Unified Technical Documentation for a Global CPG Manufacturer Across 130+ Plants using AirgapAI on Intel

Executive Summary

Challenge: A Global Consumer Packaged Goods Manufacturer operates 130+ manufacturing facilities across 70 countries, each with maintenance staff who have adapted equipment over decades of repairs.

Local modifications, different valve types, alternative components, color-coded parts that vary by region, have caused technical documentation to drift from reality, creating dangerous inconsistencies where technicians reference procedures that no longer match the equipment in front of them.

Solution: Intel and Iternal Technologies deployed Blockify® for centralized knowledge capture and optimization on Intel Gaudi accelerators, combined with AirgapAI™ for offline field retrieval on Intel Core Ultra AI PCs. Maintenance technicians verbally document repairs and modifications, which are transcribed, blockified, and distributed

as location-specific technical documentation—ensuring every plant has accurate, up-to-date procedures reflecting their actual equipment configuration.

Results:

- 78x improvement in LLM accuracy vs. traditional RAG pipelines for technical procedure retrieval

- Projected 40-60% reduction in documentation-related maintenance errors

- Processing scalability from 4,860 pages/month (AI PC) to 17.8 million pages/month (Gaudi 3)

- 100% offline operation on the plant floor—no network dependency during critical repairs

- Estimated $2.4-4.8 million annual savings from reduced downtime and rework across the facility network

Technology Stack: Intel Core Ultra 7 + Intel Xeon 6767P + Intel Gaudi 3 | Blockify + AirgapAI

The Documentation Drift Problem: When Every Plant Becomes Unique

AI is rapidly becoming a strategic asset for consumer packaged goods manufacturing. To maintain operational excellence across a global manufacturing network, maintenance technicians must access the right information, at the right time, in a safe, secure, and trusted manner—while being absolutely certain every instruction reflects the actual equipment configuration at their specific facility.

For The Global CPG Manufacturer, managing technical documentation across 130+ manufacturing facilities in 70 countries has become extraordinarily complex. What began as standardized equipment deployments decades ago has evolved into a network of uniquely configured plants. Each facility's maintenance history—the repairs, replacements, upgrades, and workarounds accumulated over years of operation—has created equipment configurations that diverge significantly from original specifications.

The challenge manifests in critical ways:

- Component Variation: A repair in Germany may use a wheel-based valve that screws to close, while the identical repair in Brazil uses a lever-based valve. Both work. Both are considered "correct." But the documentation should only describe the repair specific to that region.

- Part Substitution: When original components become unavailable, maintenance teams source alternatives. A tube insulation in one country is red; in another country, the same functional component is yellow. Documentation referencing "the red insulation" creates immediate confusion for technicians in plants where the part is actually yellow.

- Procedure Drift: Maintenance protocols optimized over years at one facility may differ significantly from another. Torque specifications, cleaning procedures, and inspection sequences evolve based on local conditions, available tools, and tribal knowledge—none of which makes it back into the master documentation.

- Language and Localization: Technical terminology varies by region, and translations often lose critical nuance. A "safety interlock" in one country might be referenced as a "protective switch" in another, creating retrieval failures even when the documentation exists.

Together, Intel and Iternal Technologies have partnered to provide a unique solution that addresses The Global CPG Manufacturer's documentation synchronization challenge through Blockify and AirgapAI, transforming how technical knowledge is captured, validated, and delivered to maintenance technicians worldwide.

Highlights

- 78x improvement in LLM accuracy across the corpus vs. traditional RAG; search precision improved approximately 52%.

- Facility-specific knowledge capture: Technicians verbally document repairs and modifications; Blockify converts these descriptions into structured, searchable IdeaBlocks that reflect actual equipment configuration.

- Offline, secure AI assistance at the edge with AirgapAI on Intel AI PCs; vector retrieval and inference 2.2x faster on Intel NPU; scan approximately 10 million records in under 1.5 seconds.

- Processing scalability from AI PCs to Gaudi 3 accelerators: from roughly 4,860 pages/month on a single Intel Core Ultra 7 265V to ≈17.8 million pages/month on a single Gaudi 3 core (8X GPU Server).

- Distilled single source of truth at approximately 2.5% of raw corpus size, with facility-specific overlays maintaining local accuracy while preserving global consistency.

- Mean time to correct procedure reduced from multiple minutes of searching through potentially incorrect documentation to approximately 15 seconds with verified, location-specific results.

