

Silicon Valley, California



Achieving The Pinnacle of Entrepreneurship
Innovations Creating New Industries

Steve Ciesinski

Vencrest Partners, Stanford GSB and SRI International | April 2026

BIO: STEVE CIESINSKI

Silicon Valley Tech Executive, Investor, Board Member, Lecturer



Silicon Valley Career

- **Private Investor**
- **Applied Materials, GM**
- **SRI International, President**
- **Resumix, CEO & Chairman**
- **Octel Communications, EVP/COO**
- Venture Capital: Earlybird Ventures
- Nonprofits: LifeMoves (homeless), Yosemite Conservancy (outdoors), Hidden Villa (youth programs), Stanford Children Hospital

Education

- Stanford University (MBA)
- Union College (BSEE & AB)
- **Lecturer at Stanford University (Global Entrepreneurship)**
- Union College, (Chairman, BoT)
- Cal Poly (Chairman)
- *Email: sjc21@stanford.edu*
- *<https://ciesinski.com>*

Topics for Today

- **Startup Objectives: a Quick Review**
- **New Industry Formation –Personal Experiences**
- **Studying DARPA and SRI**
- **Lessons Learned**
- **How AI Changes the Game (time permitting)**
- **Concluding Remarks**

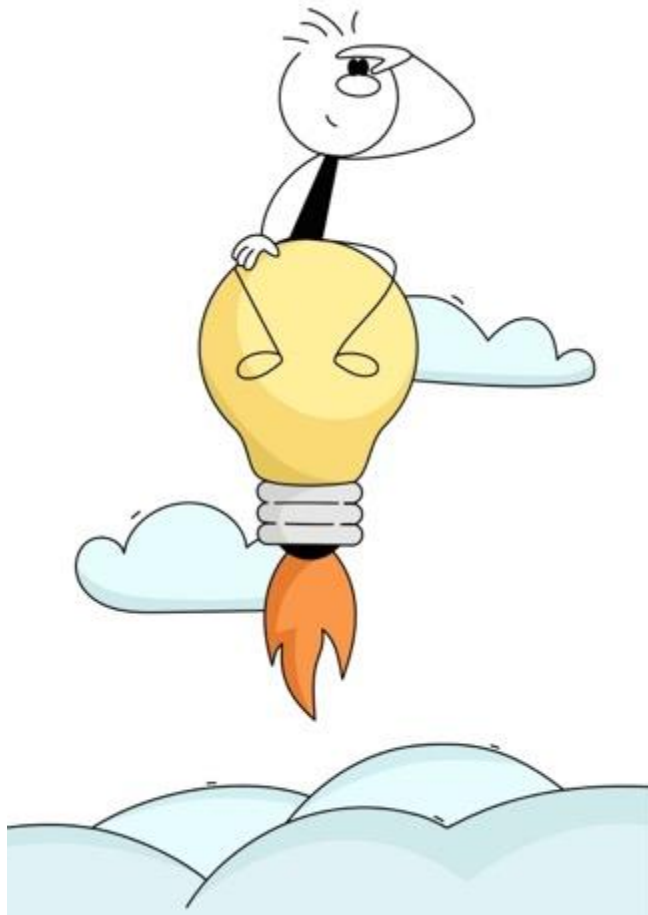




Creating a Successful Venture - A Quick Review



Progression Of A “Venture Capital-fundable” Business Opportunity



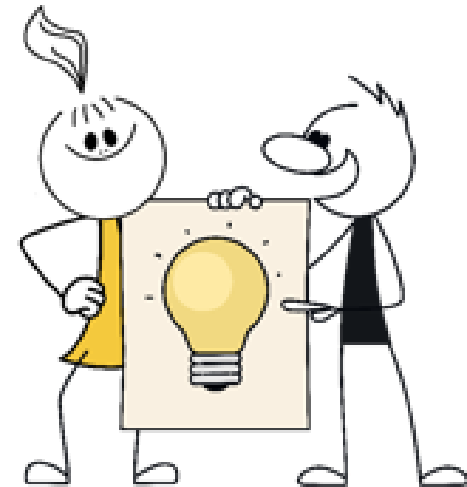
1. **Idea** (research market, use of technology, value proposition)
2. **Innovation** (either deep tech (IP) or novel business approach)
3. **Prototype** and iterate (\$ Pre-seed capital raise)
4. Iterate and define the **Value Proposition**
5. Determine First Target **Customers** (niche) and Market
6. Create Minimum Viable Product (**MVP**) (\$ Seed capital raise)
7. Achieve **Product-Market Fit** (achieve category metrics)
8. Evolve **Business Model** (tested with real customers)
9. Decide on **Go-to-Market Strategy**
10. **Scale** (\$ Series A capital raise)

defining
innovation

noun

The **creation** and **delivery** of new **customer value** in the **marketplace** with a sustainable **business model** for the enterprise producing it.

**LET'S ENSURE
EVERYONE IS
WORKING IN THE
SAME DIRECTION**



TWO WAYS STARTUPS “FIND INNOVATIONS”*

“Market Pull”



Business Model



“Technology or Product Push”



Business Model

Types Of Innovation

Disruptive versus Incremental



Disruptive Innovation

(Always!) **Startups**

(Smart) **Corporates**



Incremental Innovation

Mid-Large Companies

NOT (NEVER, EVER) startups

A Deep Technology **Breakthrough Innovation** Example



**The DaVinci Robotic Surgery Platform, by Intuitive Surgical
Birthed at SRI International,
funded by DARPA
\$170B+ Market Cap**

