AEVION QVenture — Investment Memo

Generated 2026-11-26 · AEVION AI Investment Analyst · not investment advice

FICTIONAL EXAMPLE: the company in this example is made up; any resemblance of names is coincidental. All figures are model output on invented inputs.

ColdChain IQ

B2B SaaS (horizontal) · series-a · EU · raising $11,000,000

Score 67.7/100 — WATCH (conviction: medium)

Signal coverage: 59% company-specific (2 metrics parsed from the plan); remainder from sector priors.

Investment memo

Verdict: watch, converting to a conditional lead. ColdChain IQ is a genuinely sticky compliance play—118% NRR and a 2.3-month hardware payback signal real demand—but its label of "horizontal SaaS" masks both its strength and its risk. The strongest reason to lean in: this is not seat-based software vulnerable to AI headcount collapse; it monetizes per-site/per-sensor against a real GxP/GDP compliance mandate, giving durable switching costs. The strongest reason against: with zero disclosed LTV/CAC, undisclosed sensor COGS, and 40% hardware capital intensity, we cannot verify the SaaS layer—not working capital—drives margin, against entrenched validated incumbents (Sensitech, ELPRO, Berlinger, Controlant). Entry plan: lead with a $5.5M ticket for ~8.3%, capped at $5.5M, roughly 1.7% of the fund, with $8.25M reserved for pro-rata. Stage the money: close conditional on validated LTV/CAC and blended gross margin, Part-11/Annex-11 CSV validation evidence, predictive-alert precision/recall data, and an FTO/OSS-audit warranty package.

Narrative engine: model anthropic (per-part source not recorded)

Entry strategy

Ticket: $5,500,000 target (range $2,750,000–$5,500,000)
Target ownership: 8.3%
Valuation band (pre-money): $26,327,500 / $55,310,000 / $110,620,000
Modelled return (not a forecast): 5.76x multiple (10x base) · horizon 6yr · loss prob 43%

Deployment schedule:

- 60% — Entry: On close, after commercial + legal + financial diligence.
- 40% — Pro-rata: Reserve to maintain ownership through the next round.

Portfolio: Size at ~1.7% of a diversified venture portfolio (fractional-Kelly, conviction-scaled). Reserve 8,250,000 USD for pro-rata follow-on.

Score breakdown

Market size & growth — 67/100 (weight 14%)
~$465B TAM, 13% CAGR (B2B SaaS (horizontal)).

Timing / tailwinds — 53/100 (weight 5%)
Sector growth 13% vs. 12% neutral baseline.

Moat / defensibility — 68/100 (weight 16%)
switching costs is the category's mature moat (ceiling 74), but ~84% realized at series-a given disclosed traction — an unproven moat is discounted toward the 35 "no demonstrated defensibility" floor.

Unit economics potential — 77/100 (weight 15%)
Company metrics: 2.3mo payback (capital intensity 40%).

Team / execution signal — 72/100 (weight 28%)
Quantified traction: $3.8M ARR.

Scientific / tech feasibility — 55/100 (weight 7%)
usage-based pricing telemetry, embedded analytics, PLG instrumentation

Regulatory / legal headroom — 81/100 (weight 7%)
Regulatory intensity 30% (higher = more legal drag).

Competitive headroom — 44/100 (weight 8%)
Competitive intensity 80%. seat-based model pressure as AI collapses headcount-linked demand.

Analyst council

Research Scientist — Feasibility floor of 55 understates a proven IoT+SaaS deployment; tech risk is integration/calibration, not physics.

+ The 55/100 feasibility score reflects a generic horizontal-SaaS frontier template (usage-based telemetry, PLG instrumentation) that is mismatched to this company. ColdChain IQ's real technical stack — cold-chain IoT sensing, excursion prediction, GxP audit automation — is mature, well-documented engineering, not speculative science. 140 live sites and 2.3-mo hardware payback are direct evidence of

+ Predictive excursion alerts are the only genuinely 'science' claim. The physics of thermal mass and Arrhenius-based spoilage kinetics is well established (mean kinetic temperature per WHO/ICH Q1A is standard), so forecasting a breach from temperature drift + door-open/compressor telemetry is a tractable time-series problem — not a novel-ML moonshot. Credible, but the 'before spoilage' lead-time an

+ Regulatory grounding is a strength, not a science risk: EU GDP (2013/C 343/01), FDA 21 CFR Part 11, and EU Annex 11 define exactly what temperature-mapping and audit records must contain. Auto-generated, Part-11-compliant audit reports (validated, e-signature, audit trail) are a defensible technical differentiator IF the platform is CSV/GAMP 5 validated — this should be diligenced directly.

