
Engineering Software & Industrial AI

Market State Report 2026

Q2: The AI Inflection

Q2 2026 — Measuring the Velocity

760 Software Startups | **26** Incumbent Vendors | **\$54.9B** VC Funding
Mapped

2,380 Investors | **9** Categories | **345** Physics & Domain AI Companies

ThreadMoat Research

Michael Finocchiaro

June 2026

Proprietary data pipeline — ThreadMoat enriched database
200+ founder and executive interviews

Engineering Software & Industrial AI - Market State Report 2026

Q2: The AI Inflection

Quarter: 2026-Q2 / Generated: June 21, 2026 / Source: ThreadMoat enriched data pipeline

Executive Summary

The map is drawn. Now we measure the velocity.

Q1 established the terrain: 600 software companies across nine categories, the structural tension between incumbents and challengers, and the M&A cycle accelerating faster than any prior consolidation wave in engineering software. Q2 answers the next question — which AI theses are winning, which workflow segments are being transformed fastest, and where the unclaimed opportunity still lives.

In the twelve months since Q1, ThreadMoat grew to 760+ startups. Autodesk acquired Main-tainX for \$3.6B, closing the design-to-operations loop that no design software company had fully owned. Velotic entered the market as a PE-backed industrial software stack with \$300M+ day-one revenue. Octave Intelligence became an independent company from Hexagon's Asset Lifecycle Intelligence division. And Physics & Domain AI emerged as the dominant investment thesis — 345 companies, more than Agentic Orchestration and AI-Enabled UX combined. The AI Inflection is not a forecast. It is already in the data.

Contents

Engineering Software & Industrial AI - Market State Report 2026	1
Executive Summary	1
List of Figures	5
List of Tables	7
Methodology & Scope	8
Data Sources	8
Definition of Incumbent Vendor	9
Investment Categories	9
ThreadMoat Quality Score	16
Time Horizon	16
Known Limitations	16
Executive Summary	18
The Q2 Thesis: Three Findings That Define the Market Right Now	18
For Technology Buyers	18
For Investors & VCs	19
For Incumbent Vendors	19
For Startup Founders	20
Top 10 Findings	22
Part 0: Key Signals	25
6. Velotoc Confirms the PE Platform Assembly Model	25
7. Hexagon’s Asset Lifecycle Intelligence Becomes Octave — A New Independent Vendor	26
8. The AI Intensity Gap Widens — Low vs. High AI Nativeness Now Predicts Outcomes	26
Part 1: Structural Trends	29
Structural Trends	29
EDA-Simulation Convergence: The \$35B Restructuring and Its Aftershocks	29
The AI Surrogate Revolution: 10,000x Speed and the Solver Displacement Question	31
Agentic Engineering Workflows: The Shift from Copilot to Autonomous Execution	33
Physical AI as Industrial Infrastructure: \$3.6B and the Humanoid Moment	34
Part 2: Incumbents vs. Challengers - The Structural Tension	39
Total Market Overview	40
Incumbent Revenue Breakdown	40

Startup Funding by Category	40
Revenue Reallocation Scenarios	40
Part 3: The Incumbent Map	44
The Five Anchor Vendors	45
The Mid-Market Layer	45
Incumbent Revenue at a Glance	45
Strategic Priorities: How the Top Vendors Are Responding	46
M&A Activity	48
Part 4: The Startup Ecosystem	50
Funding by Category	50
Funding-Per-Company Ratios: The Capital Efficiency Gap	51
Enterprise Portfolio Thesis	51
Part 5: Customer Adoption	57
Data Coverage	57
Top Enterprise Adopters	57
Adoption Signal	59
Part 6: The Investor Map	62
Data Coverage	62
Top Investors by Portfolio Count	62
Enterprise Portfolio Thesis	62
Top 5 Investors by Category	63
Geographic Distribution of Capital	65
Part 7: Market Sizing (Updated Q1 2026)	72
Total Market Overview	72
Incumbent Revenue Breakdown	72
Startup Funding by Category	72
Revenue Reallocation Scenarios	72
Part 8: The Consolidation Signal	74
M&A Overview	74
Strategic Highlights	75
Most Active Acquirers	76
Acquisition Patterns	76
Consolidation Storylines	76
Complete M&A Event Log	77
Interpretation	83
Part 9: Red Ocean / Blue Ocean	87
Category Classification	87
Red Oceans: Where Competition Is Fiercest	88
Blue Oceans: Underserved Opportunities	88
Premium Niches: High-Capital Specializations	88
Contested Markets: Fragmented Competition	88
Strategic Implications	89
Part 10: Vertical Deep Dives	92
Coverage Summary	92
Aerospace & Defense	93
Automotive	93
Industrial Equipment	94
High Tech & Electronics	94

Energy & Process	95
Medical Devices	96
Geographic Distribution	96
Part 11: Pricing Disruption	102
What We Could Not Measure — and Why That Is the Signal	102
The Pricing Disruption Thesis	102
The \$1M to \$10K Transition	102
Incumbent Response	102
Part 12: M&A Prediction Framework - Who Gets Acquired Next	104
The Acquisition Signal Framework	104
Incumbent Acquisition Patterns	105
Categories with the Strongest Acquisition Signals	106
Acquisition Likelihood Tiers	107
Methodology: What This Framework Measures	107
Part 13: Emerging Signals and ThreadMoat Insights	108
Manufacturing AI Capital Concentration: 91 Companies, One Shakeout Wave	
Coming	109
Democratization 2.0: The Barrier Has Shifted from Price to Data Readiness . .	109
The Factory Futures Funding Mirage: \$4.5B Does Not Mean 91 Winners . . .	109
AI Copilots Are a Distribution Tax, Not a Product Category	109
European Engineering AI Is Undercovered, and the EU AI Act Is a Moat, Not	
a Barrier	110
Part 14: What This Means for Technology Buyers	110
Vendor Landscape: Where to Look and Where to Be Cautious	110
Category Maturity: What Is Ready for Enterprise Procurement	111
Build vs. Buy: Reading the Market Signals	113
Financial Due Diligence: Assessing Vendor Stability	113
Technology Readiness: Which Categories Deliver Production-Grade Solutions .	114
Incumbent Coverage Gaps: Where Startups Fill Real Needs	115
Practical Procurement Recommendations	116
Part 15: Industry Adoption Velocity	116
Cross-Industry Comparison	117
Where the Window Is Widest	118
Where the Window Is Closing	119
Where Incumbents Already Compete	120
The Adoption Gap	120
Methodology Notes	121
Part 16: Workflow Segment Velocity — Where AI Is Moving Fastest	122
Segment Coverage Map	122
The Velocity Leaders	122
The Underserved Segments	122
What This Means	123
Part 17: The AI Thesis Funding Map	123
The Three Primary Theses	124
Thesis Comparison	124
The Supporting Theses	124
Multi-Thesis Companies	125
What the Distribution Tells Us	125

Part 18: The Whitespace Argument	126
The Overcrowded Segments	126
The Whitespace — High Demand, Low Density	126
The Mid-Density Opportunity Belt	127
The Investment Conclusion	127
Appendix A: Top Startups - Curated Rankings	128
Top Startups by Overall Score	128
Most Capital-Efficient Startups	128
Fastest-Growing Startups	129
Most Technically Differentiated	129
Strongest Competitive Moats	129
Top 5 by Category	130
Appendix B: Top Investors by Category	136
Design Intelligence	136
Extreme Analysis	136
Adaptive Manufacturing	136
Cognitive Thread	137
Factory Futures	137
Augmented Operations	138
Streamlined Supply Chain	138
Bleeding Edge BIM	138
Knowledge Engineering	138