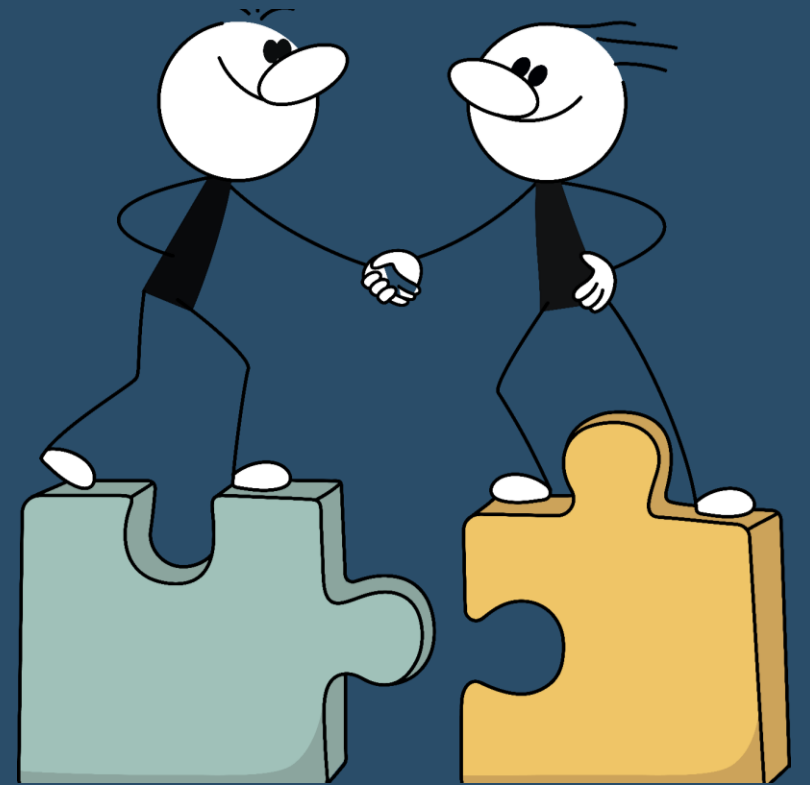
A Major Drug Discovery **Breakthrough Innovation** Example



An “Accidental” Innovation Can Be So Simple, So Powerful... and doesn't need to be science or technical



Product-Market Fit (PMF)

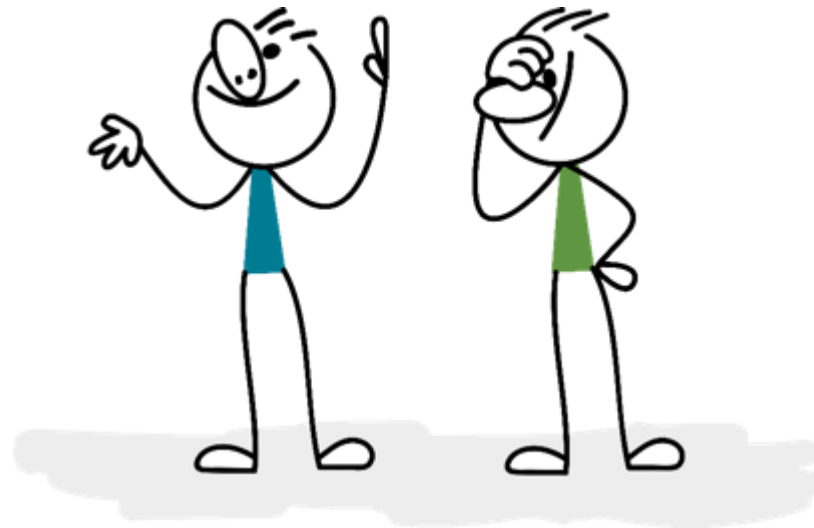


DISRUPTIVE INNOVATIONS REQUIRE 10X >> EXISTING/COMPETITION

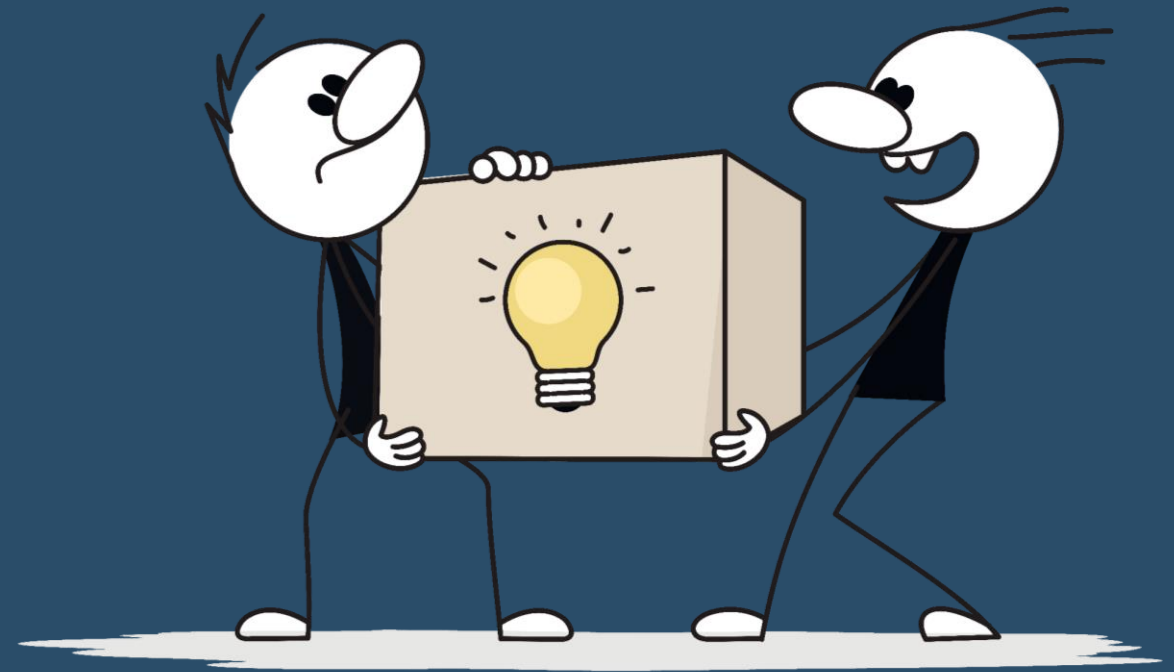


Ncube-2, a Norwegian
CubeSat (10 cm (3.9 in) cube)

“CubeSat”: 10-100X better than
existing solution



The Business Model



So, What Is A Business Model?

CREATE A COMPETITIVE ADVANTAGE

1. Basically, it's how a business makes money

- Product or service
- Pricing and positioning
- Distribution
- Customer success and support
- Etc.

So, What Is A Business Model?

