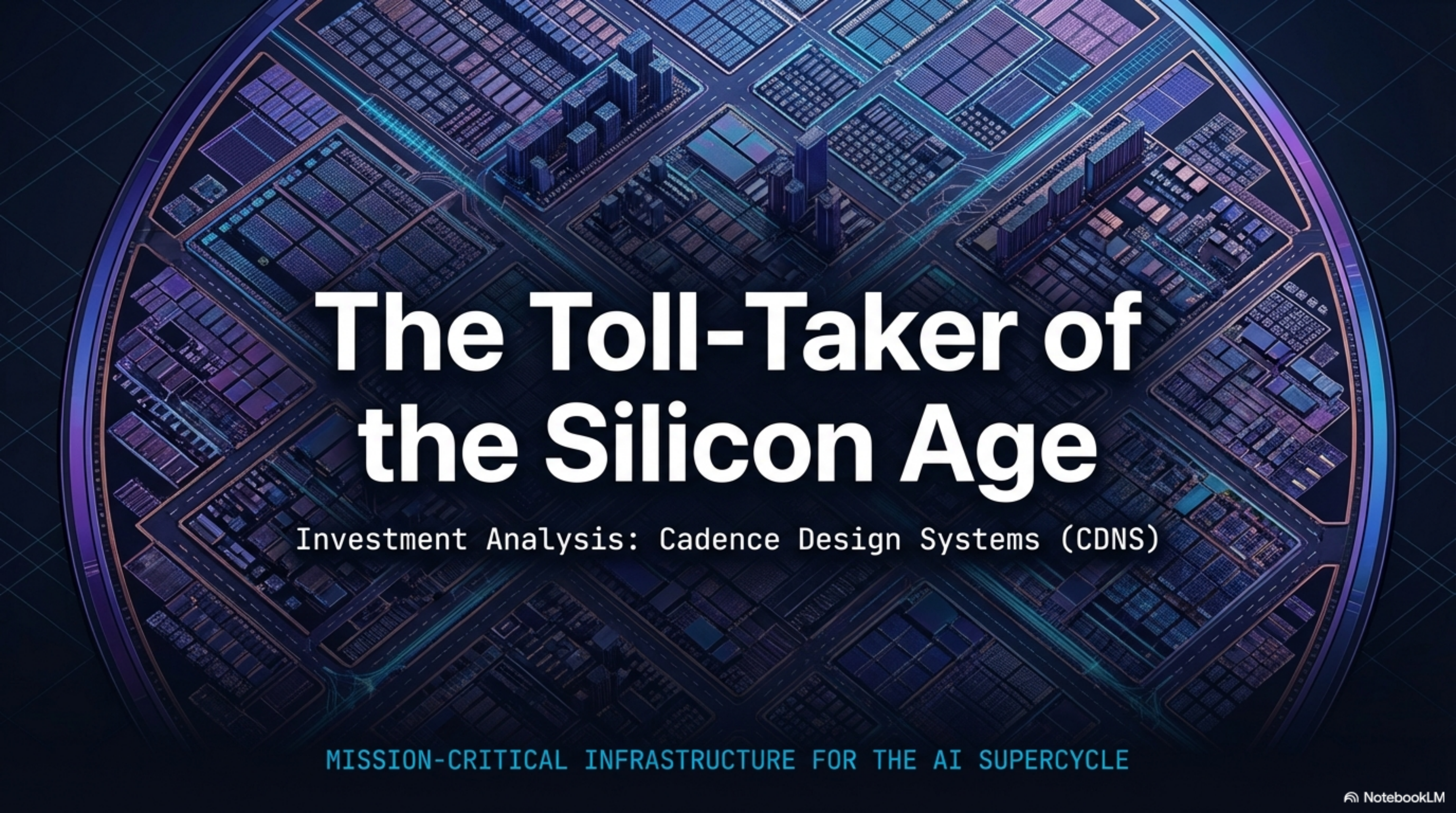


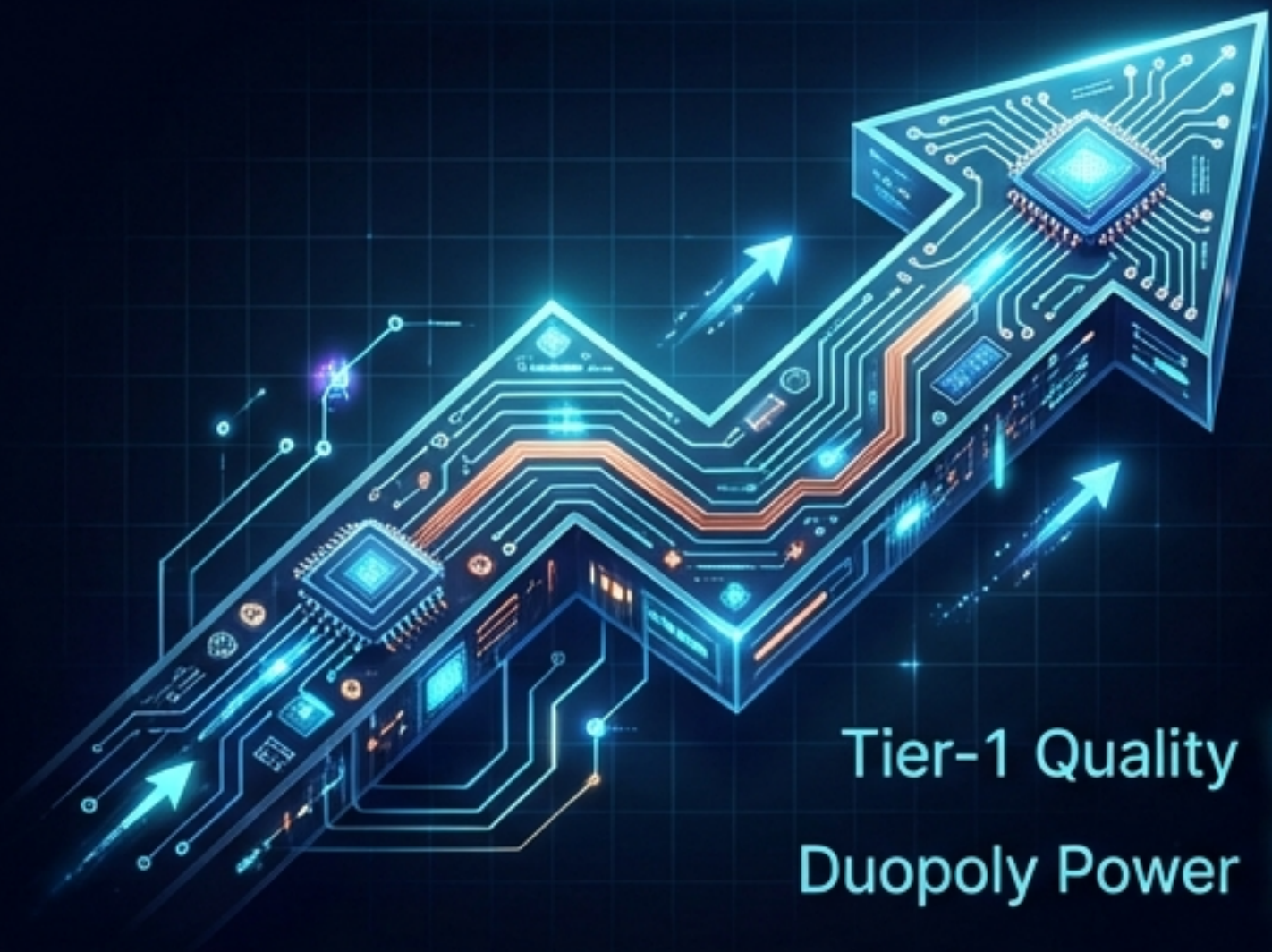


The Toll-Taker of the Silicon Age

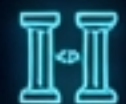
Investment Analysis: Cadence Design Systems (CDNS)

MISSION-CRITICAL INFRASTRUCTURE FOR THE AI SUPERCYCLE

THE ASSET

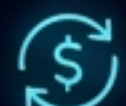


Tier-1 Quality 

Duopoly Power 

100% Retention 

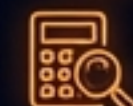
AI Tailwinds 

Recurring Revenue 

THE OBSTACLE



Tier-1 Valuation



>73x P/E (Priced for Perfection)



