

WAVE 2 · MAY 2026

The Operations Diligence Atlas.

Automation surface area across 4,838 lower-middle-market PE-backed companies.

AREON LABS

22 archetypes · 12 automation functions · 4,328
friction observations

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Where everything is.

Each line is clickable. Open this PDF in any modern reader and click to jump.

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This Atlas is the first systematic measurement of operating maturity across the lower-middle-market PE universe.

It opens with a single number, drawn from 4,838 coded companies. The remainder of the document is the data behind that number, the levers that move it, and the playbook to capture them.

COHORT-WIDE FINDING

87.3%

of the 4,838-company cohort sits below the Optimized maturity threshold.

EXIT-GRADE

5

of 4,838 companies reach Exit-Grade.

Built from proprietarily sourced lower-middle-market private-equity-backed companies, US-focused, May 2026.

The pages that follow unpack the cohort along three dimensions: the four maturity tiers it falls into, the twelve automation functions that drive variance within each tier, and the twenty-two operating archetypes that explain why a vertical SaaS company at \$25M ARR and a 30-location dental support organization look nothing alike on automation. Each dimension is anchored to real companies, real frictions named verbatim, and real dollar arithmetic.

THE THESIS

Operations diligence is the missing fourth pillar.

Commercial diligence has a discipline. Financial diligence has a discipline. IT and cyber diligence have a discipline. Operations does not. The Atlas argues that it should — and provides the framework, the data, and the unit economics for it.

Every PE-backed lower-middle-market company has an operating model decomposable into twelve automation functions. Each function scores on a 0-5 anchored rubric. The composite is an **Automation Index** placing any target on a four-tier maturity ladder running from **Foundational** (manual-by-default) through **Developing** and **Optimized** to **Exit-Grade**.

Across 4,838 coded companies the Automation Index varies by a factor of three between archetypes and by a factor of two between top and bottom function-level scores within a single archetype. The variance is large enough to predict operational lift; it is not large enough to predict it without structure.

This Atlas is the first published framework that maps every dimension of that variance back to a specific company, a specific friction, a specific automation surface. **4,328 friction observations** and **4,325 automation priorities** from the underlying coding pipeline are surfaced verbatim across the following pages.

COHORT SIZE

4,838 companies

HIGH-CONFIDENCE

3,971 (82%)

FRICTION OBSERVATIONS

4,328

HOW TO READ THIS ATLAS

Three reading paths.

The Atlas is built to be readable three ways depending on what you need from it. Each path below is clickable — pick yours and jump.

A**If you operate one portfolio company →**

Open the 22-archetype atlas. Each archetype page surfaces the frictions and automation surfaces observed across companies like yours. Pick the three lowest-scoring functions; those are your 100-day work order.

[JUMP TO THE ARCHETYPE MAP →](#)**B****If you operate a portfolio →**

Read the twelve lever pages. Each function names where it bites worst, the dollar arithmetic for capturing it, and the standard tooling. The pattern repeats across portcos — capture the same lever in 10 companies and it's 10× the value.

[START WITH HIRING \(THE LARGEST UNPRICED LEVER\) →](#)**C****If you are diligencing a target →**

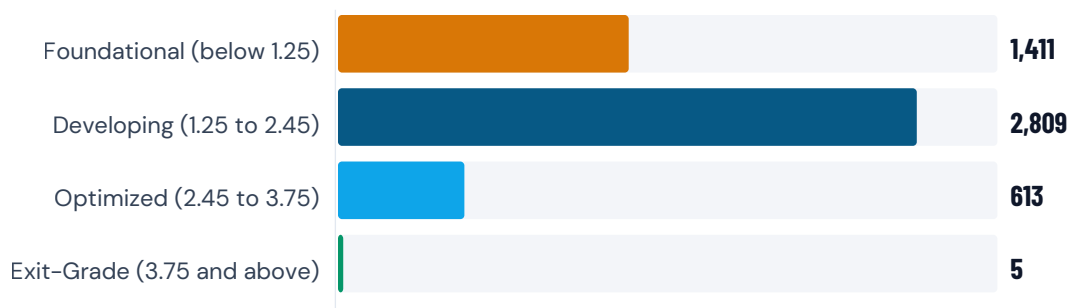
Find the target's archetype, check its scores against the archetype mean. Functions below the mean are the operating-lift narrative for your thesis. The diligence question protocol and the Automation Multiple math are at the back.

[JUMP TO THE DILIGENCE QUESTION PROTOCOL →](#)

THE SHAPE OF THE COHORT

4,838 companies, four tiers, one structural finding.

The cohort divides cleanly into four maturity tiers. The boundary lines are not arbitrary — they correspond to qualitative shifts in how each tier's companies actually run.

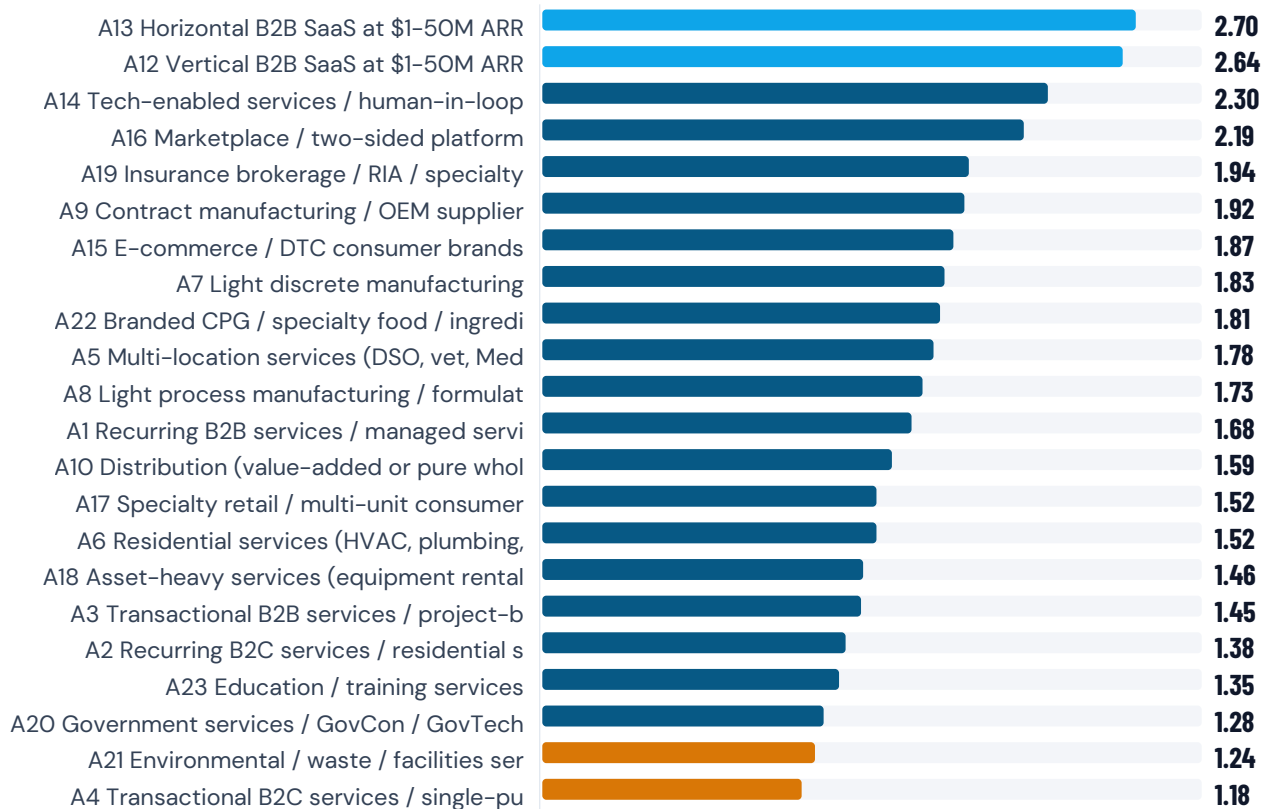


TIER	RANGE	N	SHARE	WHAT IT LOOKS LIKE IN PRACTICE
Foundational	<1.25	1,411	29.2%	Manual-by-default. Founder still does meaningful work in every function. Most data lives in spreadsheets.
Developing	1.25 to 2.45	2,809	58.1%	Functions have tooling but lack orchestration. Manual handoffs between automated steps remain the norm.
Optimized	2.45 to 3.75	613	12.7%	System-of-record consulted by default. Most events flow through workflows. Humans review exceptions.
Exit-Grade	3.75+	5	0.1%	AI-native. ML drives the function-level decisions. Humans set policy and audit. Rare enough to be a moat.

THE 22-ARCHETYPE MAP

Where each archetype sits.

SaaS and tech-enabled archetypes cluster above the Optimized threshold. Multi-location services, residential services, manufacturing, and CPG fall in the Developing band. Transactional B2C and environmental services anchor the Foundational tier.



■ FOUNDATIONAL
 ■ DEVELOPING
 ■ OPTIMIZED
 ■ EXIT-GRADE

COHORT CONCENTRATION

Five archetypes account for 43 percent of the cohort.

The LMM PE universe looks diverse from the outside. From inside the dataset, it concentrates: 42 percent of all 4,838 coded companies fall into just five operating archetypes. None of them is SaaS.

1	A23 Education / training services	485 COMPOSITE 1.35
2	A2 Recurring B2C services / residential subscription	415 COMPOSITE 1.38
3	A4 Transactional B2C services / single-purchase consumer	386 COMPOSITE 1.18
4	A3 Transactional B2B services / project-based professional services	363 COMPOSITE 1.45
5	A21 Environmental / waste / facilities services	349 COMPOSITE 1.24

What this means. The dominant operating pattern in lower-middle-market private equity is high-volume, service-based, recurring-revenue, low-automation. SaaS gets the headlines; service businesses get the dollars. Any framework that treats the LMM universe as a SaaS-adjacent space mis-prices the bulk of the opportunity.

The remaining 17 archetypes. Distributed across 2,740 dossiers, with each archetype averaging 161 companies. The long tail includes high-value targets — A12 and A13 SaaS, A5 multi-location services, A18 asset-heavy services — but in smaller cohort populations.

EXIT-GRADE PORTRAIT

The five companies that reach Exit-Grade.

Across 4,838 coded companies, five reach the Exit-Grade tier (composite at or above 3.75). All five are software businesses. Four are Horizontal SaaS; one is Vertical SaaS. None operates in services, manufacturing, distribution, or retail.

4.00
A12

Anrok

anrok.com · Sequoia Capital, Index Ventures, Spark Capital, Khosla Ventures, Sapphire Ventur...

Anrok is a high-velocity vertical SaaS platform automating global sales tax and VAT compliance for SaaS and digital businesses. The company raised a \$55M Series C in October 2025 led by Spark Capital, more than doubling prior valuation,...

4.00
A13

HeyGen

heygen.com · Benchmark, BOND Capital, Thrive Capital, Avra, IDG Capital, Conviction Partners,...

HeyGen is a hyper-growth horizontal B2B SaaS at \$100M ARR with venture backing from top-tier funds. Product is AI-native by definition; operations should be highly automated to support 100k+ teams self-serving. Priority moves are...

3.75
A13

AssemblyAI

assemblyai.com · Accel, Insight Partners, Y Combinator, Smith Point Capital, MAVA Ventures, Elect...

AssemblyAI is a venture-backed leader in the speech-to-text and voice AI infrastructure category, processing over 40 terabytes of audio daily across 600 million inference calls per month. The product line spans batch and streaming ASR,...

3.75
A13

Mintlify

mintlify.com · Andreessen Horowitz, Bain Capital Ventures, DST Global, Y Combinator, Salesforce...

Mintlify is a high-growth VC-backed SaaS at \$10M ARR (10x YoY) with 20K+ customers and frontier AI companies as anchor accounts. Operations are AI-native by design. Areas of focus are enterprise migration services, expansion sales, and...

3.75
A13

HG Insights

hginsights.com · Riverwood Capital, Bain Capital Credit, Benhamou Global Ventures

HG Insights is a mature B2B GTM data platform pivoting to a unified, agent-driven RGI Platform with TrustRadius review data. Backed by Bain Capital Credit and Riverwood Capital. Operations should already be best-in-class given the product...