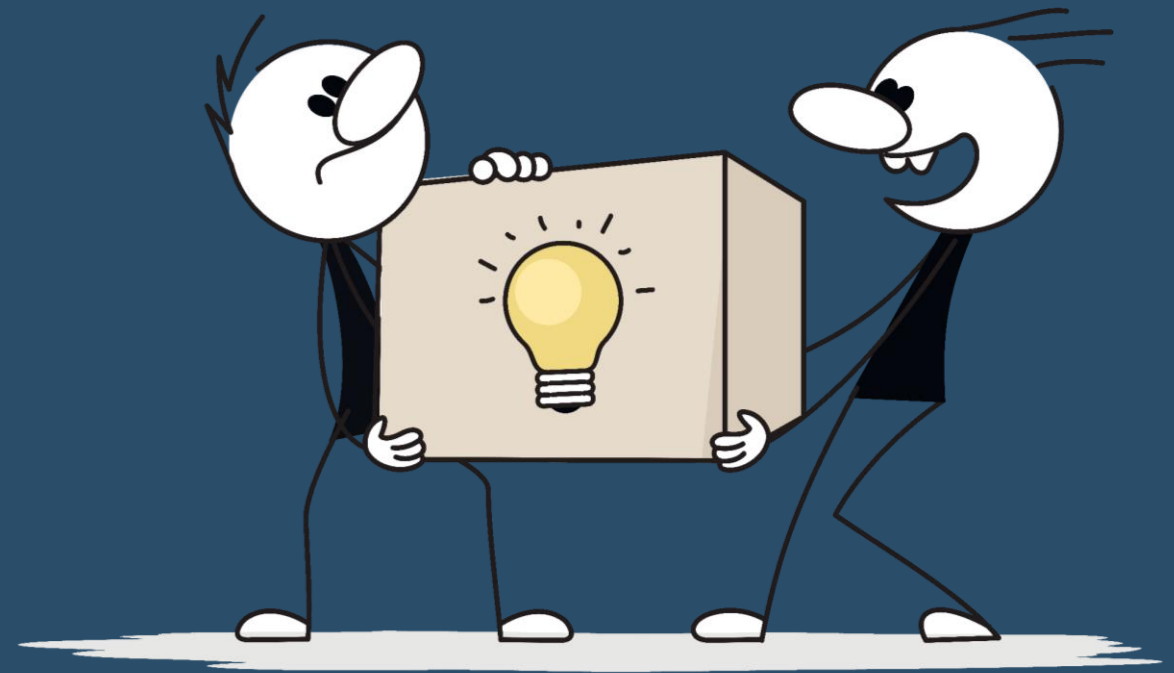
CREATE A COMPETITIVE ADVANTAGE

1. Basically, it's how a business makes money
 - Product or service
 - Pricing and positioning
 - Distribution
 - Customer success and support
 - Etc.
2. But it's also a "MOAT" or Deterrence (vs Competition)
 - Know - how
 - Intellectual Property (IP, patents, trademarks, etc.)
 - Supply chain
 - Distribution and channel partners
 - Ultimately, "brand", etc.

Examples Of Basic Business Models – Will One Work For You?

- Bundling (iPhone/App Store)
- Affinity Club (MBNA Credit Cards)
- Buy Now, Pay Later (Klarna)
- Charge Per Level (Cell Phone Plans)
- Crowdsourcing (Wikipedia)
- Disintermediation (Dell)
- Fractionalization (NetJets)
- Freemium (LinkedIn)
- Leasing (Cars)
- Low-touch (IKEA)
- Marketplace (eBay)
- Nubank(100% digital, target base of Pyramid0)
- Pay As You Go (Electric Utilities)
- Razor/Razor Blades (Printers/Ink)
- Reverse Razor Blades (Kindle)
- Reverse Auction (Upwork)
- Product To Service (Zipcar)
- SaaS (Salesforce.com)
- Standardization (MinuteClinic)
- Subscription (Max+)
- Two-sided Business Model (Amazon)
- User Communities (Angi)

Go-To-Market Strategy



WHAT IS A GO-TO-MARKET STRATEGY?*



Help people find your business when they need you most



Keep customers coming back and build long-term loyalty



Attract qualified leads and nurture them through the funnel



Show what's working through analytics and data-driven insights



Convert interest into sales with clear messaging and calls to action



Stay visible in a crowded market (so competitors don't gain traction if you go quiet)

**BrandMark Studios, August 2025*

THE GOAL: FINDING AND KEEPING LOYAL, SATISFIED, LONG-TERM CUSTOMERS

How Does Your Report Card Look RIGHT NOW?



	Nascent	Developing	Strong	Extreme
H air on Fire CVP (40% test)	20%	30%	40%	50%
U sage High	Varies by company and industry			
N et Promoter Score	40	50	60	70
C hurn Low	B2C: 8%/Month B2B: 5%/Month	6%/Month 3%/Month	4%/Month 1%/Month	2%/Month Neg. Churn
H igh LTV: CAC	2:1	3:1	4:1	5:1

HUNCH Benchmarks at each stage of Product-Market Fit

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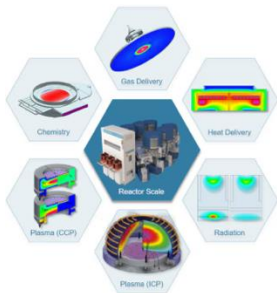
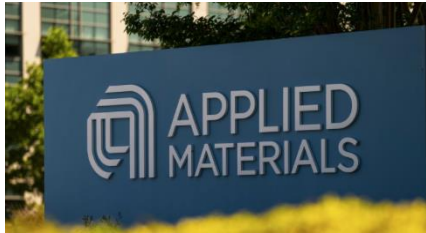
FROM STARTUP TO NEW INDUSTRY FORMATION

Some startups build excellent companies

A rare few startups create **entirely new industries**

This lecture explores how **first movers** can reshape markets

Applied Materials: Chip-Making Equipment to Power the World!



The latent problem

Moore's Law wasn't just a design problem — it was a **manufacturing physics problem**.

The inflection

Advanced materials science + precision fabrication tools enabled **repeatable, scalable chip manufacturing**.

The industry that formed

Applied Materials became a **platform enabler** for:

- Logic and memory chips
- Displays
- Solar and advanced materials

They didn't make chips — they made it possible for everyone else to make chips.

Why this is category leadership

- Deep technical moat
- Embedded across the entire semiconductor value chain
- Economic leverage without consumer visibility

Applied Materials is a textbook example of “doing extraordinarily well by enabling others to do extraordinary things.”

APPLIED MATERIALS — INDUSTRY ECOSYSTEM

Chip Designers

Applied Materials

Global Fabs

DUTCH COMPANY ASML HAS LARGEST MARKET CAP: >\$500B

Opinion **Business Insight**

Why neither Asia nor the US has produced a rival to ASML

Dutch chipmaking equipment supplier dominates in a way that markets cannot correct

JUNE YOON

+ Add to myFT



An ASML plant in the Netherlands © ABACA via Reuters Connect

Octel Communications: Voicemail for Business and Consumer



The latent problem

Synchronous communication didn't scale. Phones rang; people missed calls; productivity collapsed into phone tag.

