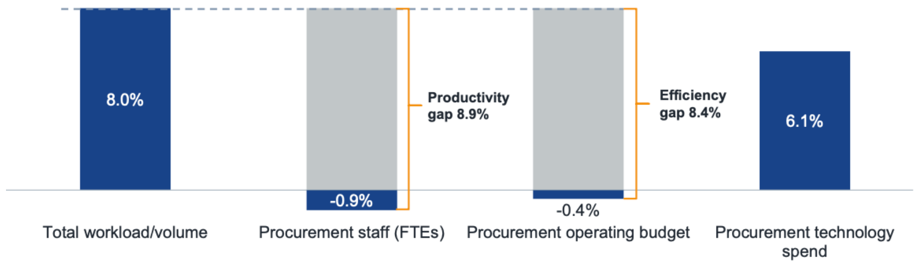
Finding 4: Workload rising, resources flat. The resource picture compounds the challenge. Procurement workload is projected to grow by 8.0% in 2026, while staffing falls slightly (-0.9%) and operating budgets contract (-0.4%). The Hackett Group® calculates the resulting shortfall as a productivity gap of 8.9% and an efficiency gap of 8.4%. Organizations are counting on technology to help close these gaps, reflected in projected technology spend growth of 6.1%. Intelligent tools that expand the capacity of existing teams, rather than simply adding headcount, are becoming less of a preference and more of a necessity.

CYCLE TIME BY COMPLEXITY LEVEL (BUSINESS DAYS)



High-complexity event	% of time	Cycle time (business days)
Requirements definition	12%	11.4
Development of sourcing strategy/documents	9%	8.6
Supplier identification/discovery	8%	7.6
Supplier qualification	9%	8.6
Supplier evaluation and selection	17%	16.2
Supplier regulatory/risk assessment	7%	6.7
Contract creation	10%	9.5
Contract negotiation	21%	20.0
Contract approval and signature	7%	6.7

PROJECTED PERCENT CHANGE FROM 2025 TO 2026
FOR PROCUREMENT, STAFFING, BUDGET AND TECHNOLOGY SPEND



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SOLUTION OVERVIEW

aiSource surfaces aPriori's physics-based, geometry-driven simulations through a conversational interface built for the procurement buyer, **translating product manufacturing intelligence into guidance a non-expert buyer can act on immediately** from new product introduction through ongoing value engineering.

TODAY
Savings Depend on a Few Experts

✓ Cost expertise concentrated in a few specialists
✓ Savings are inconsistent and hard to scale

WITH AISOURCE
Every Buyer Performs Like an Expert

✓ Manufacturing intelligence available to every buyer, not just a few
✓ Every negotiation grounded in a shared, fact-based should-cost

1 Opportunity Identification

Surfaces where quoted prices deviate most from should-cost, prioritizing effort toward the highest-value parts. Systematic screening enables a far larger share of the portfolio to be evaluated without adding headcount.

2 AI-Guided Negotiation

Generates a negotiation guide (summary, cost breakdown, gap analysis) and coaches buyers through a discussion to generate drafts of supplier communications or explore what-if scenarios. Buyers gain access to intelligence on why a part costs what it does.

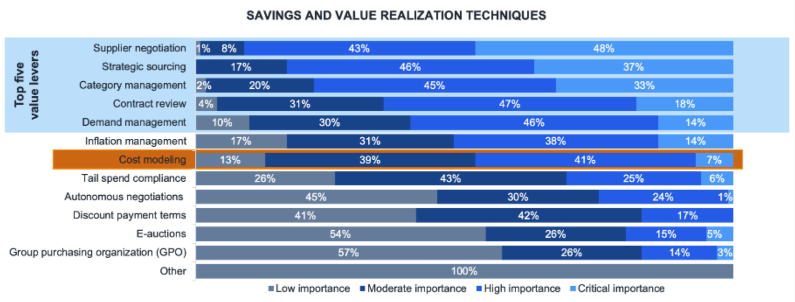
3 Real-Time What-If Reconciliation

Tests a supplier's cost assumptions against the simulation instantly, turning claims into a fact-based conversation rather than accepting or rejecting a claim on faith; both sides can examine it against the same underlying model.

HACKETT INSIGHTS

Cost modeling means having a clear understanding of the cost elements and the relevant proportion of each element to enable a constructive discussion with suppliers about the purchase price being offered.

