



Stop Running AI Pilots

Why most initiatives fail—and how to finally make them work

NICOLAS LESEUR | NEURAL CONCEPT

Introduction to Neural Concept

Towards Autonomous Industrial Process & Design

PRE-AI HYPE INCEPTION BACKED BY BANKS NOT VC

Founded in 2009

\$140M raised in funding with Series C led by Goldman Sachs.



STRONGEST TRACK RECORD IN PHYSICAL AI SPACE

100+ Clients in total,
50 companies with >\$10B

9-digit P&L impact from RFQ Acceleration to 3-year R&D transformation program



GLOBAL CUSTOMER INTERFACE

130+ employees, with offices in strategic locations or represented via partners





Agenda

Learnings, lessons, and practical tools to guide AI from first pilot to full impact.



1. Inspirations & Perspectives

About her and you

2. The Noise vs. The Signal

Beyond the hype, are things really different now?

3. Technology & Alignment Obstacles

Most AI pilots stall before they scale — not for lack of tools, but lack of alignment and strategy.



4. Can we flip the odds of the pilot roulette?

Emerging replicable insights from industrial partners leading the way

5. Summary & Closing Remarks

Next time you see your boss



1. Inspirations & Perspectives

About her & you

The Presentation was sponsored by Eleanor

and NAFEMS-Teratec



“ Learn from the mistakes of others. You can't live long enough to make them all yourself.

Eleanor Roosevelt





2. The Noise vs. The Signal

Beyond the hype, what is different than 10 years ago?

Cutting through the noise

AI everywhere – AI anywhere



Cutting through the noise

AI everywhere – AI anywhere

kikowireless.com/10pc-premium-clear-tempered-glass-screen-protectors-compatible-with-ez-protector-ai-automa-p-20860

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- > Viral Products
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- > All Cases and Covers
- > Screen Protectors
- > Headphone & Earbuds

10pc Premium Clear Tempered Glass Screen Protectors Compatible with EZ Protector AI Automatic Machine for Apple iPhone 16 Plus / iPhone 15 Plus (Clear)

EZ-Protector



for AI-Powered Screen Protector
Application Machine

Free Store Pick Up
Free Store Pick Up in Brooklyn, NYC

Contact Us

If you need any help, please let us know.

Call us at 212-686-2198
Email: sales@kikowireless.com
Whatsapp: 12126862198

10pc Premium Clear Tempered Glass Screen Protectors Compatible with EZ Protector AI Automatic Machine for Apple iPhone 16 Plus / iPhone 15 Plus (Clear)

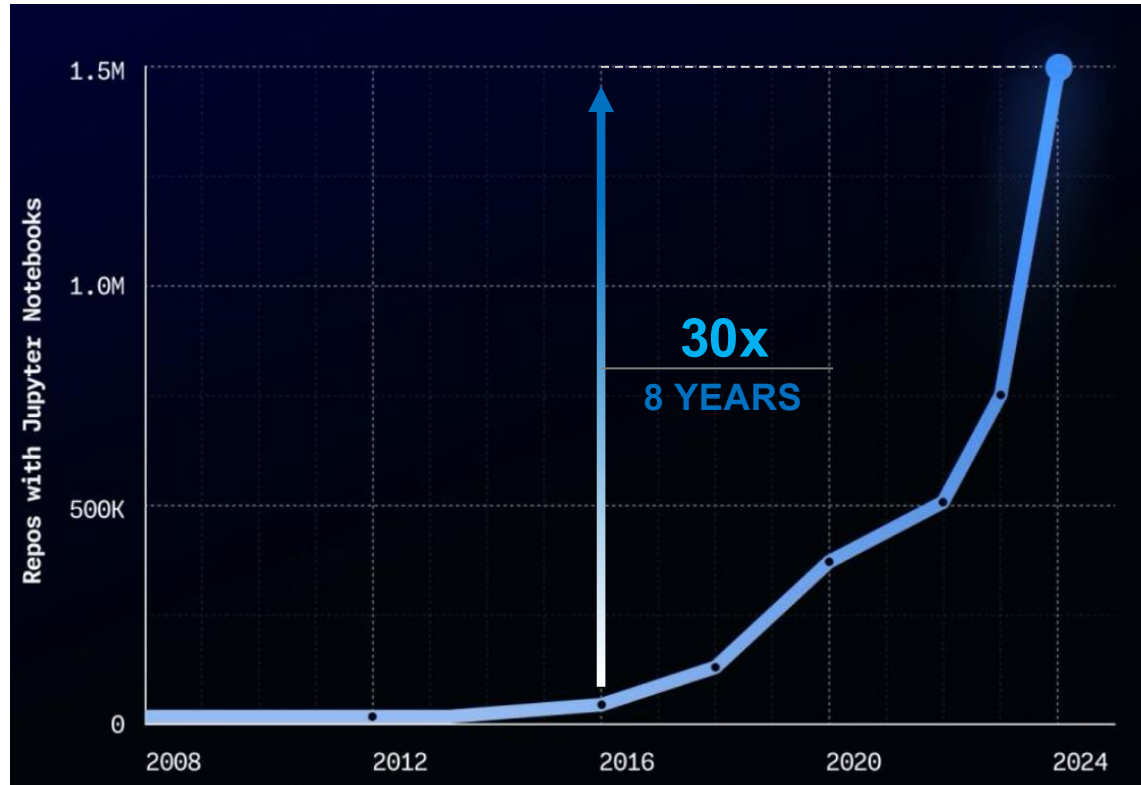
- Compatible with Apple iPhone 16 Plus / iPhone 15 Plus
- AI Machine Installation Ready - Designed for seamless application with AI-powered installation devices
- Superior HD Clarity - 99.9% transparency ensures original screen brightness and touch sensitivity
- Maximum Protection - 9H hardness rating provides exceptional scratch and impact resistance
- Bulk Value Pack - Wholesale package of 10 premium screen protectors for business needs

Elevate your inventory with our premium 10-pack HD Clear Tempered Glass Screen Protectors, specifically engineered for professional installation services. Each protector features advanced AI machine compatibility, ensuring perfect alignment and bubble-free application every time. The ultra-clear tempered glass maintains original screen clarity while providing superior protection against scratches and impacts. Perfect for businesses looking to offer top-tier screen protection solutions with the convenience of modern installation methods. This wholesale pack delivers exceptional value without compromising on quality or performance.