List of Figures

- **Figure 1:** Top 5 Categories by Quality Score
- **Figure 2:** Category Funding Treemap - \$15.6B Across 9 Categories
- **Figure 3:** Market Funding Share by Category
- **Figure 4:** Funding Distribution by Stage
- **Figure 5:** AI Intensity Score by Category
- **Figure 6:** Trend Evidence Strength by Signal Type
- **Figure 7:** Funding by Structural Trend: Category Breakdown (\$M)
- **Figure 8:** Startup Count by Structural Trend Category
- **Figure 9:** EDA Convergence - Funding Timeline
- **Figure 10:** AI Surrogate Intensity Score Distribution
- **Figure 11:** Agentic Deployment Model Shift
- **Figure 12:** Industrial Data - Lifecycle Phase Distribution
- **Figure 13:** Evidence Count per Structural Trend
- **Figure 14:** Structural Trends × Category Heatmap
- **Figure 15:** Annual Incumbent Revenue & Cumulative Startup Funding
- **Figure 16:** SWOT Analysis - Incumbent Vendors
- **Figure 17:** SWOT Analysis - AI-Native Challengers
- **Figure 18:** Engineering Software Incumbent Vendors by Revenue
- **Figure 19:** Incumbent Product Portfolio Count
- **Figure 20:** Incumbent M&A Activity Timeline
- **Figure 21:** Engineering Software Startups Founded by Year

- **Figure 22:** Total Funding by Startup Cohort Year in millions
- **Figure 23:** Startup Funding Share by Category
- **Figure 24:** Category Overview - Startups vs Funding (bubble size = avg quality score)
- **Figure 25:** Startup Size Distribution by Category
- **Figure 26:** Revenue vs Headcount Efficiency
- **Figure 27:** Category → Funding Stage → Industry Alluvial Flow
- **Figure 28:** Category × Lifecycle Phase: Startup Maturity Matrix
- **Figure 29:** Customer Adoption Signal by Category
- **Figure 30:** Startup Deployment Models
- **Figure 31:** Customer Count Distribution Across Startups
- **Figure 32:** Target Sector Focus by Category
- **Figure 33:** Top 15 Investors in Engineering Software Startups
- **Figure 34:** Investor Type Breakdown
- **Figure 35:** Investor Type Distribution (VC, Corporate, PE)
- **Figure 36:** Top 15 Investors by Portfolio Count
- **Figure 37:** Investor Concentration by Category
- **Figure 38:** Investor × Category Investment Heatmap
- **Figure 39:** Top Investor Portfolio Overlap
- **Figure 40:** Investor Entry Timing by Founding Year
- **Figure 41:** Engineering Software Startups by Country
- **Figure 42:** Startup Maturity Distribution
- **Figure 43:** M&A Activity in Engineering Software by Year
- **Figure 44:** M&A Deal Count by Year (2018-2026)
- **Figure 45:** Most Active Acquirers in Engineering Software
- **Figure 46:** Consolidation Deal Value Distribution
- **Figure 47:** Acquirer Target Category Map
- **Figure 48:** Consolidation Timeline Density
- **Figure 49:** Startup Positioning - Capital Efficiency vs Growth
- **Figure 50:** Red Ocean / Blue Ocean Crowding Index
- **Figure 51:** Opportunity Scatter - Blue Ocean Positioning
- **Figure 52:** Category Deep Dive - Startups, Funding, and Quality by Vertical
- **Figure 53:** Vertical Funding Comparison in millions
- **Figure 54:** Vertical Quality Score Radar
- **Figure 55:** Startup Density by Vertical
- **Figure 56:** Lifecycle Maturity Stack by Vertical
- **Figure 57:** AI Intensity by Vertical
- **Figure 58:** Capital Efficiency by Vertical
- **Figure 59:** Category × Industry Penetration Heatmap
- **Figure 60:** Cloud-Native vs Legacy Deployment by Category
- **Figure 61:** Revenue per Employee by Category - Pricing Proxy
- **Figure 62:** Acquisition Target Map - Quality vs Capital Raised
- **Figure 63:** Prediction Model - Quality vs Funding Trajectory
- **Figure 64:** Lifecycle Stage × Funding - M&A Likelihood
- **Figure 65:** Vendor Crowding Risk by Category
- **Figure 66:** Category Maturity Radar
- **Figure 67:** Build vs Buy Readiness by Category
- **Figure 68:** Financial Confidence Distribution by Category
- **Figure 69:** Technology Readiness Score by Category

- **Figure 70:** Incumbent Product Coverage Gaps
- **Figure 71:** Incumbent Engineering Software vs AI-Native Growth Rates by Industry
- **Figure 72:** The Disruption Multiplier - AI-Native vs Incumbent Growth by Industry
- **Figure 73:** Enterprise AI Adoption Rate vs Growth Gap by Industry
- **Figure 74:** Top 15 Engineering Software Startups by Overall Score
- **Figure 75:** Top 10 Startups - Multi-Dimensional Score Radar
- **Figure 76:** Startup Quality Score Distribution
- **Figure 77:** ThreadMoat Top 50 Leaderboard
- **Figure 78:** Investor Count by Category
- **Figure 79:** Top Investor Category Heatmap
- **Figure 80:** VC vs Corporate Investor Distribution
- **Figure 81:** Investor Portfolio Size Distribution

List of Tables

- **Table 1:** Top 10 Findings
- **Table 2:** Total Market Overview
- **Table 3:** Revenue Reallocation Scenarios
- **Table 4:** Incumbent Revenue at a Glance
- **Table 5:** Strategic Priorities: How the Top Vendors Are Responding
- **Table 6:** Funding by Category
- **Table 7:** Top Enterprise Adopters
- **Table 8:** Top Investors by Portfolio Count
- **Table 9:** Top 5 Investors by Category
- **Table 10:** Top 5 Investors by Category
- **Table 11:** Top 5 Investors by Category
- **Table 12:** Top 5 Investors by Category
- **Table 13:** Top 5 Investors by Category
- **Table 14:** Top 5 Investors by Category
- **Table 15:** Top 5 Investors by Category
- **Table 16:** Top 5 Investors by Category
- **Table 17:** Top 5 Investors by Category
- **Table 18:** Total Market Overview
- **Table 19:** Revenue Reallocation Scenarios
- **Table 20:** Strategic Highlights
- **Table 21:** Complete M&A Event Log
- **Table 22:** Category Classification
- **Table 23:** Coverage Summary
- **Table 24:** Aerospace & Defense
- **Table 25:** Automotive
- **Table 26:** Industrial Equipment
- **Table 27:** High Tech & Electronics
- **Table 28:** Energy & Process
- **Table 29:** Medical Devices
- **Table 30:** Incumbent Acquisition Patterns
- **Table 31:** Categories with the Strongest Acquisition Signals

- **Table 32:** Cross-Industry Comparison
 - **Table 33:** Segment Coverage Map
 - **Table 34:** The Underserved Segments
 - **Table 35:** Thesis Comparison
 - **Table 36:** The Supporting Theses
 - **Table 37:** The Overcrowded Segments
 - **Table 38:** The Whitespace — High Demand, Low Density
 - **Table 39:** The Mid-Density Opportunity Belt
 - **Table 40:** Top Startups by Overall Score
 - **Table 41:** Most Capital-Efficient Startups
 - **Table 42:** Fastest-Growing Startups
 - **Table 43:** Most Technically Differentiated
 - **Table 44:** Strongest Competitive Moats
 - **Table 45:** Top 5 by Category
 - **Table 46:** Top 5 by Category
 - **Table 47:** Top 5 by Category
 - **Table 48:** Top 5 by Category
 - **Table 49:** Top 5 by Category
 - **Table 50:** Top 5 by Category
 - **Table 51:** Top 5 by Category
 - **Table 52:** Top 5 by Category
 - **Table 53:** Top 5 by Category
 - **Table 54:** Design Intelligence
 - **Table 55:** Extreme Analysis
 - **Table 56:** Adaptive Manufacturing
 - **Table 57:** Cognitive Thread
 - **Table 58:** Factory Futures
 - **Table 59:** Augmented Operations
 - **Table 60:** Streamlined Supply Chain
 - **Table 61:** Bleeding Edge BIM
 - **Table 62:** Knowledge Engineering
-

Methodology & Scope

Data Sources

Before ThreadMoat, there was no community infrastructure for the engineering software startup ecosystem. No shared events, no cross-company conversations, no systematic effort to connect the founders building the next generation of CAD, CAE, PLM, and manufacturing software. ThreadMoat built that community from scratch through direct research, recorded conversations, and live events, creating the connective tissue that now informs every data point in this report.