Aggressive Capital Allocation

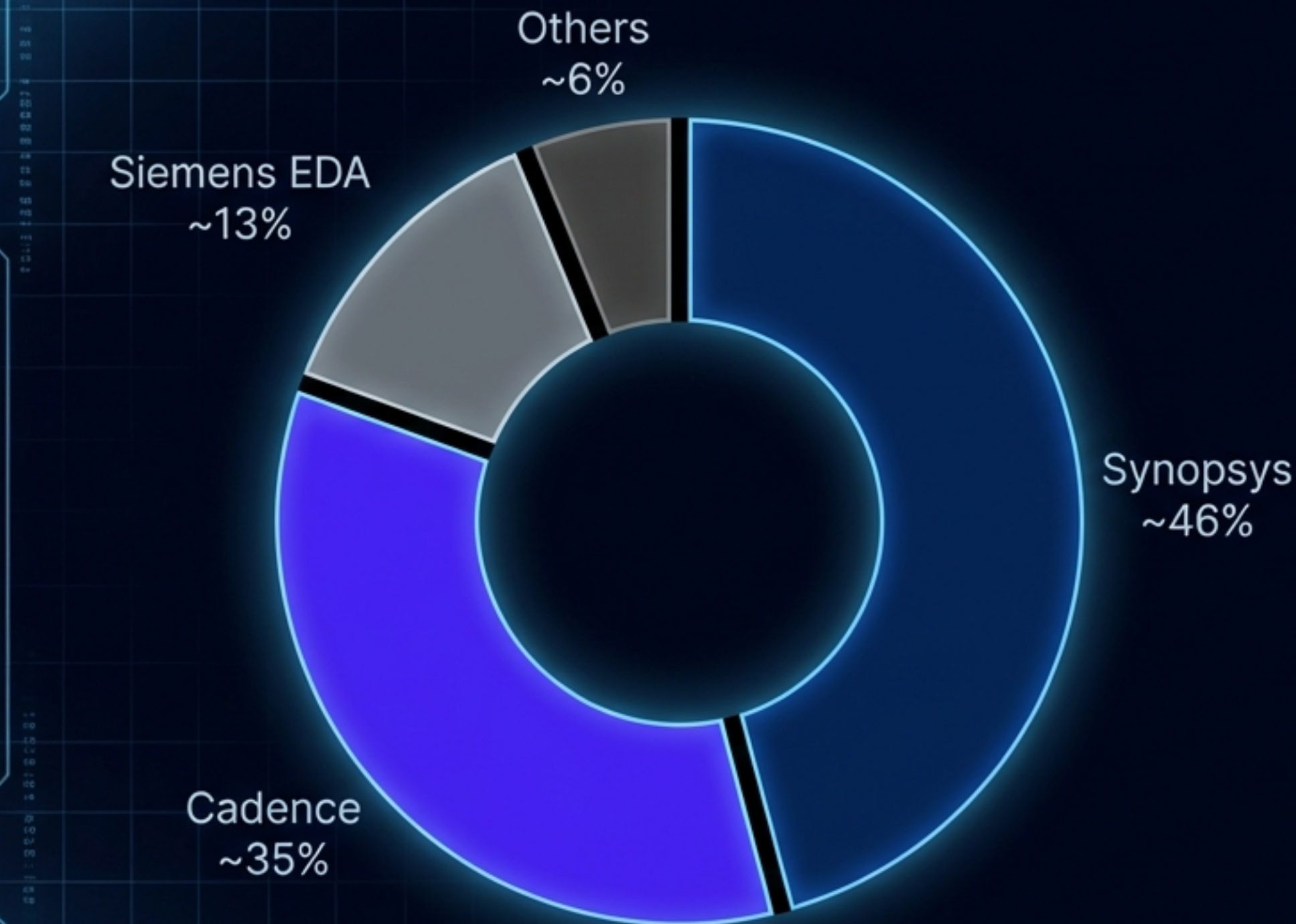


Geopolitical Friction

VERDICT: **NEUTRAL / HOLD.** AWAITING MARGIN OF SAFETY.

