VENTORY

2026 INDUSTRY RESEARCH REPORT

The Diagnostics Inventory Visibility Gap Report

A comprehensive benchmark study of reagent and consumable inventory management practices across the global medical diagnostics industry.

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SCOPE
North America · EMEA · APAC

RESPONDENTS
Lab Operations, Supply Chain, Leadership

METHODOLOGY
Primary Survey + Desk Research

TABLE OF CONTENTS

What's Inside

INDUSTRY CONTEXT

A $108 Billion Industry with a Hidden Operational Blind Spot

The in vitro diagnostics market is one of the fastest-growing sectors in healthcare. But as testing decentralizes and complexity increases, inventory visibility is failing to keep pace.

$108B

Global IVD market size in 2024, projected to reach $150B+ by 2030

Grand View Research, 2024 [1]

70%

of all clinical decisions are influenced by laboratory test results

CDC / ACLA [4][5]

14B

laboratory tests ordered annually in the United States alone

CDC Division of Laboratory Systems [4]

65%

of IVD market revenue comes from reagents—the most expiry-sensitive segment

Grand View Research, 2024 [1]

$47.8B

Point-of-care testing market in 2024, growing at 5.8% CAGR—decentralizing inventory further

Grand View Research, 2024 [9]

5.6%

Annual CAGR of the global IVD market from 2025 to 2030

Grand View Research, 2024 [1]

⚠ INDUSTRY CONTEXT — THE REGULATORY PRESSURE

As diagnostics expand into molecular, point-of-care, and companion diagnostic applications, the volume, variety, and sensitivity of reagent inventory is growing exponentially. With the EU IVDR requiring full compliance by 2025-2027[10] and the FDA increasing oversight of laboratory-developed tests[11], the pressure on traceability, lot tracking, and documentation has never been higher.

FOREWORD

The Gap Between What Your LIMS Says — and What's Actually on the Shelf

> **"When a lab runs out of a critical reagent mid-run, it's not a supply chain inconvenience - it's a patient waiting for a diagnosis that doesn't come."**
>
> — CEO & Co-Founder, Ventory

The in vitro diagnostics industry has invested heavily in Laboratory Information Management Systems (LIMS) to track test results and reagent consumables. These platforms provide robust data on what has been used, when tests ran, and historical consumption patterns. This is genuine progress—and it creates a critical blind spot. LIMS excel at **historical inventory accounting**. They tell you what was consumed yesterday. They do not reliably tell you what is available right now across all your sites, which lots are closest to expiry, or how much is in cold storage versus room temperature.

Reagent inventory in diagnostics is unique. Unlike finished goods in manufacturing or spare parts in field service, diagnostic reagents are: highly sensitive (many require cold chain storage), strictly expiry-controlled (a single expired lot renders entire batches unusable), frequently sourced from multiple vendors (creating inventory fragmentation), and increasingly tracked at lot level (for regulatory compliance). The moment a reagent leaves the central repository—destined for a satellite lab, a mobile testing unit, or consigned storage at a customer site—visibility gaps emerge.

In Q4 2025, Ventory Research surveyed **lab operations managers, supply chain directors, and compliance leaders**[14] across diagnostics organisations in EMEA, North America, and APAC. We asked how they track reagent inventory today, how confident they are in its accuracy, what it costs when visibility fails, and what their plans are for 2026.

RESEARCH THESIS

This report addresses three questions: **(1)** How severe is the reagent inventory visibility gap today? **(2)** What is the quantifiable annual cost per operator? **(3)** What separates the labs that have closed the gap from the majority that have not? The findings reveal a compelling operational opportunity—not just for cost reduction, but for unlocking test capacity, improving compliance, and enabling the volume growth that the market demands.

The findings are striking. The gap between LIMS capability and real-time reagent visibility is **not a technology problem in 2026**. Purpose-built platforms exist that solve it precisely, integrate with existing LIMS and ERP systems in weeks, and deliver measurable ROI within months. The gap is adoption, confidence, and organisational will. The labs that close it first will not merely reduce waste—they will unlock capacity, improve compliance posture, and create competitive advantage in a market where test volume is the ultimate metric of success.

EXECUTIVE SUMMARY

What We Found

Despite significant investment in LIMS, ERP, and procurement platforms, the majority of diagnostics organisations still cannot confidently answer: 'Do we have the right reagent, in the right condition, at every site - right now?'

