



Pitching 101: How to Present Science to Investors [REDACTED]

January 2019 | MIT



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Making the Pitch: Approaching Investors



Funding Sources for Startups

SOURCE

FUNCTION

STRATEGIC



VENTURE CAPITAL



GROWTH; RAPID SCALING

ANGELS AND ACCELERATORS



PROOF OF CONCEPT

VENTURE PHILANTHROPY



FRIENDS AND FAMILY



PRE-FUNDED STARTUP

GRANTS



SCIENCE PROJECT

VC By the Numbers

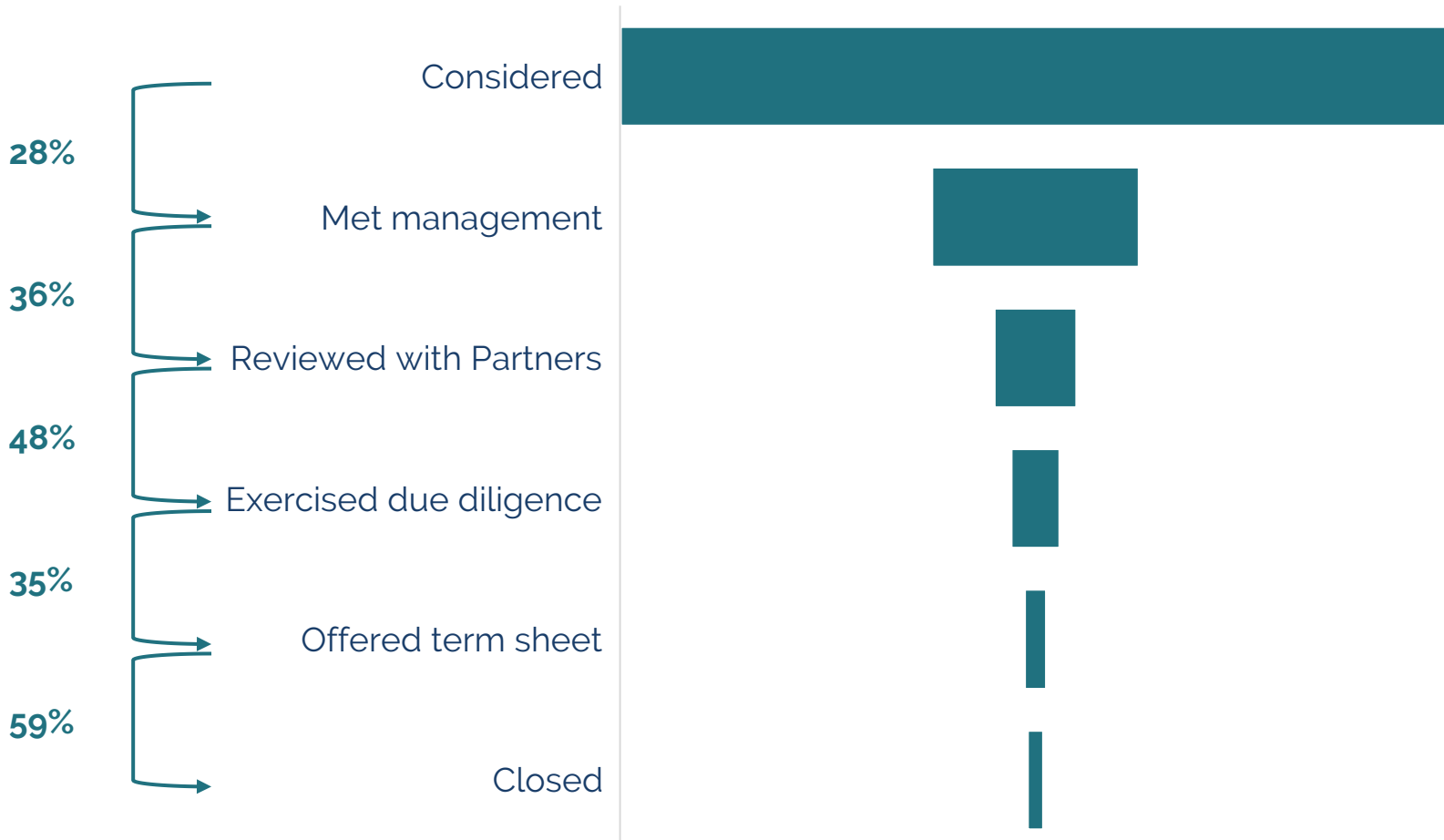
The majority of startups, and most academic startups, do not require and will not get venture capital