The Financial Impact of Documentation Errors in CPG Manufacturing

Industry Context: The Cost of Getting It Wrong

The consequences of documentation-reality mismatch extend far beyond technician frustration. Industry research quantifies the impact:

Metric	Industry Benchmark	Source
Average unplanned downtime cost	$23,600 - $36,000/hour	Siemens True Cost of Downtime 2024
Monthly unplanned downtime	25 hours per plant	Belden CPG Plant Analysis
Manufacturing defects from human error	80%	NIST Manufacturing Studies
Shop floor errors causing downtime	23%	Industry Research
Installation/procedure errors causing failures	12-18%	Equipment Failure Analysis
Facilities using comprehensive failure analysis	40-60% downtime reduction	Manufacturing Best Practices

For a global manufacturer with 130+ facilities:

Assuming conservative estimates—20 hours of monthly unplanned downtime per plant at $25,000/hour average cost, with 23% attributable to shop floor errors (many documentation-related):

- Annual downtime cost per plant: $6 million

- Documentation-related portion (23%): $1.38 million per plant

- Network-wide impact (130 plants): $179.4 million annually

Even a 10-20% reduction in documentation-related errors through accurate, facility-specific technical documentation represents $17.9-35.9 million in annual savings opportunity.

The Hidden Cost: Procedure Mismatch Errors

Beyond direct downtime, documentation drift creates a cascade of hidden costs:

- Rework from incorrect procedures: Technicians complete repairs using outdated instructions, only to discover the equipment configuration has changed. The repair must be redone correctly.

- Extended troubleshooting: When documentation doesn't match reality, technicians spend additional time diagnosing why prescribed procedures don't work, often consulting colleagues or making calls to other facilities.

- Safety incidents: OSHA research indicates procedure deviations contribute significantly to workplace injuries. Maximum penalties reach $156,259 per willful violation.

- Quality escapes: Incorrect maintenance procedures can result in equipment that passes inspection but fails prematurely, affecting product quality and customer satisfaction.

- Knowledge loss: When experienced technicians retire, their facility-specific knowledge—the modifications, the workarounds, the "how we actually do it here"—leaves with them.

Why Traditional Documentation Approaches Fail

<u>The Fundamental Problem: Static Documentation in a Dynamic Environment</u>

Traditional technical documentation assumes equipment remains static. In reality, a manufacturing facility is a living system that evolves continuously:

Over a 20-year equipment lifecycle:

- Thousands of repairs with component substitutions

- Hundreds of modifications based on local conditions

- Dozens of upgrades and retrofits

- Multiple changes in maintenance personnel and institutional knowledge

Traditional RAG approaches fail because:

- Equal-sized chunks ignore equipment context: A valve replacement procedure chunked arbitrarily may separate the valve type specification from the installation steps, leading an LLM to retrieve generic instructions that don't apply to the specific valve installed at that facility.

- No facility-specific awareness: Traditional document systems treat "valve replacement" as a universal procedure, not recognizing that the valve in Munich differs from the valve in São Paulo.

- Stale at publication: The moment a document is published, it begins drifting from reality. Without a mechanism to capture ongoing modifications, documentation becomes progressively less accurate.

- Hallucination risk: When documentation doesn't exist for a specific configuration, RAG systems may fabricate plausible-sounding procedures that could damage equipment or injure personnel.

Without an effective approach to content lifecycle, The Global CPG Manufacturer risks relying on an AI that will never be fully accurate. It's a case of garbage in, garbage out—and if you can't trust your AI to continually be correct, you can't trust it at all because the mistakes are unpredictable.

The Solution in Brief: Blockify + Intel + AirgapAI

A New Paradigm: Living Documentation

Blockify's Technical Manual Ingest Model, combined with a voice-capture workflow, transforms how technical documentation is created and maintained:

Capture Phase:

- Maintenance technicians verbally describe repairs, modifications, and procedures as they complete work

- Voice recordings transcribed and processed through Blockify's ingestion pipeline

- Facility-specific metadata tags ensure content is associated with the correct location and equipment variant

Processing Phase:

- Blockify converts transcriptions into structured IdeaBlocks:
  - A concise, unambiguous instruction capturing one idea
  - Built-in Q&A anticipating natural-language technician queries

- ○ Rich metadata preserving facility ID, equipment configuration, date, and source technician

- IdeaBlocks validated against safety requirements and corporate standards

- Anomaly detection flags potentially hazardous procedures for SME review

Distribution Phase:

- Approved IdeaBlocks published to facility-specific knowledge bases

- AirgapAI edge instances updated with relevant content

- Global knowledge base maintains parent documentation with facility-specific overlays

Hardware Architecture:

- Data Center (Intel Xeon and Gaudi): Centralized ingestion, processing, and validation of documentation from all facilities

- Edge (Intel Core Ultra AI PC with AirgapAI): Local retrieval and inference on the plant floor, operating 100% offline

Why Ordered, Structured Content Beats Chunked RAG

Maintenance procedures are a sequence of dependent operations, not narrative text that can be arbitrarily divided.