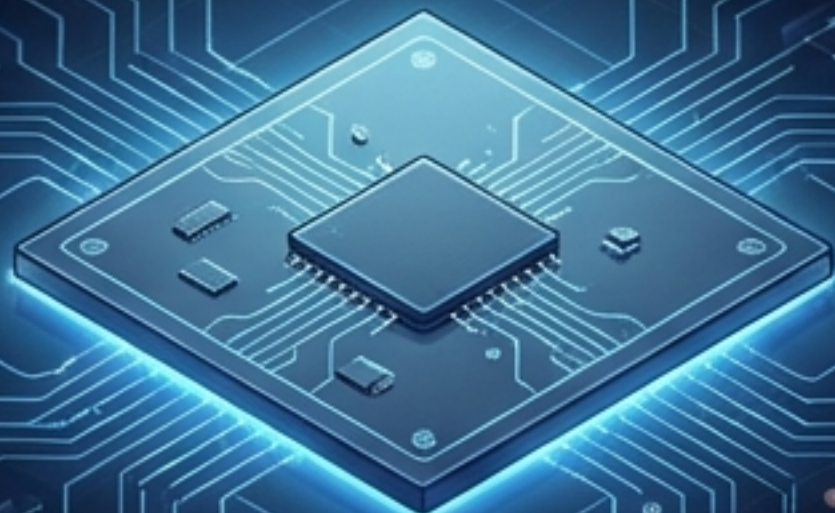
A Structure of Rational Dominance

- ✓ **[NO PRICE WARS]** Competition based on PPA & Time-to-Market.
- ✓ **[PHYSICS BARRIER]** Entry requires solving atomic-scale problems at 2nm.
- ✓ **[TRUST BARRIER]** A single software failure costs hundreds of millions.



The SysMoore Complexity Crisis

Past: Planar Scaling



Present: Complexity Scaling

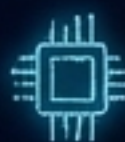


The Shift



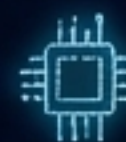
Transistors -> Systems
(3D-IC, Chiplets, GAAFET)

The Cost



3nm Design Cost:
\$500M - \$1B

The Leverage



EDA = ~2-3% of R&D Budget.
Critical for Yield.

The Hyperscaler Disintermediation

Systems Companies are the New Chip Designers



Why Cadence Wins:

- ✓ Hyperscalers lack internal tool capabilities.
- ✓ Requires massive emulation hardware (Palladium).
- ✓ Pushing reticle limits requires highest-margin licenses.

The Unbreachable Moat

The Learning Curve

Engineers spend years mastering Virtuoso. Switching = Lost Productivity

Foundry Lock-In

TSMC/Samsung PDKs certified for specific Cadence flows.

Economic Risk

Cost of software failure > Cost of software license

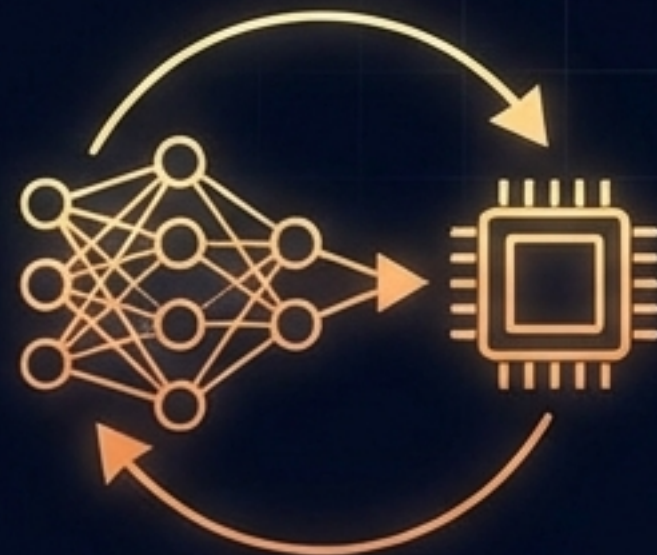
Enterprise Renewal Rate: ~100%

From Computer-Aided to AI-Driven



Human-Driven Design

Cadence
Cerebrus



Reinforcement Learning Loop

20% Better PPA

(Power, Performance, Area)