The inflection

Digitization of voice + centralized servers enabled **asynchronous voice communication** at enterprise scale.

The industry that formed

Octel didn't sell voicemail boxes — it created:

- Enterprise voice messaging
- Unified communications foundations
- The bridge from analog telephony to digital collaboration

Why this matters

- Massive productivity unlock across knowledge work
- Behavioral change (people learned to *work asynchronously*)
- Set the stage for email, Slack, Teams, Zoom culture decades later

Octel normalized the idea that “not real-time” can be more productive than real-time.



OCTEL — ENTERPRISE COMMUNICATIONS FLOW



Resumix: Digital Matching CVs with Job Requisitions (**early AI**)



The Evolution of Applicant Tracking Systems (ATS): From ...

[Visit >](#)

The latent problem

Hiring at scale was broken. Recruiters were drowning in resumes, relying on keyword scans, intuition, and manual filtering. Meanwhile, qualified candidates were invisible.

The inflection

Natural-language processing + pattern matching made it possible to **algorithmically understand resumes** — not just store them.

The industry that formed

Resumix didn't just build software; it **created the resume-parsing and automated candidate-matching industry**, the precursor to modern:

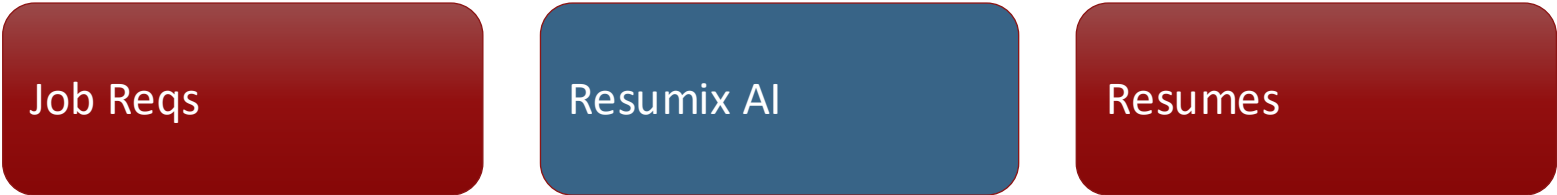
- Applicant Tracking Systems (ATS)
- Talent analytics
- AI-driven recruiting platforms

Why this is true industry formation

- Two-sided value creation: *better jobs* for candidates, *better signal* for employers
- Institutional adoption (Fortune 500, governments)
- Long tail of successors (LinkedIn, Indeed, modern HR tech stacks)

This was AI before "AI" was a category — infrastructure intelligence applied to a societal bottleneck.

RESUMIX — AI MATCHING LOOP



LESSONS LEARNED (1): HOW NEW INDUSTRIES ACTUALLY FORM

1. **Structural Problem (not incremental)**

- Friction embedded in the system, not a broken feature
- Exists even when incumbents are “doing their best”

2. **Platform Solution (not a product)**

- Infrastructure that others build on
- Becomes harder to replace over time
- Improves as adoption grows

3. **Institutional Adoption (early)**

- Large, conservative buyers validate the category
- Switching costs justified by systemic upside
- Standards begin to emerge



LESSONS LEARNED (2): WHY THIS PATTERN WINS

4. Expands **Societal Productivity**

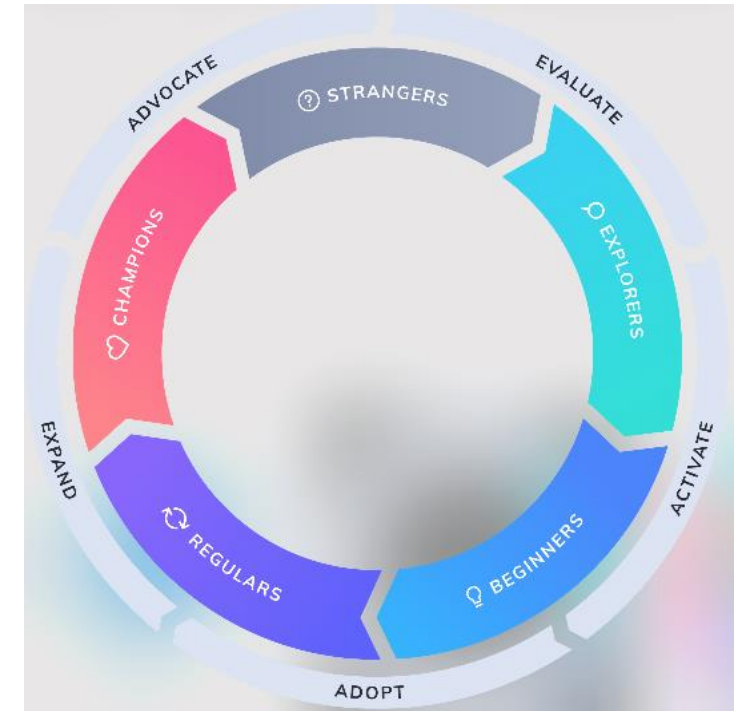
- Raises the capacity of people, organizations, or systems
- Creates value beyond the immediate customer
- Attracts long-term talent and support

5. Creates a New **Category**

- Defines language, metrics, and norms
- Competitors copy features, not architecture
- The venture shapes the game others must play

Bottom Line:

New industry formation happens when a venture becomes indispensable before the market realizes a new market exists.



The Product-Led growth flywheel


You Know You Are winning When The Venture Becomes a *Verb*

- **Google**: The search engine itself, often used as a verb ("to Google").
- **Xerox**: For photocopies, though the company actively defends its trademark.
- **Kleenex**: For facial tissues.
- **Band-Aid**: For adhesive bandages.
- **Velcro**: For hook-and-loop fasteners.
- **Post-it**: For sticky notes.
- **Sharpie**: For permanent markers.
- **Coke (Coca-Cola)**: For cola drinks.
- **Ziploc**: For resealable plastic bags.
- **Tupperware**: For plastic food containers.
- **Hoover**: For vacuum cleaners (especially in the UK).
- **Frisbee**: For flying discs.

