



Customer Case Study (Confidential)

AI-Powered Freight Invoice Auditing

Replacing Manual Audits & Third-Party Vendors with AI-Powered Digital Workers

A Fortune 500 Global Healthcare Distributor

100,000+ SKUs · 1,000+ Suppliers · 100+ Carrier Relationships

Helikai.ai

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1. EXECUTIVE SUMMARY SNAPSHOT

A Fortune 500 global distributor of healthcare products and services, this organization supplies hundreds of thousands of practitioners worldwide with a catalog of tens of thousands of SKUs sourced across a network of hundreds of suppliers. With hundreds of carrier relationships spanning small-parcel, LTL, and full truckload — each governed by distinct contracts with unique rate tables, weight breaks, zone maps, and fuel surcharge schedules — the company faced a structural audit gap: the majority of incoming freight invoices were processed without systematic validation against contracted rates.

Unvalidated freight invoices expose organizations to a form of financial leakage that ranges from systematic carrier billing errors to deliberate vendor overcharging — neither of which surfaces without structured audit coverage across every invoice, every line item. Relying on a combination of manual review and third-party freight audit vendors, the supply chain team processed thousands freight invoices per month with inconsistent coverage, delayed dispute cycles, and significant exposure to undetected overcharges.

Helikai engaged the company's operations and supply chain leadership through a Forge discovery workshop to document the manual process, assess AI readiness, and define the deployment blueprint. The result was a production deployment of Helikai's AI-powered Freight Invoice Auditing Agent — a purpose-built Digital Worker that autonomously ingests carrier invoices, retrieves applicable contracts, validates rates to six-decimal precision, and generates structured discrepancy reports for AP review.

Key Outcomes

\$1,120,000 Total annual savings	\$225,000 Overcharge recovery — first 90 days	500 → 5,000/month Invoice coverage expanded
3–5 days → <5 min Cycle time per invoice	2 FTEs Staff redeployed to strategic work	12 weeks Deployment timeline (Forge → production)



A Workforce-First Approach to AI

The engagement was grounded in the organization's commitment to responsible AI adoption — a philosophy shared increasingly by enterprise leaders who view automation as a tool for elevating their workforce, not reducing it. As leadership articulated from the outset:

"Responsible AI deployment means ensuring that automation creates opportunity within the workforce, not at its expense. Every Digital Worker we deploy is designed to elevate the people around it."

The Helikai deployment was designed to reflect that commitment. Human staff engage at the exception-review and decision stage — applying judgment and expertise to the work that requires it, while Digital Workers handle the volume.

2. OPPORTUNITY FOR IMPROVEMENT

Business Context

The supply chain operations team manages freight across hundreds of carrier relationships, with contract structures that vary significantly by carrier, service type, shipment weight, delivery zone, and volume tier. Rate complexity is compounded by accessorial charges (fuel surcharges, residential delivery fees, dimensional weight adjustments) that are updated on carrier-specific schedules.

Processing thousands of freight invoices per month, the scale of manual validation required to audit every invoice against every applicable rate table was operationally infeasible. The organization had engaged third-party freight audit vendors to address this gap, but this approach introduced additional cost, processing lag, and limited visibility into the audit methodology. The practical result: a material blind spot in the company's freight spend controls — one that third-



party auditors only partially addressed, and one that created ongoing exposure to both unintentional billing errors and systematic overcharging by carriers.

Pre-Deployment Process: Manual Freight Invoice Auditing

The following steps describe the manual freight invoice auditing workflow documented during the Forge discovery session:

- Receive carrier invoice via PDF, Excel, or EDI format
- Identify carrier, service class, and applicable rate agreement
- Locate the current contract from the company's contract archive (hundreds of agreements across carriers)
- Manually extract invoice line items: weight, zone, service level, fuel surcharge, and any accessorial charges
- Compare each line item against contracted rates — applying weight-break thresholds, zone maps, fuel surcharge schedules, and delivery type modifiers
- Identify discrepancies and prepare dispute documentation
- Route approved invoices to Accounts Payable; flag disputed invoices for carrier resolution
- Track open disputes separately, with no centralized audit trail

This process was performed inconsistently across the team, with coverage determined by available staff time rather than invoice risk. High-value invoices from priority carriers received more scrutiny; smaller invoices from secondary carriers were frequently processed without full validation. The result: a material blind spot in the company's freight spend controls.