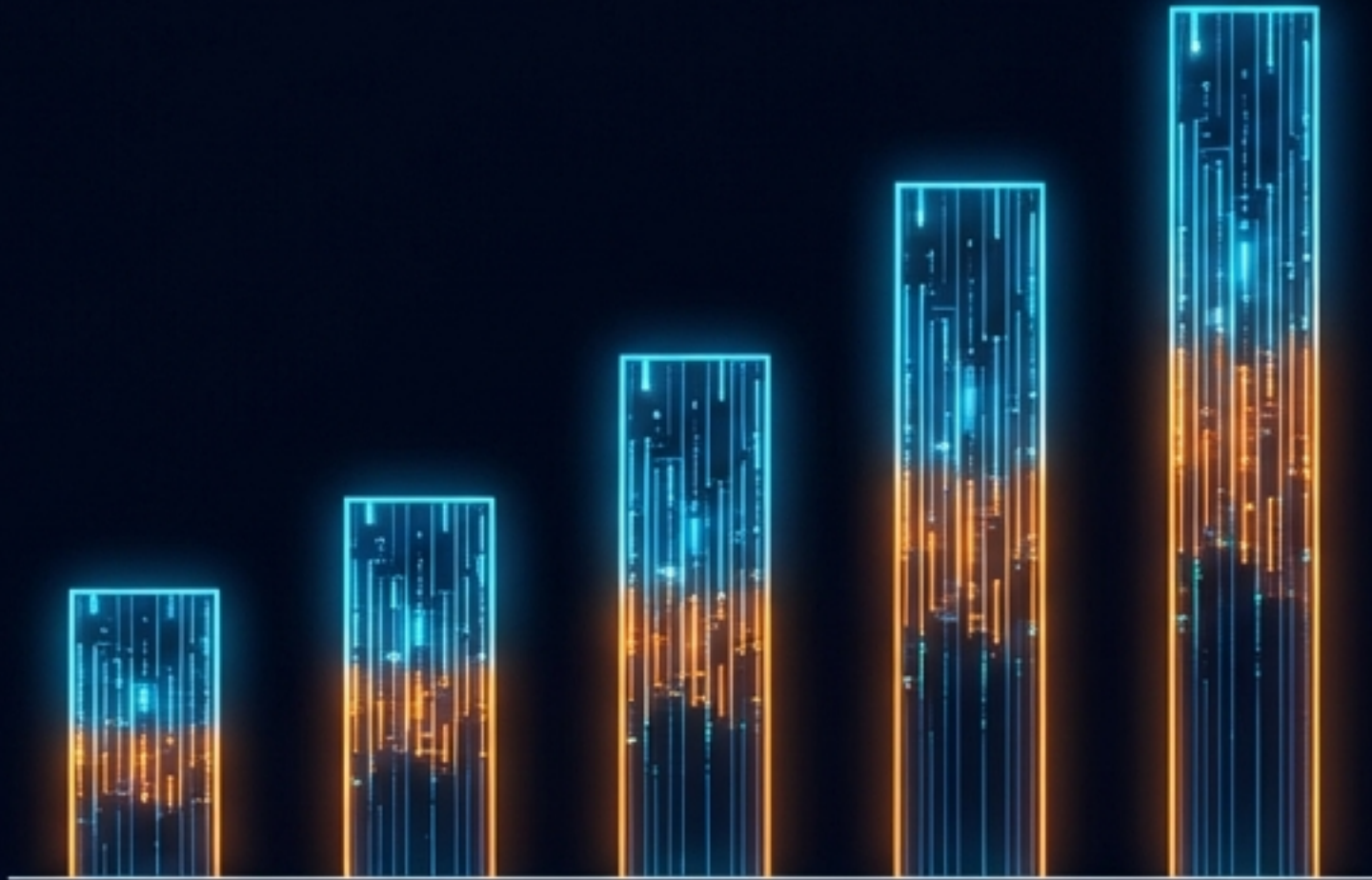
10x Productivity Gains

Shifting pricing power from 'Seat License' to 'Value Capture'.