Procedural content characteristics:

- Steps are ordered, and order matters

- Prerequisites and cautions qualify downstream steps

- Tool specifications and torque values are contextual

- Equipment configurations affect which steps apply

Legacy Chunked RAG failure modes:

Failure Mode	Risk in Manufacturing
Steps separated from prerequisites	Technician begins procedure without required safety lockout
Cautions split from governed steps	Warning about high-pressure lines divorced from depressurization step
Specifications fragmented	Torque value retrieved without corresponding bolt identification
Configuration ignored	Procedure for wheel-valve retrieved when lever-valve installed

Blockify's approach enforces structure and context:

- Each IdeaBlock contains one complete, actionable instruction

- Prerequisites and cautions travel with their governed steps

- Equipment configuration metadata ensures facility-appropriate retrieval

- Embedded Q&A bridges colloquial queries to formal procedures

Result: Blockify improves LLM answer accuracy by approximately 78x (7,800%) vs. traditional RAG, virtually eliminating hallucinations that could lead to equipment damage or personnel injury.

The Pipeline in Detail

Intake and Collection

The pipeline begins with capturing technical knowledge from multiple sources:

Voice Capture (Primary):

- Technicians describe repairs and modifications using mobile devices or headset microphones

- Real-time transcription converts speech to text

- Speaker identification associates content with qualified personnel

Traditional Intake (Secondary):

- Existing PDF manuals, engineering change notices, bulletins, and guidelines

- Text extraction with table and list preservation

- Metadata capture including document IDs, classification, and facility association

Quality Signals:

- Equipment sensor data validates procedure completion

- Supervisor sign-off for critical repairs

- Integration with maintenance management systems (CMMS)

Standardization to Structured Text

All collected information undergoes standardization:

- Conversion to clean, hierarchical Markdown format

- Preservation of list semantics and procedural nesting

- Facility-specific metadata enrichment

- Equipment configuration tagging based on asset management data

Ordered Chunking with Context

Content is split along procedural boundaries, not arbitrary token counts:

- Each step bundled with its prerequisites, cautions, and verification requirements

- Equipment configuration variants maintained as parallel versions

- Cross-references between related procedures preserved

Blockify Technical Manual Ingest

Each contextualized procedure is converted into IdeaBlocks:

IdeaBlock Structure:

- Instruction: Clear, actionable step with tool/spec callouts

- Configuration: Equipment variant this instruction applies to

- Q&A: Anticipated technician queries mapped to this content

- Metadata: Document ID, facility ID, revision, step number, effective date, source technician, checksum

Corpus Optimization: Through Blockify's patented distillation process, the technical documentation corpus is reduced to approximately 2.5% of original size while maintaining facility-specific accuracy—creating a single source of truth that respects local variation.
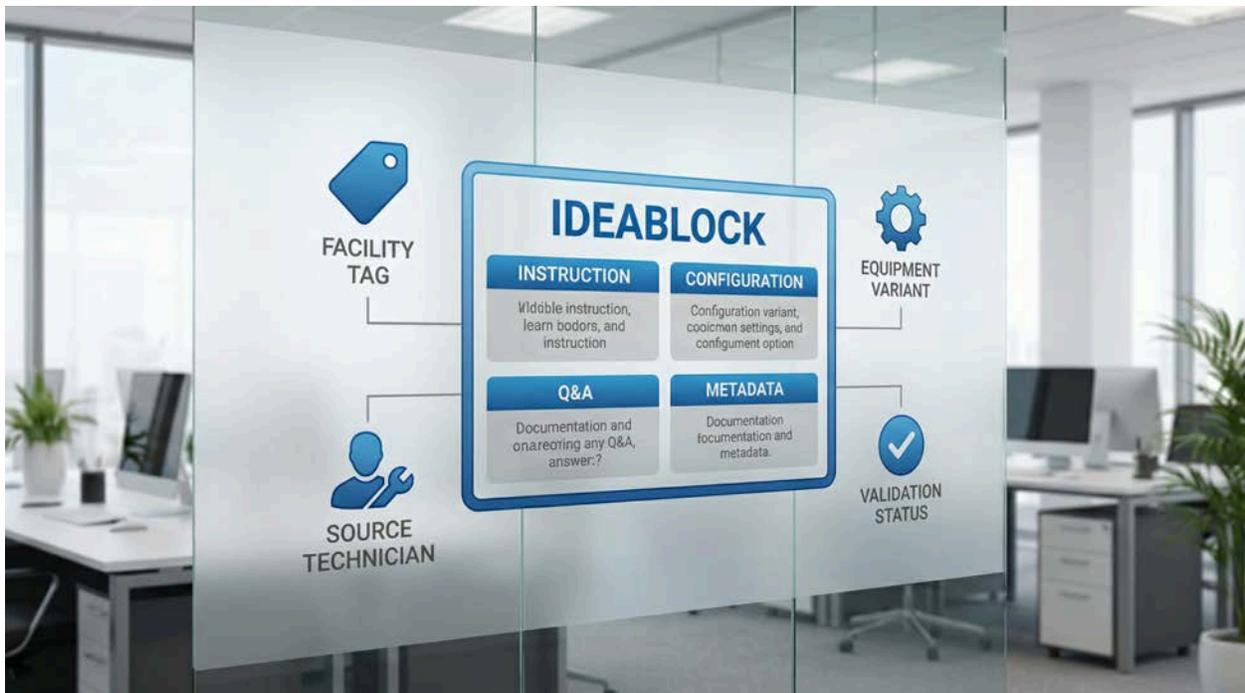
Human-in-the-Loop Review