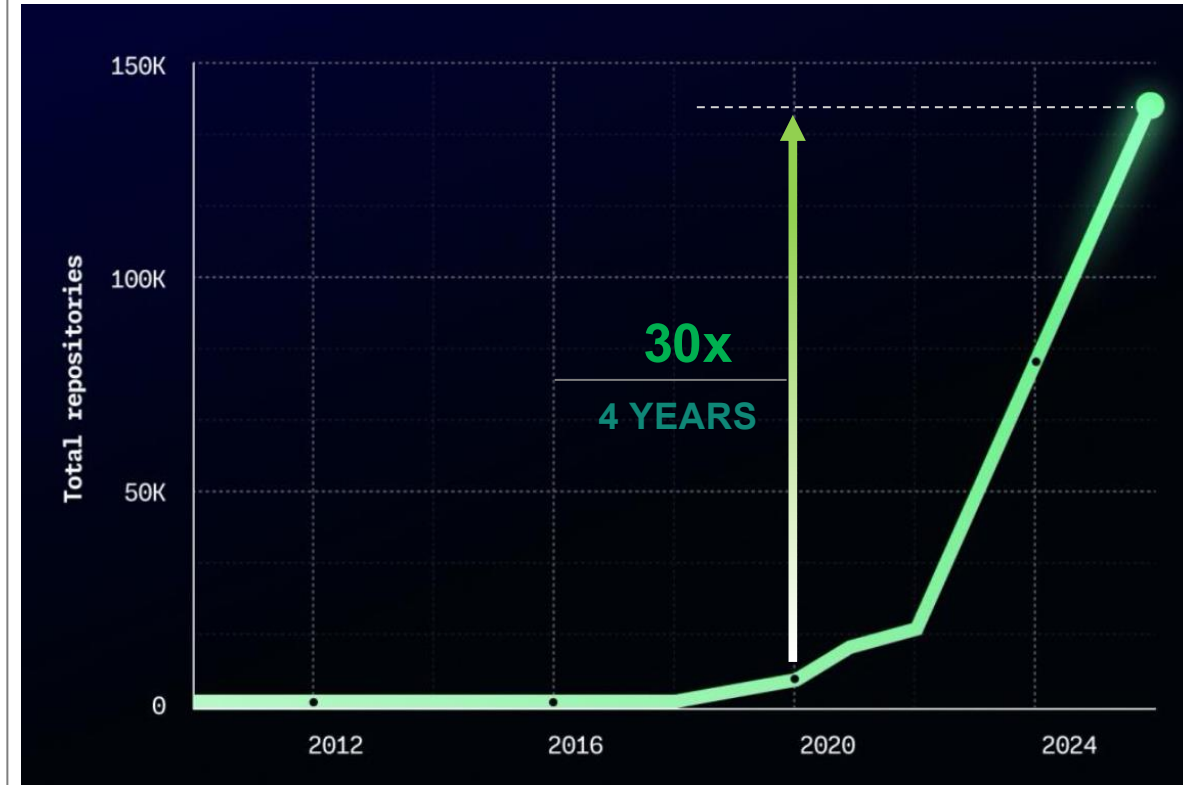
Growing Trend 1: Increasingly Available Open Innovation

Towards a hybrid innovation environment where both open-source and closed-source code co-exist

Exponential growth of open-source code, including CAD/CAE libraries ...



**JUPYTER NOTEBOOK
USAGE ON GITHUB**



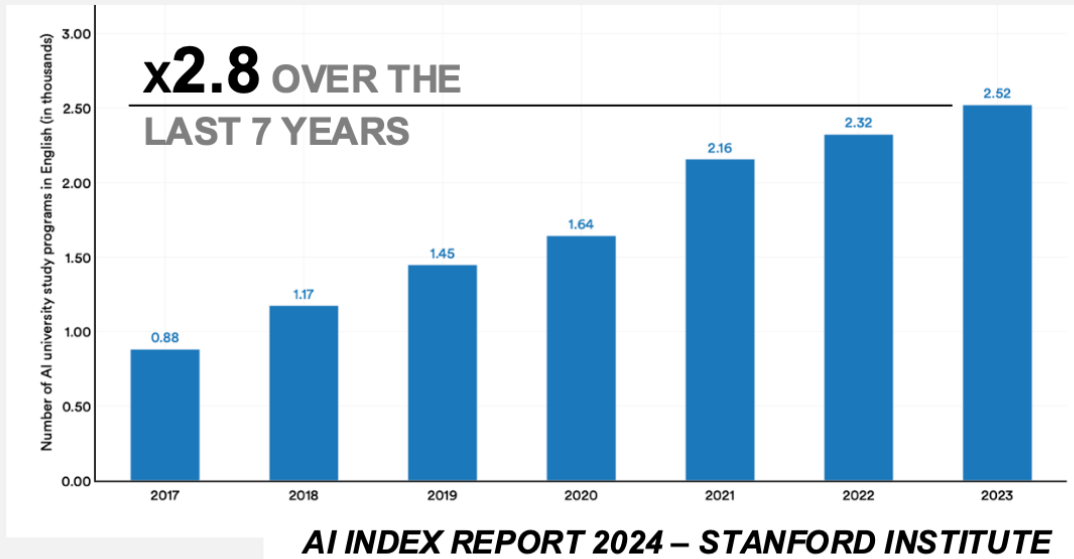
**NUMBER of PUBLIC GENAI
PROJECTS ON GITHUB**

Growing Trend 2: Increasing Workforce with AI Skills

Engineering Intelligence Experts in high demand, spearhead R&D and engineering digital transformation

Engineering Intelligence Experts =  Simulation Engineer + Data Science + Python Programing = Today's Engineer's Profile

NUMBER OF AI UNIVERSITY STUDY PROGRAM IN THE WORLD



https://aiindex.stanford.edu/wp-content/uploads/2024/04/HAI_AI-Index-Report-2024_Chapter6.pdf

- CAE Data-Scientists are spearheading design innovation,
- Enhancing the productivity of all other engineers
- Driving CAD headcount reduction



200 CAE Data-Scientists participated into our Bootcamps in 2024 across the globe

NUMBER of GRADUATE COURSES THAT TEACH STUDENTS the **SKILLS** NECESSARY to **BUILD** or **DEPLOY** a **PRACTICAL AI MODEL**, AY 2016-20

