TSIA RESEARCH · CROSS FUNCTIONAL

The TSIA FDE Atlas

Outcome Sovereignty and Mapping the Path to It

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EXECUTIVE SUMMARY

The Assembly of Eighteen Months of Research

For eighteen months, TSIA has made a single argument across more than forty frameworks, articles, and roundtable discussion. Forward-Deployed Engineering (FDE) is not a hiring trend. It is the primary organizational mechanism that carries a technology company to the only stable position left in the AI economy.

That economy has already turned. Software is no longer eating the world. AI is, and implementation is eating the value. Foundational AI models have reached rough parity, so the model itself no longer decides who wins. The advantage has moved to the precision of deployment inside a real enterprise, with its fragmented data, its legacy workflows, and its political friction. The distance between a working AI system and a proven business result is where value now sits. Closing that distance is the defining problem of the era.

Each thread of TSIA's FDE research uncovered part of the answer. The first work named the role. The framework series named what to build around it. The economic work named how to fund it. The operations work named how to run it once the system was live. The scale work named how to grow beyond the headcount. Every piece extended the picture. None assembled the whole. This Atlas is the assembly.

THE THESIS

The destination is **outcome sovereignty**: the state in which a vendor contracts on business results and owns the AI systems that produce them. Forward-Deployed Engineering is how a company earns the right to make that claim. Few firms have built the full architecture. None have industrialized it. The architecture is now clear enough to chart, the gap from today is precise enough to measure, and the path is concrete enough to walk.

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PART I

The Current State

Awareness is high. Architecture is rare.

Most conversations TSIA has with members on this subject start in one of two ways. The first is about standing up an FDE capability where none exists. In the second, leaders believe they already have a Forward-Deployed Engineering capability. What they have is Forward-Deployed Engineers. The distance between those two things is the subject of this Atlas.

800%

Postings surge
FDE job postings rose more than 800 percent in 2025.

7%

Repeatable playbooks
Only 7 percent have one; 46 percent report the work is mostly custom.

54%

No readiness gate
More than half deploy engineers into data environments they have not qualified.

37%

Funded as cost
37 percent still carry FDE in cost of goods; only 19 percent fund it as acquisition.

The hiring is real. The rush into the role is one of the fastest talent movements the industry has seen. What has not followed is the architecture around the role. Seven percent of organizations have a repeatable technical playbook. The rest rebuild each engagement by hand, and pay a rework tax of 30 to 40 percent for the privilege. More than half send engineers into customer environments without a paid readiness gate, so the engineer inherits the customer's data chaos as the first order of business. And 37 percent still account for the whole function as cost of goods, which guarantees that finance will measure it on utilization and starve the work that makes it valuable.

Every weak dimension has a name, and the names are already in the field. Consultant drift. The utilization trap. Deploying blind. Scaling before mastery. Under all of them sits the tribal knowledge blockade: when the method of a successful deployment lives only in the heads of a few engineers, nothing compounds. Fewer than 15 percent of firms have escaped it. The rework tax is what the other 85 percent pay, quarter after quarter, to solve problems they have already solved.

THE PUNCHLINE

The industry knows where it is going. It has not yet built the architecture to get there.

The FDE Maturity Model

Six dimensions, each scored across five stages, carrying equal weight. A program almost never sits at the same stage across all six, and the weakest dimension sets the ceiling for the whole program. A single blended score would average that exposure away and call the program healthy. The grid refuses to do that. Violet outlines mark the typical current industry position.

	1 · ABSENT	2 · AD HOC	3 · DEFINED	4 · MANAGED	5 · OPTIMIZED
Revenue & Business Model	Work unfunded or buried in other budgets; true cost unknown on any ledger.	Funded case by case. Cost carried in COGS, where utilization pressure appears.	Consistent funding line, still COGS-dominant; codification competes with billability.	Cost reclassified toward CAC or R&D; funding model rewards reuse.	Funding tied to pull-through and lifetime value, on a ledger that already reflects it.
Talent & Capability	No dual-stack profile; engineers relabeled, no development of any kind.	Hired opportunistically against no set profile; no development path.	Profile named and hired against; some development, retention still fragile.	Deliberate pipeline feeding a deepening bench, held by a defined career path.	Self-sustaining talent engine; profile developed internally, certified in partners.
Organizational & Operating Model	No deliberate structure; ownership unassigned, drifts toward the nearest P&L.	Informal workarounds hold the tension; depends on individuals.	Reporting lines set; matrix leaks under commercial pressure.	Functioning central-field matrix; guild and field both real.	Structure adapts as the program scales; tension held by design.
Customer Outcomes & Evidence	Success undefined or measured by activity.	Adoption tracked as a proxy; no outcome defined at contract.	Outcome defined per engagement; measurement inconsistent.	Outcomes contracted and measured; evidence chain reliable.	Outcomes proven, attributed to revenue, fed back into product and pricing.
Operational Assurance	No run-phase ownership; deploy and leave.	Reactive break-fix; silent degradation invisible.	Monitoring exists, but watches uptime rather than truth.	Probabilistic health monitored; playbooks in place.	Outcome-level accountability held contractually; assurance as retention architecture.
Ecosystem	All delivery internal; no partner motion.	Partners for overflow; no enablement.	Partner program built on platform access rather than blueprints.	Certified partners deliver from codified blueprints.	Partner-led scale decoupled from headcount; internal teams make patterns, partners apply them.