The Financial Profile of a **Compounder**

Revenue Growth

FY25 Outlook
~\$5.29B
(+14%)



Non-GAAP Operating Margin

~45%

Structural Expansion

ROIC (TTM)

~19%

Tier-1 Capital
Efficiency

Backlog

**\$7.0
Billion**

Record Visibility
(Q3 '25)

85% Recurring Revenue

The Pivot: Perfection Priced In



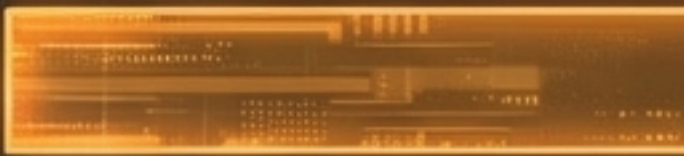
The Disconnect:

- Business Growth: Linear (Mid-Teens)
- Stock Multiple: Exponential Expansion
- Implied Requirement: 20%+ Compound Growth for 7 Years.

Capital Allocation Red Flags

Dilutive M&A Strategy

Hexagon D&E Unit



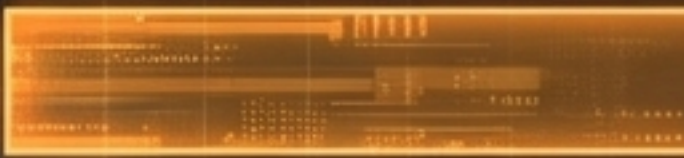
\$3.2 Billion Price



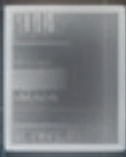
\$290M Revenue

>10x
Sales Multiple

BETA CAE



\$1.24 Billion Price



\$90M Revenue

~14x
Sales Multiple

Risk: Integration of mechanical simulation culture with silicon valley EDA.

High synergy requirement to avoid value destruction.

The Buyback Dilemma

$$\frac{\text{Buyback Price } (\sim 73\times \text{ Earnings})}{1} = \sim 1.4\% \text{ Earnings Yield}$$

Action: \$200M Repurchased in Q3 2025 at All-Time Highs.

Critique: Prioritizing EPS engineering over intrinsic value accretion.