The structural reading. Exit-Grade is, today, a SaaS-only category. The operating models

FOUNDATIONAL PORTRAIT

What the bottom 1,411 companies look like.

Foundational maturity (composite below 1.25) is 29 percent of the cohort. The companies here are not failing businesses — many are profitable, growing, founder-owned platforms. They are simply not automated. Six representative dossiers below.

EarthGrid 0.67 A18

EarthGrid PBC is a Richmond, California public-benefit corporation developing plasma tunnel-boring technology aimed at underground utility infrastructure for power, broadband, water, and transportation. The company won t

Drunk Fruit 1.08 A22

Drunk Fruit is a small Los Angeles-based hard seltzer brand built around Asian-fruit flavors (lychee, melon, yuzu) and Asian American cultural identity. Founded by Kenn Miller, the brand has earned meaningful press place

Fulcrum BioEnergy 1.10 A8

Fulcrum BioEnergy was a first-of-a-kind waste-to-SAF process manufacturer that filed Chapter 11 in September 2024 after operational failures at its Sierra plant near Reno, Nevada. United Airlines offtake commitments and

ARMR Sciences 1.00 A14

ARMR Sciences is a venture-funded biodefense biotech with a pipeline of immunogen-based prophylactic vaccines targeting opioid and chemical-weapon agents. The company has secured DoW funding, raised approximately \$40M ac

NanoNest Homes 1.17 A7

NanoNest Homes is an early-stage California-based modular tiny home manufacturer that launched in January 2024 and has rapidly placed itself in the disaster relief housing market through Hawaii, Florida, and Puerto Rico

Morehead Utility Plant Board 1.17 A21

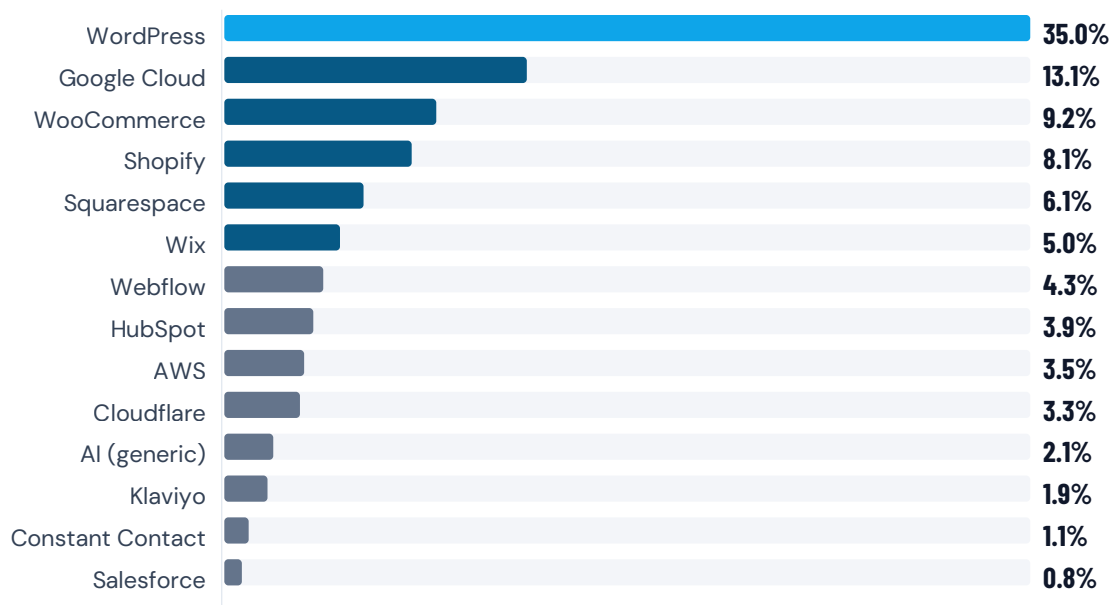
Morehead Utility Plant Board is a municipal utility serving Morehead, Kentucky with gas, water, sewer, and stormwater service. Operations are dominated by infrastructure maintenance, regulatory reporting, and recurring c

The pattern. Founder still does meaningful work in every function. Most data lives in spreadsheets. Hiring happens through personal networks. Billing runs on QuickBooks. There is rarely a system-of-record consulted by default. For a PE OP, this is the highest-leverage starting point — every function point captured during hold contributes directly to multiple expansion at exit.

TECH STACKS ACROSS THE COHORT

What 4,838 LMM PE-backed companies actually run on.

Detection is regex-based on public web signatures; platforms behind login walls are under-detected. With that caveat, the cohort's stack pattern is:

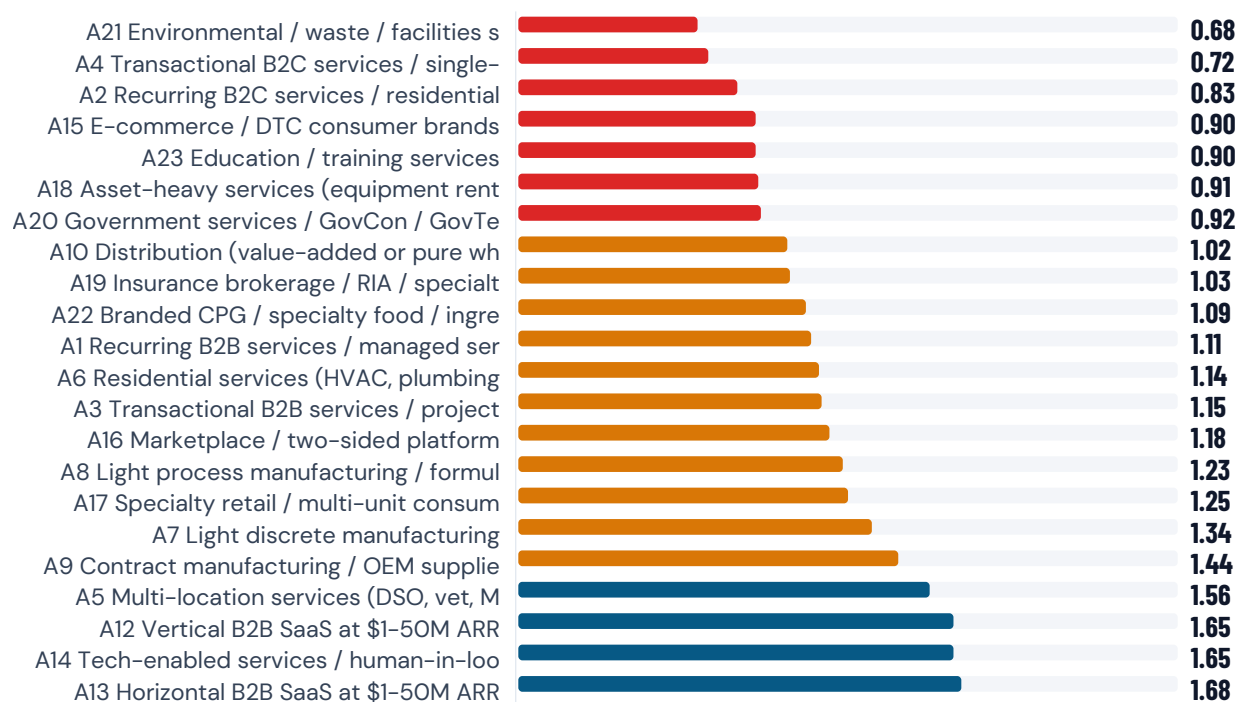


What the stack tells you. The first layer of the LMM PE stack is the website (WordPress dominates at 36% of the cohort). The second is hosting (Google Cloud at 27%, AWS at 7%). The third is e-commerce (WooCommerce 9% plus Shopify 8% in roughly equal measure). CRM penetration via HubSpot reaches only 4 percent. The long tail of purpose-built operational software — Salesforce, ServiceTitan, NetSuite, Ramp, Gusto — runs below detection threshold for most archetypes. **The implication.** Most cohort companies are running website-builder plus cloud-infra plus email-marketing rather than purpose-built operational stacks. The automation surface is broad and uncrowded.

HIRING ACROSS THE COHORT

The hiring gap is structural across every archetype.

The lever pages name the cohort mean. The chart below shows it dispersed: hiring's worst quartile clusters in transactional consumer and field-services archetypes; even the best quartile (SaaS) hovers below 2.00 on a 5-point scale. There is no archetype where hiring is solved.



Reading the chart. Even A13 Horizontal SaaS — the cohort's strongest archetype — averages only 1.68 on hiring. Below 1.00 (the red band) sits the operating model that genuinely has no hiring infrastructure: A4 Transactional B2C, A21 Environmental services, A20 Government services. These archetypes employ thousands of people but onboard them through job-board postings and shoulder-to-shoulder ride-alongs. **The same chart pattern repeats for Training and Sales Qualification.**

LEVER · HIRING

The lowest function in the cohort. The largest unpriced lever in lower-middle-market PE.

COHORT MEAN

1.09

Across all 4,838 companies, 0-5 scale.

CAPTURED VALUE

\$360K annual / \$50K capex

Per portfolio company, illustrative.

THE ARITHMETIC

A portfolio company adding 40 hires per year. Reducing time-to-hire from 47 days to 24 days recovers approximately 900 hire-days of capacity. At a fully-loaded operator cost of \$400/day, that is \$360K of latent capacity unlocked annually. The tooling investment to capture it is \$30K-50K plus 30-40 hours of operating-partner attention.

WHERE IT BITES WORST

A4 Transactional B2C (mean 0.4) and A21 Environmental services (mean 0.7) score the lowest. SaaS archetypes A12/A13 lead the cohort at 1.7 — still far from automated.

REAL FRICTIONS OBSERVED IN COHORT

- A1** Highly seasonal filing volume around annual 1094/1095 deadlines requires large temporary staffing surge each Q1
- A1** Manual data ingestion from broker partners, HRIS exports, and payroll feeds with non-standardized formats
- A1** Hiring and retaining qualified Tier 2/Tier 3 cybersecurity engineers in a tight labor market
- A1** Specialist OT/IT engineer hiring and retention given Industry 4.0 demand surge
- A1** Talent retention for specialized factory floor IT and OT engineers
- A1** Hiring qualified Swedish and Nordic IT technicians in a constrained labor market

Frictions above are quoted verbatim from the 4,328 friction observations in the underlying cohort data. **The fix:** ATS + automated screening + calendar handoff + offer-letter

LEVER · TRAINING

Second-lowest cohort function. Most underweighted in archetypes with high turnover.

COHORT MEAN

1.29

Across all 4,838 companies, 0-5 scale.

CAPTURED VALUE

\$220K annual / \$25K capex

Per portfolio company, illustrative.

THE ARITHMETIC

A 150-technician services business with 35 percent annual turnover hires 52 replacements. Each new tech costs 14 days of ride-along training at \$600/day fully loaded. That is \$436K of training cost. An LMS plus video curriculum plus competency tracking reduces ride-along by 6 days per hire and increases first-month productivity 20 percent. Captured value: roughly \$220K annual.

WHERE IT BITES WORST

A5 multi-location services and A6 residential services average 0.9. Both rely on shoulder-to-shoulder ride-alongs as the dominant training mechanism.

REAL FRICTIONS OBSERVED IN COHORT

- A1 Subsidized pricing model strains margins, requires fundraising and grant capital to subsidize service delivery
- A1 Hiring qualified Swedish and Nordic IT technicians in a constrained labor market
- A1 Customs declaration preparation across heterogeneous client product catalogs (HS codes, IOR/EOR documentation, certificates of origin) is labor-intensive
- A1 Onboarding new shippers requires repeat documentation gathering (powers of attorney, AEO checks, KYC) without templated workflow
- A1 Onboarding new contractors involves repeat documentation collection (W-2/1099, background checks, drug tests, reference checks)

LEVER · SALES QUALIFICATION

Where founder-led businesses leak the most pipeline value. Front-desk and CSR judgment is the bottleneck.