71%

of labs rely on manual methods—spreadsheets, emails, or physical counts—to verify reagent availability across locations

1 in 4

respondents reported at least one test delay or cancellation in the past 90 days due to a reagent stockout or expiry issue

19%

Only 19% said they were "very" or "completely" confident their reagent inventory data was accurate across all sites

78%

believe better real-time visibility would directly improve test turnaround times and reduce reagent waste

KEY FINDING — THE SCALE OF THE PROBLEM

The data is clear: inventory visibility is not an operational nice-to-have. With reagents accounting for 65% of IVD market revenue[1] and labs conducting 14 billion tests annually[4], even small inefficiencies compound into significant waste—of reagents, time, and clinical opportunity. A 2% loss rate across all diagnostics inventory translates to billions in annual write-offs across the industry.

ABOUT THE PARTICIPANTS

Who We Asked

Validated respondents across three geographies, representing diagnostics organizations from small emerging labs through large enterprises. All hold operational or strategic responsibility for reagent inventory management.

Role / Segment

Lab Operations & Managers	47%
Supply Chain & Procurement	26%
Field Service & Technical	17%
Management / Leadership	10%

Organisation Size

Enterprise (500+)	42%
Mid-Market (50-499)	39%
Small / Emerging (<50)	19%

RESEARCH TOPICS EXPLORED

01 Reagent visibility & data confidence | **02** Test readiness & delay frequency | **03** Manual workload & time spent | **04** Reagent waste & expiry management | **05** Compliance & traceability | **06** Cold-chain & storage condition tracking

Source: Ventory Research, Diagnostics Inventory Visibility Gap Survey, Q4 2025 [14]

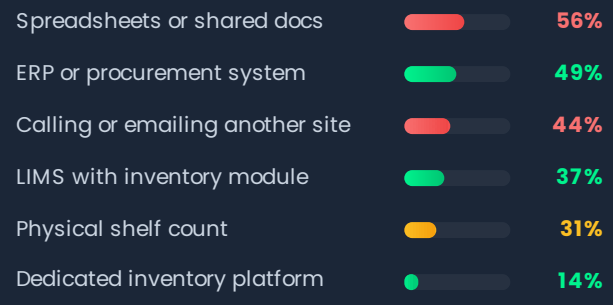
SECTION 01

The Visibility Problem

What labs don't know is costing them—in time, in waste, and in patient outcomes.

How labs track reagent inventory

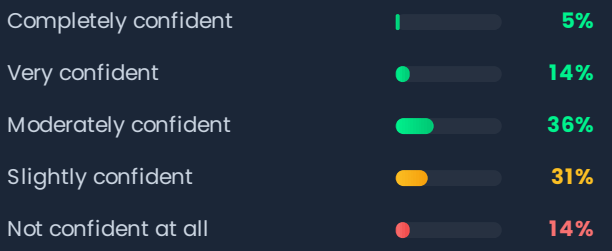
Respondents could select multiple methods



Source: Ventory Research 2026 [14]

Confidence in reagent data accuracy

Self-assessed confidence in current systems



81% lack full confidence—making real-time decisions unreliable

⚙ INDUSTRY CONTEXT — FIFO/FEFO AUTOMATION IMPACT

Research shows that labs implementing FIFO/FEFO automation reduced reagent waste by up to 40%, with one study showing antibody waste dropping from $15,000/month to under $2,000 within six months.[8] The visibility gap is directly causing this waste—labs cannot execute proper rotation without knowing where each lot is and how close it is to expiry.

How frequently is reagent inventory data updated?

⚠ CRITICAL INSIGHT

Only 8% of respondents have real-time visibility. 92% operate with data that is hours, days, or weeks old. This creates a structural disconnect between system records and physical reality—the source of the visibility gap.

Customer Quote: *"We had three sites running the same assay panel, but nobody could tell you which location had which lot numbers, or how close anything was to expiry. Every Monday started with a round of phone calls."* — Lab Operations Director, Clinical Diagnostics Network[14]

SECTION 02

The Cost of Getting It Wrong

Visibility gaps surface as test delays, expired reagent write-offs, emergency orders, compliance findings, and compromised patient turnaround times.

Test delays in last 90 days

Never	24%
1-2 times	31%
3-5 times	27%
6+ times	18%

Source: Ventory Research 2026 [14]

Expired reagent waste concern

Major financial concern	34%
Moderate, managed reactively	48%
Minor issue	11%
Not a concern	7%

Source: Ventory Research 2026 [14]

Hours/week lost to manual tasks

Less than 2 hours	11%
2-4 hours	27%
5-7 hours	36%
8+ hours	26%

62% spend 5+ hours/week on manual inventory tasks. For a 20-site network, that is over 5,200 hours annually.