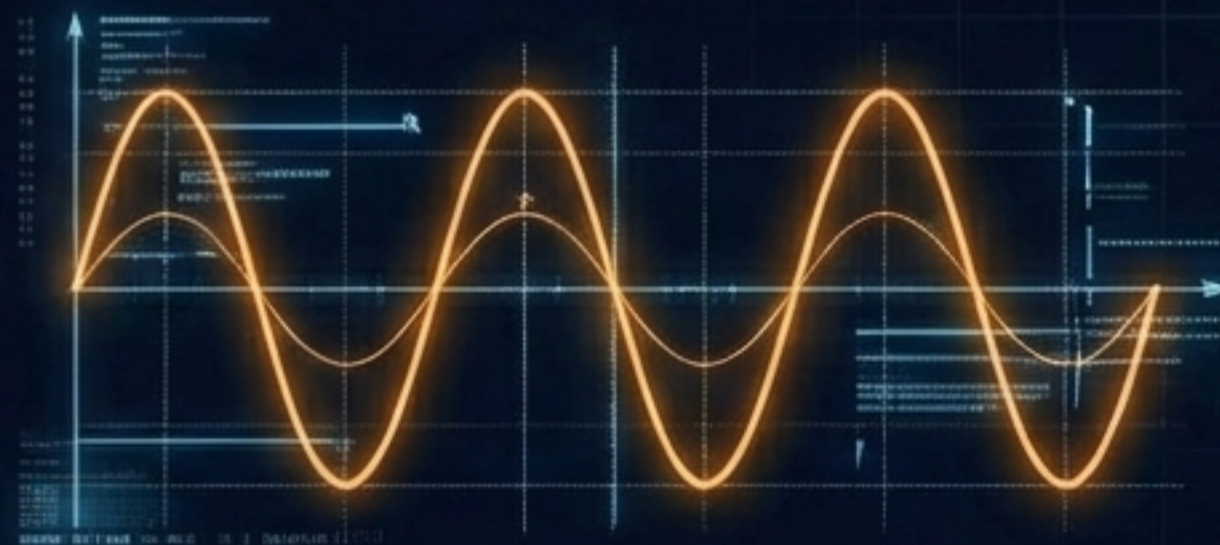
The Hidden Risks

Geopolitics



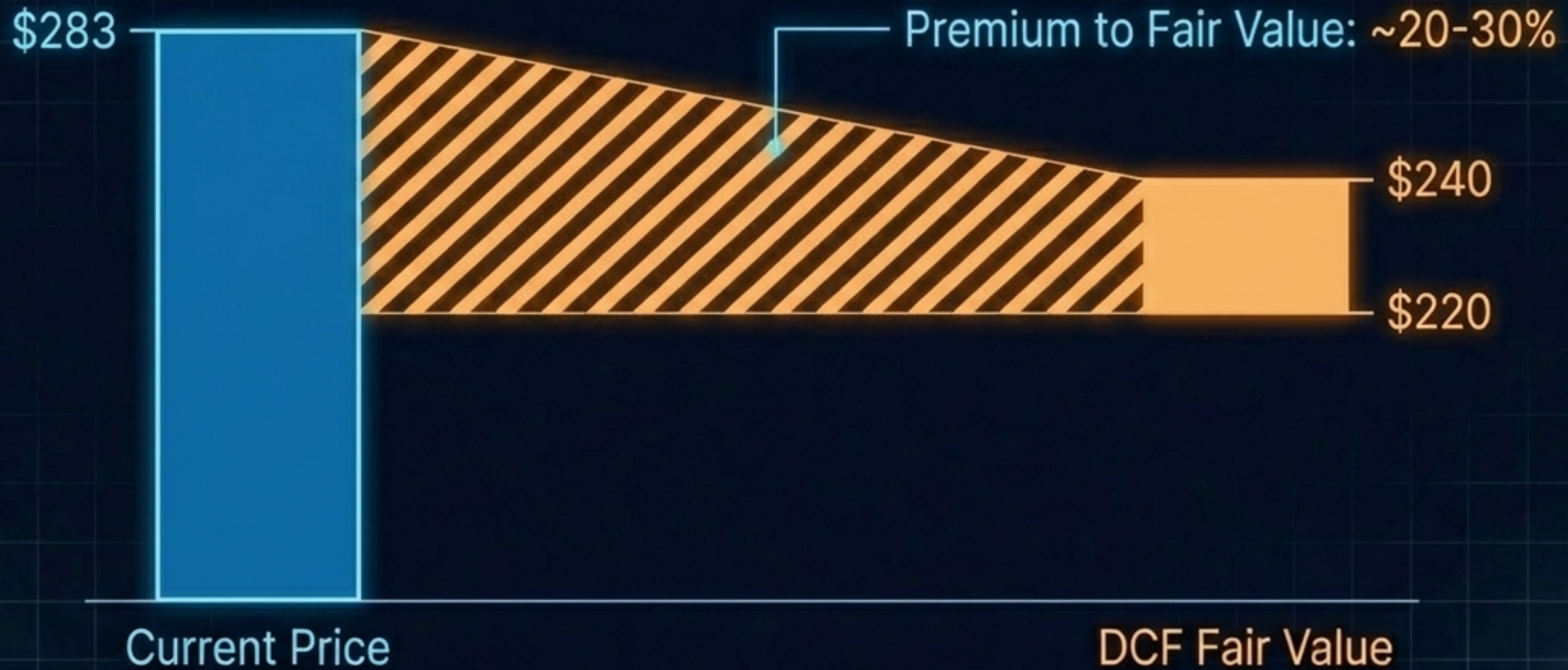
- ⚠️ ~12-15% Revenue Exposure
- ⚠️ **Event:** \$140M Penalty (BIS Export Controls)
- ⚠️ **Threat:** Further restrictions on GAAFET/AI tools.

Hardware Cyclicity



- ⚠️ Palladium/Protium Emulation Systems
- ⚠️ **Risk:** "Lumpiness" in revenue.
- ⚠️ **Threat:** Hyperscaler digestion phase causing air pockets.

Intrinsic Value Reality Check



Model Assumptions:
Conservative Model: 14% growth tapering to 10%. 9% WACC. 45% Terminal Margin.

The Verdict



NEUTRAL / HOLD

QUALITY: ELITE

- Wide Moat
- Rational Oligopoly
- AI Tailwinds

VALUATION: PROHIBITIVE

- No Margin of Safety at 73x P/E

ACTION: WAIT

- Target Entry: \$220 - \$240