VCs look at **100s** of businesses for one investment

OUP tracks ~7,000 companies yet will only make ~40 investments out of our current fund – that's an acceptance rate of **<1%**

The Likelihood of Getting your Startup Funded by a VC

VC Dealflow Pipeline (All Round Stages)



1 % of deals make it through the process

Initial Interactions & Pitch Decks

VCs receive MANY pitch decks

- **The cliché is true – you only get one chance to make a first impression**
 - Get introduced by a trusted friend or advisor
- Make your initial interaction (phone call, pitch deck, executive summary) clear, concise, and compelling:
 - Who you are
 - Data justifying your enthusiasm and commitment
 - Why data are compelling
 - Addressable market
 - Funding and accomplishments to date
 - Use of financing proceeds: team, business, technical

Who Pitches? Play to your strengths



Entrepreneur

- Lead with the team
- Product development
- Unique market insight/opportunity
- Fundraising plan & value creation



Scientist

- Focus on the science and its place in the landscape
- Data! Data! Data!
- Product opportunities
- Next steps, timeline, and milestones

Lessons Learned about Raising Capital

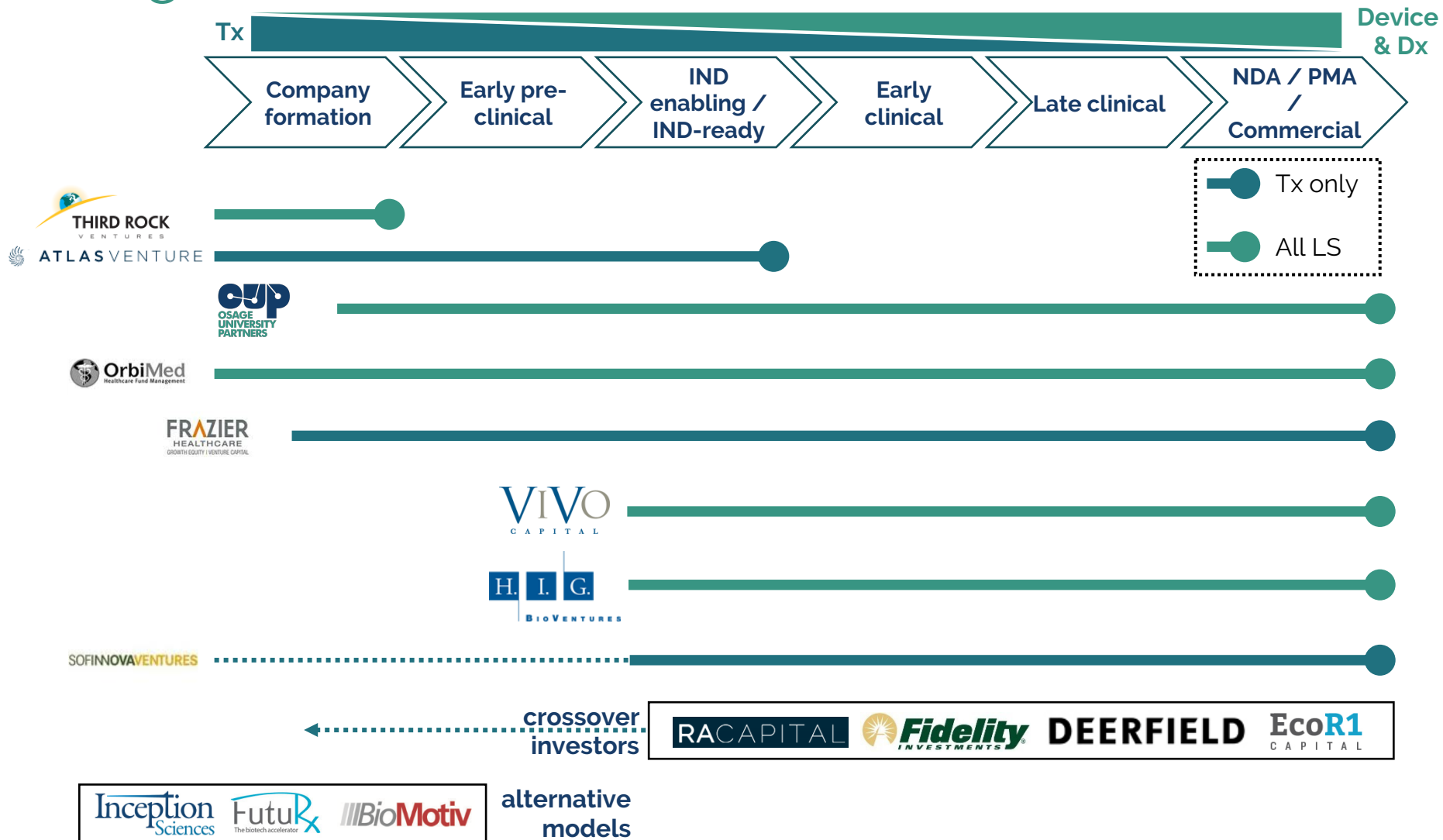
Targeting investors

- **Investment strategy (sector), stage, and availability of funds**
- Unless you're a 'rock star' with prior entrepreneurial success, fundraising is challenging, potentially grueling, and a long process
- Be prepared for rejection - VCs say "no" far more often than "yes"
- Early stage companies often represent new stories & technologies
 - Multiple meetings will be needed

Private placement agents - investors want to work directly with founders

- Only 'ok' for late stage companies that are truly 'too busy'
- Pros: can run an efficient process and identify potential investors
- Cons: 1st impressions; founders still need to be personally involved

Know Your Investor: VCs Invest at Different Stages (Life Science)



Note: These are examples. There are many more VCs and there are always nuances



Know Your Investor: VCs Invest at Different Stages (Tech)

Institutional

Strategic



Y Combinator

techstars BOLT

Amplify PARTNERS
Engineering Capital
venture capital for engineers

KPCB
First Round

CUP
OSAGE UNIVERSITY PARTNERS

General Catalyst Partners
KPCB
KLEINER PERKINS COFFIELD BYERS
FOUNDERS FUND
a16z NEA
SEQUOIA
LIGHTSPEED VENTURE PARTNERS

SUTTER HILL VENTURES

BENCHMARK

amazon vmware Microsoft QUALCOMM intel capital

Baidu 百度 salesforce EMC² Google ventures NVIDIA SAMSUNG

IQT IN-Q-TEL ipgroup ALLIED MINDS

alternative models Fidelity DFJ GROWTH R revolution PARTNERS IVP GENERAL ATLANTIC