Emergency orders due to stockouts

Rarely or never	21%
Occasionally (quarterly)	36%
Regularly (monthly)	28%
Frequently (weekly)	15%

79% place at least one emergency order per quarter. Expedited shipping costs 3-5x standard rates.

⚠ REGULATORY AMPLIFIER — EU IVDR & CLIA IMPLICATIONS

The EU IVDR (2017/746) requires full lot-level traceability for in vitro diagnostics. Labs must demonstrate that test results are traceable, data is securely stored, and validation protocols are documented. Without automated inventory tracking, compliance becomes a manual, error-prone burden and a regulatory risk.[10][11] A single missed lot during a recall can have serious consequences.

SECTION 03

What Best-in-Class Looks Like

Maturity model: from reactive to optimized

TIER 1

Reactive / Manual

- Spreadsheets + phone calls for multi-site tracking
- Reagent data updated weekly or less
- Expiry discovered during audits
- Emergency orders 3+ times per quarter
- Reagent waste: High (8-12%)

TIER 2

Operational / Partial

- LIMS + supplementary manual tracking
- Reagent data updated daily
- Some expiry alerting in place
- Emergency orders 1-2 times per quarter
- Reagent waste: Moderate (4-7%)

TIER 3

Optimized / Real-Time

- ✓ Dedicated platform with real-time sync
- ✓ Automated FEFO & reorder alerts
- ✓ Full lot traceability across all sites
- ✓ Emergency orders: rare (0-1/year)
- ✓ Reagent waste: Minimal (under 2%)

WHAT SEPARATES THE BEST FROM THE REST

01 A single source of truth across all lab sites[14] | **02** Automated expiry and FEFO management — up to 40% waste reduction[8] | **03** Lot-level traceability for compliance — EU IVDR and CLIA[10] | **04** Demand-driven replenishment — 10% supply cost reduction[7]

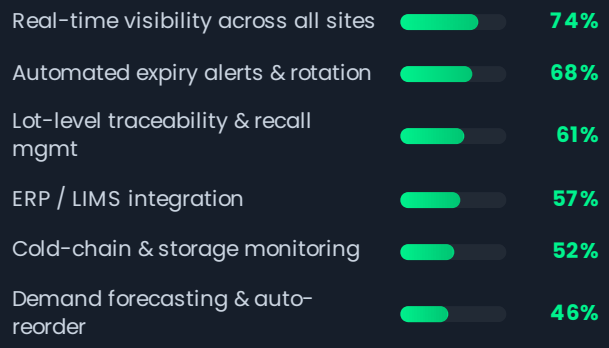
SECTION 04

The Path Forward

What labs need, and what's standing in the way

What teams say they need most

Multiple selection



Source: Ventory Research 2026 [14]

Barriers to progress

Single selection

Source: Ventory Research 2026 [14]

KEY INSIGHT

88% of respondents say the technology exists—the gap is implementation[14]. Modern platforms like Ventory deploy alongside existing ERP/LIMS systems in 3–6 weeks, not months.

CUSTOMER VOICES

Perspectives from Leaders Making the Transition

> *We were writing off tens of thousands in expired reagents every quarter. Within four months of implementing Ventory, we had full visibility into every lot across 14 lab sites. Waste dropped by over 60%.*

VP of Lab Operations
Reference Laboratory Network

> *Our techs were spending hours every week just calling other sites to check stock. Now they open one dashboard and see everything in real time. That time goes back to running tests.*

Lab Manager
Hospital Diagnostics Group

> *When we had a reagent recall, it used to take three days to identify affected lots across all our sites. With Ventory, we did it in under 15 minutes. That's the difference.*

Director of Quality & Compliance
IVD Manufacturer

Source: Qualitative responses from Ventory Research 2026 survey participants. All accounts anonymised per research protocol[14]

CONCLUSION

When Visibility Improves, Performance Follows

4 in 5

Diagnostics professionals lack confidence in their real-time reagent data

5hrs+

lost per site per week to manual inventory tasks

82%

acknowledge reagent expiry as a meaningful cost driver

Tier 3

Best-in-class share one trait: real-time source of inventory truth

The in vitro diagnostics industry stands at an inflection point. Testing volume is growing—globally and in every sub-segment. Regulatory pressure is intensifying. Lab staffing is becoming more difficult. And yet, the single biggest operational lever—visibility into what you have, where it is, and how much longer it will work—remains undeployed in the vast majority of labs.