Figure 1. Read across, not down. The weakest dimension sets the ceiling. Current-state positions are illustrative of the pattern described here, not survey data.

Read across the industry, the pattern is consistent and lopsided. Talent and Capability runs ahead, pulled forward by the hiring surge. Revenue and Business Model lags, held down by seat-based habits. Customer Outcomes and Evidence is thin. Operational Assurance and Ecosystem are the two most often left at Absent, and they are the two that decide whether an outcome survives past go-live and whether the model scales past the founders. The industry has been building the dimensions it finds intuitive and ignoring the two that set the ceiling.

PART II

The Destination

What outcome sovereignty actually looks like.

A Day at Outcome Sovereignty

The destination is easier to recognize than to define. Start with a day. Elena leads a forward-deployed pod at a vendor that crossed into outcome sovereignty about two years ago. Her Tuesday is ordinary. That is the point.

At 7:12 she is not the first to notice the problem. The reliability layer flagged it overnight. A claims-triage model has lost retrieval precision since a data source changed on the customer's side. Every dashboard is green. The system is answering every call. It is also getting more answers wrong. In the old world this would surface as an angry email in six weeks. Here it surfaced at 3 a.m. as a metric.

At 9:00 the pod meets. The engineer who built the deployment and the operator who now runs it are on the same squad, reading the same telemetry, paid against the same outcome. There is no handoff to escalate across, because there is no handoff. The fix ships before lunch, and by 11:30 it is no longer a fix. It is a versioned update to the blueprint the pod harvested from this account last year. Three other customers receive it without opening a ticket.

At 1:00 an outcome guardrail crosses its threshold and an expansion executes on its own terms. No sales cycle opens. The proof did the selling. At 3:00 a target on a third account is missed, and a performance credit posts automatically. The risk sat with the vendor, exactly as the agreement intended.

The org chart at her company still has the same boxes it had five years ago. Sales, delivery, customer success, product. What changed is underneath. They read from one outcome record, and they are paid against what it says.

ELENA'S TUESDAY

7:12 The reliability layer flags retrieval-precision loss. Every dashboard is green.

9:00 The pod meets. Builder and operator, one squad, one telemetry feed, one outcome.

11:30 The fix becomes a versioned blueprint update. Three customers receive it without a ticket.

1:00 An outcome guardrail clears its threshold and the expansion executes. The proof did the selling.

3:00 A target is missed and a performance credit posts automatically. The risk sat with the vendor.

4:30 Quarterly review. No one mentions utilization. Time to first value, retention, patterns turned into assets.

PART II · THE PHASE TRANSITION

Level 4 Is Not a Better Level 3

The DARE Level model describes four states of AI engagement. Explorer runs free pilots and risks living in them. Adopter sells consumption and discovers that high usage often signals waste. Operator sells subscriptions and hides a value gap behind predictable revenue. Outcome-Oriented Supplier contracts on the business result and owns the system that produces it. That fourth state is outcome sovereignty, and it is the only one of the four that is stable. Then the part that reverses most people's intuition: Level 4 is easier to deliver than Level 3.

Figure 2. The paradox: the hardest model to sell is the easiest to run.

The reason is control. At Level 3 the provider is accountable for a system it does not fully control, dependent on the customer's data hygiene, process, and willingness to change. At Level 4 the provider owns the data pipeline, the model parameters, and the infrastructure. It removes the single largest source of delivery friction. Three properties define the mature model; remove any one and the other two collapse.

1 · The Closed Outcome Loop

Every engagement defines a business result and instruments it, proves it continuously, and treats expansion and renewal as consequences of proof rather than sales events.

2 · The Codification Engine

Every field solution produces two outputs: the working solution and a reusable blueprint. Without this engine the artisan phase never ends, and the cost structure never improves.

3 · The Hybrid Unit

Build and run live in one persistent pod, extended through partners rather than more hiring. Internal engineers make the patterns. Certified partners apply them.

THE PUNCHLINE

You cannot hand partners what you have not first figured out yourself. Scale follows mastery, in that order. There are no exceptions.

