

Baker Hughes Achieves Bottom Line Savings with AI Sourcing Optimization



Value-Driven Benefits

900K SKUs

Supported by C3 AI Sourcing Optimization

800+ Sites

Covered at full-scale implementation

Millions

In economic benefit realized in CY2025

Introduction

Baker Hughes is a global energy technology leader with 57,000 employees operating across 120+ countries. Generating \$7B+ in quarterly revenue, the company provides innovative products and systems essential to the energy sector.

Despite this global reach, Baker Hughes recognized that their sourcing teams were hindered by a challenge common to industrial giants: fragmented data. Critical information was scattered across disconnected internal and external systems, forcing buyers to manually reconcile data through multiple spreadsheets. This "one-off" approach slowed procurement velocity and limited the team's ability to manage their portfolio with speed and confidence.

In 2019, Baker Hughes partnered with C3 AI to embed artificial intelligence into the core of their supply chain. The goal was to unify scattered data, surface invisible insights, and enable higher-quality decisions earlier in the procurement process. What began as a pilot across three sites quickly scaled to ten, and finally across the enterprise. This collaboration evolved beyond a simple dashboard into a comprehensive sourcing decision system - an intelligent layer that allows teams to negotiate with clarity in a volatile environment.

The Challenge: Surfacing Gaps

Procurement and sourcing managers operate in an increasingly complex environment where global supply chains, cost pressures, and risk management intersect. Beyond negotiating favorable terms, they must ensure continuity, compliance, and resilience across diverse supplier networks. While the sourcing teams have deep industry experience, they were frequently "buried" under fragmented data. The manual nature of their workflow created several critical pain points:

Lagging Insights: By the time data points were analyzed and actioned, purchase orders exceeded the cancellation period or market movements rendered the analysis obsolete.

Systemic Discrepancies: Different ERP systems occasionally shared identical part numbers for different items, while foreign exchange (FX) fluctuations created "phantom savings" that did not exist.

Cultural Hurdles: Ground teams sent purchase orders for quotes as mere placeholders to meet order cycle fulfillment targets, further obscuring the true data landscape.

Acknowledging these gaps early was pivotal to addressing underlying issues for a solid foundation to implement AI-driven approaches.

The Results

Through the partnership with C3 AI, Baker Hughes successfully transformed fragmented manual processes into an automated, high-confidence decision system. Opportunities are presented with a full evidence package – total landed cost breakdowns, similar part rationale, and index-based pricing signals. The user feedback loop created a system that enables users to train future recommendations with “internal knowledge” by accepting or rejecting opportunities and connecting live market indices to SKUs. Buyers can monitor markets in real time through live tariff feeds to immediately estimate the total landed cost of an order as new executive orders are announced.

High-Volume Capitalization: By focusing on high-volume product lines and facilities, the team achieved a 5–7% acceptance rate on identified opportunities which significantly impacted the cost of goods sold, which is typically in the high seven- to low eight-figure range annually.

Weekly Rhythms: Success was sustained through weekly business reviews where teams shared live feedback and captured savings in real time.

The Journey: From Pilot to Global Scale

To address these challenges, Baker Hughes embarked on a journey to implement C3 AI Sourcing Optimization, an AI-enabled application designed to optimize sourcing decisions at scale.

Phase 1: Pilot

The initiative began with deployment of the C3 AI Sourcing Optimization application at three sites to provide a unified view and surface insights invisible to a human.

Proof of Value: The C3 AI Sourcing Optimization application was deployed to provide a single pane of glass across multiple source systems.

Mobile Empowerment: A mobile version was developed—fully compliant with security standards like Okta and Microsoft Entra ID—allowing executives and sourcing leaders to access critical datasets while traveling.

The Reality Check: While successful, the pilot exposed fundamental data inconsistencies that had to be resolved before targeting global scale.

Phase 2: Strengthening the Core with Multiple ERPs & External Data

Expanding the footprint across a small number of additional sites revealed structural challenges inherent of a large organization.

Data normalization: Expanding to additional source systems presented challenges in master data elements creating conflicts.

Data Integrity: The AI identified SKUs with identical IDs that were different parts, and flagged market correlations that did not align with the parts being procured.

The Backbone: This phase became foundational in prioritizing data pipelines to accommodate data abnormalities, usability enhancements, master data clean up, and specialized training for operational teams.