+50%

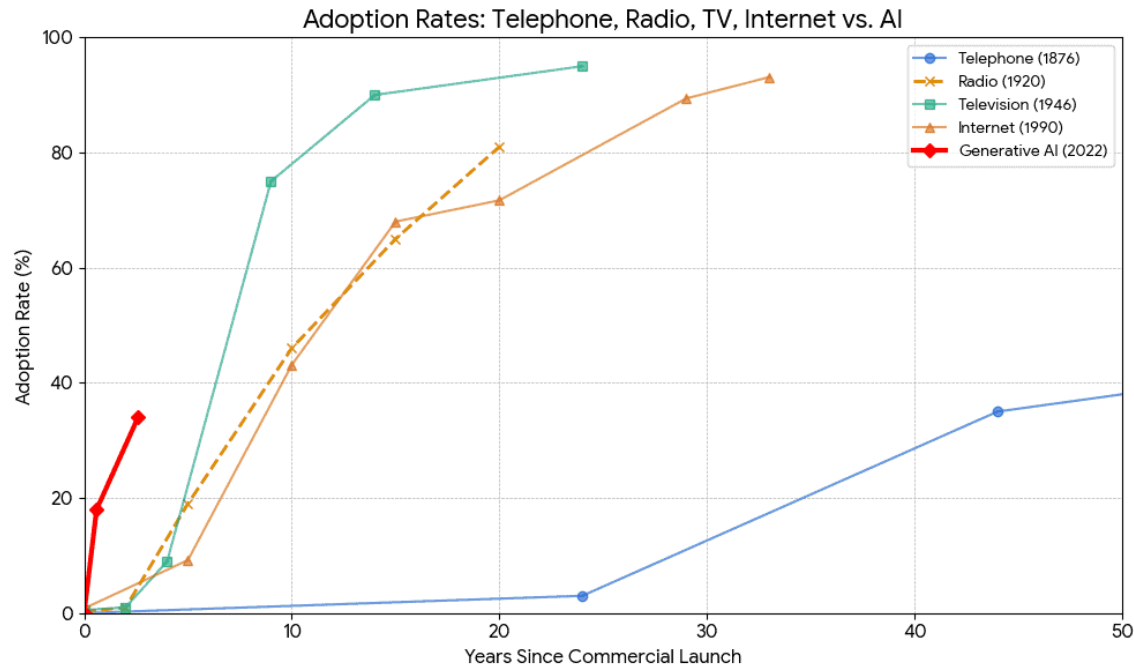


Growing Trend 3: GenAI Adoption is Faster than Social Media's

GenAI a once-in-a-generation opportunity.

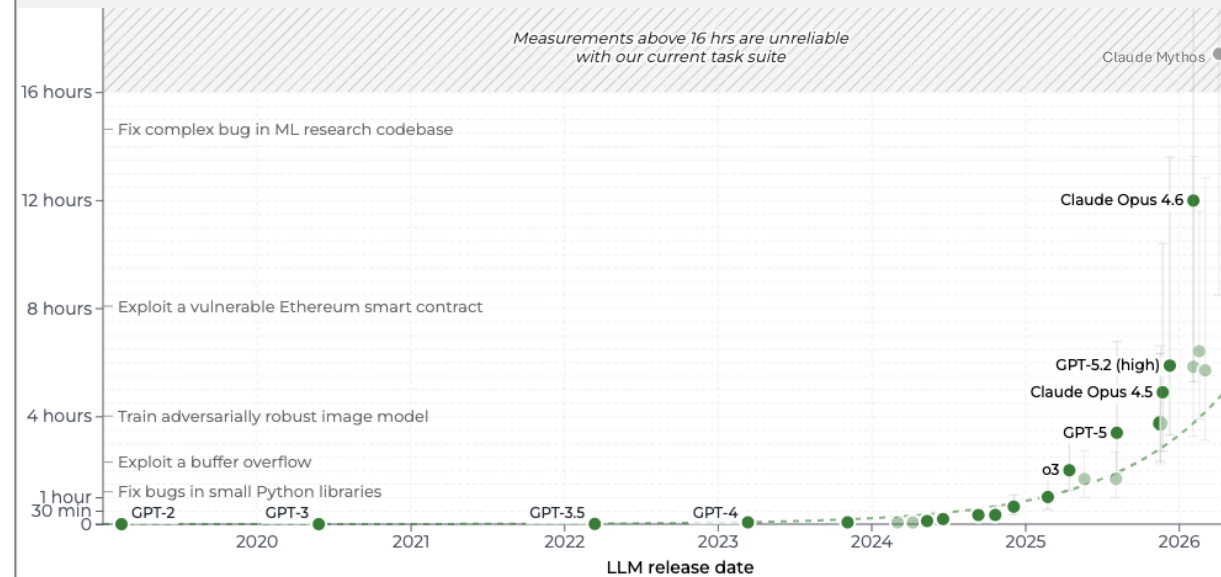
MODERN TECHNOLOGIES ARE QUICKER TO BE ADOPTED

AI Adoption = 2x TV = 6x Radio = 15x Telephone



ACCELERATION WITHIN THE ACCELERATION

50% probability that an LLM can succeed a 12hr human task.
Faster than exponential



Task distribution is primarily composed of software engineering, machine learning, or cybersecurity tasks
SOURCE: METR, 2026

Cost of building software is collapsing.