COHORT MEAN

1.31

Across all 4,838 companies, 0-5 scale.

CAPTURED VALUE

\$3M annual / \$40K capex

Per portfolio company, illustrative.

THE ARITHMETIC

Inbound volume of 800 leads/month at a B2C residential services business. CSR converts 12 percent to appointment. A qualification automation (chatbot + intent scoring + calendar booking) lifts conversion 4 percentage points to 16 percent. At a \$1,200 average ticket and 65 percent close rate that is \$250K monthly incremental revenue captured from the same lead volume.

WHERE IT BITES WORST

A4 Transactional B2C and A2 Recurring B2C subscriptions both score below 1.0. Phone-answer-and-quote is the default.

REAL FRICTIONS OBSERVED IN COHORT

- A1 Leadership transition risk during service-delivery commitments
- A1 Hiring and retaining qualified Tier 2/Tier 3 cybersecurity engineers in a tight labor market
- A1 Internal demand intake from GVW operating companies requires balancing project priorities across captive customers
- A1 Hiring qualified Swedish and Nordic IT technicians in a constrained labor market
- A1 Project pipeline is fully relationship-driven with no formal sponsor CRM, which limits scalable lead generation across new utilities and corporates
- A1 Candidate sourcing volume and quality across staffing brands relies on recruiter throughput rather than AI-driven matching

LEVER · COLLECTIONS

The function where every archetype overpays for working capital. Days-sales-outstanding is the symptom; manual dunning is the cause.

COHORT MEAN

1.45

Across all 4,838 companies, 0-5 scale.

CAPTURED VALUE

\$766K one-time + \$50K annual

Per portfolio company, illustrative.

THE ARITHMETIC

A \$20M B2B services business with average DSO of 52 days. Automated dunning (reminder emails, ACH escalation, dispute routing) reduces DSO to 38 days. Working capital released: $(\$20M \times 14/365) = \$766K$ of cash one-time, plus reduced collection labor of \$40-60K annual. The math compounds on every \$1 of revenue growth thereafter.

WHERE IT BITES WORST

A3 B2B project services (DSO often 60+ days) and A9 contract manufacturing both score under 1.3.

REAL FRICTIONS OBSERVED IN COHORT

- A1** Onboarding new contractors involves repeat documentation collection (W-2/1099, background checks, drug tests, reference checks)
- A1** Compliance documentation (background checks, drug screens, Ban-the-Box, ADA accommodations) collection per placement
- A1** Federal contract compliance (DCAA-style accounting, FAR clauses) for ASCI Federal Services adds overhead beyond commercial side
- A1** PCI QSA assessment fieldwork (evidence collection, control testing, ROC drafting) is highly manual
- A1** Donor and grant management spans many small-dollar contributors with limited centralized CRM
- A1** Manual data collection from CDFIs (financial statements, loan portfolio data, impact metrics) for ratings and performance reporting

LEVER · LEAD GENERATION

Most archetypes rely on referrals plus Google Ads. Outbound orchestration is rare below A12/A13.

COHORT MEAN

1.54

Across all 4,838 companies, 0-5 scale.

CAPTURED VALUE

\$3.5M pipeline / \$30K annual

Per portfolio company, illustrative.

THE ARITHMETIC

A \$15M MSP with two outbound reps generating 60 meetings/quarter via cold email and LinkedIn (no sequencer). A sequencer plus enrichment (Apollo, Outreach, Smartlead) lifts meeting volume to 110/quarter at the same headcount. At a 22 percent close rate and \$80K average annual contract value, the incremental 200 meetings/year yield approximately \$3.5M of pipeline expansion.

WHERE IT BITES WORST

A1 MSP and A18 asset-heavy services score under 1.4. Hand-built lists, no sequencer.

REAL FRICTIONS OBSERVED IN COHORT

- A1 Leadership transition risk during service-delivery commitments

- A1 Project pipeline is fully relationship-driven with no formal sponsor CRM, which limits scalable lead generation across new utilities and corporates

- A1 Quote turnaround for inbound RFQs from airlines competes against industry leaders on speed and price

- A1 Outbound dialer compliance (TCPA, state registration) requires manual list scrubbing and DNC management

- A1 Lead-quality reconciliation between AGR delivery and client closed-won outcomes manual

- A1 Tournament registration, pairings, scoring, and live leaderboard management across simultaneous events requires coordinated software stack

LEVER · ACCOUNT MANAGEMENT

Expansion revenue is left on the table everywhere except SaaS. Renewal cadence is mostly calendar reminders.

COHORT MEAN

1.60

Across all 4,838 companies, 0-5 scale.

CAPTURED VALUE

\$2.4M year 2 / \$25K capex

Per portfolio company, illustrative.

THE ARITHMETIC

A \$30M ARR vertical SaaS with 105 percent gross retention and 110 percent net retention. Adding a structured expansion playbook (in-product usage triggers, QBR cadence, expansion prompts) lifts NRR to 118 percent. On \$30M base, the 8-point NRR delta compounds to \$2.4M of incremental annual revenue by year 2 and \$3.7M by year 3.

WHERE IT BITES WORST

A18 asset-heavy services and A22 branded CPG score under 1.4. Wholesale reps own renewal manually.

REAL FRICTIONS OBSERVED IN COHORT

- A1 Cross-sell expansion into ERISA and Form 5500 from ACA-only customers requires manual nurture
- A1 Specialist OT/IT engineer hiring and retention given Industry 4.0 demand surge
- A1 Talent retention for specialized factory floor IT and OT engineers
- A1 Candidate retention support (interview prep, ride-share assistance, on-the-job follow-up) is high-touch and not codified
- A1 Regulatory permit lifecycle (Hawaii DOT revocable permits) requires manual renewal tracking
- A1 Member dues collection and renewal with 33,500+ individuals across 120+ clubs requires reconciliation tooling

LEVER · ONBOARDING

The function where time-to-first-value bleeds across most archetypes. Manual implementation kills NRR.

COHORT MEAN

1.61

Across all 4,838 companies, 0-5 scale.

CAPTURED VALUE

\$625K pulled forward / \$40K capex

Per portfolio company, illustrative.

THE ARITHMETIC

A \$25M ARR vertical SaaS where time-to-first-value averages 67 days. A templated onboarding flow (Arrows, Rocketlane) plus async checklist reduces it to 31 days. The result: 36-day acceleration on \$25K average ACV, captured over 200 new customers/year, equals approximately \$625K of revenue pulled forward annually plus measurable NRR lift.

WHERE IT BITES WORST

A1 MSP (mean 1.3) and A14 tech-enabled services (mean 1.6) both run heavy manual implementation.

REAL FRICTIONS OBSERVED IN COHORT

- A1 Onboarding new shippers requires repeat documentation gathering (powers of attorney, AEO checks, KYC) without templated workflow
- A1 Onboarding new contractors involves repeat documentation collection (W-2/1099, background checks, drug tests, reference checks)
- A1 EHR implementation in low-bandwidth settings requires customized training and offline workflows
- A1 Hiring and onboarding throughput in a high-attrition call-center environment
- A1 Investigator onboarding and IRB/IBC documentation for new protocols
- A1 Tenant onboarding and lab / facility scheduling for early-stage hardware / materials companies

LEVER · CUSTOMER SUPPORT

Ticketing exists everywhere. AI deflection still rare. CSAT impact is concentrated in 20 percent of tickets.

COHORT MEAN

1.62

Across all 4,838 companies, 0-5 scale.

CAPTURED VALUE

\$230K annual / \$35K capex

Per portfolio company, illustrative.

THE ARITHMETIC

A B2C services business with 2,400 tickets/month at 11 minutes average handle time. AI deflection (Intercom Fin, Ada) auto-resolves 35 percent of tier-1 tickets — billing questions, scheduling changes, status checks. That recovers 154 agent-hours/month, or roughly \$230K/year of support labor at \$25/hr fully loaded.

WHERE IT BITES WORST

A4 B2C transactional (mean 1.2) — most still on email-and-phone with no ticketing.

REAL FRICTIONS OBSERVED IN COHORT

- A1 Subsidized pricing model strains margins, requires fundraising and grant capital to subsidize service delivery
- A1 Leadership transition risk during service-delivery commitments
- A1 Volunteer-attorney and consultant network coordination for the free advisory services arm
- A1 Ticket triage and routing for managed services support consumes substantial technician time (40%+ industry baseline)
- A1 Recurring billing accuracy across managed services, hosting, security tooling, and per-user fees
- A1 Ticket triage and routing across multiple acquired MSP brands and ticketing systems

Frictions above are quoted verbatim from the 4,328 friction observations in the underlying cohort data. The fix: Zendesk + Fin/Ada AI agent + knowledge base + structured tagging.

LEVER · COMPLIANCE

Regulatory documentation is automation's quiet winner. The system-of-record drops out as a byproduct of operations.

COHORT MEAN

1.91

Across all 4,838 companies, 0-5 scale.

CAPTURED VALUE

\$50K annual + risk discount removed

Per portfolio company, illustrative.

THE ARITHMETIC

A federal contractor with a DCAA-compliant accounting requirement. Manual timesheet audit + indirect-rate true-up takes 12 hours/month of CFO time. Unanet, Deltek Costpoint, or ProjectHQ automation reduces it to 2 hours/month. Quantified: \$50K annual recovered CFO capacity plus reduced audit-finding risk worth multiples on exit.

WHERE IT BITES WORST

A20 GovCon (mean 1.6) and A21 Environmental services (mean 1.7) carry the heaviest manual compliance burden.

REAL FRICTIONS OBSERVED IN COHORT

- A1 Volunteer-attorney and consultant network coordination for the free advisory services arm
- A1 Highly seasonal filing volume around annual 1094/1095 deadlines requires large temporary staffing surge each Q1
- A1 Grant compliance and audit documentation is concentrated in a small staff with key-person risk
- A1 Clinical FSP delivery requires careful credentialing and compliance documentation per pharma client SOPs
- A1 Compliance documentation (background checks, drug screens, Ban-the-Box, ADA accommodations) collection per placement
- A1 Federal contract compliance (DCAA-style accounting, FAR clauses) for ASCI Federal Services adds overhead beyond commercial side

LEVER · REPORTING

Dashboards exist; usage discipline does not. The gap between built-but-unused and consulted-by-default is structural.

COHORT MEAN

2.03

Across all 4,838 companies, 0-5 scale.

CAPTURED VALUE

\$120K annual + faster decisions

Per portfolio company, illustrative.

THE ARITHMETIC

A \$50M revenue multi-location services business where the CEO requests location-level P&L two days into each month. A daily auto-rollup (Looker, Mode, Hex) replaces month-end accounting drudgery with a real-time view. Time recovered: 40 hours of finance team labor monthly, or \$120K annual. The harder-to-measure win is faster operating decisions on location-level performance variance.

WHERE IT BITES WORST

A6 residential services (mean 1.7) — most still on Excel rollups despite ServiceTitan/Housecall Pro penetration.

REAL FRICTIONS OBSERVED IN COHORT

- A1** Impact reporting (kWh delivered, sessions, CO2 avoided, sponsor recognition) is manual rather than dashboard-driven
- A1** Charger uptime and field maintenance scheduling rely on host site reports rather than active station-level telemetry
- A1** Onboarding new shippers requires repeat documentation gathering (powers of attorney, AEO checks, KYC) without templated workflow
- A1** Multi-brand operations create duplicated systems and manual cross-brand reporting at the holding level
- A1** Onboarding new contractors involves repeat documentation collection (W-2/1099, background checks, drug tests, reference checks)

LEVER · BILLING

Among the most automated functions in the cohort. Where invoice automation is missing, it is conspicuous.

COHORT MEAN

2.11

Across all 4,838 companies, 0-5 scale.

CAPTURED VALUE

\$144K annual + 6 days DSO

Per portfolio company, illustrative.

THE ARITHMETIC

A \$12M project-services consultancy where partners build invoices manually from time tracking each month. 8 hours/month per partner, 5 partners, equals 40 partner-hours billing administration. At \$300/hr opportunity cost, that is \$144K/year of partner billable time recovered by an automated time-to-invoice flow. Plus 6-day collections acceleration on those invoices.