About Baker Hughes

- \$7+ billion in quarterly revenue
- 120+ countries of operation
- 800+ program facilities worldwide
- 57,000+ employees

Project Highlights

- 30+ million records from 5 enterprise data sources integrated
- 200+ active users
- Realized savings validated and accepted by business users
- Mobile enabled (iOS & Android)
- Comprehensive view of total landed cost including logistics and live tariff rates
- Identification of similar parts for leverage in supplier negotiations
- Human-in-the-loop workflow to accept or reject recommendations
- Improved recommendations based on continuous user actions

Phase 3: Enterprise Expansion

With a solid foundational data model, governance, and business rules incorporated, the program rapidly scaled globally to 800+ sites covering all strategic Baker Hughes sites.

Large-Scale Consolidation: The system unified more than 36 million SKUs, and 31 million daily and historical purchasing transaction records.

Visibility: The platform supports the management of over 900,000 SKUs linked to current and historical purchasing activity. With consistent data from a shared source of truth, sourcing teams could make decisions with greater speed, accuracy, and alignment.

The Human Element: Change Management & Enablement

Each phase was paired with a relentless focus on people and the process all supported by executive leadership from both C3 AI and Baker Hughes.

Executive Engagement: Leaders from both organizations met weekly to remove roadblocks, provide guidance, listen closely to emerging needs, and support pivots to maintain momentum.

Collaborative Design: Subject matter experts were engaged to refine features, simplify workflows and identify valuable enhancements. Every decision was transparent and every change was discussed, prioritized, and delivered with purpose.

Transparency and Training: Adoption was accelerated through structured training sessions, recurring office hours, and features in company town halls helping supply chain teams see the value and join the journey. This multi-channel approach accelerated adoption, strengthened user confidence, and helped embed data-driven sourcing into everyday decision making.

The Evolution: From Analytics Tool to Intelligent Decision System

Establishing a Single Data Spine

Before the transformation, data was siloed and inconsistent across various platforms. Data was harmonized from strategic ERPs alongside internal and external applications and systems to align SKUs, units of measure, facility structures, ownership, and currencies to create a common spine.

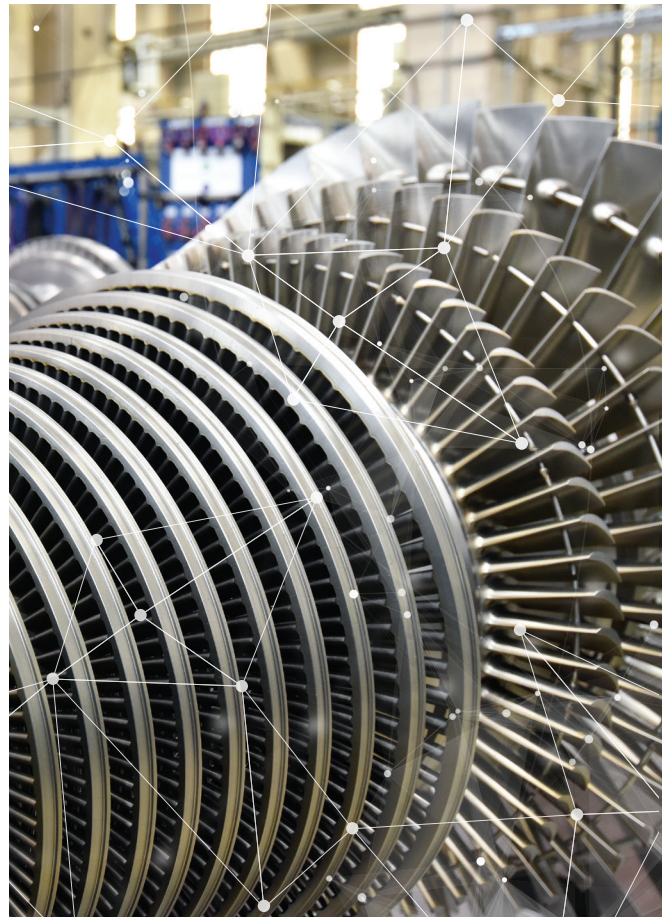
Proactive vs. Reactive Procurement

The system shifted its recommendations from late-stage purchase orders to early-stage purchase requisitions and upcoming orders. This allowed buyers to make changes before commitments were locked in, where cost leverage is highest and ability to shift was present.

Total Landed Cost as the Economic Backbone

Comparing unit prices alone was never enough. With shifting tariffs and logistics rates in a volatile global market sourcing and procurement teams required 12 or more steps across multiple business systems and data bases to determine the total landed cost of a product. The application was developed and configured to calculate the additional cost elements such as logistics and tariffs to determine the total landed cost of an order on purchase orders, upcoming orders, and sourcing rules. Buyers and sourcing leaders could finally compare true economic alternatives against the live markets in one screen.

These three shifts transformed the initiative from analytics into a comprehensive decision system.