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INTRODUCING “INDUSTRY CREATOR” SRI INTERNATIONAL

SRI International: World Leader In Tech Innovation

- Founded by Stanford University in 1946
- Independent nonprofit research center
- \$450+ million in annual revenue
- 1,500 employees, 30 labs, 21 locations
- 4000+ patents, 500 disclosures/year
- 500 research projects annually
- 70+ spin-off companies
- 100+ commercial projects/year



Independent • Mission-driven • Non-profit

Stanford Research Institute (SRI), founded in 1946 by Stanford University, independent in 1970



Sarnoff Corporation (formerly RCA Labs), founded in 1942, merged with SRI in 2010



Palo Alto Research Center (PARC) founded by Xerox in 1970, merged with SRI in 2023



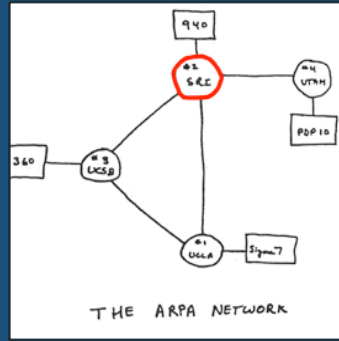
Our mission

Create and deliver **WORLD-CHANGING SOLUTIONS** for a safer, healthier, and more sustainable future.

You Use SRI Innovations Every Day



Computer mouse



1st ARPA-Net message



1st Revolving Credit System



1st Consumer Credit Scoring (FICO)



SWOT Analysis



1st Autonomous Robot



Pioneered Robotic surgery



Siri - 1st virtual assistant



1st Virtual Private Network



Established Network Intrusion Detection

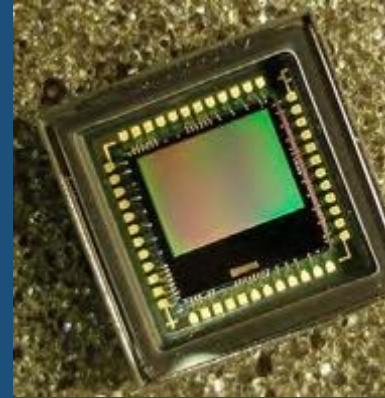
Legacy Of Innovation – Sarnoff (RCA Labs)



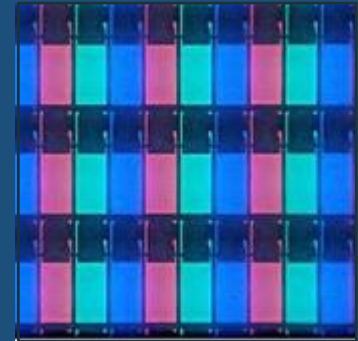
Color TV



Liquid Crystal Display



1st CMOS Imager



Thin Film Transistors



1st Electron Microscope



1st Consumer Satellite TV



1st Augmented Reality Broadcast



Led HDTV Grand Alliance

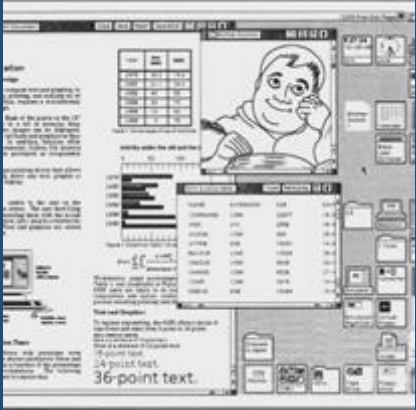
Legacy Of Innovation - PARC



1st Commercial Computer mouse



1st Personal Computer



Laser Printing



Electronic Ink Displays

SRI • PARC - 6 Turing Awards!

		
1997: Doug Engelbart	1992: Butler Lampson	2009: Charles Thacker
		
2013: Leslie Lamport	2003: Alan Kay	2023: Bob Metcalf

Nobel Prize Physics





2000: Herbert Kroemer

Strategic Initiatives: *TODAY!* (All include AI technology)