**Today, building a webapp takes a few hours.
How about building a simulator by 2030?**





3. Technology & Alignment Obstacles

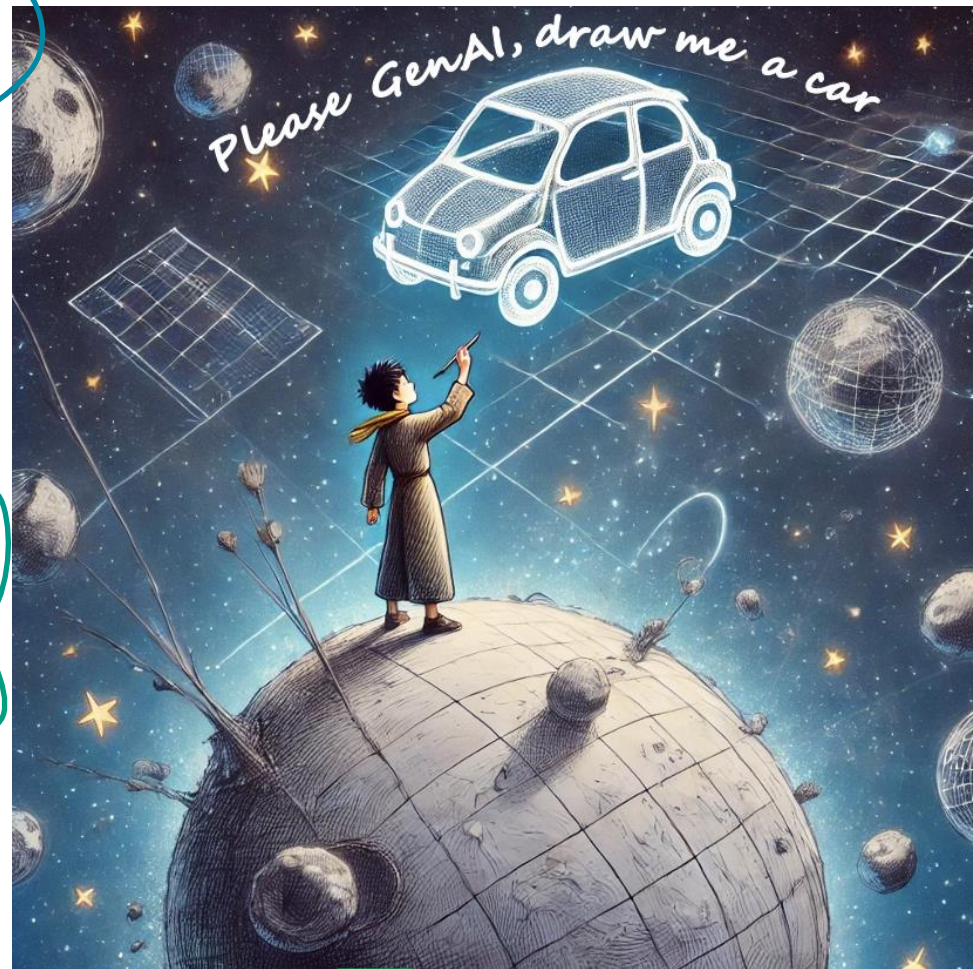
Most AI pilots stall before they scale — not for lack of tools, but lack of alignment and strategy

Autonomous Design & Process: A Clear Vision

... with a blurred path and cognitive leap

2026 | AI 4 ENGINEERING

2030+ | TEXT 2 CAD

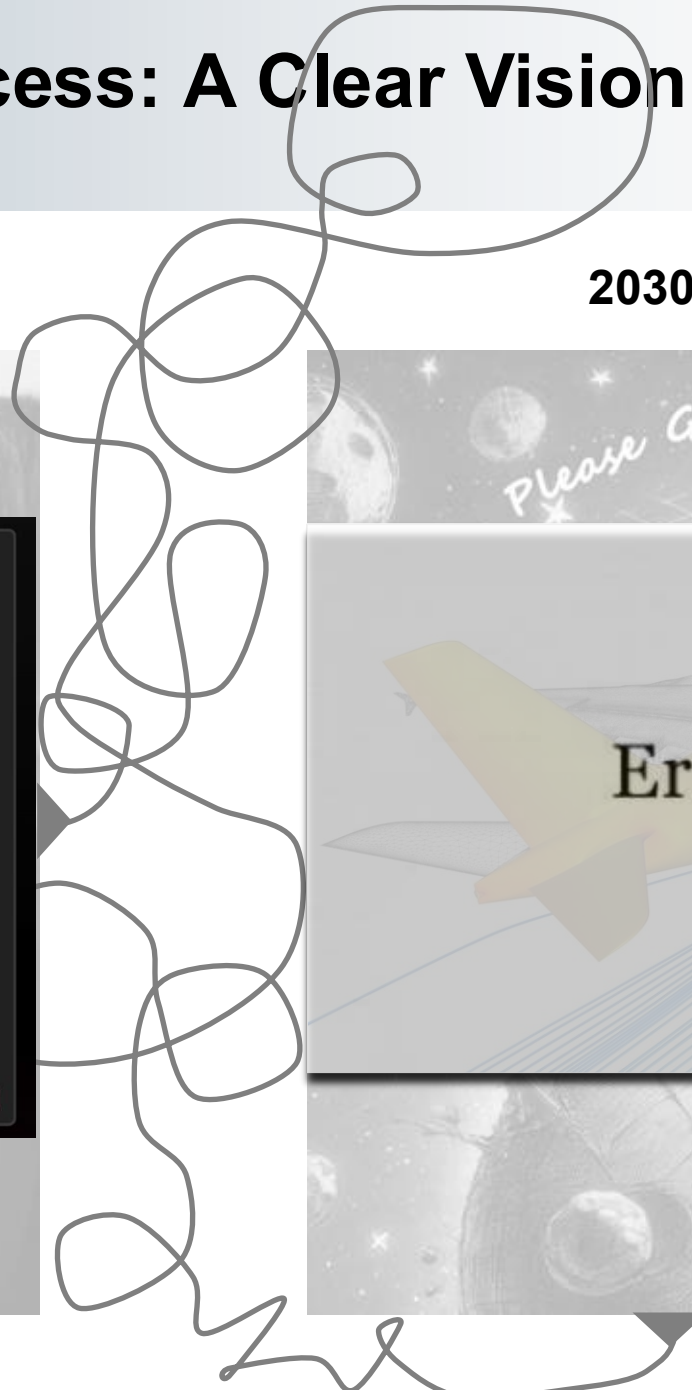
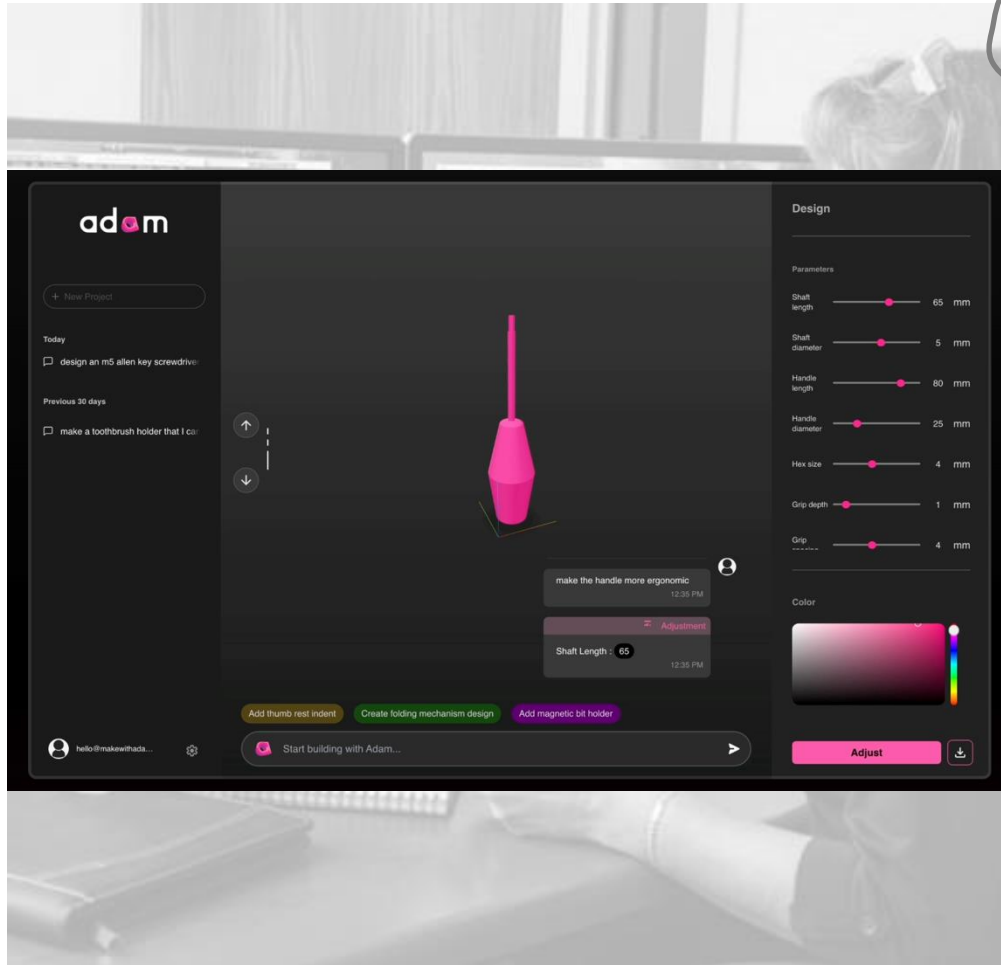