PART II · THE ARCHITECTURE

The Master FDE Architecture

Five pillars, run at once, held together by one control plane. The pillars are not a sequence to work through. They are concurrent systems, and a weakness in any one shows up as a failure in the others.

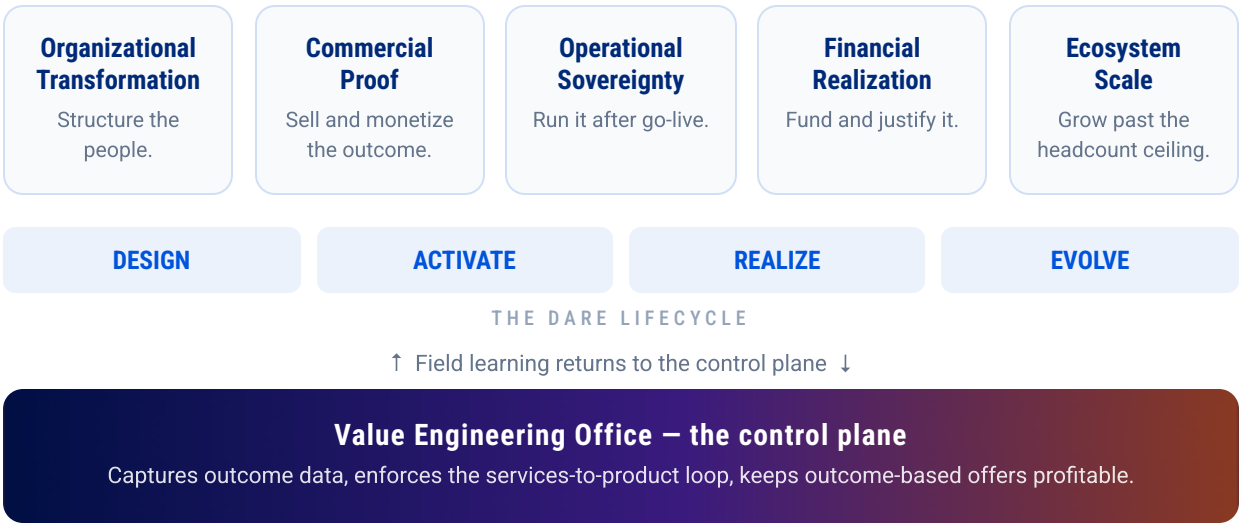

Figure 3. Five concurrent pillars on the DARE lifecycle, bound by the Value Engineering Office.

What binds them is the Value Engineering Office. It captures the outcome data from the field, enforces the loop that turns solutions into blueprints, and keeps the outcome-based offers priced so they stay profitable. Without that control plane the architecture is a set of good ideas that drift apart at the seams between functions.

The five pillars map onto the six maturity dimensions almost one to one, with Operational Assurance and Ecosystem pulled out as dimensions in their own right. The architecture and the scorecard are the same object seen twice. One describes what to build. The other measures how far you have built it.

PART II · CONVERGENCE

Two Roads, One Destination

Two kinds of companies are racing to the same place from opposite directions. Incumbents arrive carrying the Cannibalization Dilemma. Their own AI is automating the seats their revenue was built on, so the better their product works, the faster their old model shrinks. They have deep domain knowledge, large install bases, and real services scale. What they lack is the technical bar to build production software inside a customer's environment.

AI-natives arrive carrying the Scalability Wall. They pioneered the forward-deployed model and proved it on marquee accounts, and now every new engagement still takes an elite engineer earning several hundred thousand dollars. They have the technical bar. What many of them lack is the operational maturity to deliver at scale without the founders in the room.

Figure 4. Two paths, one destination, measured on the same six dimensions.

Neither capability alone is enough. Technical alpha without operational maturity wins its first hundred deals and stalls. Operational maturity without technical alpha delivers reliably and has nothing worth delivering. The public record already shows the destination forming: Palantir turning custom deployments into a platform, an AI-native scaling a forward-deployed team from a handful of engineers into dozens in a single year, established firms standing up thousand-strong engineering benches that feed their product roadmaps. The two roads are different. The place they lead is the same.

PART II · THE ECONOMICS

The Economics of Outcome Sovereignty

The financial architecture inverts. The metric that used to signal health starts signaling decay. The billable hour rewarded effort. In AI economics, effort at scale is friction, so the whole financial logic has to turn over. It starts with one reclassification. Move the Forward-Deployed Engineer out of cost of goods and into customer acquisition. Under cost of goods the engineer is margin to be minimized, and finance will push for higher utilization until the codification work dies. Under acquisition the engineer is growth spend to be optimized, and a high absolute cost is acceptable when the return is higher still.

$4–6

The economic multiplier

Platform revenue for every dollar spent on a strategic engagement.

5×

Velocity from talent

A doubling of talent cost has been shown to produce a fivefold increase in sales velocity and lifetime value.