WHERE IT BITES WORST

A3 B2B project services (mean 1.8) — proposal-to-invoice still owns days of partner time.

REAL FRICTIONS OBSERVED IN COHORT

- A1 Recurring billing accuracy across managed services, hosting, security tooling, and per-user fees
- A1 Recurring billing reconciliation across heterogeneous MSP packages and per-seat licenses
- A1 M&A integration onto common PSA, RMM, and billing platforms
- A1 Hand-keying of bills of lading, commercial invoices, and packing lists from PDF or email into customs systems
- A1 Pay-bill and weekly payroll reconciliation across many small assignments and varying client billing cycles
- A1 Federal contract compliance (DCAA-style accounting, FAR clauses) for ASCI Federal Services adds overhead beyond commercial side

LEVER · FULFILLMENT

The highest-scoring function in the cohort. Where it underperforms, it predicts an entire business in trouble.

COHORT MEAN

2.13

Across all 4,838 companies, 0-5 scale.

CAPTURED VALUE

\$1.2M margin / \$200K capex

Per portfolio company, illustrative.

THE ARITHMETIC

A discrete manufacturer with \$40M revenue running scheduling on whiteboards. An ERP-MES integration (NetSuite + Plex, or Epicor + ShopFloor) reduces machine idle time by 8 percent and scrap rate by 1.5 points. On \$40M revenue with 60 percent COGS, the compounding effect is approximately \$1.2M of margin expansion annually within 18 months.

WHERE IT BITES WORST

A20 GovCon (mean 1.7) — proposal-to-program execution carries the most manual handoffs in the cohort.

REAL FRICTIONS OBSERVED IN COHORT

- A1 Subsidized pricing model strains margins, requires fundraising and grant capital to subsidize service delivery
- A1 Leadership transition risk during service-delivery commitments
- A1 Ticket triage and routing for managed services support consumes substantial technician time (40%+ industry baseline)
- A1 Knowledge management across delivery technicians for diverse customer environments
- A1 Cross-border Nordic operations require multi-language, multi-currency, multi-jurisdiction back office
- A1 Custom software backlog for commercial vehicle and manufacturing platforms is sized to a small captive IT team

ARCHETYPE · A13

Horizontal B2B SaaS at \$1-50M ARR

COMPANIES IN COHORT

203

148 with high-confidence data (73%)

AUTOMATION INDEX

2.70

+1.00 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Realized ARR-to-funding ratio under public scrutiny following the CEO transition and 700M-backed investment commentary

Sales agent output quality and deliverability across enterprise integrations with hyper-restrictive email systems

Customer onboarding for a category-creating product where prospects do not yet have a clear ICP for AI SDR

Differentiation versus a crowded set of AI SDR and outbound automation competitors including Artisan, Clay, Regie and incumbents like Outreach

Internal RevOps and pipeline forecasting hygiene during the post-CEO leadership transition

AUTOMATION SURFACES

Self-serve onboarding flows that auto-build ICP, persona signals and outbound sequences on first sign-up to reduce time-to-first-meeting

AI-driven account-health scoring to predict churn and expansion candidates based on agent performance metrics like meeting yield and reply rates

Internal customer-success automation that triages support tickets by failure mode (deliverability, integration, sequence quality) with HITL on edge cases

Pipeline forecasting and revenue attribution dashboards that link 11x agent output to closed-won revenue per customer cohort

Compliance automation for SOC 2, GDPR and CAN-SPAM enforcement embedded in the agent workflow as opt-out and audit logging

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Bonusly	3.67	Balto Software	3.33
Artisan AI	3.58	Buffer	3.25
...	---	...	---

ARCHETYPE · A12

Vertical B2B SaaS at \$1-50M ARR

COMPANIES IN COHORT

300

240 with high-confidence data (80%)

AUTOMATION INDEX

2.64

+0.94 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Long enterprise sales cycles with sports franchises, theme parks and government-owned convention authorities

Onboarding complexity to integrate with existing radio, badge, ticketing and CCTV systems at each venue

Customer success and training for thousands of part-time and seasonal venue staff per customer

Localization and regulatory adaptation for European and Asia-Pacific expansion via NTT DOCOMO

Renewal forecasting concentrated in a small number of high-ACV venue accounts

AUTOMATION SURFACES

AI-assisted incident triage and dispatch routing within the platform that reduces human supervisor workload during major events

Automated onboarding playbooks per venue type (stadium, theme park, convention center, airport) that compress time-to-value

Customer health and renewal scoring tied to platform usage by part-time and seasonal staff

Multi-language and multi-region GlobalCommand expansion automation including localized dictionaries and incident category libraries

Predictive maintenance forecasting across asset and inspection data piped into customer dashboards

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

JobNimbus	3.67	Alaffia Health	3.25
Brightwheel	3.50	Canary Technologies	3.25
BriteCore	3.33	DoorLoop	3.17
eIVF	3.25	Canoe Intelligence	3.08

ARCHETYPE · A14

Tech-enabled services / human-in-loop SaaS

COMPANIES IN COHORT

266

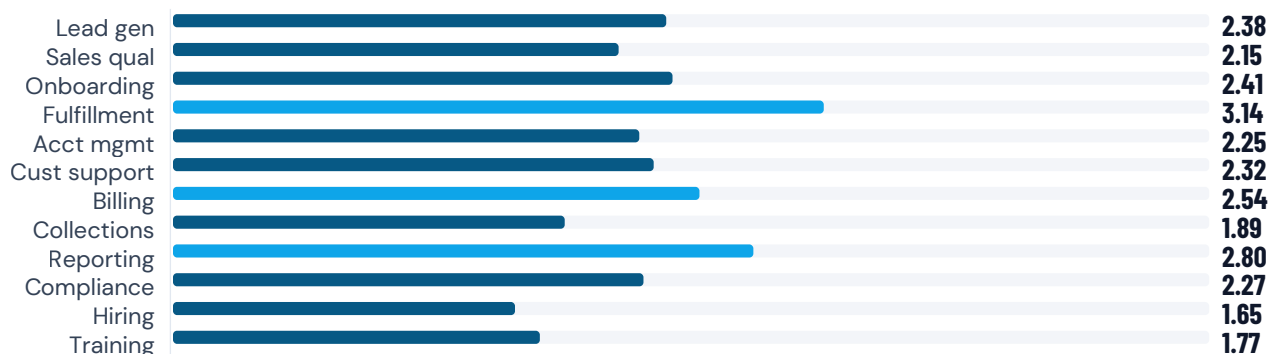
126 with high-confidence data (47%)

AUTOMATION INDEX

2.30

+0.60 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Hardware uptime and machine maintenance across third-party retail floors with non-Ulta-trained staff

Pod inventory and logistics between Burlington HQ and dozens of partner salon locations

Manicurist and machine operator hiring and training inside partner Ulta footprints

Customer feedback capture and rapid product iteration loop while service is still in early days per company FAQ

Bookings sit on Vagaro per partner location with no unified customer profile across the 10Beauty network

AUTOMATION SURFACES

Centralized telemetry and predictive maintenance dashboard pulling from each deployed manicure unit to flag failures before customer impact

Pod inventory replenishment automation tied to per-location service volume forecasts

Unified customer identity and review-capture workflow that bridges Vagaro bookings across all Ulta and salon partner locations

Onboarding automation for new partner salon and Ulta sites including operator certification and SOP delivery

Email and SMS post-visit feedback flow piped into a single product issue queue for the engineering team

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Finexio	3.20	ActZero	3.00
Gratia	3.08	Numeral Two	3.00
1bios	3.00	micro1	3.00
Defined.ai	3.00	Hone (Education and Training S...	2.92

ARCHETYPE · A16

Marketplace / two-sided platform

COMPANIES IN COHORT

40

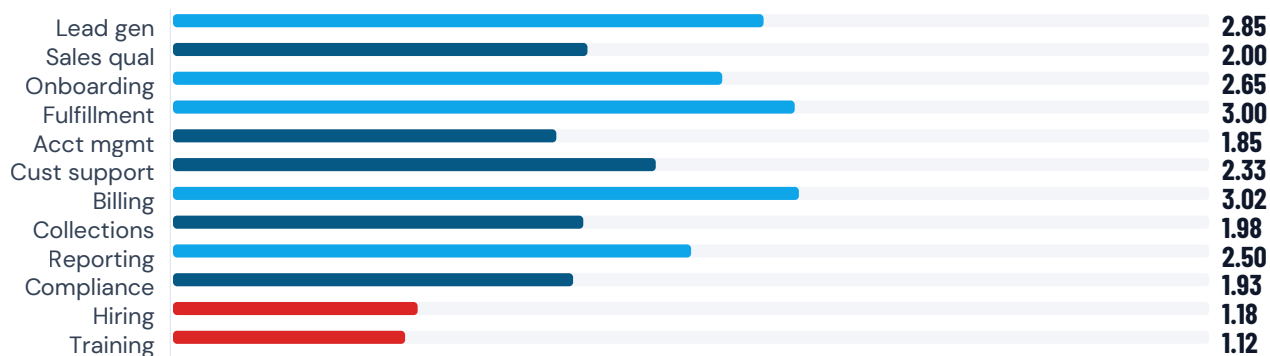
20 with high-confidence data (50%)

AUTOMATION INDEX

2.19

+0.49 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Two-sided marketplace cold-start: scaling vetted guides while concurrently scaling traveler demand

Off-platform leakage: travelers and guides who connect via 57Hours then transact directly

Trust and safety: vetting guide certifications (IFMGA, AMGA) and managing incident response on adventures

Seasonality and weather-driven trip shifts (cancellations, reschedules) drive customer service load

Content production at scale across activities, destinations, and skill levels

AUTOMATION SURFACES

Adventure Architect AI-driven trip design and quoting using guide availability and traveler preferences

Guide-side onboarding and credential verification automation (license validity, insurance, equipment lists)

Cancellation and rebooking workflows tied to weather and route conditions, with refund automation

Cohort-based marketing automation around past trips and adjacent recommendations

Off-platform leakage detection and prevention via communication-routing and milestone payments

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Groomit	3.08	BackerKit	2.83
BigRentz	3.00	BidFTA	2.67
Dinova	3.00	IPXO	2.67
Gumroad	3.00	Fetii	2.60

ARCHETYPE · A19

Insurance brokerage / RIA / specialty finance

COMPANIES IN COHORT

86

31 with high-confidence data (36%)

AUTOMATION INDEX

1.94

+0.24 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Phone-driven claim flow involves multiple call legs (eligibility, diagnosis, authorization, payment) creating long handle times

Contractor verification and licensure validation as homeowner selects their own provider

Coverage limit and exclusion communication to homeowners during claim approval

Real estate broker channel attribution and commission tracking across MetroTex and similar boards

State-by-state regulatory compliance for service contract or insurance licensing

AUTOMATION SURFACES

Self-service claim portal with eligibility check, contractor-of-choice capture, and approval workflow reducing call volume

AI-assisted claim adjudication tied to coverage terms with HITL on edge cases

Real estate broker portal with seller coverage activation, listing tracking, and closing coordination

Contractor licensure verification automation with state license database integration

Multi-state regulatory compliance dashboard tracking renewals, filings, and complaint history

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

New York Life Investment Manag...	3.17	Flagship Credit Acceptance	2.80
American Hole 'n One	2.83	Island Finance	2.75
BriteCap Financial	2.83	ACORE Capital	2.58
BenefitMall	2.83	Global Jet Capital	2.58