Note: These are examples. There are many more VCs and there are always nuances



Frameworks for Evaluating an Investment Opportunity



A Framework for Technical Proposals: The Heilmeier Catechism

1. What are you trying to do? Articulate your vision using **absolutely no jargon**
2. How is it done today, and what are the limits of current practice?
3. What is new in your approach and why do you think it will be successful?
4. Who cares? If you are successful, what difference will it make?
5. What are the risks?
6. How much will it cost?
7. How long will it take?
8. What are the mid-term and final “exams” to check for success?



George H. Heilmeier, a former DARPA director (1975-1977), crafted a set of questions known as the "Heilmeier Catechism" to help Agency officials think through and evaluate proposed research programs.

General Pitching Guidelines

1. Pre-empt any 'killer' questions
2. Send full pitch decks in advance
- 3. Make slides visually interesting**
4. Use text sparingly, but enough so that one can interpret the slide without presenter
5. Be clear, concise, compelling
6. Keep the pitch brief (~15 slides) and have additional details in appendix to address questions
- 7. Pause to allow for questions**
8. When you don't know an answer, say so
- 9. Do not hide anything substantive; it won't stay hidden for long**
10. Do not make unsubstantiated claims and statements. Sooner or later, you'll need to back them up

Elements of a Pitch Deck



A Pitch Deck to Impress Investors

1

Intro: Problem & Solution (1 slide)

- Grab Attention
- Demonstrate expertise



2

Leadership (1-2 slides)

- Highlight successes of execs and founders
- Identify specific new hires contemplated if senior management

3

Market Opportunity (2-3 slides)

- Scope and scale of problem you're solving
-  Clearly show a rough, bottoms-up assessment of your TAM and SAM, along with assumptions
-  Present standard of care (products) and how your solution/product meets an unmet need




4

Technology & Product (3-10 slides)

- Experimental results prompting the 'eureka' moment
- Where you are in the product/service development process
- Future R&D challenges for product development/expansion


5

Competition (1-2 slides)

- Academic and corporate researchers working on the problem and status
-  Why/how do you know your product will sell?
-  What's your competitive (unfair) advantage?
-  What's in the preclinical and clinical pipeline for this unmet need?

6

Operational Plan / Milestones (1-2 slides)

- How do capital needs map to milestone achievement?
- Timeline for deliverables and future steps
-  Go-to-market strategy; what will sales process look like?