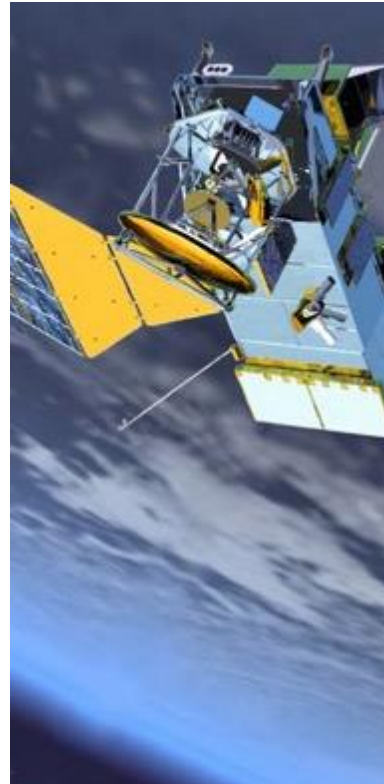
Climate, energy & sustainability



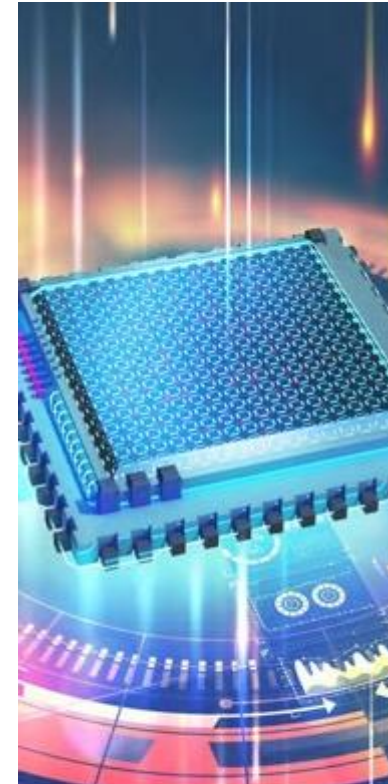
Personalized / precision medicine



Human machine collaboration



Space



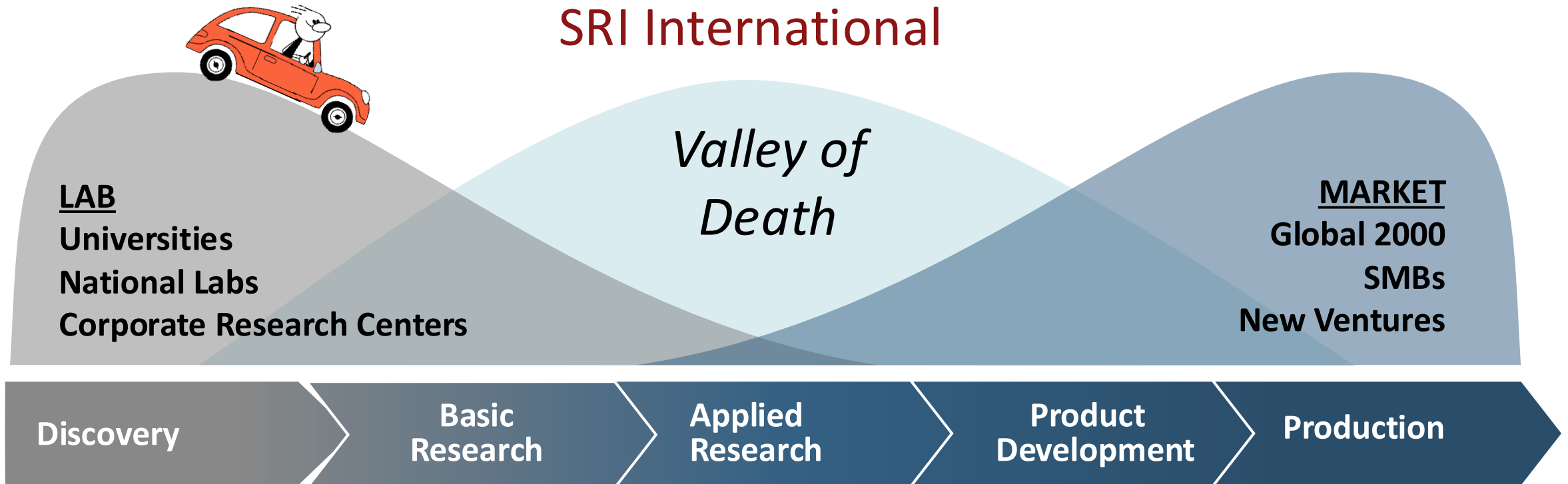
Quantum



Future of work and education

Our “Secret”: Bridging Basic Research To Commercialization

SRI Success Rate is 35-40%, versus 3-15% for Most R&D Units of Companies!



defining:
Valley of Death

noun

Where promising research, IP, know-how, discovery “dies” or fails to progress... **only 1-3%** of WW patents make it out into societal use.



Long-term Partnership Creating Many Useful Innovations

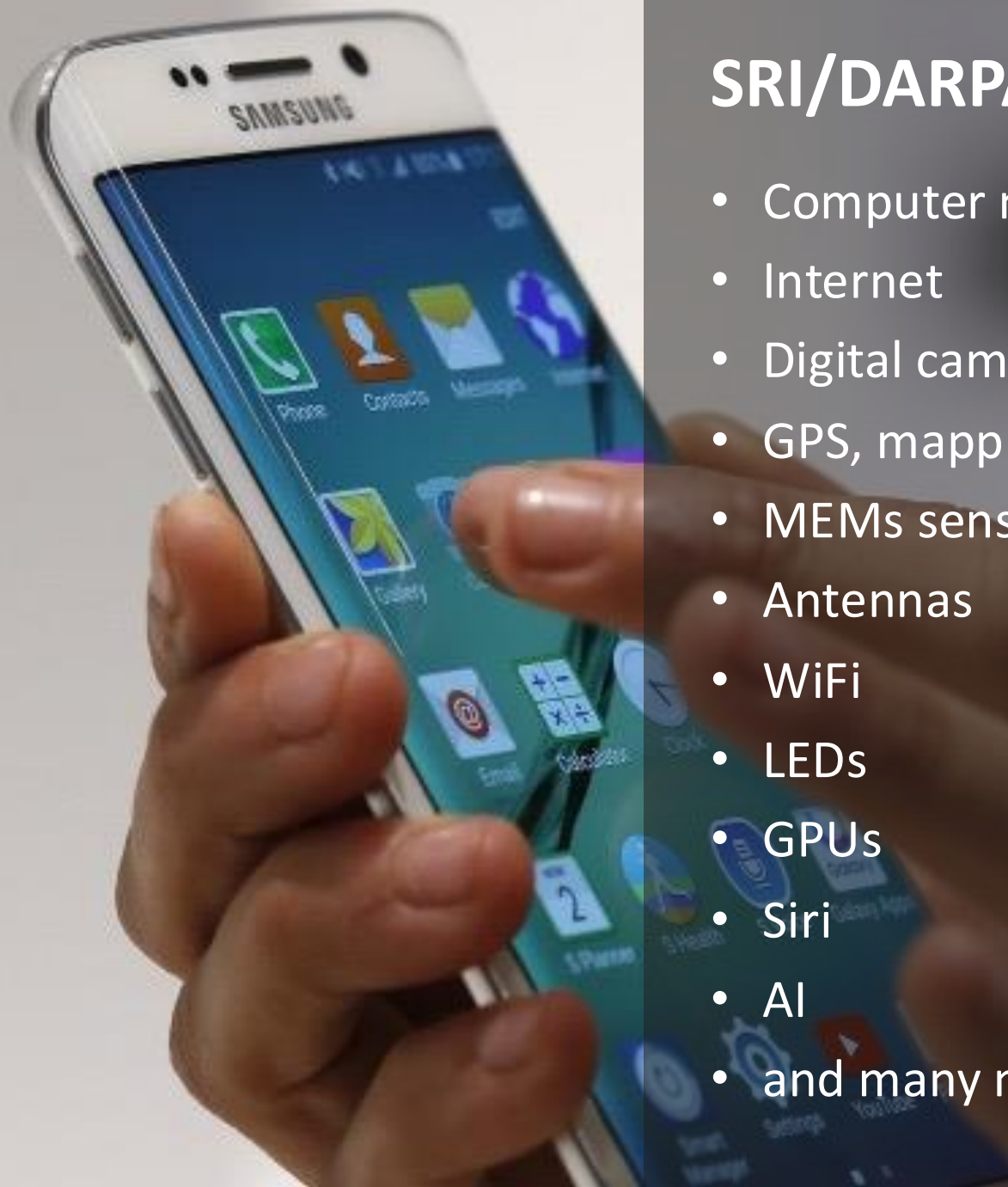


+



SRI International (formerly Stanford Research Institute) is a nonprofit research institute founded in 1946. The organization conducts R&D across diverse fields including artificial intelligence, robotics, cybersecurity, healthcare, materials science, and defense technologies. SRI creates groundbreaking innovations such as the computer mouse, and numerous medical devices and pharmaceutical compounds. The institute works with government agencies, corporations, and other institutions to solve complex technological and scientific challenges.