This report draws on four primary data sources, updated quarterly:

1. **Founder & Community Intelligence.** 150+ founder interviews, 26 episodes of the *AI Across the Product Lifecycle* podcast, and two editions of the *Threaded Conference* startup showcase (Warwick, March 2026; Miami, April 2026, each with 13+ presenting startups and dozens of enterprise customers in attendance). These direct, ongoing relationships with the founders in the database provide the qualitative signals, competitive context, and forward-looking indicators that no dataset alone can capture.
2. **ThreadMoat Startup Database.** 760 active AI-native engineering software startups tracked via Airtable, enriched with funding data, headcount estimates, customer lists, deployment models, and ThreadMoat quality scores. The full database tracks 953 entities including exits, consultancies, and hardware-primary companies. Data is cumulative since company founding (not limited to a single funding round).
3. **Incumbent Vendor Financials.** 26 incumbent vendors with \$48.1B in combined PLM/engineering software revenue, sourced from annual reports, 10-K filings, press releases, and analyst estimates.
4. **Investor Intelligence.** 3327+ investors mapped to portfolio companies via Airtable, covering venture capital, corporate venture, private equity, and government/grant funding.

All funding and investment figures represent **cumulative totals raised across all rounds** from founding through Q1 2026, unless a specific time horizon is stated.

Definition of Incumbent Vendor

An **incumbent vendor** in this report is a company whose primary revenue derives from engineering software products (CAD, CAE, PLM, CAM, EDA, MES, AEC software). Revenue figures represent the **PLM/engineering software segment only**, not total company revenue. Hardware-primary companies are excluded even if they ship embedded software. Companies without publicly identifiable engineering software revenue are excluded.

Investment Categories

ThreadMoat tracks startups across **9 active software categories** and **56 subcategories**. Each category represents a distinct disruption thesis within the engineering software ecosystem. Subcategories provide finer-grained segmentation within each investment thesis. Hardware-primary categories (e.g., robotics, drones) are excluded from this report.

Design Intelligence (CAD)

The next generation of computer-aided design, moving beyond geometry modeling to intent-driven, AI-assisted, and generative design. Includes 2D/3D CAD tools, text-to-CAD interfaces, generative design platforms, and AI copilots for mechanical and architectural design. This category is experiencing rapid disruption as cloud-native and AI-native approaches challenge three decades of parametric modeling orthodoxy.

Subcategory	Description
Text-to-CAD & AI-Native 3D Generation	Platforms that generate 3D geometry from natural-language prompts or sketches, bypassing traditional parametric workflows entirely.
AI-Powered EDA & Electronic Design	AI-augmented electronic design automation tools for PCB layout, circuit synthesis, and chip design.
Solid Geometry & Generative Engineering	Generative and topology-optimized solid modeling tools that produce manufacturable geometry from functional constraints.
3D Content, Concepting & Streaming	Tools for early-stage 3D visualization, concept modeling, streaming viewers, and VR/AR design review.
CAD-Integrated DFM & Costing	Design-for-manufacturability analysis and cost estimation embedded directly in the CAD workflow.
Engineering Copilots & Automation	AI assistants that automate repetitive CAD tasks (feature recognition, drawing generation, design rule checks) within existing tools.
Surface Modeling & Conceptual 3D	NURBS and subdivision surface modeling tools for industrial design, automotive styling, and freeform geometry.
2D Drawing & Drafting Automation	AI-driven automation of 2D drawing production, GD&T annotation, and legacy drawing digitization.
No-Code Configurators & Rules Driven CAD	Visual configuration engines and rules-based parametric systems that let non-engineers generate valid 3D models.
Vertical & Domain Specific CAD	Purpose-built CAD platforms for specific domains (orthotics, dental, maritime, MEP) where generic tools underperform.
Generative CAD & Geometry	Pure generative design engines focused on novel geometry synthesis through optimization and AI.

Extreme Analysis (CAE, CFD, FEA, QC)

Simulation, analysis, and quality control tools that subject virtual products to physics-based testing before physical prototypes are built. Covers Computational Fluid Dynamics (CFD), Finite Element Analysis (FEA), structural and thermal simulation, and AI-accelerated solvers. Companies in this category are dramatically reducing simulation runtimes (from hours to

seconds) by replacing or augmenting legacy solvers with neural network surrogates.

Subcategory	Description
FEA / FEM & Structural Simulation	Finite element analysis platforms for structural, fatigue, and crash simulation, from cloud solvers to AI-accelerated pre/post-processing.
Surrogate & ML-Accelerated Simulation	Machine learning models trained on physics data to deliver near-instant simulation results, replacing or augmenting traditional solvers.
CFD & Fluid Dynamics Platforms	Computational fluid dynamics tools spanning turbulence modeling, SPH methods, and cloud-native CFD workflows.
Multi-Physics, Cloud CAE & Coupled Simulation	Platforms that couple multiple physics domains (thermal-structural, fluid-structure, EM-thermal) in unified simulation environments often done on the cloud for elastic resource management.
Systems-Level & Digital Twin Simulation	Simulation tools that model complete systems and their operational behavior, bridging component-level analysis to system-of-systems digital twins.
Materials & Lattice Simulation	Simulation of advanced materials, metamaterials, lattice structures, and topology-optimized geometries for additive manufacturing.
Thermal & Heat Transfer Simulation	Specialized thermal analysis tools for heat management, cooling system design, and thermal-mechanical coupling.
EM, RF & Signal Integrity Simulation	Electromagnetic simulation tools for antenna design, RF circuit analysis, signal integrity, and EMC compliance.
Quantum-Accelerated Simulation	Platforms leveraging quantum computing or quantum-inspired algorithms to accelerate physics simulation at scale.

Adaptive Manufacturing (AM, CAM, CNC)

Software and services that bridge the gap between digital design and physical fabrication. This category covers computer-aided manufacturing (CAM), CNC programming tools, additive manufacturing (AM/3D printing) workflow software, and platforms that optimize toolpaths, material selection, and production scheduling. Companies here are reducing the expertise barrier for complex machining and democratizing access to advanced fabrication techniques.

Subcategory	Description
Additive Manufacturing Software	Software for 3D printing workflow: build preparation, slicing, process simulation, and fleet management across metal and polymer AM.
AI-Native CAM & CNC Automation	AI-driven toolpath generation, adaptive machining, and CNC programming platforms that reduce setup time and operator dependency.
Design-for-Manufacturing & Quoting	Automated manufacturability analysis and instant quoting platforms that connect design intent to production cost reality.
Robotic & Autonomous Manufacturing	Software platforms that program, orchestrate, and optimize robotic manufacturing cells: welding, assembly, and autonomous fabrication.
Advanced Materials & Specialty Manufacturing	Software for specialty processes (composites layup, semiconductor fabrication, battery manufacturing) where standard CAM tools fall short.

Cognitive Thread (PLM, MBSE, DT)

The intelligence layer connecting a product’s entire lifecycle, from requirements to retirement. This category covers Product Lifecycle Management (PLM), Model-Based Systems Engineering (MBSE), Digital Twin platforms, and configuration management tools. These companies are modernizing the backbone of complex product development: turning static document repositories into active, queryable knowledge graphs that span design, manufacturing, and operations.

Subcategory	Description
AI-Native PLM & Digital Thread Platforms	Next-generation PLM systems built around AI, graph databases, and digital thread architecture, replacing document-centric legacy platforms.
MBSE & Systems Engineering Hubs	Model-based systems engineering tools that connect requirements, architecture, and verification in a single live model.
Specification, Documents & Knowledge Threads	Platforms that structure, link, and make searchable the unstructured knowledge embedded in engineering documents and specifications.

