

Maersk Air & LCL — Building the AI-Orchestrated Freight Ecosystem on Azure

Maersk Air & LCL — The AI-Orchestrated Freight Ecosystem on Azure

A McKinsey/BCG-style executive strategy and architecture narrative showing how Maersk is building a **self-learning freight orchestration ecosystem** using **Azure, CargoWise One, ReAct agents, event-driven microservices, and RAG/REACT operator feedback.**

Slide 1 — Executive Cover

Title:

Maersk Air & LCL — The AI-Orchestrated Freight Ecosystem

Subtitle:

From manual operations to self-learning orchestration through AI agents and the REACT feedback loop.

Tagline:

Think Orchestrated. Act Intelligent.

Slide 2 — Strategic Goals

Headline:

Accelerate orchestration and continuous learning through agentic automation.

Goal	Description
Automate order intake	AI extracts booking data from emails & attachments
Integrate CargoWise One	Bi-directional master + financial data sync
Embed agentic orchestration	Event-driven execution across microservices
Enable operator feedback	REACT RAG loop tunes prompts + models

Takeaway:

A self-learning orchestration layer unifying automation, integration & human intelligence.

✓ Slide 3 — Logical Architecture Pattern

Headline:

Azure integrates cognitive agents, microservices & continuous learning.

Layer	Components	Azure Capabilities
AI Agentic Layer (ReAct)	Email, Order, CW1, Feedback Agents	OpenAI, Doc Intelligence, Logic Apps
Microservices Backbone	Order, Shipment, Finance, Audit, Event Bus	Event Grid/Kafka, Functions
Data & Knowledge Layer	Master Data, Finance DB, Feedback DB, Knowledge Base	Azure ML, Monitor, App Insights

Callout:

RAG feedback + telemetry continuously tunes prompts and retrains models.

✓ Slide 4 — Hero 1: Ecosystem Vision

Headline:

Maersk's orchestrated ecosystem connects channels, agents, systems & learning.

Column	Key Capabilities
1 Customers & Partners	Email · Portal · EDI/API · Airline/Trucking links
2 CX Agentic Copilot (ReAct)	Email Analyzer · Form Extractor · DG Validator · Reply Gen
3 CargoX Orchestration Core	Workflow Engine · Policy Manager · API Gateway · Decision Journal

4 CW1 + Event Microservices	Order · Shipment · Finance · Docs · Audit via Event Bus
5 MLOps + Feedback Engine	RAG UI · Feedback DB · Drift Eval · Retraining · Model Registry

Annotation:

Every operational event → telemetry → operator RAG → MLOps → updated prompts/models → faster next decision.

Slide 5 — Agentic Operating Model

Headline:

Humans supervise; agents execute; REACT drives trust and accuracy.

Layer	Actors	Role
AI Agents	ReAct task execution and routing	Recognize → Act
Human Operators	CX & Finance	Evaluate → Communicate
Systems	CW1 / ERP / APIs	Track outcomes & persist

Sidebar:

Human-in-the-loop (HIL) maintains control & accountability.

Slide 6 — MLOps & Feedback Flywheel

Headline:

Every operator correction improves the next agent decision.

Flow:

1. Data Capture →
2. Eval & Drift Monitoring →
3. Governance & Safety →
4. Retraining & Prompt Tuning →

5. Deployment & Policy Updates

Inner ring: **REACT** feedback — Recognize → Evaluate → Act → Communicate → Track
Powered by Azure ML + Monitor + App Insights.

✓ Slide 7 — Azure Technology Enablement Map

Headline:

Azure powers both ReAct reasoning and REACT learning.

Category	Services	Value
AI & Cognitive	Azure OpenAI, AI Doc Intelligence	Understand + extract intent
Automation	Logic Apps, Functions	Workflow orchestration
Messaging	Event Grid, Kafka	Real-time microservices backbone
Learning & Feedback	Azure ML, Monitor, App Insights	Drift detection + retraining
Integration	API Management, Service Bus	CW1/ERP connectivity

✓ Slide 8 — Roadmap to Orchestration

Headline:

A phased journey from automation to self-learning orchestration.

Phase	Focus	Milestones
1 Automation	Email & order ingestion	Deploy agents + RAG UI
2 Integration	Event orchestration w/ CW1	Exception automation + milestone sync
3 Continuous Learning	MLOps + REACT at scale	Real-time retraining + dashboards

KPIs: -35% touches, +40% accuracy.

Slide 9 — Logical Data Flow

Headline:

Agents trigger workflows; feedback completes the learning loop.

Flow:

Ingestion → ReAct Agents → Event Bus → CW1/ERP/EDI → RAG Feedback → Azure ML → Updated orchestration

Async events enable scale & low-latency decision-making.

Slide 10 — Business Impact

Headline:

Agentic orchestration drives measurable operational efficiency.

Dimension	Impact	Example
Efficiency	↓ 50% handling time	Email → Order automation
Accuracy	↑ 97% validation	Auto master data checks
Learning	Continuous improvement	RAG → prompt/model tuning

Slide 11 — Governance & Safety

Headline:

Transparency and control built into every AI decision.

Pillars:

- Policy Engine (risk scoring, HIL gates)
- Observability Hub (trace logs + telemetry)
- MLOps Governance (versioning, rollback, audit)
- Ethics & Safety Controls (explainability & thresholds)

Guarantee:

Trust through traceability — everything logged, explainable & reversible.

Slide 12 — Call to Action

Headline:

From automation to intelligent logistics.

Flywheel:

Customer → Agents → Systems → Feedback → Learning → Better Outcomes

Tagline:

Think Orchestrated. Act Intelligent.

CargoX + CW1 + Azure AI = **a learning freight network.**

Cross-Slide Design System (Production Spec)

Element	Specification
Aspect Ratio	16:9
Font	Maersk Sans / Helvetica Neue
Colors	Maersk Blue (#003366), Teal (#009B9E), Violet (#6A0DAD), BCG Green (#00AF54), Gray (#E8EEF2)
Layout	Horizontal diagrams, premium white-space
Icons	Feather/Lucide (24 px)
Max Text	80 words/slide
Footer	“Source: Maersk Digital Transformation Office”

Narrative Flow

Phase	Message

Context	Automation + orchestration needed for scale
Vision	Unified agent-driven ecosystem on Azure
Operating Model	Humans guide agents via REACT
Learning	Feedback improves models, continuously
Execution	Microservices & CW1 integrate seamlessly
Impact	Faster, more accurate, lower-cost operations
Future	Self-learning freight network