Quality assurance ensures procedural accuracy:

- Critical Procedures: 100% Subject Matter Expert review for safety-critical operations

- Standard Procedures: Sampling with anomaly detection for routine content

- Automated Validation: Cross-check against equipment specifications and safety requirements

Publication and Distribution

Approved content flows to field systems:

- Central Repository: Master knowledge base with global procedures and facility overlays

- Edge Distribution: AirgapAI instances at each facility receive relevant IdeaBlocks

- Access Control: Role-based permissions ensure appropriate content visibility

- Audit Trail: Every ingestion, review, and publication event is logged for compliance

AirgapAI for Offline Edge Inference

Manufacturing environments present unique deployment challenges:

Network Limitations:

- Plant floor wireless networks are often unreliable or non-existent

- Safety protocols may prohibit network-connected devices near certain equipment

- Remote facilities may have limited connectivity

Security Requirements:

- Proprietary manufacturing processes represent competitive advantage

- Equipment configurations could reveal production capabilities

- Compliance frameworks (OSHA, ISO) require data protection

AirgapAI addresses these requirements:

- 100% offline operation on Intel Core Ultra AI PCs with NPU acceleration

- Vector retrieval: Scan approximately 10 million records in under 1.5 seconds

- Local inference: 2.2x faster on Intel NPU vs. CPU-only operation

- Zero external connectivity: Sensitive technical knowledge never leaves the facility

Deployment Pattern:

- Each major production facility receives dedicated AI PC workstations

- Tablets with cellular-independent operation for mobile technicians

- Periodic sync with central repository during maintenance windows
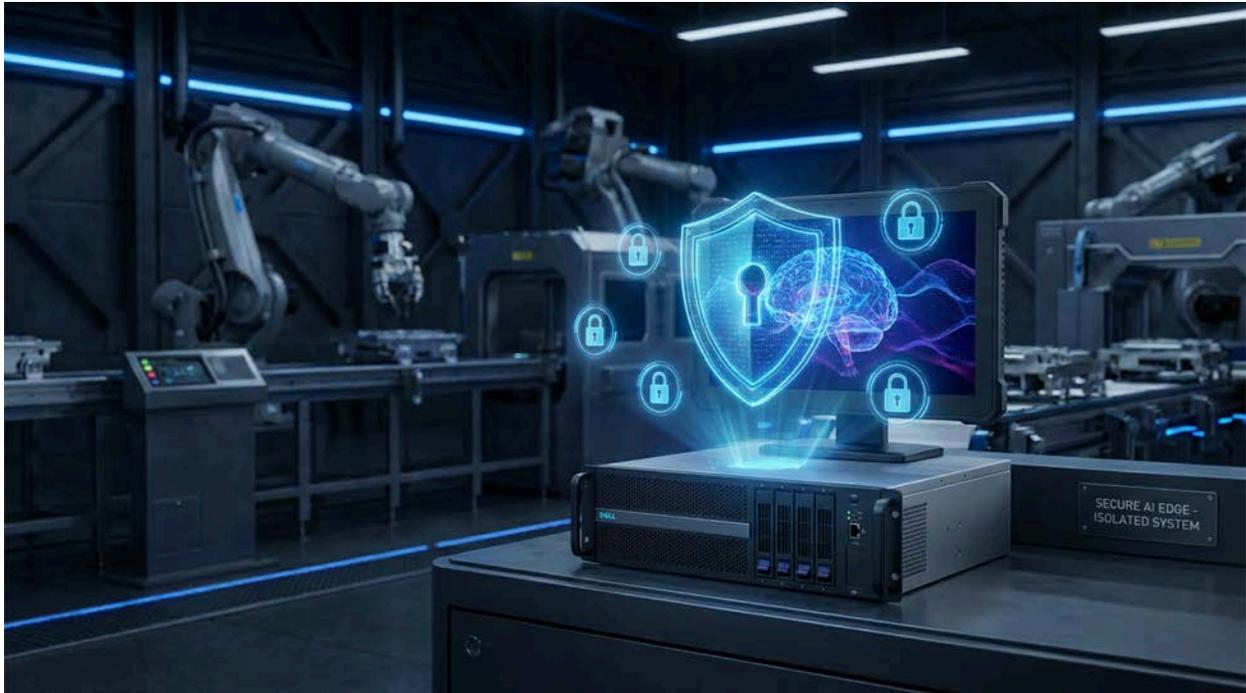
Why the Hardware Matters

