

# The Rise and Role of the Forward Deployed Engineer

Defense and national security missions place a premium on outcomes, not just software delivery. In this environment, the forward deployed engineer (FDE) has emerged as a hybrid role, equal parts engineer, product strategist, and field operator, that was built to close the last-mile gap between platform capability and mission results.

Pioneered at Palantir and now being adopted by OpenAI and other AI startups across industries, the FDE model reframes customer work as product discovery from inside the enterprise, not sales-led requirements gathering from the outside. The result is a durable but demanding operating model that can compound product leverage and contract value over time if leaders resist the gravitational pull toward pure services.

Demand for FDEs has grown for a number of reasons, key among them being the lack of an incumbent AI product and mission heterogeneity. However, implementing FDEs comes with considerations all businesses must address:

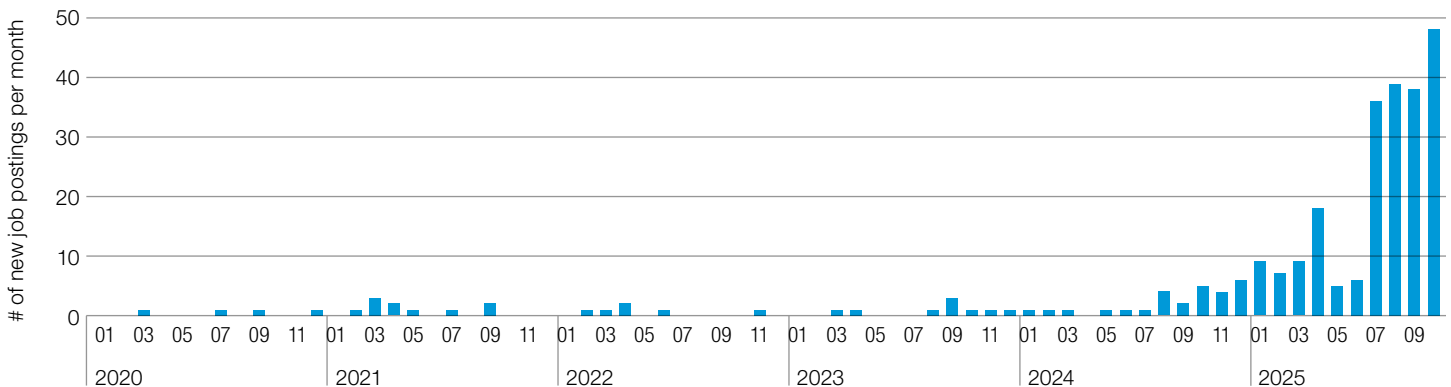
- Operating model
- Product Discipline
- Pricing and key performance indicators (KPIs)
- Leadership and governance

The FDE model reframes customer work as product discovery from **inside the enterprise**

## Why Do FDEs Matter Now?

Since 2024, demand for FDEs has grown dramatically. While there were fewer than 10 FDE job postings in September 2020, September 2025 saw almost 50 postings.<sup>1,2</sup>

### Forward deployed engineers: # of new job postings per month



Source: Bloomberg.com

1. "Forward-deployed Job Titles" (a16z), 2026  
 2. "What I learned analyzing 1K forward deployed engineer jobs" (Bloomberg), 2025

Two structural forces are driving the surge of FDEs across all industries, especially defense:

- 1. No incumbent product for AI:** In many AI use cases, there isn't a standard product to replace. The market is fragmented, workflows are immature, and the value is emergent. That means there is far more on-site product discovery to do than in classic software-as-a-service models. The FDE model "does things that don't scale—at scale," repeating high-touch discovery across segments while steadily converting the findings into reusable platform capability.<sup>3</sup>
- 2. Defense mission heterogeneity:** Even within a single government, mission profiles differ. For example, counter proliferation, counter terrorism, and logistics all have different requirements. A one-size product rarely fits. FDEs land with a configurable platform and fill the gap between what the product does and what the mission needs, then channel those learnings back to product teams to generalize. The process is an on-the-ground discovery system, a voice-of-the-customer model on steroids, that can create products that no sales-driven requirements organization can match. Putting engineers next to users allows those pairs to adapt quickly where risks and opportunities are constantly changing.

In short: when categories are new or contexts vary, organizations learn by embedding FDEs.

## What Are the Keys to FDE Success?

FDEs present opportunities to embed systematic and repeatable learning into organizations, making them especially useful for defense organizations, but this can only be achieved when they are implemented correctly.

### The Operating Model: Echo and Delta, and Building Gravel Roads

The most robust implementations of FDEs into the enterprise separate two field roles with complementary muscles:

- **Echo Team – Embedded Analysts and Account Leaders:** Domain-native "heretics" who understand how work is done today in an industry and, most importantly, why that's ineffective. Bob McGrew, early executive at Palantir and Chief Research Officer at OpenAI, describes these as people who worked deeply in the domain but can clearly articulate the current problems with "state of the art" for that industry. They identify the first high-value use case that matters to senior leadership, own stakeholder alignment and executive sponsorship, and shape the narrative and demo that create desire and buy-in.<sup>4</sup>
- **Delta Team – Forward Deployed Engineers:** Rapid-prototyping software engineers who can ship rough-but-right code quickly under constraints, deploy in secure environments, and iterate in front of users. Deltas build the gravel road—the initial, bespoke solution that proves the outcome.<sup>5</sup>

Back at headquarters (HQ), core product and platform engineering observe what the echo and delta teams built, extract the underlying pattern, and pave a generalized, maintainable capability that works for the next five to 10 customers while lowering marginal deployment cost. The feedback loop is the heart of the model.