Subcategory	Description
Materials & Formulation Intelligence	AI platforms for materials selection, formulation R&D, and materials data management across the product lifecycle.
Simulation-Centric Digital Twins	Digital twin platforms anchored in simulation models that maintain a live, physics-based replica of physical assets.
Lifecycle Analysis	Tools for lifecycle assessment (LCA), sustainability scoring, and environmental impact analysis embedded in product development.
Satellite Software Platform, Mission Simulation	Specialized platforms for space mission design, satellite digital twins, and orbital simulation workflows.

Factory Futures (MES, IIOT)

The connected factory stack, from sensors to systems. This category covers Manufacturing Execution Systems (MES), Industrial IoT platforms, edge computing solutions, OT/IT convergence tools, and AI-powered production analytics. Companies here are building the nervous system of the smart factory: collecting, contextualizing, and acting on data from physical production assets in real time.

Subcategory	Description
Industrial Data Infrastructure & IIoT Connectivity	Edge gateways, unified namespaces, and data fabric platforms that connect OT equipment to IT systems and AI models.
Factory Analytics & Digital Twin	Analytics platforms that build digital representations of factory operations for monitoring, optimization, and what-if analysis.
AI-Native MES & Production OS	Modern manufacturing execution systems built on AI and cloud architecture, replacing legacy MES with composable production operating systems.
Process & Vertical Industry Platforms	Manufacturing software tailored to specific verticals: pharma batch records, semiconductor process control, food & beverage compliance.
Production Planning & Scheduling	AI-powered production scheduling, capacity planning, and shop floor sequencing tools that adapt to real-time constraints.

Subcategory	Description
Robotics & Factory Automation	Software platforms for programming, simulating, and orchestrating industrial robots and automated production lines.

Augmented Operations (MOM, CMMS, AR/VR, SLM)

Platforms that augment the physical workforce with digital intelligence. This category spans Manufacturing Operations Management (MOM), Computerized Maintenance Management Systems (CMMS), AR/VR-assisted work instruction and training, and Service Lifecycle Management (SLM). The defining characteristic is a direct human-machine interface: software that makes operators, technicians, and service engineers more effective on the shop floor or in the field.

Subcategory	Description
Advanced Optimization & Simulation for Operations	AI and simulation tools that optimize manufacturing processes, energy usage, and operational parameters in real time.
AI Vision QA & Inspection Platforms	Computer vision systems for automated visual inspection, defect detection, and quality assurance on production lines.
Connected Worker & Operations Orchestration	Platforms that digitize work instructions, capture frontline data, and orchestrate human workflows on the shop floor.
Field Service & MRO Intelligence	AI-powered field service management, maintenance-repair-overhaul platforms, and remote expert assistance tools.
Predictive Maintenance & Asset Health	Platforms that predict equipment failures before they happen using sensor data, vibration analysis, and ML models.
Decision Intelligence & Quoting	AI-driven decision support tools for manufacturing quoting, should-cost analysis, and operational decision-making.

Streamlined Supply Chain (SCM)

Supply chain intelligence and resilience platforms purpose-built for manufacturing. Covers supplier risk monitoring, multi-tier supply network visibility, procurement optimization, demand forecasting, and logistics coordination tools. The COVID-era supply chain disruptions accelerated adoption, and AI-driven supply chain platforms are now central to manufacturing strategy at the largest industrial companies.

Subcategory	Description
AI-Native SCM Orchestration & Automation	End-to-end supply chain orchestration platforms using AI for demand sensing, procurement automation, and logistics optimization.
Supplier & Sourcing Intelligence	Platforms for supplier discovery, risk monitoring, qualification, and multi-tier supply network visibility.
Planning, Spend & FinOps for Supply Chain	Tools for supply chain financial planning, spend analytics, trade compliance, and cost optimization.

Bleeding Edge BIM (AEC/BIM)

Architecture, Engineering, and Construction (AEC) technology at the frontier of digital building delivery. Covers Building Information Modeling (BIM) tools, construction management platforms, AI-assisted quantity take-off and scheduling, drone-based site surveys, and digital twin platforms for built assets. The AEC sector is one of the last major industries to undergo digital transformation, creating a large greenfield opportunity for cloud-native entrants.

Subcategory	Description
Construction Progress & Reality Capture	Drone surveys, photogrammetry, LiDAR, and AI-powered progress tracking that compare as-built to as-designed in real time.
AI-Driven Design & Authoring	AI tools for architectural design generation, MEP automation, compliance checking, and BIM model authoring.
BIM Data & Collaboration Platforms	Cloud platforms for BIM data management, cross-discipline collaboration, and construction document workflows.
Infrastructure, Materials, and Sustainability Optimization	Software for infrastructure lifecycle management, sustainable material selection, and construction carbon accounting.
Robotics and Automation in AEC	Construction robotics, autonomous equipment, and robotic fabrication platforms for the built environment.
Estimating, Takeoff & Pre-Con	AI-powered quantity takeoff, cost estimation, and preconstruction intelligence tools for contractors and GCs.

Knowledge Engineering (R&D, Learning)

Platforms that capture, structure, and operationalize engineering knowledge. This covers R&D workflow tools, engineering knowledge management systems, AI-assisted documentation,

training and skills platforms, and tools that extract institutional knowledge from unstructured sources (emails, PDFs, CAD notes). These companies address the critical challenge of knowledge loss as experienced engineers retire from the workforce.

Subcategory	Description
Education and Training	STEM education platforms, virtual lab environments, and workforce training tools for engineering and manufacturing skills.
Specialized Solutions	Niche engineering knowledge tools: patent analysis, technical search, and domain-specific AI assistants.
Research Platforms	R&D workflow platforms, electronic lab notebooks, and scientific computing environments for engineering research.

ThreadMoat Quality Score

Each startup receives a composite quality score (0-5) based on: technical differentiation, customer traction, funding efficiency, team strength, and competitive positioning. Scores are updated quarterly and used for ranking in Appendix A.

Time Horizon

Unless otherwise noted, all data in this report reflects the state as of **Q1 2026**. Funding totals are cumulative lifetime figures. Revenue figures are trailing twelve months (TTM) or most recent fiscal year as disclosed. M&A data spans 2020-2026. Investor portfolio counts reflect all-time investments, not a single vintage.

Known Limitations

Coverage gaps. The ThreadMoat database tracks companies that have reached public visibility through press coverage, product launches, customer announcements, or community participation. Stealth-mode startups and bootstrapped companies with no public footprint are systematically underrepresented. Coverage is strongest in North America and Western Europe; emerging market engineering software is undercounted.

Revenue estimates. For most startups, annual revenue figures are estimates derived from headcount, funding history, pricing signals, and analyst benchmarks — not audited financials. Financial confidence ratings (Strong / Medium / Low) reflect data quality, not company health. “Strong” means the estimate has multiple corroborating signals; “Low” means single-source or inferred.

Investor mapping. Investor-to-startup relationships are sourced from public announcements and Airtable records. Undisclosed investors and SPV participants are not captured. Investor type classifications (VC / Angel / Corporate VC / PE) reflect primary focus and may not match the investor’s self-classification.

Funding totals. Reported funding totals reflect disclosed rounds only. Convertible notes,

venture debt, and undisclosed insider rounds are excluded. Reported totals therefore undercount actual capital deployed in this market.

Quality scores. ThreadMoat quality scores are analyst judgments calibrated against a structured rubric, updated quarterly. Scores reflect observable signals at the time of assessment. A high score does not guarantee business success; a low score does not indicate failure. Scores should not be used as sole investment or procurement criteria.

Executive Summary

The Q2 Thesis: Three Findings That Define the Market Right Now

1. Physics & Domain AI Has Won the First Round. The market has correctly priced that physics-informed models — trained on proprietary simulation data, domain expertise, and operational datasets — have moats that generative UI cannot replicate. 345 companies carry this thesis. The moat is real: you cannot build a surrogate model for turbine blade flutter with an off-the-shelf LLM API.

2. The Operations Layer Is No Longer Unclaimed. Autodesk’s \$3.6B acquisition of MaintainX is the single most important signal in operations software in a decade. A mobile-first CMMS at 30x ARR tells every legacy EAM vendor exactly how much the D-layer they underinvested in was worth. The operations stack is now contested territory — and the contenders have deep pockets.