37%

Still graded as margin drag

Firms still funding the function as cost of goods, with their own scoreboard telling them to stop.

The return is the economic multiplier. Every dollar spent on a strategic engagement drives four to six dollars of downstream platform revenue. The expensive engineer is the cheaper way to buy revenue.

There is a cost to the transition, and it has to be confronted head on. A firm doing this work looks worse before it looks better. It carries premium talent as acquisition spend and invests in codification that does not bill, so on the metrics of the prior era it appears to be losing discipline at the exact moment it is gaining it. The 37 percent still funding the function as cost of goods are grading their most valuable growth investment as margin drag.

THE PUNCHLINE

The transition is survivable only if the board can see the new value on the same page as the old cost. Most firms have not built that page yet.

PART III

Blockers & Accelerators

What holds the industry back, and what compresses the time.

The blockers that matter are the ones that do not yield to a harder-working function. They yield to intervention above it. The accelerators are the mirror image, and they are what a CEO and an SVP own that the functional leaders cannot reach.

BLOCKERS

Talent chasm

Half of surveyed leaders name it as their primary friction.

Utilization trap

COGS accounting rewards billable hours and punishes codification.

Corporate parent inertia

Boards still grade the function on the metrics it is meant to replace.

ACCELERATORS

Codification

Services engineering turns field work into reusable assets and breaks the rework tax.

The pod

Build and run fused, so the outcome is guarded after go-live.

Partner leverage

Reach grows without headcount, because no vendor can hire its way to the whole market.

Each one traces to a maturity dimension, and most sit above the function. The talent chasm is the one most firms are already working, and the one they most overrate: a full bench of engineers sitting on a weak commercial model or a nonexistent partner architecture is a program with a low ceiling and a high payroll. The utilization trap is a Financial dimension problem wearing an operational disguise; no amount of delivery discipline fixes it, because the fault is in the classification. Growth inflation is its scale-stage cousin: a direct model generates a dollar of net revenue retention for a dollar fifty to two dollars, while a partner-led model does it for about fifty cents.

Corporate parent inertia is the one that decides the rest. Disciplined firms look worse than undisciplined ones on the only scoreboard the parent currently reads, so the transformation reads as decline at the moment it most needs air cover.

THE PUNCHLINE

The maturity model is the replacement scoreboard. It shows the parent the value the old metrics cannot, and it points at the one dimension where the next investment does the most good.

PART IV

The Blueprint

How to sequence and execute the journey.

The organizing instruction is the one the maturity model has been pointing at from the start. Raise the weakest dimension first, because the weakest dimension sets the ceiling. Effort poured into a dimension that is already strong buys almost nothing while a weak one caps the whole program. Five mandates carry the work, and each is owned above the function.

1 **Reclassify Forward-Deployed Engineering from cost of goods to acquisition**, and retire utilization as the headline metric. This lifts the Revenue dimension and unblocks everything downstream.

2 **Install the codification engine before the technical debt hardens.** The best time to build it is while the artisan phase is still producing raw material. Waiting means paying far more for the same capability.

3 **Adopt DARE with a paid readiness gate at the front and outcome-based agreements at the back.** This lifts Customer Outcomes and Evidence and Operational Assurance, the two dimensions the industry most often leaves at Absent.

4 **Sequence artisan, then industrial, then orchestration, and do not skip.** Partner scale applied before the model is codified produces inconsistent outcomes and damages the brand that granted it.

5 **Reshape the boundaries between the function and sales, customer success, and product.** This is a strategic choice the CEO is personally willing to redesign. A CEO who hands it to the functional leaders has not understood the problem.

These mandates do not replace the functional plans. They make them executable. Return to Elena: her Tuesday did not happen by accident. It happened because, over several years, her company raised all six dimensions to the point where forward-deployed engineering stopped being a role it staffed and became the logic by which the business runs. The commercial model rests on results the company can prove rather than hours it can bill. The risk of AI adoption sits with the provider, by design. That is outcome sovereignty.

No firm is fully there yet. The ones that arrive first will not only earn better margins. They will set the terms the rest of the industry is measured against.

NEXT STEPS

This Atlas is the front door to the research behind it.

- → Read the foundational pieces in order: the emerging model, the market validation, the master architecture, the synthesis, and the readiness blueprint.
- → Score yourself on the six dimensions. Find the weakest one, because it is setting your ceiling whether or not you are looking at it.
- → Engage TSIA advisory to sequence the path from that weakest dimension forward.

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About the Author

Bo DiMuccio is Distinguished Vice President of Professional Services Research at TSIA, where he leads the research agenda on Forward-Deployed Engineering, AI services economics, and the professional services business model. The FDE Atlas assembles eighteen months of TSIA research into a single argument and a single path.