Opportunities Buyers Trust

The application moved beyond "black box" suggestions to provide clear, evidence-based rationale for every recommendation.

Transparent Logic: Every opportunity is backed by total landed cost breakdowns, similar part rationale, and index-based pricing signals.

User-Driven Training: Buyers can "train" the system with their own internal knowledge, such as manually linking market indices to specific SKUs via live data providers.

Real-Time Monitoring: The integration of live tariff feeds and executive orders allows for immediate alerts regarding emerging risks or opportunities. The solution integrated third-party data sources, including:

- Leading Market Indices Provider for pricing intelligence and anomaly detection
- Leading Supplier Risk Provider for supplier risk assessment
- Leading Logistics & Duties Provider for trade data supporting total landed cost calculations while also leveraging internal logistics live information

Technical Sophistication at Scale

To support such a vast global network, the platform utilizes advanced machine learning to bridge data gaps.

Similar Parts: Using "nearest-neighbor" algorithms, the system identifies similar parts across the global supplier network by analyzing engineering attributes and part characteristics.

Predictive Intelligence: The platform deployed 30,000 machine learning models to perform anomaly detection on highly transacted items. When specific market indices are unavailable, the system uses elastic regression models to identify relevant correlations automatically.

Adoption Through Practicality

The most significant result was the collapse of complexity. What previously required twelve manual steps across multiple legacy systems is now a single workspace accessible via desktop or mobile. Buyers adopted the tool not just because it was innovative, but because it saved time and enabled data-driven decisions at scale necessary to navigate the supply environment.

For example, machine learning algorithm such as nearest-neighbor identifies similar parts across the global supplier network, helping buyers and sourcing managers identify consolidation of demand beyond the SKU – leveraging the item meta data from engineering attributes, part characteristics and more, such features expand supplier options, and negotiate volume-based discounts.

Why It Worked: The Human in the Loop

Technology alone wasn't enough. Baker Hughes relied heavily on human-centered governance:

- Weekly reviews to align opportunities, acceptance behavior, and data quality
- Feedback loops that allowed the system teams to learn from buyer decisions
- Rapid resolution of data mismatches or logic
- Clear evidence package and explanations built directly into recommendations

These practices mirrored the disciplined operating rhythm seen across the company's IET and OFSE segments. In a dynamic geopolitical environment identifying, detecting, and responding to supplier pricing shifts, market shifts are laborious for all enterprises. Sourcing managers and buyers carry a tremendous amount of tribal knowledge about suppliers, parts, pricing patterns, risks, and exceptions. This insight is not documented, and over time it is lost through role changes and organizational shifts. New employees must rebuild that understanding from scratch, slowing the time-to-value for the business.

The Human in the Loop — The Accept and Reject workflow changes that dynamic. Each user action, either approval or rejection of an opportunity with a reason, is captured to preserve institutional knowledge. This workflow also creates shared accountability, because opportunities and risk signals no longer lie with a single person. Instead, they move through a structured flow where sourcing managers and buyers can collaborate on decisions.

Over time, this simple workflow becomes a powerful knowledge system — one that strengthens decision quality, supports new hires, and builds a more resilient sourcing organization.

Buyers trust the system because it trusted them first.

Five Pillars of Success

1. **Start small and learn honestly:** The 3 to 9 then to 50 sites, and later global progression worked because the team confronted issues early.
2. **Move decisions earlier:** PR-stage guidance delivers outsized returns.
3. **Make every recommendation explain itself:** Transparency drives adoption.
4. **Review weekly:** Frequent operational reviews turn insights into execution.
5. **Let AI support humans:** Make them super-human. Judgment comes first; AI amplifies it.

Final Thoughts

This transformation wasn't about algorithms. It was about building a system that helped people make better decisions earlier and more confidently. Baker Hughes started with small experiments, learned from them, strengthened the foundation, and scaled only when ready. Many timelines shifted as insights emerged, and the management team allowed for the teams to build a system that works for the front-line users – continuously leaning and listening and drafting a tool they could use well into the future with a number of upcoming features that'll continue enhancing the way they work.

By deploying C3 AI Sourcing Optimization, Baker Hughes enabled supply chain teams to systematically identify and action high-value sourcing opportunities at scale. These results demonstrate the platform's ability to translate advanced analytics and AI-driven recommendations into measurable financial outcomes.

With the addition of advanced capabilities - total landed cost, similar-parts, and user feedback workflow - the organization anticipates a two-fold increase in realized savings in 2026. In an industry where volatility is constant, the company built something far more valuable than a tool. It built a capability.

Proven Results in Initial Production Deployment

Visit C3.ai/get-started