According to The Hackett Group's *2026 Procurement Agenda and Key Issues Study*, the technique is rated an important value lever by procurement organizations, though it remains under-employed relative to other techniques like negotiation and strategic sourcing. It is cited as "high" or "critical" importance by 45% of respondents, compared to supplier negotiation's 95%.



aiSource operationalizes this directly, making cost modeling something every buyer can practice rather than an expert-only discipline.

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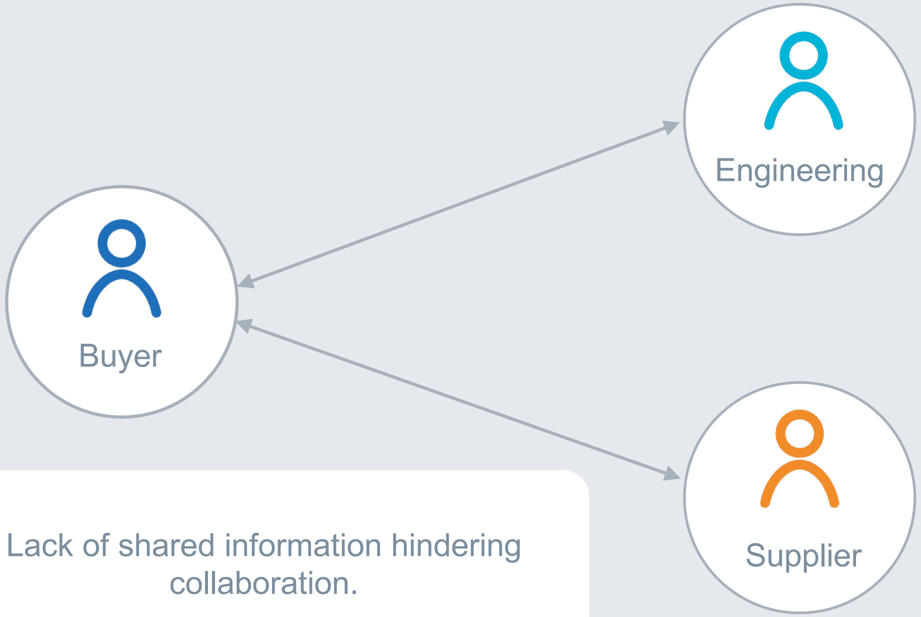
SOLUTION OVERVIEW

aiSource capabilities enable a shift from reactive negotiation to systematic, fact-based dialog across the direct materials portfolio and between all internal and external participants

Traditional negotiation

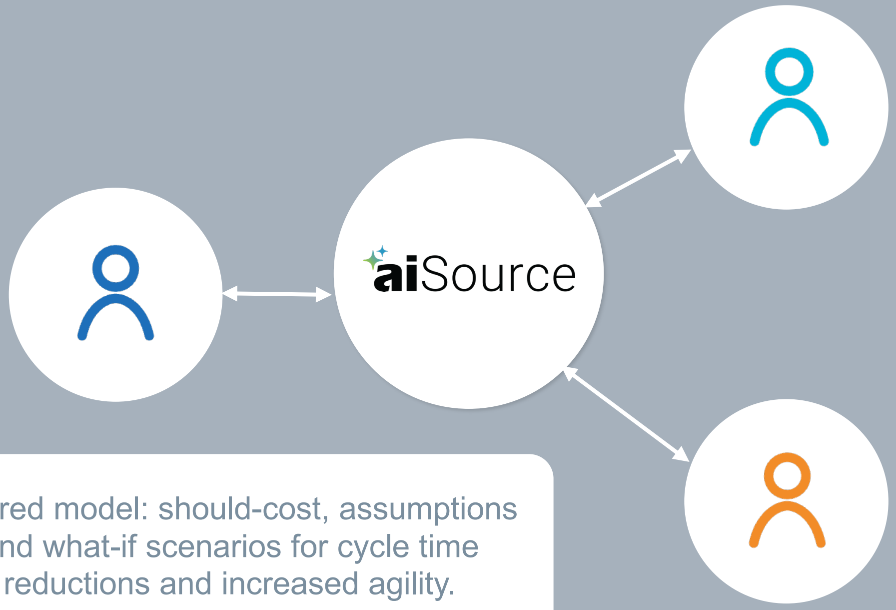
Buyer relies on supplier disclosure and limited manufacturing visibility.
Procurement is the intermediary in all one-to-one conversations.