Forge Discovery Session

Helikai conducted a Forge discovery workshop with the company's operations and supply chain leadership. The session documented the current-state process, assessed AI maturity, and prioritized use cases for deployment.

The Forge workshop identified freight invoice auditing as the highest-value, highest-readiness opportunity: a well-defined rules structure (carrier contracts), high-volume structured inputs (invoices), clear success criteria (rate accuracy to line-item level), and direct financial return through overcharge recovery and third-party auditor replacement.

AI Maturity Assessment

The Forge assessment confirmed strong structural conditions for AI deployment. The freight invoice auditing process has clear rules (contracted rates), repeatable inputs (carrier invoices in standard formats), and an existing AP workflow to integrate with. The primary complexity — rate variability



across hundreds of carrier agreements with distinct weight breaks, zone maps, and fuel surcharge schedules — is precisely where Helikai's SPRAG platform and Contract Ingestion Helibot provide structural advantage over manual review or off-the-shelf tools.

3. SOLUTION APPROACH

Platform: SPRAG

Helikai deployed the solution on its SPRAG (Structured Private Retrieval Augmented Generation) platform. SPRAG is purpose-built for enterprise environments handling sensitive operational data — supplier contracts, financial records, and carrier agreements — requiring enterprise-grade security, auditability, and compliance controls.

- Deployed via secure cloud with enterprise-grade data isolation and access controls
- Chain-of-thought audit logging: every validation decision is recorded with full reasoning trace, supporting compliance and dispute documentation
- Handles multi-format inputs natively: PDF, Excel (XLSX), Word, and EDI
- Integrates with existing AP workflows — no rip-and-replace of current systems

Helibots Deployed

The Freight Invoice Auditing Agent is assembled from five purpose-built Helibots, each responsible for a discrete step in the validation workflow:

Helibot	Function
Contract Ingestion Helibot	Parses carrier contracts (PDF, Word, Excel) and structures rate tables, weight breaks, zone maps, fuel surcharge schedules, and accessorial charges into queryable vector format within SPRAG. Handles version control when contracts are updated.
Invoice Parsing Helibot	Ingests incoming freight invoices across all carrier formats — PDF, Excel, and EDI. Extracts structured line items: carrier, service class, shipment weight, origin/destination zone, charge type, and accessorial fees.
Rate Validation Helibot	Performs line-item matching between invoice charges and contracted rates to six-decimal-place precision. Applies weight-break thresholds, zone adjustments, fuel surcharge schedules, and delivery-type modifiers for each line item.
Discrepancy Flagging Helibot	Generates structured discrepancy reports for each invoice, quantifying the dollar variance per line item and providing a plain-language explanation of the mismatch for AP team review and dispute filing.

Audit Log Helibot	Maintains an immutable, timestamped audit log of every validation decision with full chain-of-thought reasoning. Supports regulatory compliance, carrier dispute documentation, and internal audit requirements.
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Workflow Execution

The end-to-end workflow executes autonomously from invoice receipt through exception reporting, with human engagement at the final review and dispute stage only:

- Carrier invoice received → automatically ingested by Invoice Parsing Helibot (PDF, Excel, or EDI)
- SPRAG retrieves the applicable carrier contract via Contract Ingestion Helibot (<1 second vector lookup)
- Rate Validation Helibot performs line-item comparison across all charges, applying contract-specific rate tables
- Discrepancy Flagging Helibot generates a structured exception report: line-by-line variance, dollar impact, and reasoning
- AP team reviews flagged items, applies business judgment, and initiates carrier disputes as appropriate
- Audit Log Helibot archives full chain-of-thought reasoning for every decision — clean invoices and disputed invoices alike

The workforce-first design principle is embedded in the workflow architecture: 100% of ingestion, contract lookup, and rate validation is performed by the Digital Worker. Human staff contribute at the exception-review stage — applying expertise and judgment to the work that requires it, rather than manual data comparison.