Autonomous Design & Process: A Clear Vision

... with a blurred path and cognitive leap

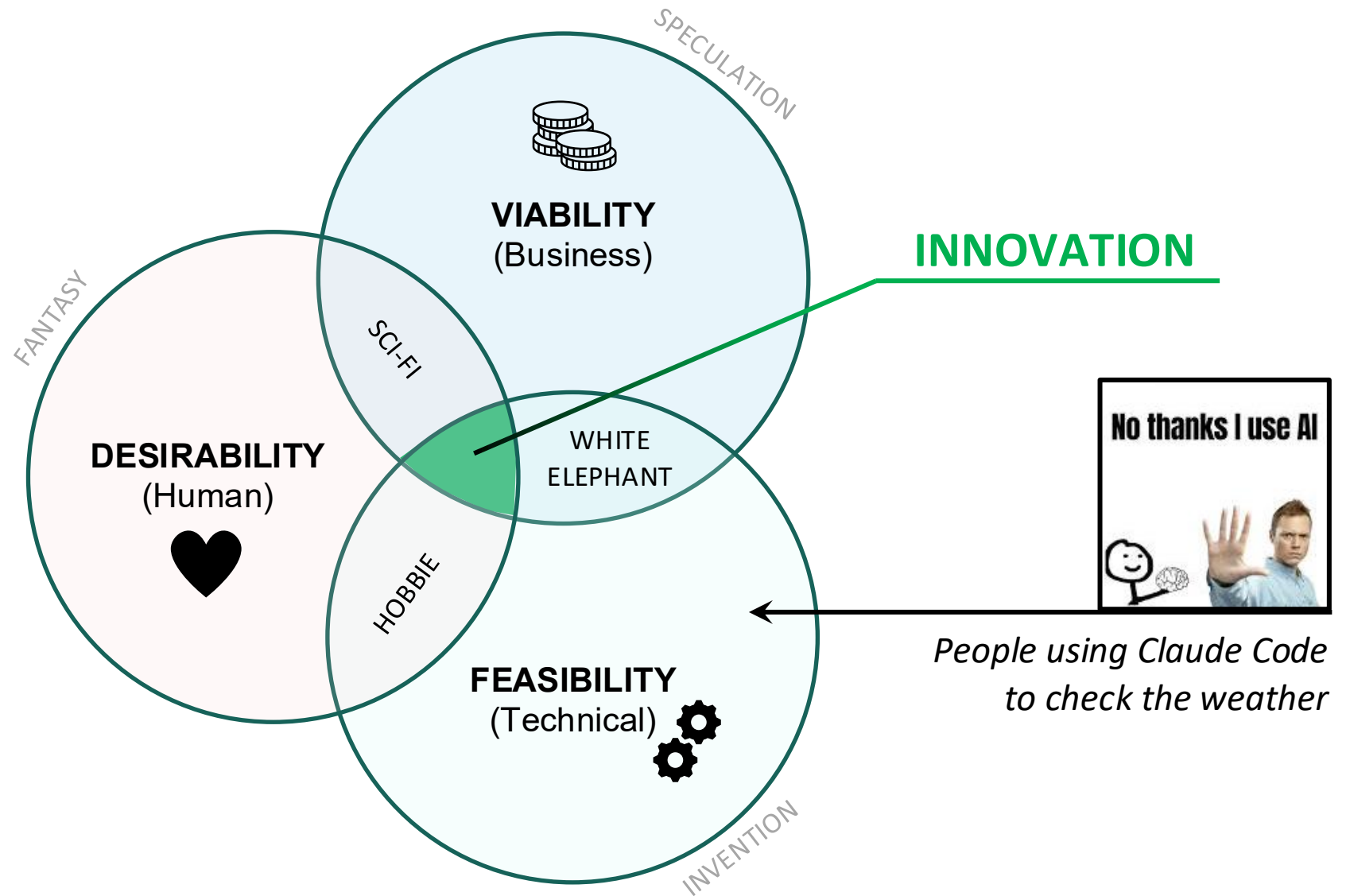
2026 | AI 4 ENGINEERING

2030+ | TEXT 2 CAD



In theory, practice and theory are the same

In practice, they are not



The GenAI Divide: Why 95% of AI Pilots Fail to Scale

Most AI pilots stall before they scale — not for lack of tools, but lack of alignment and strategy.