ARCHETYPE · A9

Contract manufacturing / OEM supplier

COMPANIES IN COHORT

34

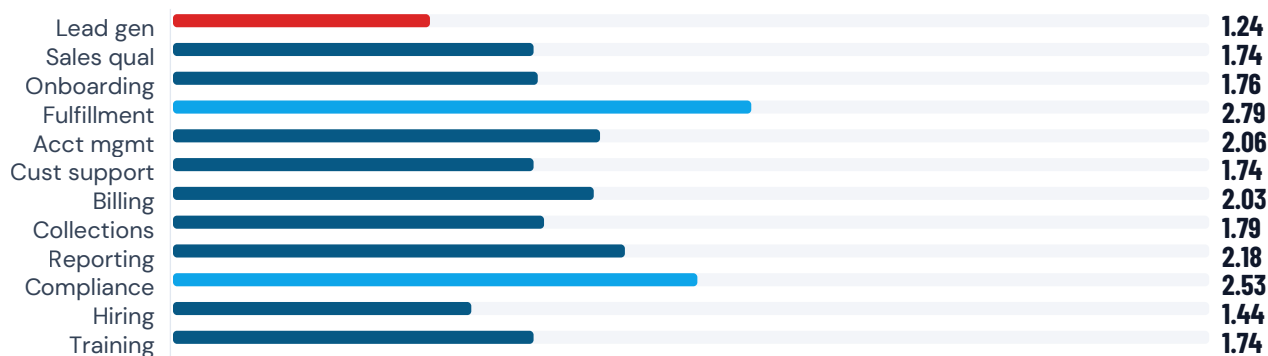
27 with high-confidence data (79%)

AUTOMATION INDEX

1.92

+0.22 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Production scheduling across CNC Swiss, turning/milling, and grinding cells with mixed make-to-order programs

Skilled CNC operator hiring and apprenticeship development in a tight regional labor market

Quality inspection cycle time on tight-tolerance medical and semiconductor parts

Quoting and program estimation accuracy on diverse material and finish requirements

On-time delivery commitments under volatile demand and tariff-driven order surges

AUTOMATION SURFACES

Quote-to-order automation with material, finish, and tolerance-based pricing models and capacity reservation

Production scheduling and machine utilization optimization across Swiss, mill-turn, and grinding cells

Quality inspection workflow with CMM data capture, SPC dashboards, and non-conformance routing

Apprentice and operator training pathway with certification tracking

Customer portal for order status, certifications of conformance, and shipment tracking

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

CEME Group	2.42	Galaxy Technologies	2.20
CTS Engines	2.33	Momentum Manufacturing Group	2.17
Cascade Coffee	2.25	Diamond Antenna and Microwave	2.08
AccuRounds	2.25	Midstate Machine	2.08

ARCHETYPE · A15

E-commerce / DTC consumer brands

COMPANIES IN COHORT

153

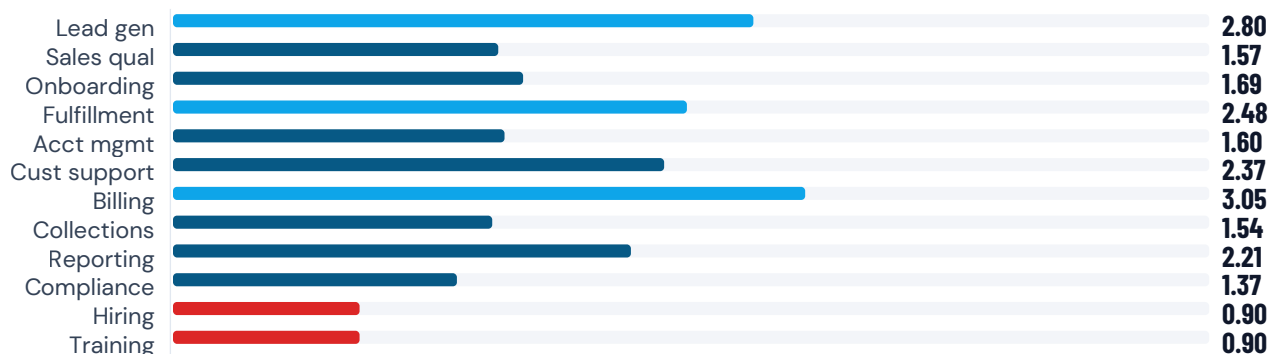
106 with high-confidence data (69%)

AUTOMATION INDEX

1.87

+0.17 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

ROAS sustainability across paid acquisition channels as DTC apparel CACs continue to rise

Inventory forecasting across a wide SKU matrix of colors, patterns, and sizes including tall variants

Returns and exchange handling at scale given the unlimited returns and exchanges policy

Patreon dependency for monetization makes the business vulnerable to platform policy changes

Game-platform compatibility (Assetto Corsa CSP version updates) drives constant code maintenance

AUTOMATION SURFACES

Klaviyo segmentation and post-purchase email flows tied to repeat-buyer cohort modeling

AI-assisted size recommendation and fit guidance to reduce return rate on dress shirts and pants

Automated customer service triage on Shopify order issues with HITL on exceptions

Patron lifecycle automation including pre-renewal nudges, downgrade-prevention offers and reactivation campaigns

Mod build and release pipeline that auto-tests against new Assetto Corsa CSP versions before publishing

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Bubs Naturals	2.75	AmmoSquared	2.58
Bruvi	2.67	Bloomybox	2.42
Double Wood Supplements	2.67	Atoms (Footwear)	2.33
Andie	2.58	Bonjout Beauty	2.33

ARCHETYPE · A7

Light discrete manufacturing

COMPANIES IN COHORT

150

109 with high-confidence data (73%)

AUTOMATION INDEX

1.83

+0.13 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Quote-to-order conversion for custom decoration work with high variety

Production scheduling across multiple processes (screen, embroidery, DTF, UV, laser) with shared labor

Custom team-store setup and management at scale across schools, leagues, departments

Inventory management for blank apparel and decoration supplies

Pricing accuracy for highly custom orders with variable setup costs

AUTOMATION SURFACES

Online quote and visualizer tool for custom decoration with auto-pricing logic

Job ticketing and production scheduling automation across decoration processes

Self-service team store builder and order rollup automation

Inventory automation for blank apparel and decoration consumables

Reorder and lifecycle automation for police/fire/EMS uniform accounts

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Brava Roof Tile	2.50	Anguil	2.08
AGRAMKOW Fluid Systems A/S	2.33	Agri Drain	2.08
L.S. Starrett Company	2.25	Agam Group	2.00
Burlington Medical	2.08	Buffet Crampon	2.00

ARCHETYPE · A22

Branded CPG / specialty food / ingredients

COMPANIES IN COHORT

118

75 with high-confidence data (64%)

AUTOMATION INDEX

1.81

+0.11 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Trade-spend ROI tracking across Walmart, HEB, Five Below and Circle K with limited POS data flowing back to the brand

Drop forecasting and limited-edition inventory planning with creator-driven demand spikes that can sell out within hours

Chargeback management from mass retailers including OTIF compliance

Co-manufacturer coordination for freeze-dried processing and sour belt production

Channel conflict between aggressive DTC pricing or mystery bag promos and retail shelf prices

AUTOMATION SURFACES

Daily sell-through and shelf-velocity dashboards across Walmart, HEB, Five Below and Circle K piped into a single retail performance view

Drop launch automation that orchestrates social, TikTok Shop, Shopify, fulfillment and customer service in a single timeline

AI-powered demand forecasting that ingests TikTok engagement, FaZe Rug post velocity and prior drop performance to size inventory

OTIF and chargeback dispute automation tied to retailer EDI feeds

Customer service ticket triage on Shopify orders with HITL on quality-and-shipping exceptions

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Kettle & Fire	3.08	Avaline	2.33
Beacon Wellness Brands	2.42	Evergreen Waffles	2.30
Beauty by Imagination	2.42	Amara Organic Foods	2.25
Evriholder Products	2.40	BIOLYTE	2.25

ARCHETYPE · A5

Multi-location services (DSO, vet, MedSpa, urgent care, fitness)

COMPANIES IN COHORT

234

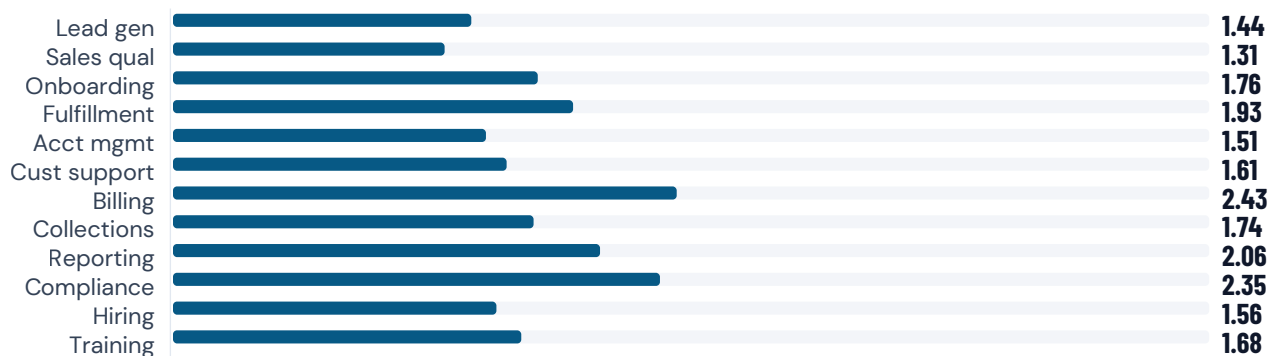
95 with high-confidence data (41%)

AUTOMATION INDEX

1.78

+0.08 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Source domain assigned to the record is unrelated to the actual entity

No website footprint or news coverage available for diligence

Special-purpose facility LLC naming convention masks the actual brand and operating company

Occupancy recovery to pre-pandemic levels with limited marketing budget

Bond covenant compliance and reporting requirements with potentially distressed credit

AUTOMATION SURFACES

Re-enrich with the correct domain after Texas Comptroller and CharityNavigator entity lookup

Confirm whether 18750 Manada is associated with a known Houston club brand or facility before classifying

Deprioritize this record from Pass 3 synthesis until identity is confirmed

CRM-driven move-in funnel with lead capture, family-tour scheduling, and follow-up automation

Census and revenue dashboard tied to bond reporting cadence

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Blue River PetCare	3.00	Coyne & Associates Education	2.58
Excel Fitness	2.90	Brookville Galliera	2.42
MD Now Urgent Care	2.67	Doctor's Choice Home Care	2.42
Brattleboro Crossings	2.58	Doctors of Physical Therapy	2.25

ARCHETYPE · A8

Light process manufacturing / formulation

COMPANIES IN COHORT

79

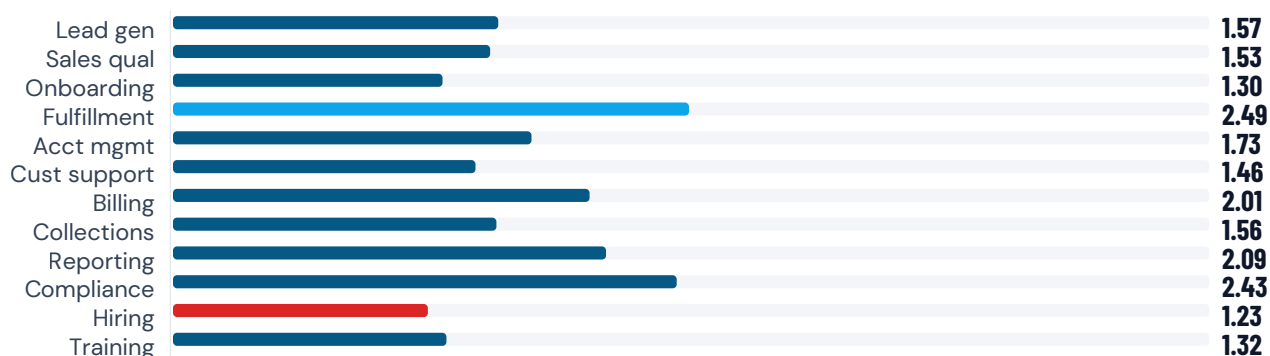
38 with high-confidence data (48%)

AUTOMATION INDEX

1.73

+0.03 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Recycled container-glass feedstock availability and quality vary by region and require sourcing relationships with municipal recycling programs

Trucking economics for low-density material drive customer reach and pricing despite per-load efficiency claims

Project-based sales cycle with geotechnical engineers and DOT specifiers requires education and lengthy approval cycles