4. RESULTS & IMPACT

Manual vs. AI Workflow Comparison

Process Step	Manual Workflow	Helikai Digital Worker
Invoice ingestion	Manual download/entry per carrier — format varies	Automated — all formats (PDF, Excel, EDI) handled natively
Contract lookup	Manual search of contract archive — minutes per invoice	SPRAG vector retrieval — <1 second

Rate validation	Manual line-item comparison — sample-based, inconsistent coverage	Six-decimal precision — 99.8% of invoices, every line item
Accessorial charge audit	Frequently skipped due to complexity	Applied automatically per contract schedule
Exception reporting	Ad hoc — no standard format	Structured discrepancy report with dollar variance and reasoning
Cycle time per invoice	3–5 business days (invoice receipt to validated result via third-party auditor)	Under 5 minutes (end-to-end: ingestion → contract retrieval → validation → exception report)
Monthly invoice coverage	~500 invoices audited per month — 4,500 processed with no validation	5,000 invoices audited per month — 100% coverage
Third-party audit vendor	~250 hrs/month of billable vendor labor to audit 500 of 5,000 invoices — 4,500 invoices per month processed with no validation	Vendor dependency replaced by in-house Digital Worker — invoice coverage expanded from 500 to 5,000 per month; ~ replaces hundreds of billable vendor hours
Audit trail	None — decisions undocumented	Immutable chain-of-thought log per invoice
Supporting technology	Legacy mainframe-based lookup infrastructure and a VBA scripting layer — end-of-life tooling requiring ongoing IT maintenance, increasingly brittle as contract complexity grew	SPRAG platform — no legacy system dependencies; existing ERP and AP systems remain untouched

Impact Summary

- Full audit coverage: First time in the organization's history that 100% of freight invoices receive line-item validation against contracted rates — coverage expanded from 500 to 5,000 invoices per month
- Overcharge recovery — first 90 days: \$225,000 in identified carrier billing errors and overcharges recovered since go-live
- Projected annual overcharge recovery: \$900,000/year — based on a 2.5% recovery rate applied to \$36M in annual freight spend, with full 5,000-invoice monthly coverage now in place
- Auditor cost avoidance: \$120,000/year by replacing third-party freight audit vendor with in-house Digital Worker
- Combined annual savings: \$1,120,000 — \$900,000 in carrier overcharge recovery, \$120,000 in third-party audit vendor cost avoidance, and \$100,000 in IT maintenance cost reduction
- Cycle time reduction: 3–5 business days → under 5 minutes per invoice
- Staff reallocation: 2 FTEs redeployed from manual data processing to higher-value analytical and decision-making work
- Deployment timeline: 12 weeks from Forge workshop to full production deployment
- Audit trail: Every validation decision is logged with chain-of-thought reasoning — zero undocumented approvals
- Dispute-ready documentation: AP team enters disputes with structured, timestamped evidence packets generated by the Audit Log Helibot

The deployment also delivered a significant IT modernization benefit, independent of the operational outcomes:

- Technical debt retirement: Decommissioned the legacy mainframe-based lookup infrastructure and VBA automation scripts previously required to support the validation process — eliminating a fragile, maintenance-intensive dependency that had accumulated over years of incremental workarounds
- Legacy system sunset: The Visual Basic for Applications (VBA) scripting layer, which required dedicated IT resources to maintain and was no longer viable as a production dependency, was fully retired following deployment of the SPRAG-powered agent
- IT overhead reduction: \$100,000/year reduction in IT maintenance costs associated with retiring the legacy mainframe lookup infrastructure and VBA scripting layer — with IT capacity reallocated to higher-value modernization initiatives

A Platform, Not a Point Solution

Perhaps the most durable outcome of the engagement is what the deployment leaves behind: not just a running agent, but a production-grade AI platform capable of supporting the next wave of automation across the enterprise.

With SPRAG in production, the Helibot component library established, and The Forge methodology proven within the organization's environment, the marginal cost and time-to-value of each subsequent Digital Worker drops significantly. The foundational work — security review, data integration, workflow design, governance framework — is complete. Deploying the next agent is a matter of configuration, not construction.



The organization now has the infrastructure to automate across procurement, accounts payable, logistics, receiving, supplier management, and beyond — each new use case drawing on the same platform, the same component library, and the same governance model established in this engagement. The first agent proved the platform. The platform makes the next hundred possible.