The GenAI Divide STATE OF AI IN BUSINESS 2025

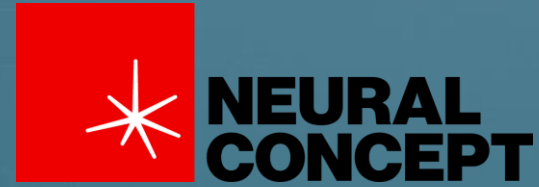
MIT NANDA

Aditya Challapally
Chris Pease
Ramesh Raskar
Pradyumna Chari
July 2025

2 EXECUTIVE SUMMARY

Despite \$30–40 billion in enterprise investment into GenAI, this report uncovers a surprising result in that 95% of organizations are getting zero return. The outcomes are so starkly divided across both buyers (enterprises, mid-market, SMBs) and builders (startups, vendors, consultancies) that we call it the GenAI Divide. **Just 5% of integrated AI pilots are extracting millions in value,** while the vast majority remain stuck with no measurable P&L impact. This divide does not seem to be driven by model quality or regulation, but seems to be determined by approach.

Tools like ChatGPT and Copilot are widely adopted. Over 80 percent of organizations have explored or piloted them, and nearly 40 percent report deployment. But these tools primarily enhance individual productivity, not P&L performance. Meanwhile, enterprise-grade systems, custom or vendor-sold, are being quietly rejected. Sixty percent of organizations evaluated such tools, but only 20 percent reached pilot stage and just 5 percent reached production. Most fail due to brittle workflows, lack of contextual learning, and misalignment with day-to-day operations.

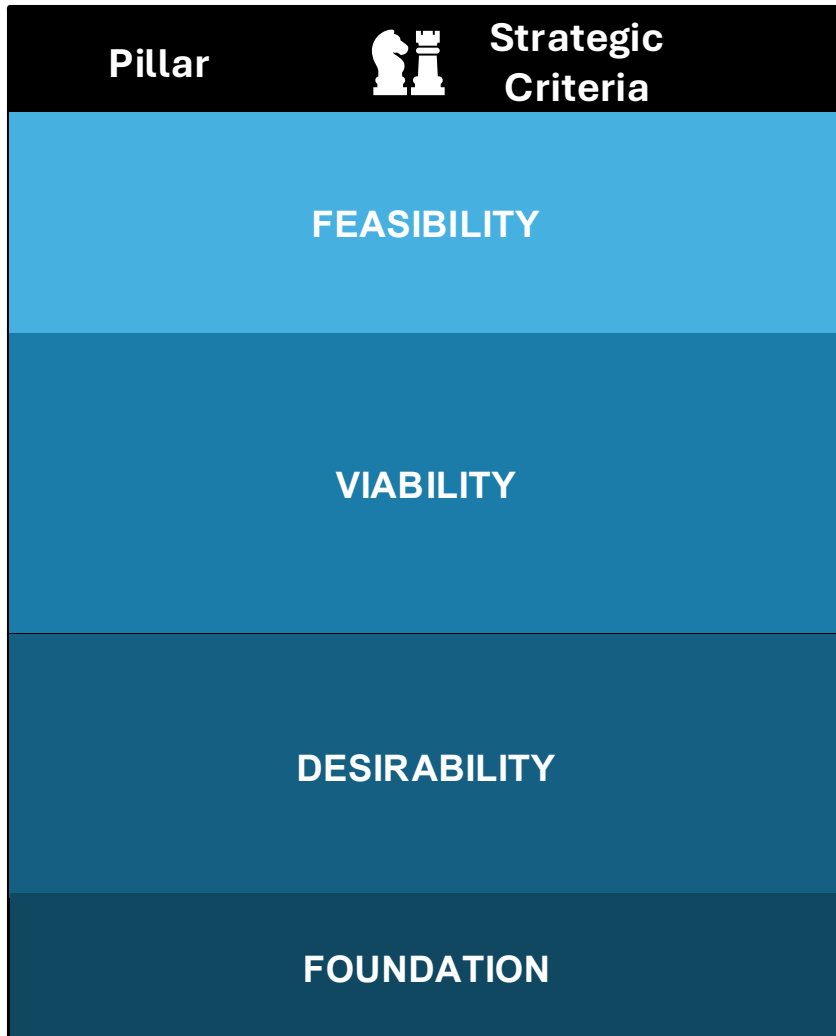
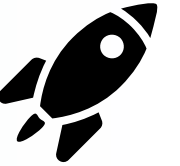


4. Can we flip the odds of the pilot roulette?

Emerging replicable insights from industrial partners leading the way

Flipping the Odds: Outcome Inversion Framework

3 Safeguards & 1 Foundation that Turn AI Pilots into Scalable Success Stories



✘ No company starts an AI pilot expecting failure — so **start planning for industrialization from day one.**

⚠ **Common pitfall:** Starting with **technology push** before building an internal investment case.

🎯 **Why it matters:** If you can't **frame the ROI story before the pilot**, you're not building a solution — you're running an experiment.

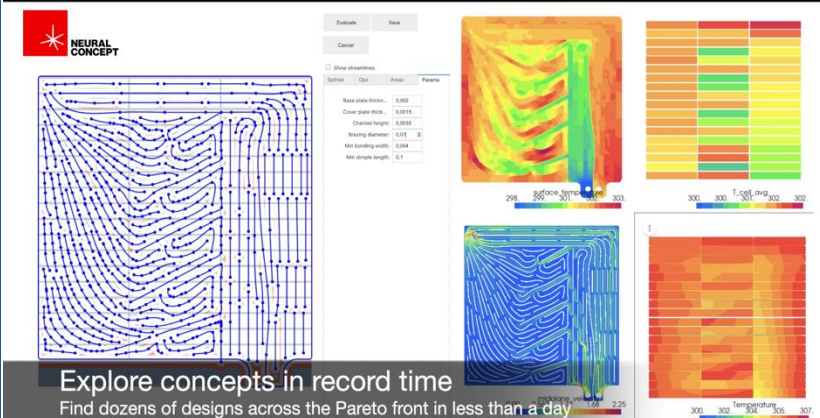
#1. Execution Readiness

Ensure your organization is equipped to move from pilot to scale

Pillar	 Strategic Criteria	 Ensures that...	 Actionable Insight
Execution Readiness 	The problem is scoped in quarterly deliverables	Realistic expectations are set, and filters out moonshot/high-risk projects early The timing is right and that the organization has the technical and operational momentum to scale at market speed	Start small, think big. Be Visionary yet pragmatic. Choose another challenge if the complexity of the problem cannot be decomposed into smaller problems. Scope early phases to demonstrate feasibility and proof of value.

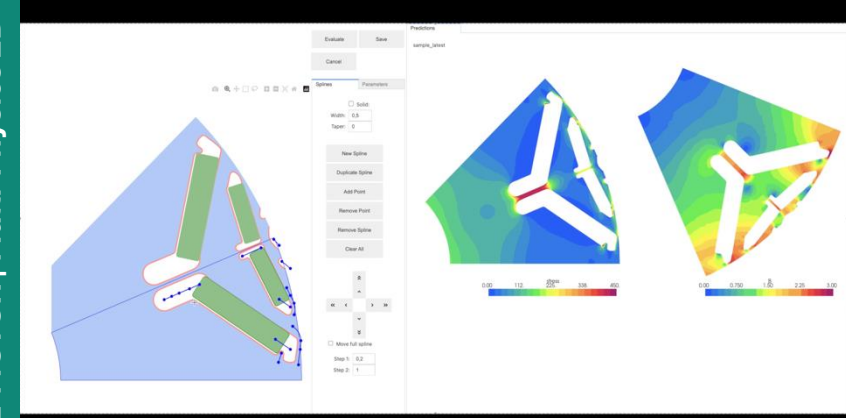
DESIGN LABS FOR 2D DESIGN OPTIMIZATION

BCP – Mono-Physics 2D



Explore concepts in record time
Find dozens of designs across the Pareto front in less than a day


E-MOTOR | Multi-Physics 2D



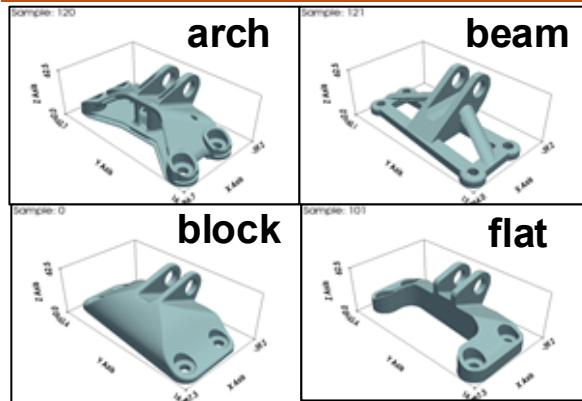
“If you can’t see deployment in 12 months, you’re not investing — you’re experimenting.”

#2. Strategic Business Case for AI

Build AI initiatives that earn their place in the investment portfolio

Pillar	 Strategic Criteria	 Ensures that...	 Actionable Insight
<p>“Executives don’t fund pilots. They fund growth bets with a clear return trajectory.”</p>			
Strategic Business Case for AI 	10x ROI in <3 yrs	The project addresses a real-world challenge and a business case is defined.	Focus on the ideal value creation scenario as a north star. Focus on value creation logic, orders of magnitude and assumptions, not precision. A 3x miscalculation is tolerable if the logic holds.
	Quarterly phases deliver measurable value	Each phase (Pre-industrialisation, V1, V2 ...) acts as a recursive investment launchpad , ROI can be incrementally recalibrated and business momentum is maintained.	Prioritize bottom-line savings first (efficiency, cost), then top-line (product, growth).
	Executive sponsorship	Strategic (and budget) alignment is secured with leadership	Target stakeholders with influence over budget cycles and transformation priorities.

BRACKET DESIGN OPTIMIZATION



Engineering time savings

- Team size: 10–20 users | Day rate: 225 €/day
 - Brackets per user per year: 5
 - Current cycle: 30 weeks × 3 days/week of engineering effort = 90 days/bracket
 - Total annual engineering cost: 15 users × 5 brackets × 90 days × 2250 €/day = ~1.5 M€/year
 - Potential automation: 20%
- Savings : ~300 k€/year saved**

Mass reduction savings

- Production volume: 10 million brackets/year | Target mass reduction: 5%
 - Estimated savings per bracket: 5–10 cts€
- Savings: Total: 10M brackets × 7.5 cts€ (midpoint) = ~750 k€/year**

Total estimated savings: 1 M€/year

#3. Change Enablement

People don't adopt solutions they didn't help shape

Pillar



Strategic
Criteria



Ensures that...



Actionable
Insight

7. CRITÈRES DE RÉUSSITE

Le succès de ce projet de pré-industrialisation opérationnels suivants, évalués sur un échantillon posages décoratifs :

- Précision de la génération automatique
- Robustesse de la solution
- Évaluation de l'efficacité opérationnelle

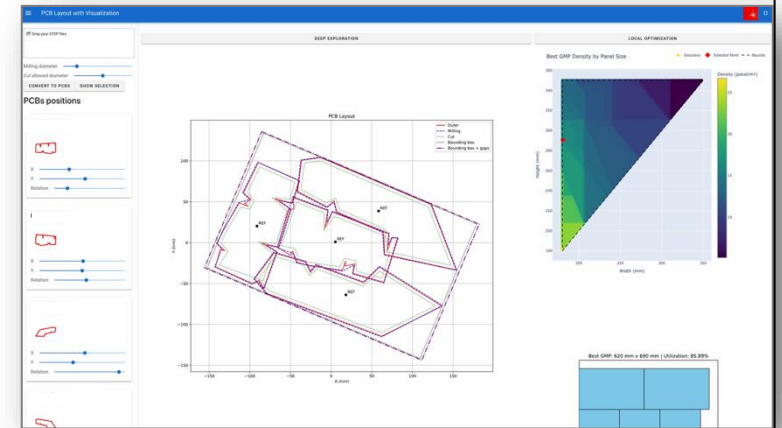
7. SUCCESS CRITERIA

The success of this pre-industrialisation project is contingent on meeting the following technical and operational targets on up to 5 test cases from within the distribution of the DOE design space:

- Sealing Performance Accuracy
- Robustness Metrics
 - Optimized designs should achieve a signal-to-noise ratio (S/N) and β robustness index ≥ 1 .
- Operational efficiency assessment

Before project:
Involve Engineers
& Mid-
Management

At mid-
project MVP:
Involve end-
users



<p>Change Enablement</p>	<p>Developers are involved during scoping</p>	<p>Technical ownership is established from the start; smoother enablement of future maintenance and upgrades.</p>	<p>If possible involve engineers during ideation. Offer demos, dry-runs, and early access to enable early familiarization. Identify back-up users to anticipate for reorganizations and leaves.</p>
	<p>End-user needs embedded into UI/UX</p>	<p>Solutions are built for real users and that usability and adoption is fostered</p>	<p>Get feedback early and often as soon as you get a first version of the application backend, at the latest at mid-project of the pre-industrialization phase. Co-design UX with representative users.</p>

“Involve those who will scale and sustain the solution — not just those who start it.”

AI Foundations: CAx Data Velocity

Fast data cycles enable fast adaptive decision loops

Pillar



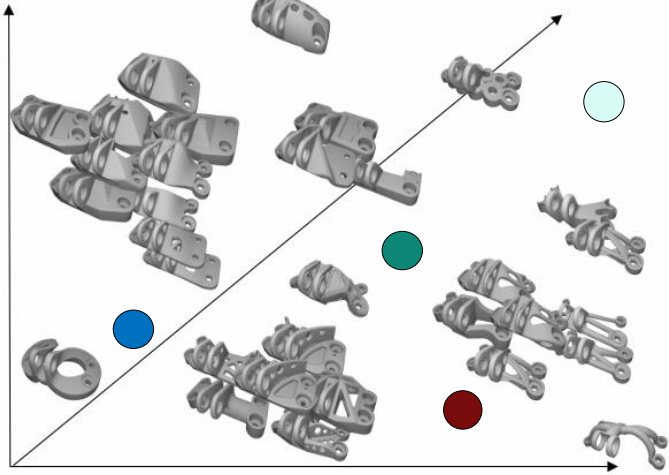
Strategic
Criteria



Ensures that...



Actionable
Insight



Legacy Data Distribution
Never thought to be used for AI purposes



Product Discovery
Pushing Engineering Knowledge requires OoD Exploration



“Your ability to adapt depends on the **speed of data generation**”

Data Velocity







Can you grow your training set by **10% in 1 week?**

Data infrastructure is responsive, legacy database can be rebalanced, models can be updated and adapted to new market trends or product requirements

If not, explore a focused joint AI + Data Orchestration initiative to demonstrate the value of an AI system being integrated with a live data source (synthetic or orchestrated data generation)

Flipping the Odds: Outcome Inversion Framework

3 Safeguards & 1 Foundation that Turn AI Pilots into Scalable Success Stories

	Pillar	Strategic Criteria	Ensures that...	Actionable Insight
FEASIBILITY	Execution Readiness 	The problem is scoped in quarterly deliverables	Realistic expectations are set, and filters out moonshot/high-risk projects early	Start small, think big. Be Visionary yet pragmatic. Choose another challenge if the complexity of the problem cannot be decomposed into smaller problems.
		<12-month adoption horizon	The timing is right and that the organization has the technical and operational momentum to scale at market speed	Scope early phases to demonstrate feasibility and proof of value.
VIABILITY	Strategic Business Case for AI 	10x ROI in <3 yrs	The project addresses a real-world challenge and a business case is defined.	Focus on the ideal value creation scenario as a north star. Focus on value creation logic, orders of magnitude and assumptions, not precision. A 3x miscalculation is tolerable if the logic holds.
		Quarterly phases deliver measurable value	Each phase (Pre-industrialisation, V1, V2 ...) acts as a recursive investment launchpad , ROI can be incrementally recalibrated and business momentum is maintained.	Prioritize bottom-line savings first (efficiency, cost), then top-line (product, growth).
		Executive sponsorship	Strategic (and budget) alignment is secured with leadership	Target stakeholders with influence over budget cycles and transformation priorities.
DESIRABILITY	Change Enablement 	Developers are involved during scoping	Technical ownership is established from the start; smoother enablement of future maintenance and upgrades.	If possible involve engineers during ideation. Offer demos, dry-runs, and early access to enable early familiarization. Identify back-up users to anticipate for reorganizations and leaves.
		End-user needs embedded into UI/UX	Solutions are built for real users and that usability and adoption is fostered	Get feedback early and often as soon as you get a first version of the application backend, at the latest at mid-project of the pre-industrialization phase. Co-design UX with representative users.
FOND.	Data Velocity 	Can you grow your training set by 10% in 1 week?	Data infrastructure is responsive, legacy database can be rebalanced, models can be updated and adapted to new market trends or product requirements	If not, explore a focused joint AI + Data Orchestration initiative to demonstrate the value of an AI system being integrated with a live data source (synthetic or orchestrated data generation)

Summary & Closing Remarks

Errare humanum est perseverare diabolicum

1. THE SOFTMAX ADVANTAGE



The pace of AI development is not linear. It is **compounding**.

Over time, small differences in initial conditions produce exponential divergence over time.

That's just like a **softmax function on competitive position**.

2. THINK LIKE AN ENTREPRENERD



Frameworks get you to the starting line. **Culture** determines whether you cross it.

The engineering leaders who consistently drive successful AI programs share a specific mindset:

- Solution- vs. **Problem-first**
- Forecasting vs. **Backcasting**
- Substitutive vs. **Augmentation thinking**

3. FROM ROULETTE TO ROADMAP



Failed projects and successful ones are not a matter of luck.

Think: 3 trajectories + 1 foundation. Prioritize the “right” initiative (desirable, viable, feasible) and secure your CAx data velocity to push the engineering knowledge frontier.

Pilot roulette is expensive. Calibrated investment is not.

NEXT TIME YOU SEE YOUR BOSS

"Do we have budget for an AI pilot?"

vs.

"We have identified a six-figure opportunity over the next 12 months. What is a reasonable investment to prove this thesis?"





Stop Running AI Pilots

Why most initiatives fail—and how to finally make them work

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