3. "The FDE Playbook for AI Startups with Bob McGrew" (Y Combinator), 2025

4. Palantir Blog, 2022

5. Palantir Blog, 2020

## Platform, Not Product: How to Avoid Becoming a Services Shop

Common failures when implementing this approach include allowing field teams to crystallize one-off solutions. The countermeasure to this pitfall is product discipline:

- **Generalize one level up:** Don't ship a feature that only fits the first customer's needs; turn it into a reusable tool.
- **Design for the FDE as a first-class user:** The platform must continuously increase FDE leverage, the amount of customer value one delta team can deliver per unit time and headcount. If each new deployment requires the same bespoke effort, the platform isn't compounding.
- **Create a demo-driven, outcome-backed product:** Rehearsal demos force the product to cohere along the user's path to create desire and keep field and HQ teams honest about end-to-end value.
- **Ritualize the field-to-core forum:** Pull multiple FDEs from different sites into the same design conversations to surface variation early and prevent overfitting to a single workflow.

## Pricing and KPIs: Measure Outcomes, Not Seats

FDE companies sell outcomes, not installs, changing both pricing and internal metrics. Organizations need to price their services to account for the value delivered, but supporting value and, in turn, prices with proof is critical to achieve client buy in. Early phases may be unprofitable on a per-account basis; as the platform generalizes and the team earns the right to

tackle bigger problems, contract size and margins should expand. Deals also need to be structured to grow with verifiable outcome metrics, such as cycle-time reduction, cases processed, calls handled, and dollars recovered.

There are three core KPIs that run the FDE model:

- **Outcome value delivered**, which includes customer-validated impact, even before monetization is perfected.
- **Contract size and expansion** tracks whether the work is becoming more valuable.
- **Product leverage on outcome** shows the value delivered per FDE and looks at the time to duplicate an outcome for the next customer and the degree of configuration versus net-new code.

If outcome value and product leverage are rising, it's acceptable for per-customer customization to stay constant. This is because organizations are doing more valuable work with less marginal engineering.

Price for the value delivered while supporting value with proof.

## Leadership and Governance: How to Keep It from Collapsing into Consulting

The FDE model thrives or fails on organizational choices, including:

- **Executive sponsorship on day one:** FDEs must be attached to problems leadership cares about, ideally the top five. They also need a champion with authority to override gatekeeping and legacy policy, such as approvals for data access and on-premises integration and voice of customer-on-steroids choices, when necessary.
- **Field autonomy with product guardrails:** Deltas must be free to ship gravel roads, but they cannot define the platform alone. While the core product owns abstraction boundaries, field teams own the first proof of value.
- **Talent bar and profiles:** Echo teams must have domain credibility and an A-plus heretic mindset so they can challenge traditional ways of thinking. At the same time, delta teams are rapid prototype creators that are comfortable throwing away version one, and they often favor shipping out a product over polishing it and building its resilience. Many deltas later succeed in core product roles because, as Palantir has proven, this role is a founder training ground.<sup>6</sup> In some firms, the FDE role has become the path to product manager roles because their deep product knowledge helps to manage both development and deployment.
- **Cadenced “pave” cycles:** Establish windows through which HQ can absorb the best gravel roads and can retire bespoke code, even if it causes short-term field friction. The pain is the point in this approach. It’s how you convert services into software.

### Where It Breaks and How to Fix It

There are many areas where the FDE model can break down, but each stumbling point can be repaired.



**Symptom:** Perpetual bespoke work



**Fix:** Make the time to repeat an outcome at a new account an explicit product KPI while delaying net-new verticals until leverage thresholds are met.



**Symptom:** Field teams solve the sponsor’s easy problems, not the business’s valuable ones



**Fix:** Tie scope to leadership’s priority list and make it so echo teams must validate impacts with operators and the profit and loss owner.



**Symptom:** HQ ships abstractions FDEs won’t use



**Fix:** Send core engineers into the field to cross the last mile and require two independent FDE teams to adopt a new platform feature before calling it “paved” and completed.



**Symptom:** IT friction kills momentum



**Fix:** Secure a written “authority to operate” carve-out as part of the landing and escalate early via the executive sponsor.

6. [How Palantir built the ultimate founder factory | Nabeel S. Qureshi \(founder, writer, ex-Palantir\)](#)

## Implications for Defense-Tech and AI-Agent Firms

For defense primes and system integrators, the FDE model can be a barrier against pilot software solutions stranded in purgatory that aren't providing required outcomes. However, it only creates value if organizations invest in a platform spine that raises FDE leverage quarter over quarter.

Meanwhile, AI-agent startups expect heterogeneity. By organizing echo and delta teams early, they can establish price outcomes with staged ramps and by measuring product leverage ruthlessly. The goal is not to reduce customization to zero; it's to make each customized deployment more valuable and faster to repeat.

Early negative margins at an account can be a healthy signal for investors and boards if outcome value and product leverage are trending up and if contract size expands with proof. To acquire buy in and provide accurate reporting, management needs to publish the value of the delivered outcome, contract size and expansion, and product leverage on outcome, not vanity seat counts.

When established properly, FDEs present an opportunity for defense, national security, and AI startup organizations to develop flexible, agile, and outcomes-based software solutions that can support critical missions.

## How Can A&M Help?

For software leaders and investors navigating an AI-accelerated market, the FDE model is more than an organizational redesign, it's a strategic capability. Alvarez & Marsal partners with clients to operationalize this capability, turning customer insight into repeatable product leverage and unlocking the next wave of value creation.

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