- SPRAG infrastructure is security-reviewed, integrated, and in production — no rebuild required for subsequent use cases
- Reusable Helibot components from this deployment accelerate the build cycle for future agents
- 200+ pre-built agents in The Blueprint are immediately available for configuration and rapid deployment
- Each new automation use case adds capability without adding proportional cost or infrastructure complexity
- The Forge engagement model is established internally — future discovery-to-deployment cycles are faster and lower-risk

Workforce Impact

The deployment validated in practice what the organization's leadership had set as the defining measure of success:

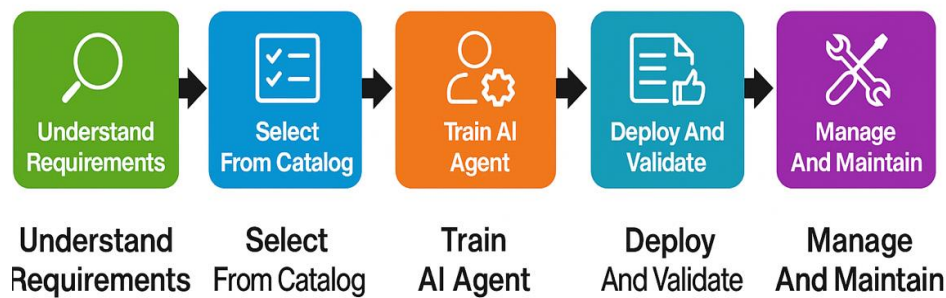
"Responsible AI deployment means ensuring that automation creates opportunity within the workforce, not at its expense. Every Digital Worker we deploy is designed to elevate the people around it."

Staff who previously spent significant hours each week on manual data comparison and document review now focus on the work that requires human judgment: exception review, escalation decisions, and the strategic conversations that drive real business value. The Digital Worker handles the volume. The human team delivers the outcomes.

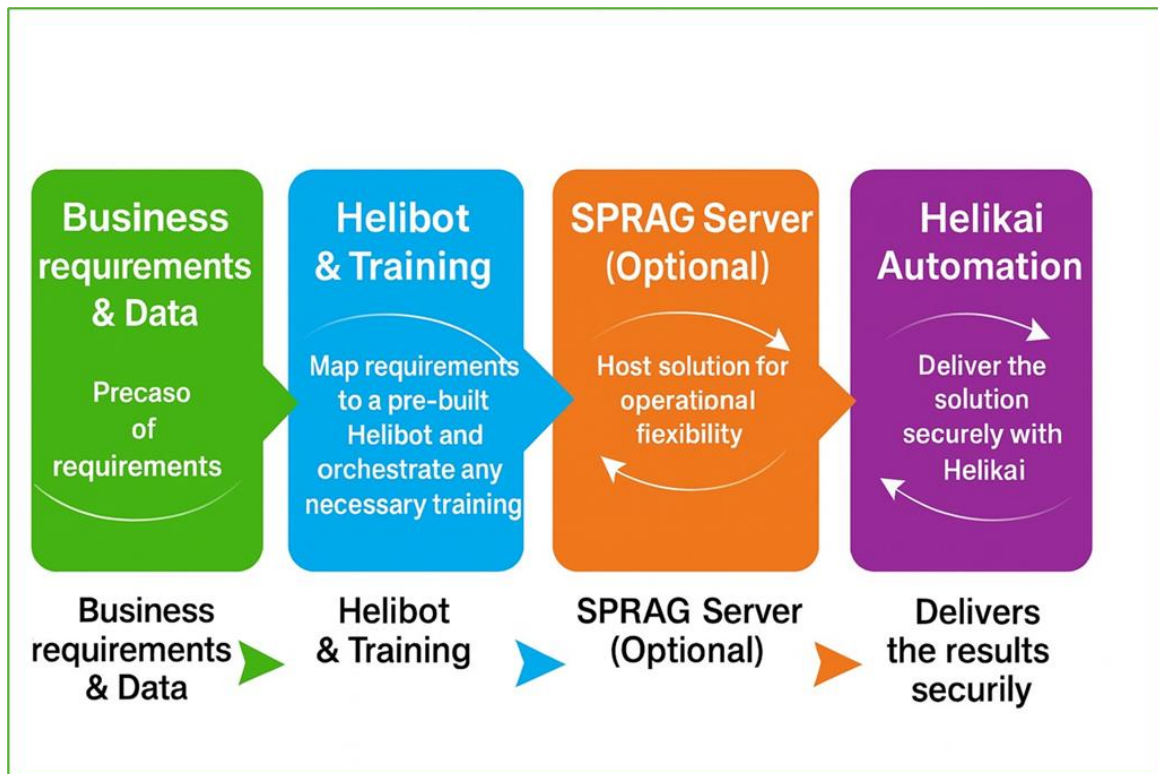
5. ABOUT HELIKAI

Helikai sells pre-built AI/ML agents or robots (called Helibots), from our catalog, that solve a distinct problem or use case in each vertical market. Helibots can be trained on a customer's proprietary and private data to achieve unique, accurate, and repeatable results. Helikai's support contracts include operating the agents, patching them for emerging AI security vulnerabilities, and keeping models and software up to date as the data evolves. Helikai technology can run within a customer's private network or on the public cloud.