3. Whitespace Persists Where Deployment Is Hard. Quality & Inspection, Training & Knowledge, and Systems Engineering each have fewer than 20 companies despite documented enterprise demand. The barrier is not market size — it is OT integration complexity, regulatory certification requirements, and change management overhead that compress the early-stage funding window. First movers in these segments will hold structural advantage for years.

For Technology Buyers

The consolidation cycle has not slowed — it has accelerated. Every quarter you wait, your negotiating leverage with both incumbents and challengers narrows.

- **The Autodesk-MaintainX deal reframes your CMMS/EAM evaluation.** If you are mid-procurement on a maintenance platform, that acquisition changes the roadmap calculus. Evaluate where Autodesk’s design-to-operations integration goes before signing a multi-year EAM contract with a vendor who now faces a better-capitalized competitor.
- **Pilot Physics & Domain AI before your incumbent packages it.** Neural Concept, PhysicsX, and Pasteur Labs have production deployments at tier-one industrials now. When Siemens or Ansys packages surrogate models natively, the price goes up and the differentiation disappears. The window for standalone pilots at startup pricing is measured in months, not years.
- **Demand AI Intensity evidence, not claims.** ThreadMoat’s AI Intensity scoring shows only 36 companies (of 760 tracked) score High. Most “AI-powered” vendors are Low intensity — AI is a feature layer, not a load-bearing architecture. Ask vendors where AI sits in their stack before it sits in your contract.

- **Build a vendor-agnostic data layer now.** i3X and OPC UA + MQTT + Sparkplug B are converging on a common manufacturing data exchange standard. Buyers who adopt this stack now can swap AI vendors without rebuilding integration infrastructure. Those who don't face the same proprietary lock-in problem they have with legacy MES and SCADA.

For Investors & VCs

The alpha has moved. Category selection is no longer the question — execution risk and whitespace timing are.

- **Physics & Domain AI is the highest-moat thesis, but valuation compression is coming.** 345 companies means increasing competition for the same enterprise buyers. The window for early-stage entries at pre-institutional valuations is closing. Focus on companies with proprietary training data or validated production deployments, not those with demo-stage physics claims.
- **Agentic Orchestration (152 companies) is the highest-optionality small thesis.** Earlier, smaller, and making a bigger structural bet than their Physics AI peers. If autonomous engineering workflow execution becomes standard, Agentic companies displace far more incumbent value than any simulation surrogate. The portfolio construction argument: small positions in several, not concentration in one.
- **The whitespace segments are where the next category leaders will be built.** Quality & Inspection and Training & Knowledge have fewer than 20 companies each, documented enterprise demand, and no dominant incumbent. The PE platform assembly model (proven by Velotic) will work in these segments — find the first credible mover and help them build before the category gets crowded.
- **Watch the European valuation gap.** European engineering AI companies carry the same or higher ThreadMoat quality scores as US peers at materially lower valuations. The transatlantic gap is an inefficiency, not a quality signal. It will close.

For Incumbent Vendors

Autodesk's \$3.6B operations acquisition is the clearest signal of what happens when you systematically underinvest in a layer: someone else buys the company that built it right, and pays 30x ARR to do it.

- **Audit your D-layer (Dispatch/Field Execution) coverage immediately.** Autodesk now owns the most credible mobile-first maintenance execution platform. If your field technician experience has not been rebuilt for mobile-native workflows, you have a competitive gap that just became more visible to your customers.
- **The surrogate model integration deadline has moved forward.** Every quarter Siemens, Ansys, or Altair fails to natively integrate surrogate model capabilities, AI-native competitors are closing pilots at your installed base. Neural Concept's \$100M institutional round has taken it beyond reasonable M&A multiples for sub-\$5B acquirers. The acquisition window for Physics AI companies is closing.
- **Usage-based pricing is a structural threat, not a tactical one.** Agentic Orchestration and Physics AI startups are landing on consumption models that are incompatible with your revenue recognition and sales comp structures. The customers signing these contracts are your installed base. Defensive pricing innovation — outcome-based tiers, consumption bundles, usage floors — is necessary now.

For Startup Founders

Category positioning is now table stakes. The question is whether you are building in a segment with room to grow or one that is already contested.

- **Know your AI thesis and be able to defend it quantitatively.** Physics & Domain AI, Agentic Orchestration, AI-Enabled UX — investors are now asking which thesis your product architecture reflects, not just what features you have. If AI is not load-bearing in your architecture, you are in the System of Record Enhancement bucket, and that is a lower multiple.
- **\$3.6B at 30x ARR sets the new benchmark for operations software.** That is the reference point for what a category-leading CMMS or field service platform can exit for. If you are building in that space, size your ambition and your raise accordingly.
- **Enterprise sales cycles remain 6–18 months — plan runway for three customers in parallel.** The dynamic has not changed since Q1. A \$500K pilot that takes 9 months to close and 12 months to convert to a \$2M production contract requires 21 months of runway per customer. Undercapitalized companies in the right segments are losing deals to better-funded competitors in the wrong ones.
- **If you are in a whitespace segment, move fast.** Quality & Inspection, Training & Knowledge, and Systems Engineering have low startup density and documented demand. The PE platform assembly model will come for these segments. You want to be the established category leader when it does, not the acqui-hire.

ThreadMoat Verdict: The AI Inflection is not a forecast—it is already in the data.

MaintainX at \$3.6B, Velotic in market, Physics & Domain AI dominating the thesis race. Organizations that act on these signals in 2026 will negotiate from leverage. Those that wait will pay integration tax.

The ThreadMoat quality score reflects a composite of product differentiation, market traction, team depth, and defensibility — not funding size. Factory Futures and Augmented Operations lead not because they raised the most, but because the companies in those categories are building things that are genuinely hard to replicate. That gap matters: it is where acquirers look first. (**Figure 1**)

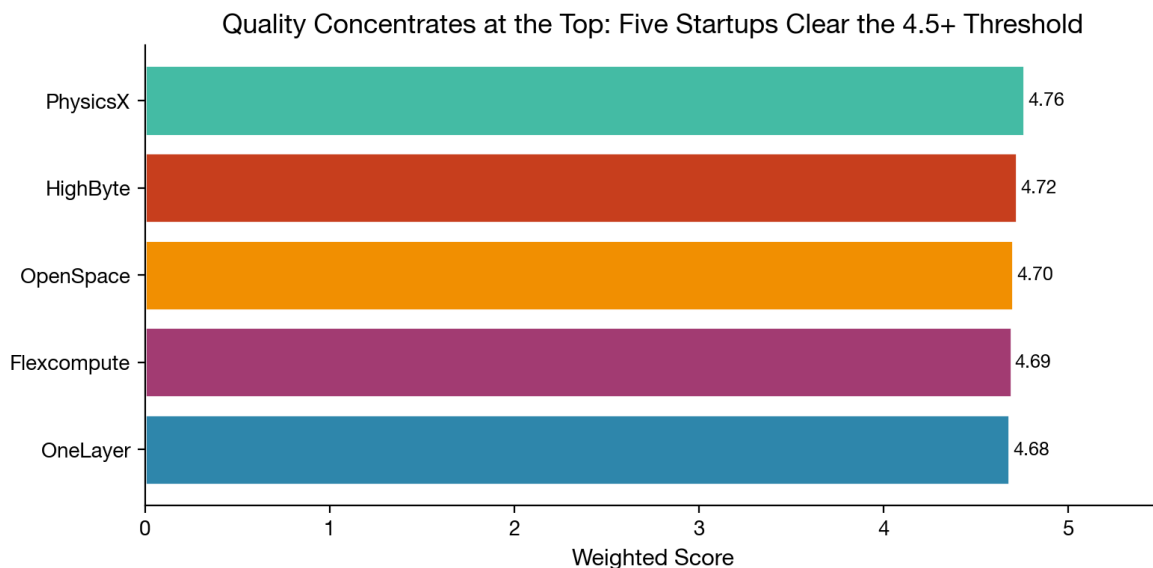


Figure 1: Top 5 Categories by Quality Score

The treemap makes the capital concentration visible at a glance. Factory Futures and Augmented Operations together account for nearly half the total. Notice what is small: ECAD/EDA and Simulation AI are both underfunded relative to their structural importance, which is precisely where the acquisition window argument in Part 9 originates. (**Figure 2**)

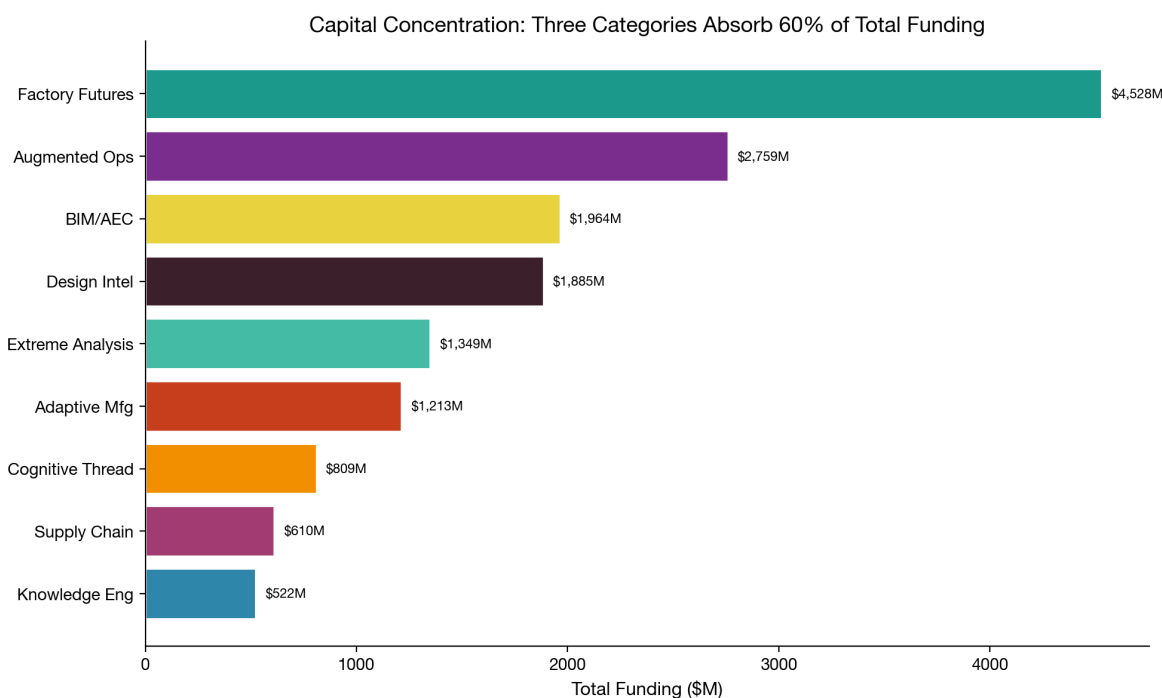


Figure 2: Category Funding Treemap - \$15.6B Across 9 Categories

Top 10 Findings

ThreadMoat Q2 2026 — Engineering Software & Industrial AI

The following findings represent ThreadMoat’s highest-conviction conclusions from 760 software companies, 2,380 investors, and ongoing founder and executive interviews. Conviction levels reflect evidence density and signal consistency across independent data sources.

#	Finding	Conviction
1	The MaintainX acquisition (\$3.6B, Autodesk, June 2026) is the most important signal in operations software in a decade. A modern CMMS built for mobile-first field technicians just became the operations layer of the world’s largest design software platform. The message to every legacy EAM vendor: the D-layer you neglected is now owned by someone who built it right.	High
2	Physics & Domain AI is the dominant AI thesis — 345 companies, more than Agentic Orchestration and AI-Enabled UX combined. Capital has correctly identified that physics-informed models have deeper moats than interface innovation. The companies training on proprietary simulation and operational data are building assets that cannot be replicated with off-the-shelf LLMs.	High

#	Finding	Conviction
3	CAD Acceleration is oversaturated. Process Optimization is the alpha. 202 companies compete in CAD Acceleration. 179 companies compete in Process Optimization with \$9.4B in total funding — more capital, more enterprise traction, and direct P&L impact that generative CAD tools cannot claim. Capital has not yet fully priced this difference.	High
4	Private equity has moved from acquirer to platform builder. Velotiv's assembly of GE Vernova Proficy, PTC Kepware, and PTC ThingWorx into a single industrial software stack is the PE playbook made explicit: carve-out, integrate, extract. The next targets are in Factory Futures and MES, where fragmentation and aging installed bases make the same play repeatable.	High
5	Agentic Orchestration (152 companies) is the smallest primary thesis and the highest-optionality bet. The companies building autonomous engineering workflows are earlier and smaller than their Physics AI counterparts — but they are making a larger structural bet. If autonomous agent execution becomes standard in engineering workflows, they displace more incumbent value than any simulation surrogate can.	High

#	Finding	Conviction
6	Supply Chain Intelligence carries \$12B in funding in 43 companies — the highest funding-per-company ratio of any workflow segment. This is not a startup market. This is a market where large companies are making large bets. The average deal size signals enterprise buyers who have already decided this is infrastructure, not experimentation.	Medium
7	The whitespace is not in design tools. Quality & Inspection, Training & Knowledge, and Systems Engineering each have fewer than 10 companies despite documented industrial demand. The barrier is not market size — it is deployment complexity and OT integration requirements that compress the early-stage funding window. The first credible movers in these segments will have structural advantage.	Medium
8	System of Record Enhancement is the safe bet for 430 companies — and a strategic ceiling. Augmenting SAP, Oracle, or Maximo rather than replacing them is the path of least resistance to revenue. It is also a ceiling: your growth is bounded by the incumbent's install rate and pricing power. The market will bifurcate between platform replacements and augmentation layers, and the augmentation layer will compress first.	Medium

#	Finding	Conviction
9	European engineering AI startups remain structurally undervalued. The ThreadMoat database shows strong European representation in Physics & Domain AI — the highest-moat thesis — at valuations that do not reflect the defensibility of the underlying technology. The transatlantic valuation gap is an inefficiency, not a quality signal.	Medium
10	The i3X / OPC UA + MQTT + Sparkplug B stack is becoming a procurement requirement, not a differentiator. Industrial buyers are standardizing on interoperability protocols. Vendors whose connectors still rely on proprietary implementations are building integration overhead for every customer. Standards conformance is now table stakes in Factory Futures and Augmented Operations RFPs.	Medium

Part 0: Key Signals

6. Velotic Confirms the PE Platform Assembly Model

What happened. TPG’s Velotic — combining GE Vernova Proficy, PTC Kepware, and PTC ThingWorx into a single industrial software stack — entered its first full operating quarter. With James Heppelmann as Executive Chairman and \$300M+ day-one revenue, it is now a direct competitor to Rockwell FactoryTalk and Siemens Opcenter.

Why it matters. The PE platform assembly model is proven. Industrial software carve-outs, integrated and rationalized under single ownership, command strategic multiples that neither

the buyer nor seller achieved independently. This pattern will repeat in MES and Factory Futures through 2027.

ThreadMoat perspective. Every founder in Factory Futures and Augmented Operations now has a new potential acquirer with \$300M in revenue, a mandate to grow, and a PE sponsor with a 5-year exit horizon. That changes the M&A calculus materially.

7. Hexagon’s Asset Lifecycle Intelligence Becomes Octave — A New Independent Vendor

What happened. Following the sale of MSC Software to Cadence (\$3.16B), Hexagon completed the spinoff of its Asset Lifecycle Intelligence division as Octave Intelligence, an independent pureplay software company. The former HxGN EAM product is now sold as Octave Attune EAM.

Why it matters. Three EAM ownership transitions in three years (Infor → Hexagon → Octave) is not a governance story — it’s a market signal. The industrial software stack is being disaggregated from conglomerate portfolios into pureplay companies with cleaner strategic mandates.

ThreadMoat perspective. Octave’s independence creates both opportunity and risk for buyers of Attune EAM. Track roadmap continuity closely — the product’s AI velocity question, unresolved under both Infor and Hexagon, now lands with a newly independent company whose strategic execution is unproven.

8. The AI Intensity Gap Widens — Low vs. High AI Nativeness Now Predicts Outcomes

What happened. ThreadMoat AI Intensity Score analysis across 760 software companies shows a clear bifurcation: companies scoring High on AI Intensity (36 companies) command 3.2x the funding per employee of Low-intensity companies (499 companies). The correlation to quality score has strengthened quarter over quarter.

Why it matters. AI nativeness is becoming a valuation input, not just a marketing claim. Enterprise buyers are beginning to distinguish between “AI-powered” features and architectures where AI is load-bearing. The gap between these cohorts will widen.

ThreadMoat perspective. For investors: AI Intensity Score is the leading indicator. For founders: if AI is not structurally embedded in your product architecture, the valuation multiple you’re pitching will compress as buyers get more sophisticated.

ThreadMoat Verdict: These eight signals define the Q2 thesis. MaintainX at \$3.6B, Velotic in market, Octave independent, and Physics AI dominating the thesis race—the engineering software stack is being rebuilt in real time, not incrementally. Organizations that act on these signals in 2026 will negotiate from leverage. Those that wait will pay the integration tax.

The pie confirms what the treemap suggests but adds one layer: funding share does not map cleanly to startup count. Simulation AI has a disproportionately small slice given how many companies are competing there. Uneven capital distribution across categories is a structural feature, not a temporary imbalance — it reflects investor conviction about which problems are near-term monetizable. (**Figure 3**)

Two Categories Hold Over Half of All Tracked Funding — \$15.6B Is Not Evenly Distributed

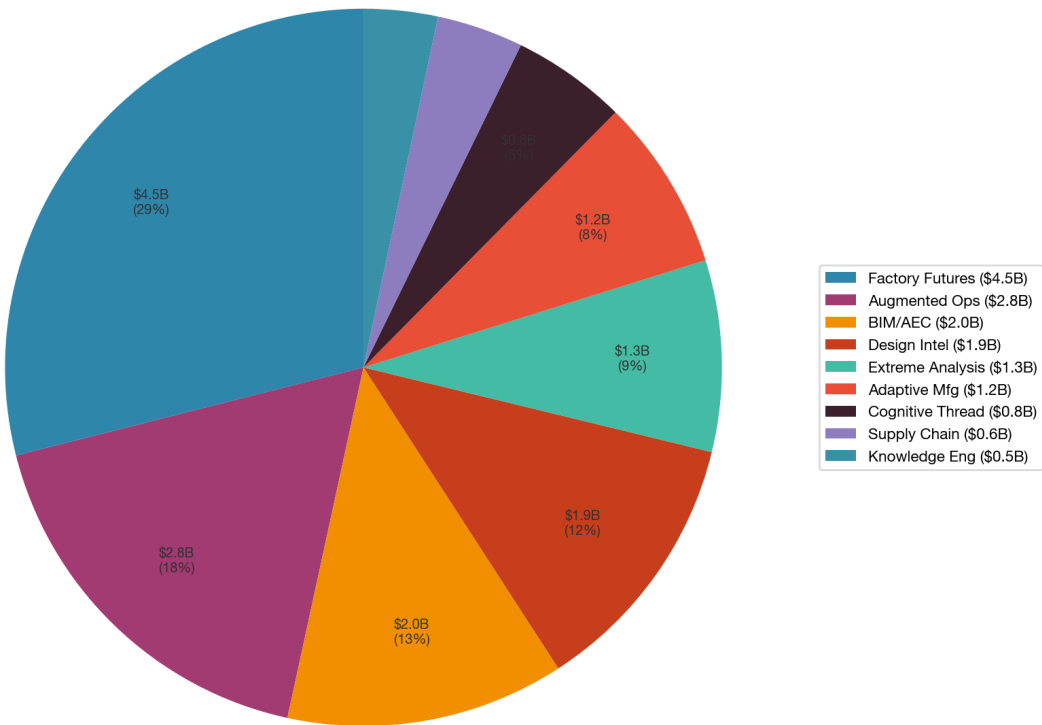


Figure 3: Market Funding Share by Category

The stage breakdown reveals where the market sits in its maturity curve. A heavy skew toward Seed and Series A signals that most of this ecosystem is still pre-revenue-scale. The Series B+ cohort is thin, which means the next 18 months will either see meaningful graduation events or a consolidation wave as undercapitalized A-stage companies run out of runway. (**Figure 4**)

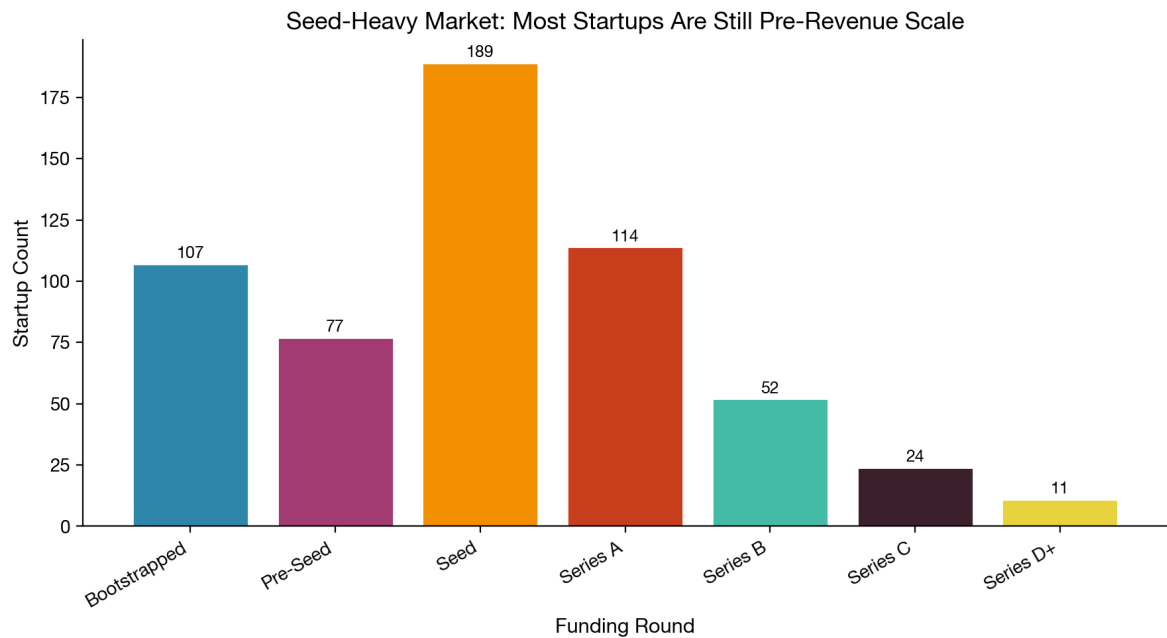


Figure 4: Funding Distribution by Stage

AI Intensity measures how deeply AI is embedded in the product — not whether it is mentioned in the pitch. High scores here correlate with defensibility: companies where AI is a core architecture decision rather than a feature layer are harder to replicate through bolt-on integrations. Augmented Operations and Factory Futures score highest, consistent with their quality leadership. (Figure 5)

