

TARGET ORGANIZATION	EXECUTIVE SPONSOR	OPERATIONAL SCALE
Vanguard Cold-Chain LLC	Marcus Vance	~1,400 Monthly Reefer Loads
Laredo, TX & Monterrey, Mexico	Chief Operating Officer	\$42M Freight Run-Rate

1. Operational Diagnosis & The Human Routing Bottleneck

Vanguard moves ~1,400 refrigerated cross-border loads each month across Laredo and Pharr. Primary dispatch scheduling runs in **McLeod LoadMaster TMS**. However, critical border exceptions (US Customs ABI clearance confirmations, USDA temperature compliance, and Mexican carrier handoffs) arrive unparsed across three broker portals, email threads, and WhatsApp driver communications.

Currently, **four dispatch coordinators spend ~32 hours weekly** acting as human routers. They manually download temperature manifests, confirm setpoints against bills of lading, and type clearance codes into McLeod. When delayed border notifications are missed, refrigerated trailers stall at the crossing, creating an estimated **\$18,000 monthly drag in demurrage, driver detention, and customer SLA penalties**.

2. System Topology: Current Latency vs. Hermes Agent Layer

Status Quo: Fragmented Human Latency	3.5 HR AVG LAG	Future State: Hermes Cold-Chain OS	7 MIN CYCLE
1. Unstructured Inbound: Broker PDFs, WhatsApp driver photos, and raw Samsara logs arrive across 3 separate channels.		1. Automated Webhook Ingest: Hermes ingests broker clearance summaries and Samsara IoT sensor feeds in sub-30 seconds.	
2. Manual Data Keying: 4 dispatchers spend 32 hrs/week manually cross-referencing setpoints and re-typing into McLeod TMS.		2. Deterministic Reasoning: Validates trailer temp against BOL limits (±1.5°F) and executes direct REST API update to McLeod.	
3. Operational Drag: Delayed releases cause Laredo border stalls, driver detention fees, and \$18,000/mo penalty leakage.		3. Exception Governance: Immediate Slack alert dispatched only when variance >1.5°F. Demurrage leakage compressed by 90%.	

3. Quantified Financial Drag & ROI Projection

Operational Metric	Manual Baseline	With Hermes OS	Projected Value Unlocked
Weekly Coordinator Time	32 hours/week across 4 staff	4 hours/week (edge exceptions)	112 hours/mo saved (\$4,480/mo)
Average Exception Cycle	3.5 hours manual delay	7 minutes automated cycle	96.5% compression in latency
Demurrage & Detention Penalties	~\$18,000 / month	< \$2,200 / month	\$15,800/mo saved in direct fees
Customer SLA Compliance	91.4% on-time threshold	99.2% guaranteed threshold	Penalty chargebacks eliminated
TOTAL ANNUAL OPERATIONAL DRAG	\$269,760 / year	\$26,400 / year	NET ANNUAL GAIN: \$243,360

4. System Scope & Technical Deliverables

1. Customs & Broker Document Extraction Pipeline

Hermes Core

Automated ingestion of broker entry summaries, ACE release PDFs, and trailer manifests. Vision parsing extracting BOL numbers, customs entry stamps, and Mexican carrier codes without human intervention.

2. Samsara IoT Validation & McLeod TMS Write-Back

Integration Layer

Deterministic validation comparing real-time Samsara trailer sensor telemetry against bill of lading setpoints. Direct API connection to McLeod LoadMaster TMS advancing shipment status to "Port Cleared".

3. Dedicated Command Center & Exception Routing

Governance Layer

Client Command Center deployed at portal.admin.sellatica.systems/c/vanguard with real-time agent uptime telemetry, instant Slack exception alerts, and complete technical runbook documentation.

5. Implementation Roadmap

Phase	Timeline	Milestone Deliverables & Acceptance Benchmark
Phase 1: Architecture Validation & Sandbox	Weeks 1–2	McLeod LoadMaster schema mapping, Samsara IoT ingestion setup, 50 historic document test benchmark (>95% accuracy).
Phase 2: Production Integration & UAT	Weeks 3–5	Live carrier webhooks connected, McLeod write-back pipe enabled, 10-day operator shadowing, and exception alerting test.
Phase 3: Production Cutover & Hypercare	Weeks 6–7	100% production traffic cutover, team training runbook delivery, and 14 days of dedicated hypercare monitoring.

6. Commercial Investment & Payment Terms

\$30,500 USD

Total Fixed Engineering Scope · Projected Payback: ~1.5 Months against \$243,360 net annual savings.

Milestone 1 (50% Deposit): \$15,250 on SOW execution	Milestone 2 (30% Pilot): \$9,150 on Sandbox validation	Milestone 3 (20% Go-Live): \$6,100 on UAT sign-off
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