Our use of single-step atomic AI/ML agents, focused on key vertical markets, creates a rapid and low risk approach for enterprises to introduce AI/ML into their business processes and workflows and begin the AI/ML transition.



Helikai offers four products. **Helibots**, which are reusable and discrete AI agents with deep vertical specialization, integration, and training. A **Secure Private Retrieval-Augmented Generation**



(SPRAG) offering with Helikai's AI platform services, which can either be deployed on secured on-premises physical RAG servers or in a secure *public* cloud VPC running RAG server instances.

KaiFlow, which are chains of thought patterns that prompt human discussion and introspection with SPRAG or human interaction with a Helibot, allowing more granular intermediate steps, toward automation, through human assistance or human in the loop workflows. And lastly,

Mālama, which is a performance optimization technology for tuning LLMs and Agents to lower token usage and transactions, leading to overall lower hardware, power, cooling, and space utilization. All products may be combined to work in a unified workflow based on user needs, amount of automation, a company's level of trust in AI to handle a task, and approval oversight required in a given use ca

Helibot catalogs focus on life sciences, legal services, media & entertainment, along with general IT use cases. Helibots can help with a wide range of use cases from analysis of medical imagery, pathology, microscopy, and genetic information, to generating legal regulatory filings, to generating sounds, backgrounds, and special effects in a feature film.

Helikai sells and supports its products worldwide going to market with channel partners that include resellers, system integrators, and distributors across multiple geographies and industries.

The founders and founding team have worked at the largest technology infrastructure, storage, and networking companies, cloud computing companies, enterprise software companies, life sciences and media & entertainment brands. The fusion of our focused AI agents which set out to

solve single purpose and defined work steps with our vast knowledge of the data that makes each vertical unique, allow AI to be deployed within the Enterprise quickly with rapid automation gains.

Helikai maintains teams in San Jose, California; Austin, Texas; Boise, Idaho; and Bangalore, India serving customers worldwide.

6. APPENDIX

The SPRAG Server has the following key features:

1. **Seamless Content & Data Ingest** – Discovery, scanning, parsing, chunking, embedding:
 - Supports information stored in: Directories, File Shares, Cloud Shares, Websites, S3 compliant Object Storage
 - Ingest parses wide variety of documents: Microsoft Office documents, PDF, TXT, RTF, CSV, GoogleDocs, OpenOffice OpenDocuments, HTML
 - Add-on for (customer specified) Rank-Tagging
2. **Event-Based Intelligent Ingest** – Can be enabled when new file uploads have been detected or new data arrives to ensure an up-to-date environment
3. **Enterprise-Grade Vector Search & Content Summarization** – Optimized for air-gapped data and tunable chunking strategies.
4. **Advanced Prompt Fusion** – Covering retrieved documents into token-optimized context blocks balancing relevance, compression, and formatting
5. **Intuitive User Interface** – Chatbot prompt (with text and voice inputs)
6. **Helikai KaiFlow** – For Traceability, Trust-building & Truth verification of generated answers
 - Chain-of-Thought Logging
 - Citation-Backed Outputs and Document Lineage
 - Human-in-the-Loop interaction with Helibot Platform
 - Audit Logging
7. **Search & Index of Chat Content** – Making it easy to find past conversations and topics you've used
8. **Customizable RAG Stacks** – Tuning for specific business verticals and use cases
 - Swap in commercial LLMs or use the latest open-source models along with different orchestrators



- Domain-specific embedding support for improved semantic relevance in vertical use cases
 - **Helikai Mālama** to optimize prompts, implement safetensor models, refine models, training of models, etc.
9. **Enterprise Grade Security** – Authentication and Authorization, Secure data retrieval & governance, chain of custody auditing
 10. **Add-on IDP (Identity Provider)** – Integrated Microsoft AD/LDAP authentication, Enterprise SSO (OIDC, SAML2), MFA/2FA, Passkeys, Client secret rotation, Fine-grained permissions, Account Management REST API, FIPS 140-2 Mode
 11. **Integrated to Agentic Capable Platform** – Capability registration & context integration to **Helibot Platform** and function execution of **Helibots**
 - Document Generation (proposals, forms, legal filings, etc.)

Architectural diagram of the SPRAG Server:

