AI VALUE HARVEST IN AIR & LCL

From Entitlement to Realization

1. EXECUTIVE SNAPSHOT

Strategic Intent

We propose **CargoX** as the unified **AI and automation companion to CargoWise**, enabling measurable productivity, data-driven decision-making, and human-in-the-loop learning.
The objective is to **turn theoretical entitlement into verified value**, while maintaining strategic independence from WiseTech and embedding AI capability across Air & LCL operations.

Indicative Value Trajectory (to be validated)

- **Entitlement potential:** ~ $6.97 M — based on initial DILO time-in-system analysis (Air & LCL).
- **Realized 2026 forecast:** ~ $4.50 M — adjusted for adoption, coverage, and platform readiness.
- **Caveat:** Figures are *directional, not audited*; DILO was a *small-sample operator study (n≈1 per function)*.
- **Next step:** Run a **2–3 week CargoWise audit-log analysis** to establish validated baselines and convert entitlement into data-backed realization.

📊 *These numbers show direction, not declaration — the audit-log study will make the impact measurable and credible.*

Immediate Ask

1. **Approve CargoX(working name)** as the unified AI / automation platform companion to CargoWise for OP2.
2. **Authorize CargoWise audit-log analysis** (2–3 weeks).
3. **Continue pilots** for 3 AI levers – Booking Validation, Quotation Automation, Shipment Planning.
4. **Sponsor process standardization**, starting with email handling.
5. **Endorse the co-creation model** – operators embedded with product teams as feedback partners.

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2. WHY NOW

AI is the next competitive frontier in logistics.

The industry is rapidly embedding AI into daily operations — from booking and routing to customer engagement. To maintain Maersk's **competitive advantage in productivity, reliability, and cost efficiency**, we must build our own scalable AI capability rather than relying solely on vendor innovation.

- **Strategic timing:** Early movers in AI orchestration will shape process standards and capture disproportionate efficiency gains.
- **Evidence gap:** Current DILO baselines are indicative but insufficient; we need **CargoWise audit logs** to create credible, data-backed productivity baselines.
- **Vendor dynamics:** WiseTech's planned AI agents and new pricing structures heighten long-term dependency and cost risk.
- **Strategic response:** Develop **CargoX** as an independent AI orchestration platform — enabling faster iteration, integration, and sustained cost leverage.

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3. THE CARGOX VISION

CargoX = AI orchestration + HITL feedback + analytics hub

Principle	Description
Data-first	CargoWise logs as ground truth for baselines, adoption, and license optimization.
Co-created with operators	Front-line teams co-design, review, and correct AI outputs → continuous learning.
Modular & transparent	API-based connectors to CargoWise, EDI, carrier systems; event-driven design.
Cost & governance built-in	Token dashboards, model tiering, evaluation harness, audit trail.
Scalable foundation	Host future agents – quotation, finance, analytics – within one governed platform.

Multi-agent system	A collection of independent agents that are capable of communicating and collaborating with each other directly through Agent to Agent (A2A) protocol.
Co-operating with CW1	Goal is to make CW1 the core operating system for shipment handling. All other tasks will be done in CargoX.

🎯 **Outcome:** AI capabilities that evolve iteratively, retain control & governance, and deliver measurable operational gains.

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4. PORTFOLIO OF AI VALUE LEVERS (2026 OUTLOOK)

Lever	Purpose	Entitlement ($M)	2026 Realized ($M)	Remarks
Booking Validation & Discrepancy Handling	Pre-ingest checks across EDI / email / portals	2.11	1.38	High impact; foundation for quality
Email Automation (Conversational AI)	LLM-based triage, drafting & parsing	1.34	0.85	Quick win; global scalability
AI-Assisted Shipment Planning	Routing & security optimization	1.70	1.09	Improves owned capacity use
Predictive Error Handling	Early exception detection	0.92	0.58	Prevents rework loops

Document Shadow Agent	Draft & revise docs via AI templates	0.41	0.25	High trust; low risk
Learning & Recommendation Engine	Pattern recognition from history	0.48	0.30	Compounding value over time
TOTAL		**6.97**	**4.50**	*Directional; pending log validation*

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5. HOW WE BUILD AI DIFFERENTLY

AI development ≠ traditional software delivery.

- **Mindset shift:** Success depends on *continuous co-creation* – operators as co-designers, not end-users.
- **Human-in-the-loop:** Each interaction teaches the model; accuracy and trust improve through feedback.
- **Embedded feedback roles:** Select operators join product teams during pilots to shape data and UX.
- **Measure learning as a metric:** Track model accuracy improvement and deflection rate, not just minutes saved.
- **Outcome:** Living AI products that continuously improve with usage and operator trust.

💡 *AI value is co-created – every validated interaction is a training event that compounds future ROI.*

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6. ROADMAP

Phase	Timeline	Focus	Deliverables
Q4 2025	8–12 weeks	Data validation + pilot setup	
Q1 2026	12–16 weeks	Expansion + feedback loop	

Q2 2026	16–20 weeks	Regional rollout + optimization	

📈 *Iterate, measure, and expand – evidence precedes scale.*

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7. RISKS & MITIGATIONS

Risk	Impact	Mitigation
DILO bias / data quality	Medium	Validate via CargoWise logs; triangulate with KPIs
Vendor lock-in (WiseTech)	High	CargoX as independent orchestration layer
Model / token cost escalation	Medium	Tiered models, context diffing, dashboards
Org readiness / change	Medium	Co-creation model; lead with email standardization
Overpromising impact	High	Stage-gate funding tied to validated KPIs & evals

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8. SUPPORT & DECISIONS REQUIRED

1. **Endorse CargoX** as Maersk's AI / automation platform strategy.
2. **Approve CargoWise audit-log access and resourcing** for baseline validation.
3. **Sponsor global email standardization** – foundation for cross-regional AI automation.
4. **Adopt co-creation delivery model** – embed operators as feedback partners in AI teams.
5. **Agree on success metrics:** cycle-time reduction, touchless rate, accuracy (eval pass rate), adoption, and cost per file.

APPENDIX: FOUNDATIONS FOR VALIDATION, GOVERNANCE & SCALING

A. Data Validation Plan — CargoWise Log Analysis

Objective: Establish a verified, data-backed baseline for operational efficiency and AI value realization.

Phase	Focus	Deliverables	Duration
1. **Data Extraction**	Secure access to CargoWise audit logs for Air & LCL (2–3 months data)	Extract user event logs (timestamps, activity codes, region, function)	Week 1
2. **Data Cleansing & Anonymization**	Remove sensitive fields (shipper, cost, price)	Clean and standardize log data for analysis	Week 1–2
3. **Pattern Analysis**	Identify true time-on-task (TOT), variance by region, rework cycles	Dashboard of top 10 bottlenecks by process type	Week 2
4. **Baseline Validation**	Compare system-derived TOT vs. DILO estimates	Validated baseline report + variance analysis	Week 3
5. **Actionable Insights**	Map automation opportunities and license optimization	Value heatmap by lane, process, and region	Week 3–4

Outcome:

- Replace anecdotal entitlement with *quantified, validated baselines*.
- Provide “ground truth” for AI model evaluation and adoption tracking.
- Deliver insights on process standardization and license efficiency.

B. AI Governance & Maturity Model

Dimension	Level 1 – Pilot	Level 2 – Scale	Level 3 – Institutionalize
Data Quality & Access	DILO + sampled logs	CW1 logs standardized	Continuous data pipelines with quality KPIs
AI Model Lifecycle	External APIs (LLMs)	Fine-tuning & RAG stack	MLOps pipeline with continuous evals
Human-in-the-Loop (HITL)	Operators validate AI output	Feedback loop integrated in CargoX	AI adoption embedded in SOPs
Governance	Manual review & audit	AI audit trails (CargoX)	Policy-based model approval & monitoring
Measurement	Minutes saved (DILO proxy)	System-logged KPIs	ROI dashboards & predictive performance

Guiding principle: *Governance should scale with confidence — not complexity.*
CargoX embeds monitoring, traceability, and explainability from the start.

C. Measurement Framework

Core KPI Families

Category	Metric	Purpose
Efficiency	TOT per file (Air/LCL), touchless rate (%)	Quantify direct productivity gain
Adoption	% of active users using AI features	Track engagement & trust
Quality	AI recommendation accuracy (%), rework rate	Measure precision & reliability

Learning Velocity	Time-to-improvement per model iteration	Track model responsiveness to feedback
Cost Optimization	Cost per processed item, token efficiency	Ensure financial sustainability

📈 *Measurement will move from static DILO minutes to live operational metrics logged directly in CargoWise.*

D. Co-Creation & Change Enablement Framework

Purpose: Build a workforce that grows *with* AI — not around it.

Element	Description	Outcome
Embedded Operator Roles	Select 4–6 operations staff embedded in AI product teams	Real-world feedback loop
AI Coach & Champion Network	Regional super-users drive adoption and act as HITL mentors	Local ownership of AI performance
Training & Playbooks	"How to work with AI" modules, built from pilot learnings	Scalable, repeatable enablement model
Communication Loop	Feedback dashboards visible to users	Transparency & trust in model evolution

🧠 *Co-creation is not a pilot activity; it's the foundation of long-term adoption.*

E. Risk & Integrity Monitoring

- **Data Integrity:** Automated anomaly detection on source data (CargoWise + EDI).
- **Bias Detection:** Regular checks on model outputs for consistency across regions.
- **Security:** Role-based access, data anonymization, and full audit logs in CargoX.
- **Performance Alerts:** Model drift and token cost alerts integrated in observability layer.

- **Ethical Use:** All AI agents require human confirmation for external communications (email, quote, document generation).

F. Technical Architecture Review

(To be worked with Tech, @Gabriel Maties)

Purpose

To provide a unified, modular foundation for deploying AI and automation capabilities that integrate seamlessly with CargoWise while maintaining control, observability, and scalability through the CargoX platform.

1. Architecture Overview

CargoX serves as the orchestration layer between operational systems (CargoWise, EDI, API, Email) and AI microservices.
It enables modular integration, workflow automation, and human-in-the-loop validation through a governed, auditable framework.

2. Architectural Principles

- **API-First, Event-Driven:** Integrates with CargoWise via non-invasive connectors, ensuring system integrity and future flexibility.
- **Composable AI Stack:** Each agent runs independently; can be upgraded or replaced without disrupting other workflows.
- **Human-in-the-Loop by Design:** All agents operate in *shadow mode first*, with user validation loops.
- **Observability Built-In:** Token cost dashboards, accuracy metrics, and performance SLOs tracked continuously.
- **Governance-Ready:** Every AI action logged, explainable, and traceable for audit and compliance.

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3. Strategic Benefits

- Faster deployment and iteration than vendor-led AI models.
- Clear boundary between *Maersk-owned intelligence* and *WiseTech core*.
- Enables scalable AI adoption across functions (Air, LCL, Finance, Customer Service).
- Provides foundation for future automation domains (e.g., Quotation Agent, Vendor Communication, Finance Reconciliation).