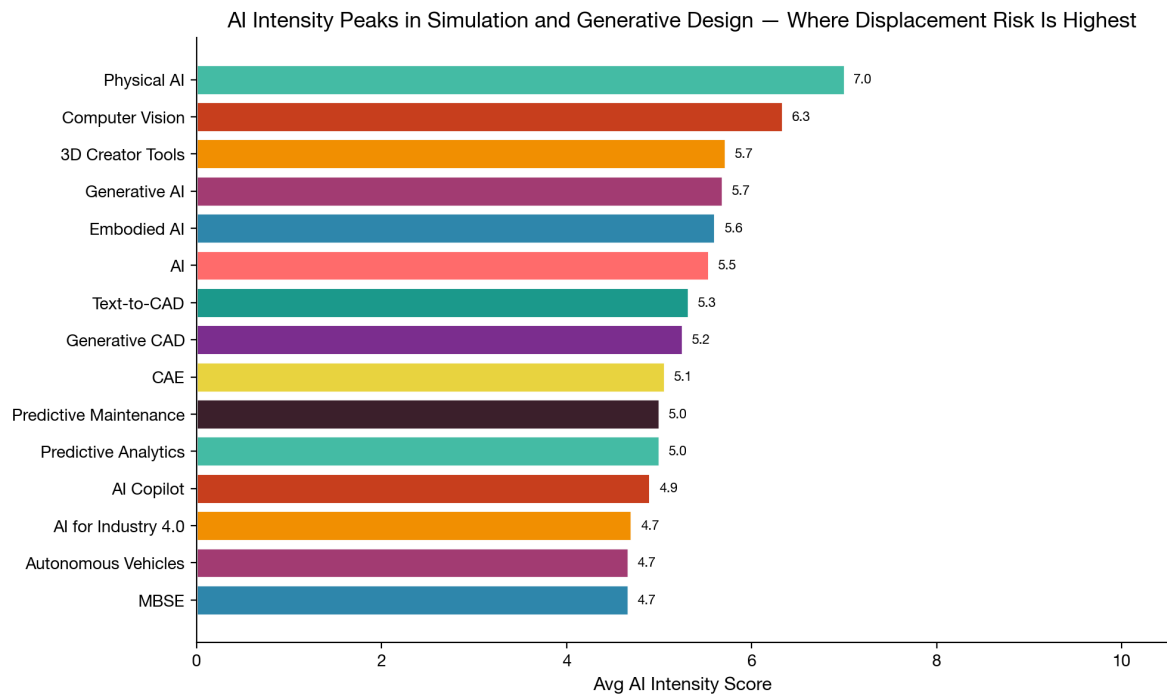


Figure 5: AI Intensity Score by Category

Evidence strength is scored across four signal types: funding activity, customer adoption, partnership formation, and technical publication volume. The relative heights tell you which

trends are well-evidenced versus which are primarily narrative. Any trend scoring high on funding but low on customer adoption warrants extra scrutiny — that gap often precedes a correction. (Figure 6)

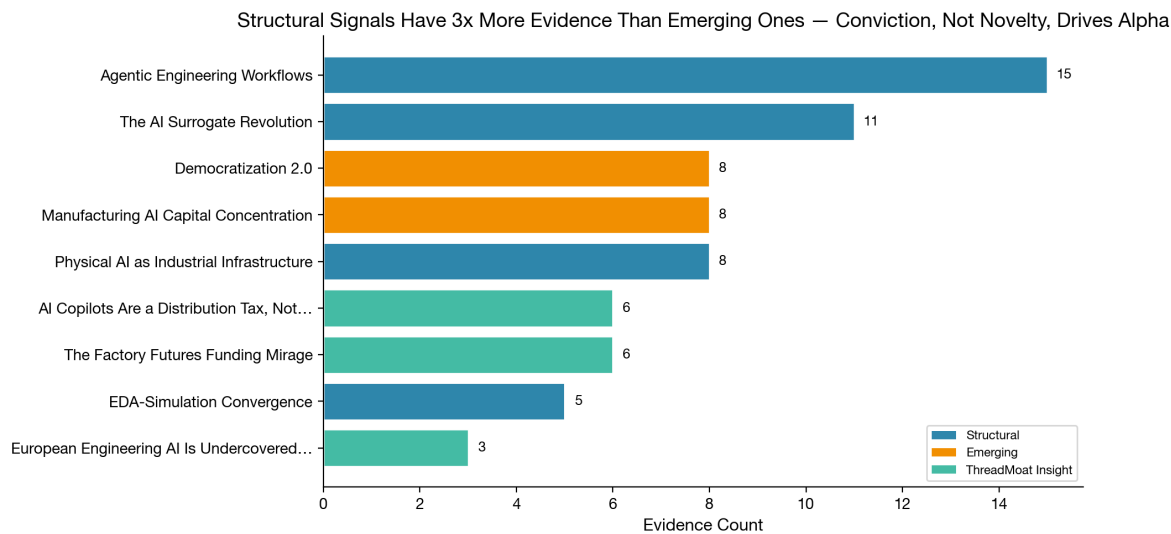


Figure 6: Trend Evidence Strength by Signal Type

Part 1: Structural Trends

Generated: 2026-04-05T19:55:36Z

9 trends identified across three tiers: 4 structural, 2 emerging signals, 3 ThreadMoat Insights

Evidence base: 103 company transcripts mined, 41 M&A signals analyzed, 599 startup records evaluated

Source mix: transcript: 38 | web: 17 | startup_data: 12 | ma_data: 3

Structural Trends

Confirmed, multi-quarter patterns backed by multiple independent data sources. These are not speculative; they are structural market shifts already underway.

EDA-Simulation Convergence: The \$35B Restructuring and Its Aftershocks

High confidence (5 data points) | Categories: Extreme Analysis (CAE, CFD, FEA, QC), Design Intelligence (CAD)

The prevailing narrative says engineering simulation is a mature, incremental market, with

CAE vendors adding AI features, incumbents iterating on existing solvers. The data tells a different story: 2023-2024 saw the most radical restructuring of the EDA and simulation market in three decades, and the full consequences are only beginning to propagate.

The numbers are staggering. Synopsys completed its acquisition of Ansys for \$35 billion in June 2024, the largest merger in the history of electronic design automation and simulation software. A single entity now controls the dominant EDA platform (Synopsys) and the dominant multiphysics simulation suite (Ansys), giving it an unparalleled view across the entire chip-to-system design chain. Meanwhile, Keysight paid \$860 million for ESI Group, a quieter deal, but strategically significant: it brings process simulation (PAM-CRASH, PAM-STAMP) into an electronic test and measurement empire. Cadence, not to be outdone, moved on SerDes IP (\$170M from Rambus) and defense-focused design engineering via Intrinsix, filling its own adjacency gaps.

What does convergence actually mean at the product level? The Synopsys-Ansys combination signals an intent to break the historic wall between semiconductor design and systems-level simulation. An IC designer will eventually have a single workflow from RTL to full-system thermal/mechanical analysis. Today those are separate tools, separate vendors, separate procurement conversations. The combined entity has the assets to collapse that boundary. Whether they execute is a separate question; the strategic capability now exists.

The startup ecosystem is building on top of this consolidation. Our data tracks 56 AI startups in the Extreme Analysis (CAE/CFD/FEA) category with \$1349M in aggregate funding. The dominant pattern: these companies are not trying to replace Ansys or Altair. They are building surrogate model layers on top of traditional solvers, dramatically accelerating time-to-result without requiring solver replacement. Neural Concept in aerospace/automotive. Companies in thermal management, fluid dynamics, and structural optimization. The AI-native simulation stack is assembling itself in the margin between the consolidated incumbents and the engineers who cannot wait 12 hours for a CFD solve.

The buyer implication is not obvious. Signing a new Ansys enterprise license today means signing with Synopsys. Procurement teams that previously evaluated EDA and simulation separately now face a single counterparty with significant leverage. Engineering VPs who have not updated their vendor strategy since 2023 are operating on stale maps.

The simulation market size projection (\$44.3B by 2034 per market research consensus) is worth treating with caution. That number conflates engineering CAE with business simulation, wargaming, and enterprise scenario planning tools. The true addressable market for AI-native engineering simulation is the \$18.4B (2025) core simulation sector, and the large incumbents have already captured most of it. The growth story for AI simulation startups is not the headline TAM but the latent demand from the hundreds of thousands of engineers who currently do not run simulations because the setup cost is too high. AI surrogates address that latent market more effectively than any pricing change from the incumbents.

Watch this space through 2026. The full implications of the Synopsys-Ansys combination will take 18-24 months to propagate through enterprise procurement cycles. The M&A consolidation is complete; the market restructuring it triggered has barely begun.

So what?

For engineering leaders: Reassess your simulation and EDA vendor contracts. The Synopsys+Ansys entity now controls unprecedented pricing power. Multi-year renewals signed