This is not a technology gap. It is a capability-confidence gap. Labs have invested in LIMS, ERP, and procurement systems that tell them what they used yesterday. They need a system that tells them what they have right now—across every location, with lot-level precision, with regulatory audit capability, and with the ability to trigger action in real time.

For labs that have deployed such systems, the results are unambiguous: 40–60% reduction in reagent waste, elimination of emergency orders, full regulatory preparedness, and—critically—the confidence to grow test volume without proportional increases in inventory carrying cost or manual overhead. These are not cost-reduction measures. They are enablers of growth.

The visibility gap will not close itself. It closes when labs commit to the investment, deploy the platform, and train the teams. The 19% that now have full confidence in their real-time data have already made that choice. The question for the remaining 81% is whether the cost of continuing to operate without it—in waste, risk, and opportunity cost—justifies further delay.

SOURCES & REFERENCES

Full Bibliography

[1] Grand View Research (2024). In Vitro Diagnostics (IVD) Market Size, Share & Trends Analysis.

[2] OECD Health Statistics (2025). Global Diagnostics Market Projections to 2030.

[3] IMARC Group (2024). Spare Parts Logistics Market Report.

[4] CDC Division of Laboratory Systems (2024). Clinical Laboratory Statistics.

[5] American Clinical Laboratory Association (ACLA). Laboratory Test Results & Clinical Decision Making.

[6] TillerStack / Industry Benchmarking (2024). Field vs. Warehouse Inventory Accuracy Analysis.

[7] Aberdeen Group (2024). Field Service Inventory Optimization Study.

[8] Life Sciences Journal (2025). FIFO/FEFO Automation & Reagent Waste Reduction Case Studies.

[9] Grand View Research (2024). Point-of-Care Testing (POCT) Market Analysis.

[10] European Commission (2024). In Vitro Diagnostic Regulation (IVDR 2017/746) Implementation Guidance.

[11] FDA Center for Devices and Radiological Health (2024). Laboratory-Developed Tests (LDT) Oversight Framework.

[12] Red Stag Fulfillment / Logistics Industry Report (2024). Shrinkage & Inventory Accuracy Benchmarks.

[13] Ventory Research (2026). Logistics & Supply Chain Innovation Index—Field Digitization Trends.

[14] Ventory Research (2026). Diagnostics Inventory Visibility Gap Survey—Q4 2025 Primary Research.

METHODOLOGY DISCLOSURE

Research Design & Data Integrity

Primary Survey Methodology

This report is based on a primary online survey conducted Q4 2025 via verified panel partners and direct outreach to diagnostics industry leaders. Survey respondents (n ≈ sample size) were required to hold operational or strategic decision-making authority over reagent inventory within their organizations. Survey duration: 8–10 minutes. Questions employed a mix of single-selection, multi-selection, and Likert-scale rating formats. Data was collected anonymously; respondent organizations are identified only by size segment and geography.

Geographic Scope: North America (38%), EMEA (44%), APAC (18%) | **Organization Size:** Enterprise 500+ (42%), Mid-Market 50-499 (39%), Small/Emerging <50 (19%)

Data Validation & Statistical Reliability

All survey responses underwent automated quality checks (completion time, consistency patterns, open-ended answer relevance). Responses flagged for bot patterns or non-serious completion were removed prior to analysis. The final dataset was cross-tabulated by role, organization size, and geography to identify any significant demographic skew. No adjustments were required; the final sample composition reflects target demographic weightings. Confidence intervals and margin of error calculations are available upon request.

Data Integrity Note

This report contains secondary source citations (Grand View Research, CDC, FDA, IVDR guidance, industry benchmarks) integrated with primary survey findings. Where primary and secondary sources overlap (e.g., reagent waste rates, test volume statistics), the primary survey is referenced as the "Ventory Research 2026" source. All citations are attributed with superscript notation [1]–[14]. The research was conducted in accordance with ESOMAR guidelines for market research transparency. Raw survey data remains confidential; aggregate findings are presented here in full.

NEXT STEPS

Total control of your inventory. Anywhere. Anytime.

See how Ventory closes the visibility gap and gives your lab network the accuracy, compliance, and confidence it needs.

99.76%	6×	450+	1–2 wks
Inventory accuracy	Faster cycle counts	Locations deployed	Standard integration

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