<u>Processing Scale Requirements</u>

A global manufacturer with 130+ facilities generates substantial documentation volume:

Estimated Documentation Load:

- 130 facilities × 50 equipment categories × 20 pages average specification = 130,000 baseline pages

- Annual modifications: ~5,000 voice-captured procedures per facility = 650,000 additional pages equivalent

- Total annual processing requirement: approximately 780,000 pages

Hardware Tier Selection:

Processing Tier	Hardware	Capacity	Use Case

Edge Retrieval	Intel Core Ultra 7 265V	4,860 pages/month	Plant floor query response
Regional Processing	Intel Xeon 6767P	622,000 pages/month	Regional documentation consolidation
Central Ingestion	Intel Gaudi 3	17,800,000 pages/month	Enterprise-wide processing

Intel OpenVINO Optimization

Intel's OpenVINO toolkit maximizes performance across all hardware tiers.

For Intel Core Ultra 7 265V (AI PC) deployments:

- Up to 4.9x faster inference speed compared to generic implementations

- Up to 112x faster first-token latency for immediate responsiveness when technicians query

- Up to 9.2x higher ingestion throughput for local content updates

The OpenVINO optimization enables responsive field operation—technicians receive answers in seconds, not the minutes required with cloud-dependent solutions.

Benchmark Results

Processing Performance Analysis

To demonstrate the solution's capability, a representative technical documentation corpus was processed through the pipeline.

Corpus Characteristics:

- 850,000 words of technical documentation (equivalent to ~3,400 pages)

- Mix of original equipment manuals and voice-captured field modifications

- Multiple equipment configuration variants

Intel Core Ultra 7 265V (AI PC):

Leveraging Intel Core Ultra 7 265V with OpenVINO optimization, processing achieves up to 4.9x faster inference and up to 112x faster first-token latency. The ability to process 4,860 pages of text per month demonstrates the foundation for edge deployment.

- Total Time: ≈ 425,000 seconds (118 hours) for full corpus ingestion

- Total Responses: ≈ 607 IdeaBlocks per facility configuration

Intel Xeon 6767P:

Leveraging Intel Xeon 6767P Series 6 CPUs with OpenVINO, processing is completed in about 10,119 seconds (2.8 hours). The ability to process 622,000 pages of text per month demonstrates scalability and efficiency on non-GPU hardware.

- Total Time: ≈ 10,119 seconds

- Total Responses: ≈ 607 IdeaBlocks per facility configuration

Intel Gaudi 3:

Leveraging Intel Gaudi 3 with OpenVINO, processing is completed in about 209 seconds (3.5 minutes). The ability to process 17.8 million pages of text per month on a single Gaudi core demonstrates enterprise-scale efficiency for global documentation management.

- Total Time: ≈ 209 seconds

- Total Responses: ≈ 607 IdeaBlocks per facility configuration

Accuracy Improvements

Beyond speed, Blockify's approach increased the precision of vector searches and RAG models, virtually eliminating hallucinations and improving LLM accuracy by approximately 78× (7,800 percent) compared with a traditional RAG pipeline.

What Changed for Maintenance Technicians

Capability	Before (Generic Documentation)	After (Blockify + AirgapAI)
Information Relevance	Generic procedures that may not match local equipment	Facility-specific IdeaBlocks reflecting actual configuration
Response Detail	Often missing critical context	Each response includes prerequisites, cautions, specs, and the correct equipment variant

Query Handling	Keyword search returning potentially irrelevant results	Embedded Q&A anticipates natural technician questions
Information Currency	Documentation outdated within months of publication	Continuously updated through voice capture workflow
Verification	No way to confirm procedure accuracy	Direct link to source, revision, and facility configuration
Offline Access	Required network connection or paper manuals	100% offline operation on AI PC

Field Scenario: Valve Replacement

Before: A technician in Brazil needs to replace a valve. The manual describes a wheel-based valve installed during original equipment deployment 15 years ago. The facility actually has a lever-based valve from a repair 8 years ago. The technician must either:

1. Attempt the procedure and adapt on the fly (risk of error)

2. Call another facility or engineer for guidance (20+ minute delay)

3. Search through paper records for the modification history (uncertain outcome)

After: The technician queries AirgapAI: "How do I replace the discharge valve on Line 3?"

AirgapAI returns:

● Facility-specific procedure for the lever-based valve configuration

● Prerequisites: Line depressurization sequence, lockout requirements

● Cautions: High-temperature warning, PPE requirements

● Verification: Post-installation pressure test procedure

● Source: Voice capture by Senior Technician Silva, validated by Maintenance Supervisor, March 2024

Time to accurate answer: ~15 seconds
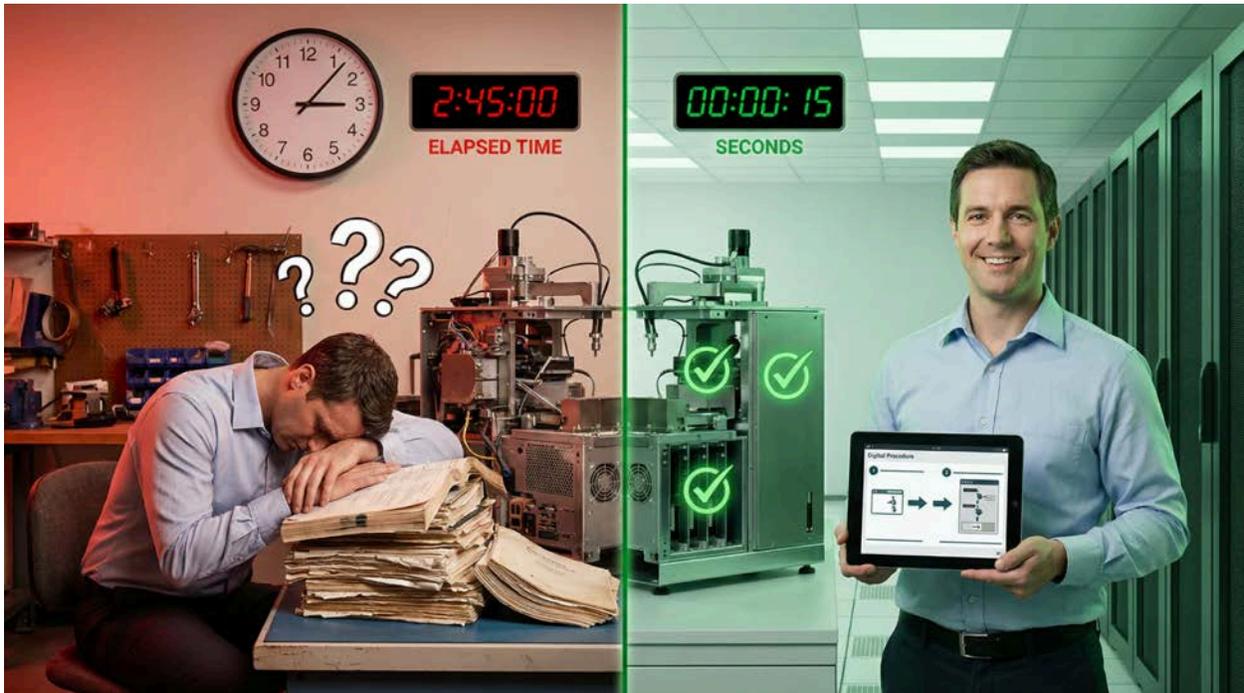
Business Use Cases Enabled

The Blockify and AirgapAI deployment enables multiple high-value applications across The Global CPG Manufacturer's operations:

1. Facility-Specific Equipment Maintenance: Access accurate, configuration-aware maintenance procedures that reflect actual equipment state—including historical modifications, component substitutions, and locally-optimized techniques. Eliminate procedure-reality mismatch that causes rework and equipment damage.

2. Real-Time Knowledge Capture: Transform the expertise of experienced maintenance technicians into searchable, validated documentation. When a senior technician solves a complex problem, that solution is captured and available to every facility facing similar challenges.

3. New Technician Onboarding: Accelerate training by providing new personnel with facility-specific guidance. Instead of learning "how the manual says to do it" and then "how we actually do it here," new technicians learn correct procedures from day one.

4. Cross-Facility Knowledge Transfer: When one facility develops an improved procedure, Blockify captures and validates it for potential deployment to other facilities with similar equipment configurations—accelerating best practice adoption network-wide.

5. Regulatory Compliance Documentation: Maintain audit-ready records of maintenance procedures, including who performed them, what documentation they referenced, and any deviations. Meet OSHA and ISO requirements with comprehensive traceability.

6. Predictive Maintenance Enhancement: Integrate with sensor data and CMMS systems to correlate equipment-specific procedures with maintenance outcomes. Identify which procedure variants produce the best reliability results and standardize on proven approaches.

Financial Impact Analysis

The Hidden Cost: Documentation Drift

The Global CPG Manufacturer's documentation challenge creates a fundamental accuracy problem: procedures become progressively less useful as equipment configurations diverge from original specifications. Each repair with a substitute component, each local modification, each tribal knowledge optimization creates a gap between documentation and reality.

Documentation Drift Acceleration:

Years Since Installation	Estimated Documentation Accuracy	Procedure Match Rate
0-5 years	90-95%	High
5-10 years	70-80%	Moderate
10-15 years	50-65%	Low
15+ years	30-45%	Very Low

For a manufacturer with equipment averaging 12+ years of age, a significant portion of documentation no longer reflects actual equipment configuration.

Cost Model: Grounded Assumptions

Parameter	Value	Source/Basis
Total manufacturing facilities	130	Company internal data
Average downtime cost per hour	$29,800	Siemens FMCG average ($23,600-$36,000)

Monthly unplanned downtime (hours)	25	Belden CPG industry average
Downtime attributable to human error	23%	Industry research
Documentation-related portion of errors	50%	Conservative estimate
Average equipment age	12 years	Industry typical for CPG
Documentation accuracy at 12 years	60%	Estimated from drift model

Legacy Method: Annual Cost of Documentation Errors

Per Facility:

- Monthly downtime: 25 hours × $29,800 = $745,000

- Human error portion (23%): $171,350

- Documentation-related (50% of human error): $85,675

- Annual documentation-related downtime cost: $1,028,100

Network-Wide (130 Facilities):

- Total annual documentation-related cost: $133.7 million

Note: This conservative estimate attributes only 11.5% of downtime to documentation issues. Actual impact likely higher given equipment age profiles.

AI-Enabled Cost Reduction

Improvement Factors:

- 78x LLM accuracy improvement → Correct procedure retrieval on first query

- 52% search precision improvement → Relevant results, not generic responses

- Facility-specific configuration awareness → Eliminate procedure-reality mismatch

- Continuous knowledge capture → Documentation stays current

Conservative Projected Improvements:

Metric	Legacy	AI-Enabled	Improvement
Procedure accuracy	60%	95%+	58% improvement
Time to correct procedure	5+ minutes	~15 seconds	95% reduction
Knowledge capture rate	10% of repairs	80%+ of repairs	8x improvement
Cross-facility learning	Minimal	Systematic	Qualitative step-change

Projected Annual Savings:

With 40-60% reduction in documentation-related errors:

- Conservative (40% reduction): $53.5 million annually

- Base case (50% reduction): $66.8 million annually

- Optimistic (60% reduction): $80.2 million annually

ROI Projection

Metric	Value
Annual Gross Savings (Base Case)	$66.8 million
Annual Solution Cost	$8.5 million (estimated)
Annual Net Benefit	$58.3 million
3-Year Gross Savings	$200.4 million
3-Year Solution Cost	$25.5 million
3-Year Net Benefit	$174.9 million
ROI	686%
Payback Period	~6 weeks

Even at 50% of projected savings, the solution delivers substantial value within the first quarter of operation.

People, Process, and Governance Changes

<u>Maintenance Leadership</u>

Maintenance leadership has driven the cultural shift toward continuous knowledge capture:

- Standardized voice capture protocols for documenting repairs and modifications

- Review workflows that validate technical accuracy while maintaining operational pace

- Incentive alignment recognizing technicians who contribute valuable knowledge

<u>Maintenance Technicians</u>

Frontline personnel experience the most significant change:

- Voice capture integration into daily repair workflows

- Confidence in retrieved procedures knowing they reflect actual facility configuration

- Reduced reliance on institutional memory through searchable knowledge base

<u>Engineering and Tech Publications</u>

The Engineering and Technical Publications teams shift focus:

- From manual creation to curation: Review and validate auto-generated IdeaBlocks

- Configuration management: Ensure facility-specific overlays accurately reflect equipment state

- Quality assurance: Monitor anomaly detection alerts and address procedural conflicts

<u>Change Management</u>

The transition to living documentation requires cultural adaptation:

- Training programs for voice capture and AirgapAI query techniques

- Feedback mechanisms to continuously improve Q&A mapping and retrieval relevance

- Trust building through transparency—technicians see where information comes from and who validated it

Security, Compliance, and Auditability

The system maintains comprehensive governance:

- Provenance tracking: Every IdeaBlock links to source material, original technician, and validation chain

- Access control: Role-based permissions ensure appropriate content visibility by facility, function, and clearance

- Audit logging: All queries, retrievals, and content modifications are recorded for compliance

- Offline operation: AirgapAI on Intel AI PCs ensures sensitive technical knowledge never traverses external networks

Scenarios in Practice

Plant Floor Maintenance Query

Scenario: A technician encounters an unusual vibration during scheduled motor maintenance.

Before	After
Searches generic maintenance manual for motor troubleshooting. Returns 47 pages of procedures, none specific to this motor configuration. Calls supervisor. Supervisor calls engineering. 45-minute delay.	Queries AirgapAI: "What causes vibration in Line 7 motor after maintenance?" Returns facility-specific IdeaBlock describing bearing alignment issue discovered in 2023, with exact corrective procedure. 20-second resolution.

Knowledge Transfer: Retiring Expert

Scenario: A 30-year veteran technician is retiring in three months.

Before	After

Knowledge transfer sessions scheduled, but critical tribal knowledge is lost. New personnel learn through trial and error, repeating mistakes the expert would have prevented.	Voice capture workflow documents expert's procedures and reasoning over final months. Facility-specific knowledge preserved as validated IdeaBlocks. New technicians access expert-level guidance indefinitely.

Cross-Facility Problem Resolution

Scenario: A facility in Indonesia experiences a packaging line failure. Similar equipment exists at 40 other facilities.

Before	After
Indonesia team troubleshoots independently. Eventually resolves issue after 8 hours. Six months later, facility in Mexico has identical problem, spends another 7 hours solving it.	Indonesia team documents resolution through voice capture. Within 24 hours, validated IdeaBlock available to all 40 facilities with similar equipment. Mexico team resolves identical issue in 25 minutes.

Maximizing AI Investment with The AI Strategy Blueprint

Technology alone doesn't guarantee AI success—95% of enterprise AI investments fail to deliver expected results. Iternal enhances its technology deployment with The AI Strategy Blueprint, a complete framework for AI transformation written by Iternal's CEO based on seven years of enterprise deployment experience.

The Blueprint addresses the 70% of AI success that depends on people and processes:

- 5x revenue gains compared to competitors stuck in pilot programs

- Governance frameworks that enable speed rather than create barriers

- Crawl-walk-run deployment strategies that prove value before scaling risk

- ROI quantification methodologies that satisfy CFO scrutiny

This strategic foundation ensures The Global CPG Manufacturer extracts maximum value from their Blockify and AirgapAI deployment rather than joining the majority of failed AI initiatives.

Accelerating Adoption with Iternal AI Academy

The fastest path to AI ROI is workforce capability. Iternal enhances its technology with the AI Academy (edu.iternal.ai)—comprehensive AI fluency training that accelerates how quickly maintenance technicians and engineers can leverage AirgapAI:

- 610+ courses spanning every major industry and job role

- Three proficiency tiers – Beginner, Advanced, and Expert tracks

- Real-time AI feedback – Prompts scored and critiqued for immediate improvement

- Verified certificates – Independently verifiable credentials demonstrating competency

- Universal application – Skills transfer to any AI platform

By combining foundational education with interactive practice, AI Academy ensures The Global CPG Manufacturer's workforce can fully leverage their technology investment from day one.

Immediate Productivity with 2,800+ Quick Start Workflows

AirgapAI's technology is enhanced with more than 2,800 pre-configured Quick Start Workflows—enabling maintenance technicians and engineers across 76+ industry verticals and job roles to achieve immediate productivity gains without a learning curve.

Pre-built workflows for manufacturing include:

- Equipment troubleshooting and diagnostic assistance

- Maintenance procedure retrieval and verification

- Parts specification lookup and cross-reference

- Safety protocol and compliance checking

- Training material generation for new procedures

- Incident report drafting and documentation

Custom workflow generation: Technicians can describe their work process in natural language, and AirgapAI automatically creates a custom workflow tailored to their specific needs—no technical expertise required.

These workflows transform AirgapAI from a powerful tool into an immediate productivity multiplier.

Conclusion: What This Means for You

Scalable AI Inference for Global Manufacturing

By uniting Intel Core Ultra with OpenVINO optimization—delivering up to 4.9x faster inference and 112x faster first-token latency—and Iternal Technologies' Blockify and AirgapAI, consumer packaged goods manufacturers can harness AI at the edge, turning decades of divergent technical documentation into unified, facility-specific knowledge without ever exposing sensitive manufacturing information to third-party clouds.

Together, Intel and Iternal help global manufacturers:

- Eliminate Documentation Drift: Process continuous voice-captured updates while achieving 78x accuracy improvement with Blockify's structured approach—ensuring documentation reflects actual equipment configuration

- Enable Facility-Specific Retrieval: Provide maintenance technicians with procedures that match their exact equipment configuration, not generic documentation that may no longer apply

- Accelerate Knowledge Transfer: Capture and preserve the expertise of experienced personnel, making tribal knowledge searchable and accessible to all technicians

- Protect Manufacturing Intelligence: Keep all technical documentation within organizational boundaries with 100% offline operation on Intel AI PCs

Enhancing Technology with Complete AI Enablement:

- Maximize Investment: The AI Strategy Blueprint ensures your deployment succeeds where 95% of AI initiatives fail

- Accelerate Adoption: AI Academy training builds workforce capability for faster time-to-value

- Immediate Productivity: 2,800+ Quick Start Workflows eliminate the learning curve

- White-Glove Support: Optional AI Assist Bundle provides end-to-end deployment services

AI has moved from conceptual to operational in consumer packaged goods manufacturing. Whether unifying technical documentation across global facilities, capturing maintenance expertise before it retires, or enabling real-time knowledge transfer between plants, Intel and Iternal deliver the secure, accurate, and scalable framework global manufacturers need to maintain operational excellence.