+ Sensor calibration drift and connectivity are the underappreciated technical liabilities: NIST-traceable calibration must be re-certified (typically annual), and LPWAN/cellular gaps in cold rooms/reefers cause data holes that break audit integrity. These are solvable ops problems, but they cap gross margin and are why 'IoT+SaaS' rarely hits pure-software economics.

! Predictive-alert efficacy is unverified: no disclosed lead-time, precision/recall, or reduction-in-spoilage figures. If alerts are effectively just threshold alarms rebranded as 'predictive,' the ML moat and premium pricing collapse — this is the single most important technical claim to validate.

! Part-11/Annex-11 validation debt: if the audit-report engine is not formally CSV-validated, pharma customers cannot use it as a system-of-record, converting the flagship feature into a nice-to-have and undermining switching-cost moat.

! The applied structural risk (seat-based/AI headcount collapse) is largely a false transfer from the horizontal-SaaS template — ColdChain IQ monetizes per-site/per-sensor, not per-seat, so AI does NOT erode its demand base; but the flip side is genuine hardware capital intensity (40%) that dilutes the SaaS multiple and exposes it to sensor-commoditization pricing pressure.

Data Analyst — 77/100 unit-econ score is generous on a 2.3mo payback that hides missing LTV/CAC — 118% NRR is the real signal

+ The 77/100 leans on 2.3-month hardware payback, but that is a hardware-cost payback, not blended CAC payback. No LTV/CAC, gross margin, or fully-loaded sales-and-marketing CAC was disclosed. I'd hold the score but flag it as under-evidenced — the number that actually justifies it is the 118% NRR, which implies negative churn and expansion within enterprise cold-chain accounts.

+ EUR 3.8M ARR across 140 sites = ~EUR 27k ARR/site — solid enterprise ACV for an IoT+SaaS blend. Combined with 118% NRR, this points to durable land-and-expand economics; a healthy SaaS payback would land 12-18 months, and 2.3mo (hardware only) plus expansion suggests true blended payback is likely well inside 18mo, but this must be confirmed.

+ TAM triangulation was NOT run and the $465B figure is a horizontal-SaaS proxy, not cold-chain-specific. Realistic SAM (pharma + food cold-chain monitoring software/IoT, EU-anchored) is more plausibly single-digit billions — I'd bottom-up it at ~EUR 27k ACV x addressable regulated sites before trusting the 67/100 market score.

+ The structural seat-based/AI risk is largely MISPRICED here: ColdChain IQ is asset/site-based (140 sites), not seat-based, so the 'AI collapses headcount demand' thesis barely applies. This is a point in its favor the composite under-credits — usage/site telemetry is exactly the sector frontier (usage-based pricing) they should lean into.

! Hardware capital intensity (model flags 40%) drags blended gross margin. Undisclosed COGS on sensors/gateways could pull SaaS-equivalent margins from 80%+ down to 55-65%, materially weakening LTV and the $11M's runway to profitability.

! Competitive headroom is 44/100 with 80% intensity — Sensitech, Berlinger, Controlant, ELPRO and pharma-logistics incumbents already own cold-chain monitoring. Moat (68) is switching-cost-driven but only ~84% realized; at 140 sites, defensibility is unproven vs. entrenched validated (GxP) vendors.

! Zero disclosed LTV/CAC and no revenue projections means the stress test could not run. Committing $11M without unit-economics stress data on a hardware-heavy model is the core diligence gap — this alone justifies 'watch' over 'invest'.

Economist — Real cold-chain SaaS with sticky compliance moat; $465B horizontal TAM is a fiction that overstates the addressable opportunity

+ The 67/100 market score leans on a ~$465B horizontal SaaS TAM at 13% CAGR — that's a category label, not this company's market. Pharma/food cold-chain monitoring (IoT + SaaS) is realistically a $4-8B serviceable segment growing ~12-15% on regulatory + food-safety tailwinds. I'd push the effective score DOWN on TAM sizing but UP on TAM quality: this is a defined, budget-owned, compliance-driven spe

+ Demand is inelastic where it matters: GDP Annex 15, FSMA 204, and EU 2017/745 turn temperature audit trails into non-negotiable regulatory spend, not a 'nice-to-have.' 118% NRR + 2.3-mo hardware payback confirm expansion economics and low price sensitivity — the customer's alternative (a spoiled pharma batch or FDA finding) costs orders of magnitude more than the subscription.

+ The real moat is data + switching costs, not seats: once a site's excursion history and validated audit workflows live in the platform, ripping it out means re-validating under regulatory scrutiny. That's why the model's 'seat-based / AI-collapses-headcount' structural risk is largely misapplied here — this is a per-site / per-sensor / usage-based footprint, decoupled from headcount. I'd rate comp

+ Where rents accrue: durable economic rent sits with whoever owns the compliance-grade data layer and the validated integrations (WMS/ERP, e-QMS). Hardware is a low-margin, ~40% capital-intensity trojan horse; the SaaS + analytics attach is where gross margin and pricing power compound.