DARPA (Defense Advanced Research Projects Agency) funds high-risk, high-reward research projects to develop breakthrough technologies for national security. It employs ambitious goals, temporary project teams of experts, and significant autonomy. DARPA's structure facilitates rapid innovation through short-term program managers, flexible contracting, and a focus on pushing the boundaries of science and engineering.



SRI/DARPA Tech innovations

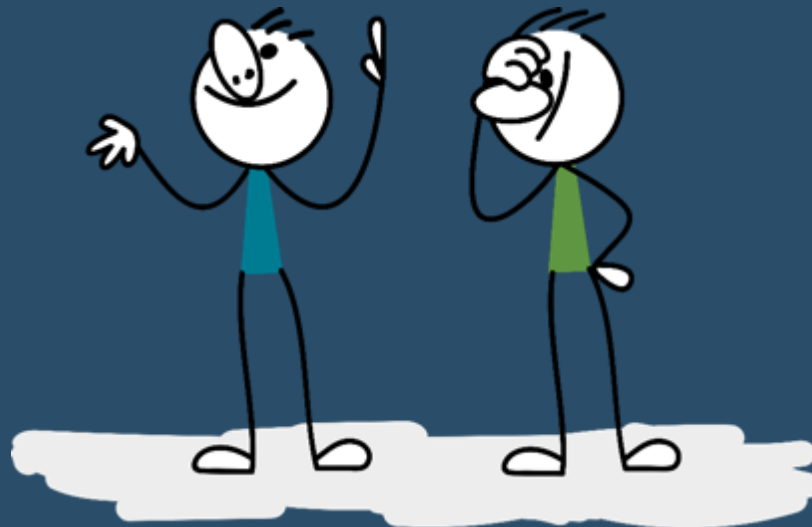
- Computer mouse
- Internet
- Digital camera
- GPS, mapping and navigation
- MEMs sensors (gyro, accelerometer, compass, etc.)
- Antennas
- WiFi
- LEDs
- GPUs
- Siri
- AI
- and many more.....

SRI New Venture: **What We Look For**

1. New, large, Accessible and Growing **Market** Opportunity (>>\$1B)
2. Sustainable and Massive Technological Differentiation providing Clear, Extraordinary Value -- an “**Innovation**”
3. Strong Core **Team** (Tech + Business)



SRI Has Many Expert Scientists And
Researchers– But Very Few Entrepreneurs
So, We Need To Recruit Them Into Our
Labs And Pair Them With Our PhDs!



Case Study



MOTOBOT: Performance + Safety

Yamaha Motors collaborated with SRI to rapidly design, build, and test an autonomous motorcycle-riding robot built around a fusion of motorcycle and humanoid robotics technology.

The goal was to develop a robot able to ride an unmodified stock motorcycle on a racetrack at more than 200kph. The underlying technology will lead to the **creation of advanced rider-safety and rider-support systems.**

Result:

- World's 1st motorcycle riding robot
- 9 months from concept to test track
- Exceeded 200 kph



SRI Recent "Startups" (Create, Apply, Transition)- also called "Spin-outs"



- + Building Blocks for Generative AI
- + Pienso empowers non-technical users to construct, deploy, and manage AI models, imbued with enterprise understanding



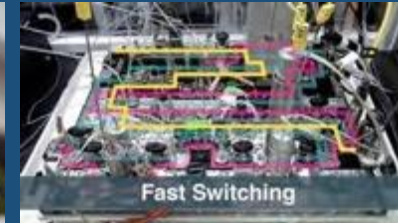
- + Ninja, a new conversational AI for business
- + Hyper-realistic avatar & AI & conversational intelligence
- + Team from Google, Meta & AWS



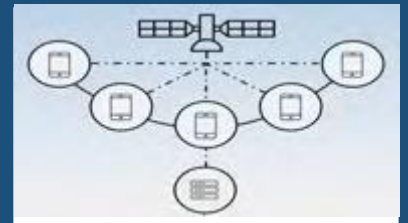
- + Generative AI for marketing content and media generation.
- + Drastically reduces costs for businesses to generate, market and distribute their brand



- + Women's Health startup using AI to assist women with changes that occur during Menopause
- + Addresses an underserved population in aging societies



- + Automated molecular design.
- + Combines chemistry AI with robotic automation for closed-loop molecular discovery and analytics

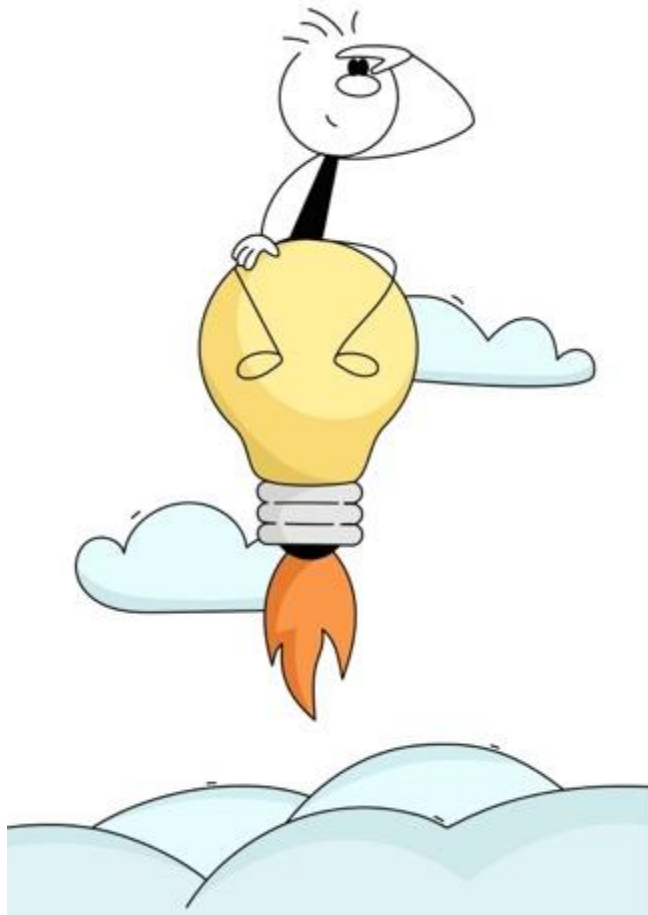


- + Distributed GPS augmentation improves the accuracy of mobile phones to <50cm
- + Adds a relative distance metric with an accuracy of 5cm.
- + Opens potential for a new generation of services



