

# Defense Alpha — Intelligence Engine Architecture



Scorer | | lookup | | \_raise  
 • 10 NDS | | | | • graduation  
 priorities | | | | \_speed  
 • FY26 budget | | | | • funding  
 weights | | | | \_velocity  
 • Pacific | | | | • outsized\_award  
 relevance | | | | • sbir\_to  
 tag | | | | \_contract  
 | | | | • time\_to  
 ~\$55 for full | | | | \_contract  
 universe | | Free, runs | | • rapid\_contract  
 | | on CPU | | \_growth  
 | | in minutes | | • first\_dod  
 | | | | \_contract  
 | | | |  
 | | | | NEGATIVE:  
 | | | | • customer  
 | | | | \_concentration  
 | | | | • sbir\_stalled  
 | | | | • gone\_stale



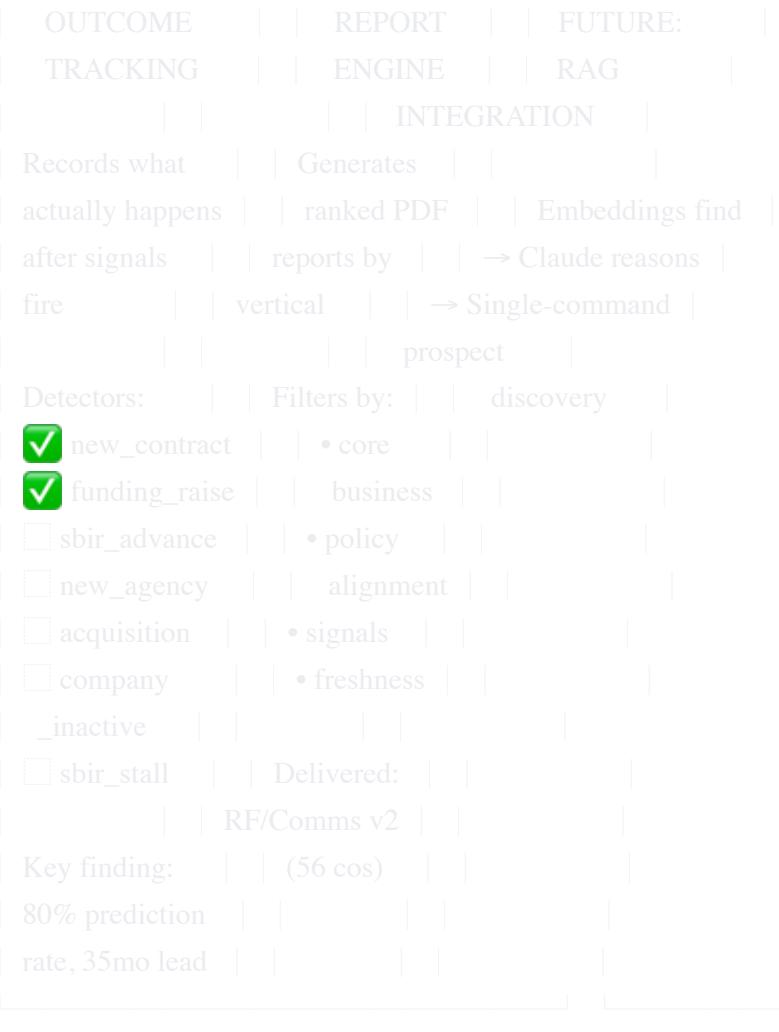
## COMPOSITE SCORING

Three dimensions:  
 QUALITY × TIMING × TAILWIND  
 Signal score Freshness decay Policy alignment  
 (weighted sum tiered by type) (budget-weighted)  
 of 14 signals)

FAST: momentum space: 1.38x  
 Range: -2.75 SLOW: milestones nuclear: 1.26x  
 to 6.05 NONE: structural autonomy: 1.22x  
 hypersonics: 0.57x

combined = 0.55 \* composite + 0.30 \* tailwind + 0.15 \* contract\_tier





## Pipeline Orchestrator

python scripts/run\_pipeline.py --full-refresh  
 python scripts/run\_pipeline.py --process-only

Runs all steps in sequence with error handling:  
 Scrape → Resolve → Reclassify → Classify → Score → Embed →  
 Detect Signals → Track Outcomes

Logs to data/pipeline\_runs/<timestamp>.log

## What's Defensible

COMMODITY (anyone can rebuild)      TIME-LOCKED (can't replicate)

Data ingestion (public APIs)      Outcome tracking dataset

LLM classification (\$55) → 80% prediction accuracy

Rule-based signals → 35-month lead time

Report templates → Gets better every week

EFFORT MOAT (painful to redo) KNOWLEDGE MOAT (domain expertise)

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Entity resolution (10K+ entities) Policy priority taxonomy

Cross-source deduplication Budget weight calibration

Historical signal baseline Signal type design + tuning

Tiered decay profiles