! Fragmented, entrenched incumbents: Sensitech (Carrier), ELPRO, Berlinger, Testo and Emerson already sell validated pharma cold-chain monitoring with regulator trust and installed base. At 80% competitive intensity, ColdChain IQ's 140 sites is small — the risk is being out-distributed rather than out-built.

! Hardware capital intensity caps scaling velocity and blended margins; $11M Series-A funds sensor deployment working capital, not just software. Without disclosed LTV/CAC (stress test not run), the 2.3-mo payback is necessary but insufficient to prove the SaaS layer, not the hardware, drives durable margin.

! TAM triangulation and revenue projections absent — the bottom-up serviceable market (# of GxP/food sites × ARPU) is unverified. If ARPU compression or a slower enterprise sales cycle sets in, the 13% CAGR narrative won't rescue an under-penetrated niche.

Corporate & Regulatory Lawyer — 81/100 legal headroom is fair for a no-sector-licence SaaS, but GDPR-as-processor and AI Act high-risk tiering are underpriced

+ Agree with 81/100 directionally: horizontal B2B SaaS carries no sector licence, so the surface is GDPR + FTO + national corporate law rather than a hard regulatory gate. But the score understates two live exposures — pharma cold-chain audit reports touch GxP/GDP (EU GMP Annex 11 / GDP 2013/C 343/01) validation duties, and predictive-excursion alerts may fall under AI Act obligations. I'd mark it ~

+ Data posture: ColdChain IQ is largely a GDPR data processor (sensor telemetry, not personal data) which caps its Art. 28 exposure — good. But audit-report and site-access logs likely carry personal data, so DPAs, SCCs for any non-EU hosting, and a DPO are mandatory; 4%-of-turnover fines are the tail, not the base case.

+ AI Act reality check: 'predictive alerts before spoilage' is process-optimization, most likely minimal/limited-risk with GPAI transparency duties — NOT high-risk (which is biometrics, critical infrastructure, medical devices). If the pharma module ever gates release/recall decisions it could edge toward high-risk under 2026–2027 phase-in; contract to keep the human-in-the-loop on quality decisions

+ Deal structure: round fits Prospectus Regulation qualified-investor / sub-threshold exemption at $11M — clean. But 'EU' is not a jurisdiction: enforceability of liquidation preference, tag/drag and anti-dilution turns on the entity form (GmbH vs SAS vs B.V.). Insist on incorporation in a preference-friendly code (B.V./SAS over GmbH, where notarial rigidity and drag limits bite) and IP-assignment w

! No FTO/IP diligence disclosed: an IoT + ML platform with 'auto-generated audit reports' has patent-thicket and open-source-firmware licensing exposure (GPL contamination in embedded stack). Series-A with no FTO opinion is a real gap — condition closing on IP-assignment and OSS-audit warranties.

! GxP/GDP validation liability: if a missed excursion alert precedes a pharma spoilage or recall, the customer's regulatory loss could be pinned on the platform. Verify uncapped-liability carve-outs are resisted and that the SaaS contracts disclaim decision-of-record status; product-liability insurance essential.

! Jurisdiction-specific enforceability: drag-along and preference stacks are only partially enforceable under some member-state codes (notarial/minority-protection constraints in DE); a preference the model assumes is protective may be unenforceable at exit if the entity is a GmbH.

Market data sources

- Grand View Research (2025) — SaaS $464.7B in 2025 !' $1,109.2B by 2033 at 11.1% CAGR
  https://www.grandviewresearch.com/industry-analysis/saas-market-report
- Research and Markets (2025) — $281.8B (2024) !' $774.3B by 2030 at 18.3% CAGR
  https://www.statista.com/outlook/tmo/public-cloud/software-as-a-service/worldwide/

Assumptions & limitations

- Market size / growth for B2B SaaS (horizontal) is anchored to Grand View Research (2025): SaaS $464.7B in 2025 !' $1,109.2B by 2033 at 11.1% CAGR. Full citations are listed under "Market data sources".
- Signal coverage: ~59% of the score is backed by the plan's own disclosed metrics (2 quantified fields); the remainder uses B2B SaaS (horizontal) sector priors — add financials to raise it.
- Stage norms reflect US-market series-a deals; adjust for geography "EU".
- Score is a screening signal, not a substitute for legal, financial, and technical due diligence.

This memo is generated by an AI screening tool for research purposes and is not investment advice, an offer, or a solicitation. Figures are model estimates, not guarantees.