THE IMPACT OF AI

Remember This? Progression Of A New Business Opportunity



1. **Idea** (research market, use of technology, value proposition)
2. **Innovation** (either deep tech (IP) or novel business approach)
3. **Prototype** and iterate (\$ Pre-seed capital raise)
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COMPRESS 18-30 MONTHS => 12-26 **WEEKS** WITH AI TOOLS

Startup Activity	Traditional Time	With AI	Time Saved	Quality Impact
Market Research & TAM	4–8 weeks	1 week	75%	More comprehensive, continuously updated
Customer Discovery	6–12 weeks	2–4 weeks	60%	Deeper insights from pattern analysis
Prototyping	3–4 months	3–4 weeks	80%	Faster iteration = better product
Financial Modeling	2–3 weeks	2–3 days	85%	Multiple scenarios, real-time updates
Competitive Analysis	4–6 weeks	3–5 days	90%	Continuous monitoring vs. point-in-time
Pitch Deck Creation	2–4 weeks	1 week	70%	Data-driven, professional design



- Traditional software startups can take 12-30 months to Series A
- AI amplifies your judgment and domain expertise—BUT it doesn't replace *customer validation*
- Can your *AI-accelerated startup* reach \$1M ARR in 12-36 weeks vs. traditional 18-30 months?

AI TOOLS: GETTING STARTED-- MARKET INTELLIGENCE



AI Tools for Market research and TAM Analysis:

- **Perplexity, ChatGPT, Claude:** Synthesize industry reports in minutes
- **Crunchbase, PitchBook + AI:** Analyze funding trends and market signals
- **LinkedIn Sales Navigator + ZoomInfo:** Count actual potential customers
- **SimilarWeb, BuiltWith:** Analyze competitor traffic and tech stacks

Results:

- **Traditional:** "\$10B market" (vague industry report)
- **AI-Enhanced:** "47,500 companies in US (ZoomInfo) × 35% with acute pain (survey) × \$50K average contract = \$830M TAM, growing 23% annually"

AI TOOLS: PROSPECT OUTREACH AND CUSTOMER DISCOVERY



AI Tools:

- **Otter.ai, Fireflies.ai:** Auto-transcribe 50+ customer interviews
- **ChatGPT/Claude:** Analyze transcripts, identify patterns across all interviews
- **Apollo.io, Clay:** Automated personalized outreach to 200+ prospects
- **UserTesting.com + AI:** Rapid prototype testing with instant synthesis

Results:

- **Quality:** Find patterns across 50+ interviews vs. gut feel from 10
- **Time:** 2-4 weeks vs. 3 months for comprehensive customer discovery
- **Output:** Data-driven personas, quantified pain points, validated ICP

Stanford d.school Process + AI: 1. **Empathize:** AI synthesizes themes from dozens of interviews; 2. **Define:** AI clusters problems by frequency and severity; 3. **Test:** AI analyzes user behavior to validate hypotheses

AI TOOLS: RAPID PROTOTYPING & VALUE VISUALIZATION



AI-Powered Prototyping For Software/SaaS Products:

- **Figma + AI plugins:** Auto-generate wireframes from descriptions
- **v0.dev, Lovable.dev:** Natural language to working React code
- **Bubble, Webflow:** No-code platforms with AI copilots
- **GitHub Copilot, Cursor:** AI writes 60-70% of boilerplate code

For Hardware/Physical Products:

- **Fusion 360:** Generative design AI suggests optimal structures
- **Midjourney, DALL-E:** Rapid visual concept generation

Results:

- **Quality:** Test 5+ variations in time it took to build 1
- **Time:** 3-4 weeks to functional prototype vs. 3-4 months
- **Output:** Interactive demos that customers can actually use

AI TOOLS: ACHIEVING PRODUCT-MARKET FIT & BUSINESS MODEL DISCOVERY

From Hypothesis to Proven PMF: AI Accelerates the Critical Validation Phase

Measuring Product-Market Fit with AI: AI Analytics & Tracking Tools:



- **Mixpanel, Amplitude:** Track user behavior, cohort analysis, retention curves
- **Pendo, Heap:** Automatic event tracking, AI-powered insights
- **Productboard:** AI prioritizes features based on customer feedback
- **Delighted, Wootric:** NPS surveys with AI sentiment analysis
- **ChurnZero, Gainsight:** Predict churn before it happens

Results:

- **Quality:** Real-time PMF metrics vs. quarterly surveys
- **Time:** Daily dashboard updates vs. manual monthly reports
- **Output:** Clear PMF signals with predictive indicators

AI TOOLS: QUANTIFYING AND VISUALIZING *CUSTOMER VALUE (SAAS)*

AI Tools for Value Props:

- **Causal, Runway:** Build interactive ROI calculators
- **Gamma, Beautiful.ai:** Auto-generate value visualization slides
- **ChatGPT/Claude:** Create multiple NABC value proposition versions
- **Gong.ai:** Analyze sales calls to find most compelling value messages

Example - AI-Generated Value Visualization:

- Traditional Process: Total: \$7,000/month
- Your AI Solution: Total: \$900/month
- Value Created: \$6,100/month savings (87% reduction)

Results:

- **Quality:** Quantified, customer-specific value (not generic claims)
- **Time:** Generate custom ROI calc in hours vs. days
- **Output:** Every prospect sees their personalized value story

Key Takeaway: Customers buy outcomes, not features. AI helps you speak their economic language.

AI TOOLS: COMPETITIVE ANALYSIS



AI Tools:

- **Crunchbase, CB Insights + ChatGPT:** Analyze 100+ competitors in days
- **Crayon, Klue:** Real-time monitoring of competitor changes
- **G2, Capterra + Sentiment AI:** Analyze thousands of customer reviews
- **SimilarWeb:** Traffic patterns, customer acquisition channels
- **LinkedIn scraping + AI:** Track competitor hiring (signals strategy)

Results:

- **Quality:** Comprehensive, continuously updated vs. stale snapshots
- **Time:** 3-5 days for complete analysis vs. 4-8 weeks
- **Output:** Competitive positioning matrices (auto-generated); White space opportunity identification; Real-time alerts on competitor moves

Example Output: "Your top 3 competitors average \$80/month, target SMBs, focus on ease-of-use. White space opportunity: Mid-market (\$100-150/month) with enterprise features + simple UX."

Some Of My Favorite Books...



Thank You!

Steve Ciesinski

Vencrest Partners

Stanford GSB

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