Lack of shared information hindering collaboration.

With aiSource

aiSource translates manufacturing intelligence into guidance the buyer can use immediately and supports cross-functional collaboration.



Shared model: should-cost, assumptions and what-if scenarios for cycle time reductions and increased agility.

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VALUE REALIZATION AND BENEFITS

Negotiate with evidence, not instinct: buyers enter every supplier conversation with a complete picture of what a part should cost and why. That picture includes material, labor, overhead and margin, broken down by subprocess, with the reasoning behind each number, not just the figure itself. Gaps between the quoted price and should-cost are quantified before the first call. The conversation shifts from positional bargaining to a collaborative exploration of costs and options (raw materials, shapes, manufacturing, etc.).

Key benefits:

- **Scale coverage without scaling headcount**. Where teams today conduct detailed analysis on only a fraction of their direct materials portfolio, aiSource enables systematic screening across a much broader scope of parts. Negotiation effort can then be directed to the highest-value opportunities, rather than to the parts that happen to be most familiar or most recently up for renewal.
- **Accelerate cycle time.** Requirements definition and supplier evaluation (two of the most time-consuming sourcing subprocesses identified in The Hackett Group's research, see previous) can be compressed when pre-computed cost intelligence is available. For value analysis/value engineering (VAVE) programs specifically, this means options can be evaluated and validated in hours rather than weeks, helping procurement keep pace with commodity price shifts and the supply disruptions that The Hackett Group's research identifies as procurement's top priority for 2026.
- **Connect engineering, procurement and suppliers around shared data**. aiSource positions procurement as the linchpin of a three-way, fact-based dialog: engineering's design decisions, procurement's sourcing strategy and the supplier's manufacturing reality can all be evaluated using the same simulation.

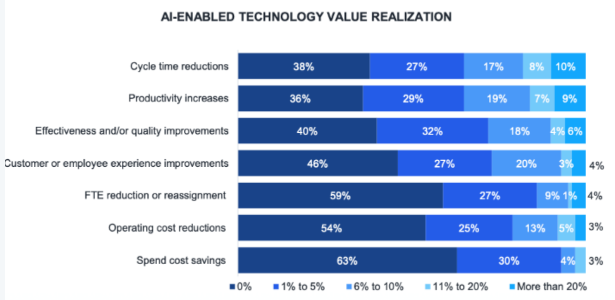
This represents the required **shift from reactive negotiation to collaborative cost optimization**, applicable across new product introduction, ongoing VAVE programs and portfolio management.

HACKETT INSIGHTS

The pressures documented on the preceding pages are not easing in 2026. They are intensifying. Supply continuity has overtaken cost reduction as procurement's top priority for the first time in two years, adding scenario planning and supply-risk analysis to an already stretched workload.

At the same time, AI is already delivering measurable value in cycle time and productivity, yet direct spend cost savings remain the benefit area where the least value has been realized so far (38%, against 63% for cycle time).

Organizations that continue to negotiate direct materials on instinct, without a shared fact base, are likely to find that gap increasingly difficult to close and to fall further behind organizations that don't.



That shift is also changing what procurement expects from AI itself. The market is moving toward intelligence embedded in the systems teams already use, rather than delivered as a separate destination to learn. Based on The Hackett Group® research, 69% of procurement organizations now prefer AI functionality embedded in their existing solution, a preference that has grown over the past year. For direct materials negotiation, that means intelligence has to show up inside the conversation the buyer is already having (its sourcing solution and not require a "trip" to a separate tool.

When cost and manufacturing intelligence sit in the buyer's hands, the change is structural, not incremental. **Negotiation becomes a shared, fact-based conversation in which engineering, procurement and suppliers can participate**, using the same set of numbers at every point in the product lifecycle, from new product introduction through ongoing value engineering. Buyers move from relying on what a supplier chooses to disclose to working from what a part actually costs to make.

The question facing direct materials procurement in 2026 is not whether to apply AI, but which AI actually closes the gap that matters: expertise and visibility in negotiation. aiSource is built on a physics-based simulation of manufacturing, which makes the intelligence trustworthy, the guidance actionable and the conversation genuinely fact-based.

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