Two-plant operations need synchronized production scheduling, inventory, and quality control

Emerging product applications (highway emergency repair, embankments) require case-study marketing and technical sales support

AUTOMATION SURFACES

Feedstock supplier relationship CRM with municipal recycling program tracking and contamination metrics

Production-scheduling tool that balances Eddystone and Dunnellon plant outputs against project pipeline and freight cost

Project specifier engagement program tracking DOT and engineering firm interactions, sample shipments, and case studies

Quality and lot-tracking system across G1-G6 AeroLite gradations linked to project deliverables

Project ROI calculator that helps geotechnical engineers compare UL-FGA versus EPS geofoam or expanded shale on cost, weight, drainage, and lifecycle

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Axiota Animal Health	2.33	MicroCare	2.17
Buffalo Trace Distillery	2.33	Ascend Elements	2.17
Biocoat	2.33	Delphon	2.08

ARCHETYPE · A1

Recurring B2B services / managed services / MSP

COMPANIES IN COHORT

180

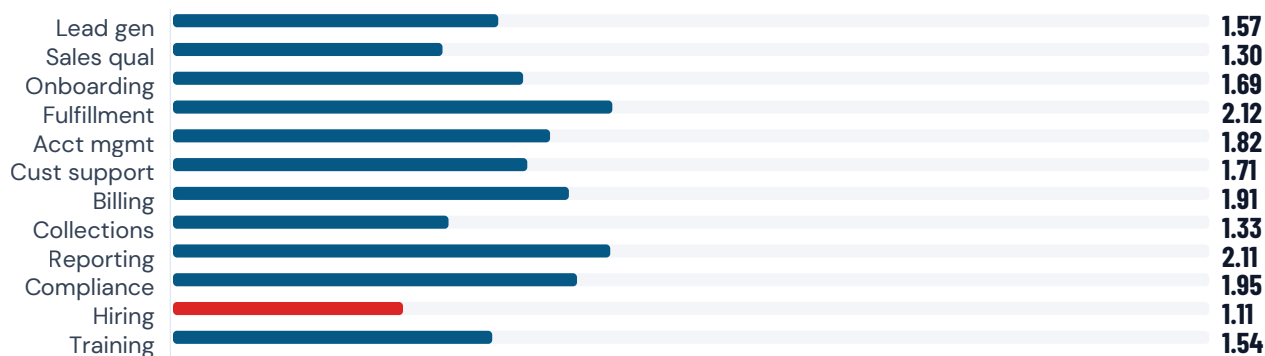
38 with high-confidence data (21%)

AUTOMATION INDEX

1.68

-0.02 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Subsidized pricing model strains margins, requires fundraising and grant capital to subsidize service delivery

Leadership transition risk during service-delivery commitments

Multi-product offering (HR, IT, finance, fundraising, Salesforce) requires deep specialist capability per area

Annual GiveBIG campaign concentration: enormous workload spikes in April/May during fundraising windows

Volunteer-attorney and consultant network coordination for the free advisory services arm

AUTOMATION SURFACES

Triage and routing automation for free-advisory inbound requests to right service line and skill set

GiveBIG platform performance and capacity scaling for annual campaign concentration

Managed-services delivery automation: HR partner ticketing, IT MSP RMM, bookkeeping close-process automation

Multi-product CRM unification across HR, IT, finance, and fundraising clients

Subscriber and volunteer-attorney scheduling and deflection workflows

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Engage PEO	3.08	Armada Analytics	2.42
AxL S.p.A.	2.92	Datascan	2.42
Advantio	2.83	Airiam	2.33
AccountabillT	2.50	Aderian Stockholm	2.33

ARCHETYPE · A10

Distribution (value-added or pure wholesale)

COMPANIES IN COHORT

112

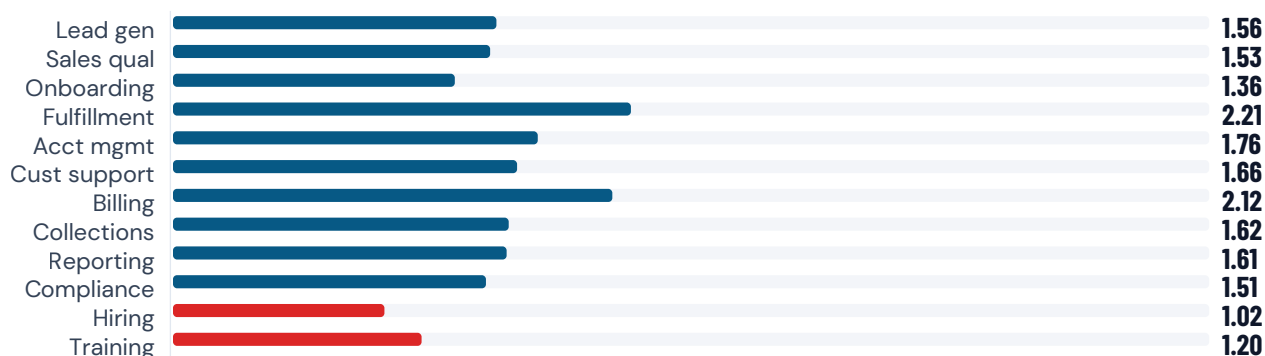
73 with high-confidence data (65%)

AUTOMATION INDEX

1.59

-0.11 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Source domain assigned to the record is unrelated to the actual entity

No website footprint or news coverage available for diligence

Likely a single-owner Diamond District wholesaler with no scaled operations to model

Medicare/Medicaid claims processing including prior authorization, denial appeals, and resubmission cycles

Recurring monthly rentals tracking for oxygen and CPAP equipment with patient compliance documentation

AUTOMATION SURFACES

Run NY Department of State and NYC Diamond District directory lookups to confirm the entity identity

Cross-reference the entity name against ISDA documentation to learn more about parent or controlling person

Deprioritize from Pass 3 synthesis until identity is confirmed

Medicare/Medicaid claims automation with prior authorization tracking and denial routing

Equipment compliance monitoring (CPAP usage data) auto-flagging non-compliant patients to therapists

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Distributor Wire & Cable	2.67	Banner Industries	2.25
Catalyst MedTech	2.58	Burkett Restaurant Equipment &...	2.25
Berardi Bullonerie srl	2.42	DirectMed Imaging	2.25
Applied Adhesives	2.33	NEFCO	2.17

ARCHETYPE · A17

Specialty retail / multi-unit consumer

COMPANIES IN COHORT

73

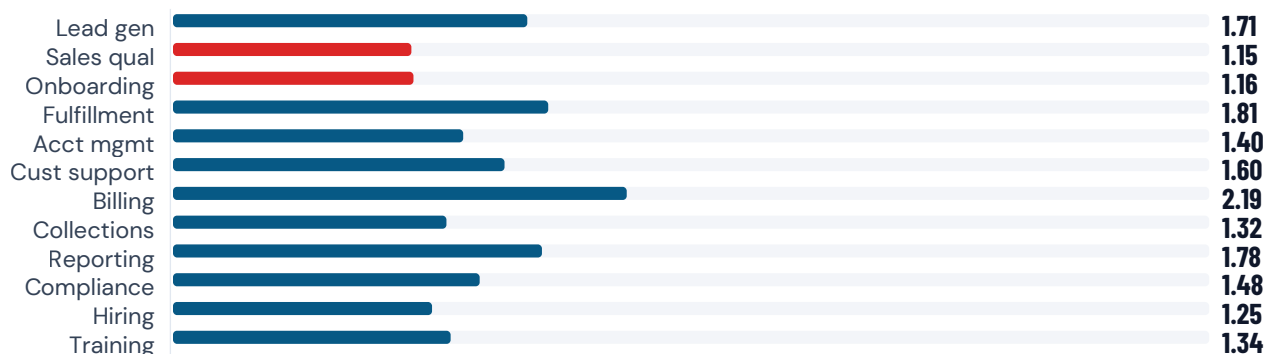
22 with high-confidence data (30%)

AUTOMATION INDEX

1.52

-0.18 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Capex-heavy new-unit buildout with multi-month construction timelines visible in Overland Park lengthy build

Crowded competitive set across drive-thru coffee with Dutch Bros, 7 Brew, Scooter's and Starbucks compressing dwell-time and ticket size

Hourly barista labor hiring and retention across a quickly expanding multi-state footprint

Per-store P&L visibility on a Wix-based corporate site without obvious enterprise data infrastructure

Investor relations workload tied to ongoing retail crowdfunding rounds

AUTOMATION SURFACES

Multi-store POS-to-finance pipeline that produces same-day store-level P&L reporting against unit economic targets

Mobile-first scheduling and labor optimization tied to weather, time-of-day and historical drive-thru throughput per store

Automated barista hiring funnel across location-specific Indeed and Snagajob postings with text-based screening and interview scheduling

Customer loyalty and SMS marketing automation per local market to drive repeat visits and ticket size

Automated investor communications, K-1 and crowdfunding compliance reporting tied to the Issuance Express investor base

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

7 Brew Coffee	2.58	Blank Street	2.08
Gregorys Coffee	2.42	Juice It Up!	2.08
Jeff's Bagel Run	2.25	Mainstream Fashions Franchising	2.00

ARCHETYPE · A6

Residential services (HVAC, plumbing, electrical, pest, lawn)

COMPANIES IN COHORT

140

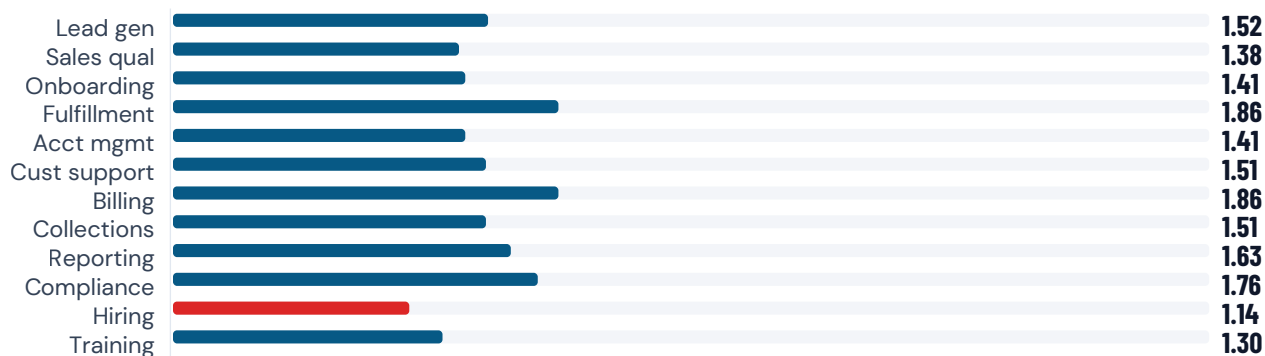
56 with high-confidence data (40%)

AUTOMATION INDEX

1.52

-0.18 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Manual quote and audit-to-job conversion process limits scalability of the energy audit funnel

Trade Ally rebate paperwork and utility incentive submission is form-heavy and prone to delay

Project scheduling and crew dispatch across three states without a field service management platform is logistically constrained

Bifurcated channels (installs versus Shopify direct product) likely run on separate systems, complicating financial consolidation

Franchisor financial transparency questioned in 2025 FDD analysis, signaling royalty collection or working capital risk

AUTOMATION SURFACES

Implement a field service management platform like ServiceTitan, Jobber, or FieldEdge to manage audit scheduling, crew dispatch, and job billing in one system

Automate Trade Ally rebate paperwork by building a templating workflow that pulls customer data, fixture inventory, and savings calculations into Energy submission packets

Adopt a unified financial system (QuickBooks Online plus integrations) connecting Shopify direct sales and project billing for consolidated reporting

Adopt a franchise management platform (e.g., FranConnect, Naranga) to standardize royalty collection, franchisee performance reporting, and operations playbooks

Implement a centralized lead distribution system that routes inquiries from corporate marketing to the nearest franchisee with attribution and conversion tracking

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

ARCHETYPE · A18

Asset-heavy services (equipment rental, logistics, last-mile)

COMPANIES IN COHORT

296

64 with high-confidence data (22%)

AUTOMATION INDEX

1.46

-0.24 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Pre-development entitlement and permitting cycle time across multiple Denver jurisdictions

Resident leasing funnel conversion across affordable and market-rate property tiers

Maintenance work-order routing and turnover cycle time on owned inventory

Tenant turnover and vacancy management on a single concentrated asset

Rent collection and delinquency follow-up at the property level

AUTOMATION SURFACES

Resident leasing CRM with automated tour scheduling, follow-up, and application status updates

Maintenance work-order intake and dispatch automation with HITL on parts and vendor decisions

Affordable housing compliance reporting workflow tied to LIHTC and HUD recertification cadence

Tenant portal with online rent payment, maintenance request, and lease renewal flows

Automated rent roll and occupancy reporting to LP and lender stakeholders

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Carrix	2.67	Door and Window Guard Systems	2.42
Carousel Logistics	2.58	IMTT-Pipeline	2.42
Brazos Midstream	2.50	Agediss	2.33
Bay & Bay Transportation	2.42	Baseline Energy Services	2.25

ARCHETYPE · A3

Transactional B2B services / project-based professional services

COMPANIES IN COHORT

363

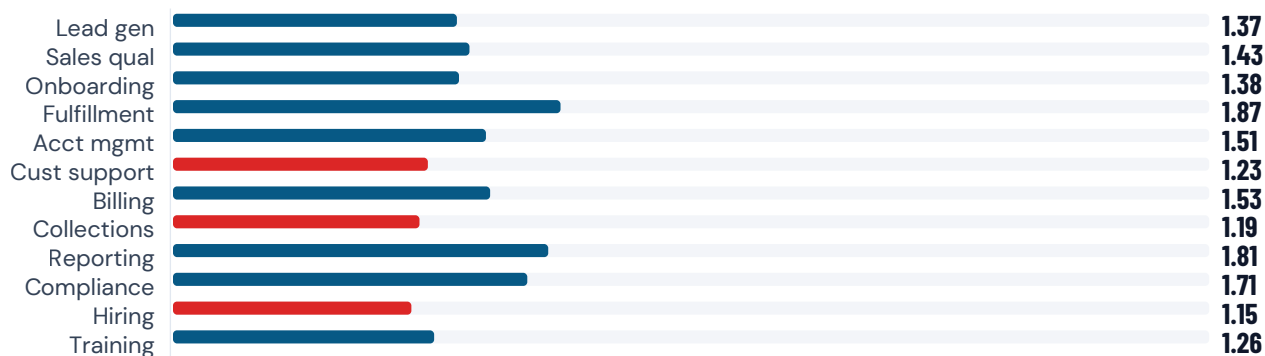
130 with high-confidence data (36%)

AUTOMATION INDEX

1.45

-0.25 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Royalty and sub-license remittance to rights-holder leagues and clubs is operationally heavy and has produced public missed-payment disputes in Peru

Multi-territory contract administration across many sub-licensees in different currencies and tax regimes

Long lumpy deal cycles with concentrated revenue dependency on a few flagship rights packages

Performance reporting back to rights-holders on viewership, distribution coverage and brand activation

Carriage and OTT platform integrations with regional partners like Digital Virgo for Goles L1 Max

AUTOMATION SURFACES

Automated rights-holder remittance and payments waterfall pipeline tied to sub-license invoicing to prevent recurrences of the Peruvian missed-payments issue

Contract lifecycle management with structured extraction of territory, exclusivity, term and revenue-share clauses across the broadcast portfolio

Cross-territory viewership and distribution reporting assembled from broadcaster and OTT data into a single rights-holder dashboard

AI-assisted deal-pipeline qualification ranking emerging broadcasters and OTT buyers by territory, ARPU and historical pay reliability

Automated season-window scheduling and clash-detection across the multiple league portfolios

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

ARCHETYPE · A2

Recurring B2C services / residential subscription

COMPANIES IN COHORT

415

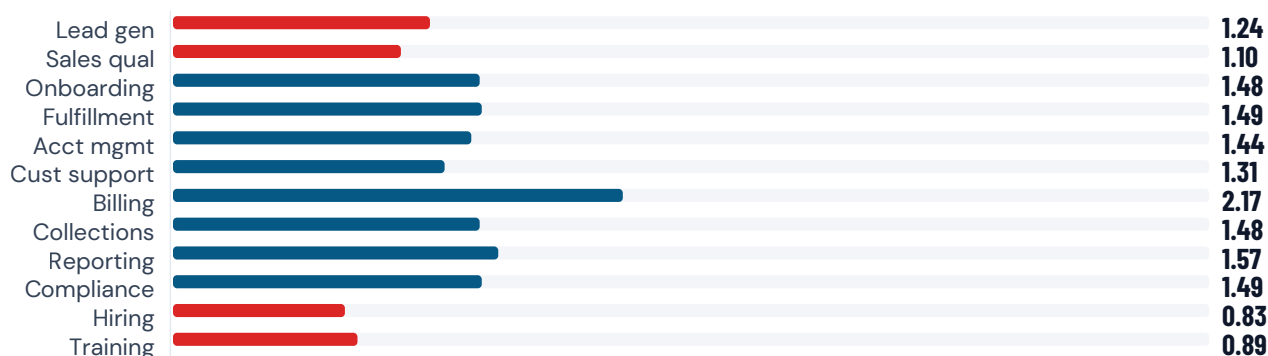
61 with high-confidence data (15%)

AUTOMATION INDEX

1.38

-0.32 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Tenant acquisition cost in a competitive luxury Manhattan rental market with declining broker-fee revenue under FARE Act

Lease renewals and tenant retention to avoid vacancy gaps in a Financial District building with high amenity overhead

Building maintenance dispatch and resident ticket triage across many in-unit and amenity systems

Compliance with NYC rent stabilization, HPD registrations, building safety inspections and Local Law obligations

Cross-portfolio reporting for TFC family office stakeholders across multiple buildings

AUTOMATION SURFACES

Tenant lead capture and tour-booking automation on tfc.com with same-hour follow-up routing to leasing agents

Lease renewal forecasting and personalized renewal offers based on tenant tenure, rent paid history and market rent benchmarks

Maintenance ticket triage with automated dispatch to superintendents and escalation to engineering teams on amenity systems

Rent collection and AR automation including delinquency dunning, payment-plan offers and pre-eviction notice timelines

Compliance calendaring across NYC HPD, DOB, Local Law inspection and rent stabilization filing deadlines

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Anytime Fitness	3.25	Mystery Tackle Box	2.67
BeenVerified	3.00	Mint Eco Car Wash	2.58
Liberty Communications Of Puer...	2.83	Homemade Method	2.33

ARCHETYPE · A23

Education / training services

COMPANIES IN COHORT

485

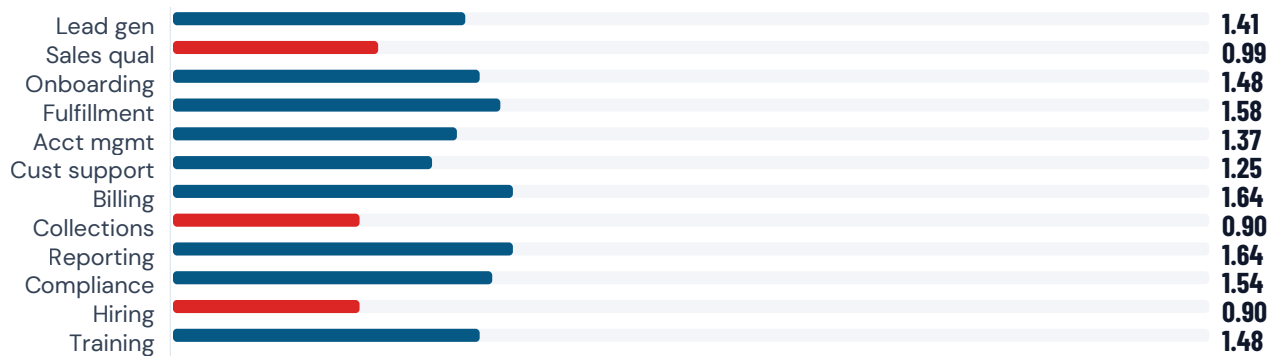
86 with high-confidence data (18%)

AUTOMATION INDEX

1.35

-0.35 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Grant compliance and reporting across multiple federal and state funders, each with separate documentation requirements

Mentor recruiting, screening, and matching at scale across multiple school districts

Outcome tracking on credential attainment, graduation, and employment placement across program cohorts

Donor cultivation and retention pipeline across individuals, agencies, and corporate sponsors

Application intake and grant adjudication for safety equipment requests from public safety agencies

AUTOMATION SURFACES

Grant reporting workflow automation that pulls program participation data into funder-specific report templates

Mentor matching engine that pairs students to mentors based on interests, schedule, and program track

Cohort outcome tracking dashboard tied to credential and placement events with HITL on exceptions

Mailchimp segmentation and donor journey automation tied to license plate purchase events

Equipment grant application portal with rules-based pre-qualification and HITL review

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Lake Superior Center	2.83	Great Lakes Institute of Techn...	2.50
AeroGuard Flight Training Center	2.67	English Guru	2.42
CEA CAPA Education Abroad	2.67	Avocademy	2.33
Flatiron School	2.60	InGenius Prep	2.25

ARCHETYPE · A20

Government services / GovCon / GovTech

COMPANIES IN COHORT

297

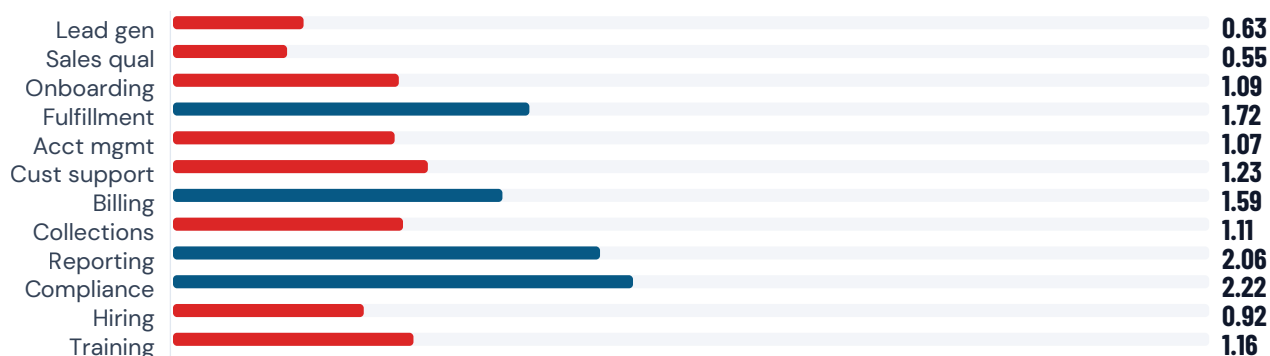
47 with high-confidence data (16%)

AUTOMATION INDEX

1.28

-0.42 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Quality assurance on rare-language translations (Yup'ik, Iñupiaq, etc.) where qualified linguist pools are extremely limited

Government contract proposal cycle and recompetete management against larger LSP incumbents

Linguist credentialing, language testing, and security clearance verification at scale

Per-project pricing and rapid-turnaround interpretation dispatch with minimal lead time

Reputational management and FEMA reimbursement aftermath

AUTOMATION SURFACES

AI-assisted translation QA layer with human-in-the-loop validation, especially for rare-language work

Linguist roster management with skill, certification, clearance, and availability orchestration

Government RFP intake and proposal automation with template library and past-performance auto-extraction

Government-compliant invoicing and ACH workflow tied to contract vehicle obligations

Section 508 remediation document conversion automation

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

HS GovTech Solutions	3.08	Forterra	2.58
KeyLogic Systems	2.75	Bluestaq	2.58
Kofile	2.67	Forward Slope	2.50
Culmen International	2.58	Mission Critical Partners	2.50

ARCHETYPE · A21

Environmental / waste / facilities services

COMPANIES IN COHORT

349

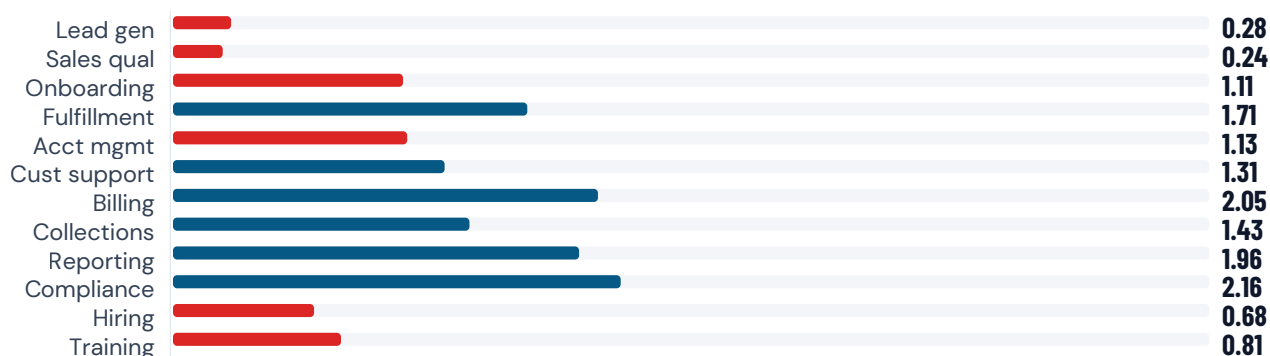
63 with high-confidence data (18%)

AUTOMATION INDEX

1.24

-0.46 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Public company readiness including SOX, Sarbanes-Oxley controls, and SPAC merger close execution

Multi-jurisdiction regulatory permitting (RCRA/EU battery directive) for 2026 plants in USA, Armenia, Australia, Thailand

Feedstock supply chain orchestration across battery aggregators, black mass producers, OEMs, second-life partners

Capex-heavy modular plant deployment with project schedule, equipment sourcing, and commissioning risk

Technology licensing vs greenfield JV vs direct operations channel conflict and pricing

AUTOMATION SURFACES

Plant operating data telemetry with environmental compliance reporting (Scope 1, 2, 3 emissions, recovery yields)

Feedstock procurement orchestration tied to commodity price benchmarks and quality testing

Public-company financial close automation with multi-currency, multi-entity consolidation

Permit lifecycle management with deadline tracking across multiple jurisdictions

Customer/JV partner reporting dashboards including yield, recovered metals, and sustainability metrics

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Amwaste	2.25	Northstar	2.08
Miller Environmental Group	2.25	American Process Group	2.00
Bay West	2.25	DRB Facility Services	2.00
California American Water	2.17	Northwest Environmental	2.00

ARCHETYPE · A4

Transactional B2C services / single-purchase consumer

COMPANIES IN COHORT

386

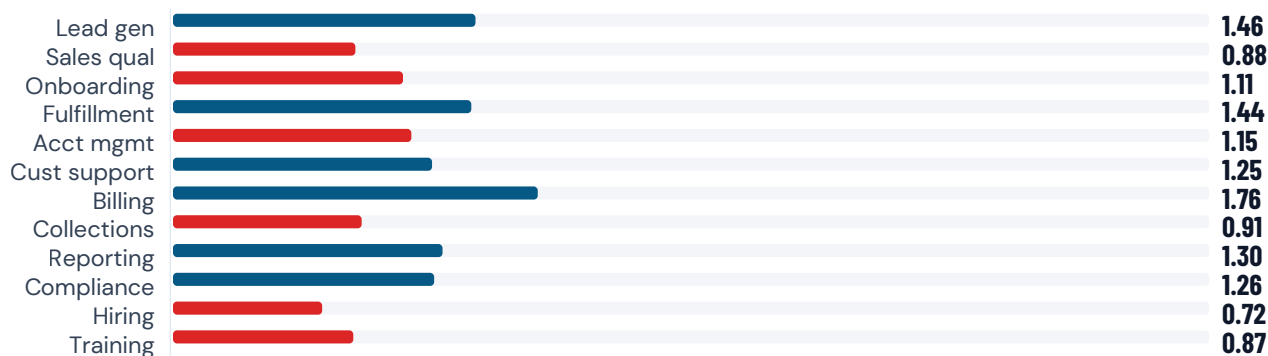
24 with high-confidence data (6%)

AUTOMATION INDEX

1.18

-0.52 vs. cohort mean of 1.70

FUNCTION-LEVEL SCORING



COMMON FRICTIONS OBSERVED

Donor cultivation and recurring giving infrastructure absent on a static WordPress brochure site

Volunteer coordination and supply chain logistics for encampment outreach with limited tooling

Compliance reporting and donor receipts handled manually given lack of CRM

Brand confusion risk given an unrelated DOJ-charged Los Angeles organization sharing the Abundant Blessings name

Minimal web presence limits ability to reach donors, applicants, and program participants

AUTOMATION SURFACES

Donor management CRM with recurring giving and automated acknowledgment receipts

Volunteer scheduling and route assignment automation for monthly encampment distribution

Inventory tracking and supplier procurement workflow for hygiene and food supplies

Grant management and compliance reporting workflow with deadline tracking and document automation

Resident application intake and eligibility screening for housing and senior programs

NAMED COMPANIES IN THE COHORT (COMPOSITE SCORE)

Author Solutions	2.42	Encinitas Ranch Golf Authority	1.75
Alloy Market	1.92	Mays Tulips	1.67
Evergreen Cemetery	1.80	Front Range Auto	1.50
Evergreen Cemetery & Crematory	1.80	Harrell's Radiator Shop & Serv...	1.50

THE AUTOMATION MULTIPLE

How to value the gap.

The Automation Multiple is the back-of-envelope translation from an Automation Index delta to an exit-multiple delta. It is an estimate, not a guarantee. The math is grounded in the cohort.

Step 1. Score the target on the twelve functions. Compute composite.

Step 2. Compare to the cohort mean for the target's archetype. If the target is below archetype mean, the gap is the value pool.

Step 3. Translate the gap to EBITDA via the rule of thumb: **each 0.5-point composite gain captured during hold equals roughly 0.1× to 0.3× of EBITDA multiple expansion at exit** for the target's archetype (higher for SaaS, lower for service-heavy archetypes where the multiple is bounded structurally).

WORKED EXAMPLE

A target archetype-classified as A6 Residential Services scores composite 0.95. Archetype mean is 1.52. Gap is 0.57, fundable in a 4-year hold with 100-day work orders on hiring, scheduling, and on-site upselling. Expected exit-multiple expansion at the archetype's typical 5-7× EBITDA bracket: 0.3× to 0.7× EBITDA multiple recovered.

THE 100-DAY PLAYBOOK

What the operating partner does on day one.

Every archetype page in this Atlas surfaces three automation surfaces. Capturing them in 100 days follows the same rhythm regardless of archetype.

WINDOW	ACTION	OUTPUT
Days 1-14	Score the target on twelve functions	Composite, archetype assignment, 3 lowest-scoring functions identified
Days 15-30	Select tooling for the 3 lowest functions	Vendor shortlist (2-3 per function), budget estimate, sequencing plan
Days 31-60	Implement first lever	Single function moved from current score to current+1. Measured via cycle-time and labor-recovered metrics
Days 61-90	Implement second lever	Second function moved. Begin pattern-matching across portfolio for replication
Days 91-100	Document + handoff	SOP, dashboard, training. Composite re-measured. Lift quantified.

The third lever is deliberately scheduled for days 101-180. The 100-day program is designed to capture two levers fully; the third becomes a 6-month rolling commitment with quarterly review.

Across the cohort, the consistent observation is that capturing one function-level point of maturity per quarter is achievable; capturing two per quarter requires dedicated technical support; capturing three per quarter is the limit even for sophisticated operating teams.

DILIGENCE QUESTION PROTOCOL

What to ask before LOI.

Twelve questions, one per function. Each is answerable from public sources plus a single seller call. The composite is the pre-LOI screen.

#	FUNCTION	THE QUESTION
1	Lead generation	Walk me through how a typical inbound lead enters the system this week. Show me the queue.
2	Sales qualification	What fraction of leads make it to the next stage? Where does the qualification judgment live — a script, a model, or a person?
3	Onboarding	From contract signature to first value delivered, how many days? What is the success rate?
4	Fulfillment / production	Show me how a single job (or unit) is scheduled, executed, and closed out. What part of that is automated?
5	Account management	How does the company know when an account is at risk of churn or ready for expansion? What is the data source?
6	Customer support	Top three ticket categories last month, and how each is currently resolved?
7	Billing	From service completion to invoice sent: how many days? How many manual steps?
8	Collections	What is DSO? When does dunning escalate, and who decides?
9	Reporting	What does the CEO look at each Monday morning? Show me the dashboard.
10	Compliance	What regulatory documentation is required, and is it generated as a byproduct of operations or as a separate workflow?
11	Hiring	How many hires last year? Average time-to-hire? Where do candidates sit in the pipeline today?
12	Training	What does a new hire's first month look like? Is there content, or is it shoulder-to-shoulder?

Archetype-specific question grids appear in each of the 22 archetype pages earlier in this Atlas.

SIX IMPLICATIONS

What this data means for the operating-partner desk.

1

The Automation Multiple is real.

Targets at Foundational maturity underprice their operational deficit by 0.5–1.0× EBITDA at exit. The deficit is recoverable in a single hold cycle through structured automation programs sequenced 100 days at a time.

0.5-1.0×
EBITDA

2

Hiring is the single largest function-level lever.

Every archetype clusters between 0.5 and 1.5 on hiring. Capturing the next maturity point on hiring alone moves the composite for most archetypes by 0.08–0.12 — measurable, fundable, and time-boxed.

2-4×
VELOCITY

3

Exit-Grade is rare enough to be a moat.

Only five of 4,838 companies reach Exit-Grade. A target on a credible trajectory to Exit-Grade within hold commands a measurably higher multiple — because the buyer universe for such targets is itself thin.

0.1%
OF COHORT

4

Service-heavy archetypes are the highest-value diligence targets.

Residential services, multi-location services, and asset-heavy services contain the largest population of low-composite companies. They are also the easiest to remediate in 100-day cycles — most of the lift is in scheduling, dispatch, and hiring infrastructure.

670+
TARGETS

APPENDIX · HOW THE ATLAS WAS BUILT

A reproducible four-stage pipeline.

The Atlas dataset was assembled in May 2026 from a proprietary sourced universe of lower-middle-market private-equity-backed US companies. The pipeline is reproducible end-to-end.

STAGE	METHOD	OUTPUT	COUNT
1. Source	Proprietary sourced LMM PE-backed company list, US-focused, deduplicated	Raw company universe	9,086
2. Domain discovery	Automated search across web + public filings to confirm primary domain	Confirmed primary domain per company	6,746
3. Enrichment	Public-signal collection plus 80-signature tech-stack detector	Structured enrichment record per company	5,269
4. Extraction	Parallel deterministic classification against the 22-archetype, 12-function rubric	Coded dossiers conforming to v1.0 framework	4,838

The 22-archetype taxonomy and the 12-function rubric were authored in parallel with the extraction work; the per-archetype synthesis was generated by Python rollup against the dossier corpus and validated against a manual sample.

CONTACT

For operating partners, deal teams, and portfolio CEOs.

The Atlas is the opening artifact of the Areon Labs research program. Each future release expands the framework, the dataset, or the playbook depth. The contact paths below all route to a single inbox.

ATLAS WEB

areonlabs.com/atlas

Full 22-archetype atlas, interactive diagnostic, downloadable PDFs.

DIRECT

logan@areonlabs.com

For walkthrough sessions, custom portfolio scoring, advisory work.

FREE 30-MINUTE WALKTHROUGH

Bring a portfolio company. We score it against the framework live, surface the three highest-leverage automation surfaces in its archetype, and walk through the 100-day plan.

Areon Labs LLC. The Operations Diligence Atlas, Wave 2, May 2026. Logan Silver, founder.