7

Financing Strategy (1 slide)

- Requested funds and expected progress
- Financing history – grants, FFF, angels, VCs
- Value inflection points with funding
- Any proposed tranching

8

Summary (1 slide)

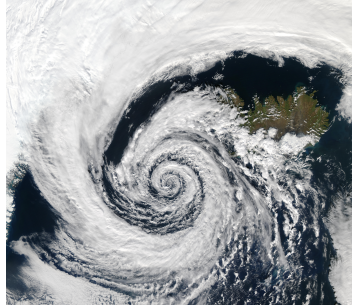
- What will the company be in 5/10 years?

1

Introduction: Problem & Solution

Our goal: a safer Internet

The great challenge? access and analyze a cyclone of real-time data to **detect**, **understand**, and **prevent** breaches.



Physical Science

- Briefly state the problem and the solution
- Clear expression of your mission
- Examples:
 - **Corelight:** (see above)
 - **KenSci:** Risk prediction for healthcare, powered by machine learning
 - **Quantum Circuits:** Develop, manufacture, and sell the first general purpose quantum computers

Redacted

Life Science

- Focus on the science with background on the technology and cover key data points that would capture investor attention
- Outline the current status of the program and where it is in the development process
- Ask the VC for: help with financing, team building, strategy (such as indication selection)

2

Leadership

Redacted

Physical Science

- Background of executives, founders, and advisors
- Include prior product development and commercialization successes
- Be specific – numbers matter
- Verbally discuss new hires

Redacted

Life Science

- If there is an executive team, focus on their past experience and specific roles relevant to company activities
 - Highlight any role in VC-backed companies or experience in related clinical indications
- If the company only has scientific founders, focus on everyone's academic /clinical background that is relevant to the technology
 - E.g., Prostate cancer doc; Chemist and inventor of currently approved drug

3

Market Opportunity: How big can it get?

Redacted

- What is the scope and scale of the problem you're solving?
- Don't confuse the total market size, addressable market size, and the revenues generated by companies currently providing solutions
- Try to break down the market into the highest resolution that you can back up with data
- Bottom-up analysis is better than top-down (if possible)

3

Market Opportunity: Why Now?

Redacted

Physical Science

- Why hasn't this been done before?
- What use cases have recently materialized that you are uniquely positioned to address? Where in the hype curve are we today?
- Are the current business models (e.g., monthly subscription vs. large capital expenditure) no longer suitable for new use cases?

Redacted

Life Science

- Focus on the market size and revenue potential for rare disease markets only
- Do not define your value based on getting a "small piece of a very large market"
- Rather than focusing on market opportunity, focus on different applications the product can be expanded into

3

Market Opportunity: The Problem

- **Describe the problem space and how it works today**
- Make sure investors understand the complex landscape in which you will operate
- Before you present your solution, show where there is friction and inefficiency in the current way of doing things
- Identify competitive/synergistic companies addressing the problem

Redacted

Redacted

4

Technology & Product: The Solution

- **Your Solution and the Value Proposition**
- Make a clear connection between the problem and the solution
- Try to explain in concise terms what the value proposition is - use quantitative metrics if relevant (e.g., 100x faster for ½ the cost, or eliminate the need for expensive CT scans.
- Who realizes the value? Patient, payers, bank, customer, CISOs, developers, etc.

Redacted

Redacted

4

Technology & Product: Why this can work

- Key data that supports claims about the technology
- Experimental results prompting the 'eureka' moment
- If there is a way to demonstrate the product, reserve time for a demo during the pitch (seeing is believing)
- Product development roadmap and where you are currently in the plan
- Next steps once you secure financing

Redacted

Redacted

4

Technology & Product: Roadmap

- Briefly represent the past to show the pace of development
- The roadmap is a temporal progression of product milestones
- Be quantitative on performance if possible
- Include significant customer inflection points

Redacted

4 Technology & Product: Making Money

- Go-to-market strategy
 - Direct vs Channel
 - Biz model: razor/razor blade, land and expand, open core
- Revenue composition
 - Unit economics
 - Recurring vs. non-recurring
- What will sales process look like?
 - Expected sales cycles
 - Demonstrate understanding of decision makers

Redacted

Redacted

5

Competition (Physical Science)

Descriptive

Competitive Landscape

23



SiBeam

Early entrant (2004) with a focus on pre-802.11ad standard

Bought by Silicon Image and then by Lattice Semiconductor.

Output-power-limited (see detailed analysis).

Wilocity

Early entrant (2007) with a focus on 802.11ad standard

Bought by Qualcomm in 2014 for >\$300M.

Single-carrier modulation.

Most-likely output power limited.

Intel



W13100 and AC 18260 chips focus on short-range docking applications.

Most-likely single-carrier modulation.

Most-likely output power limited.

Broad com



Initial focus on laptop PC applications.

Recent press release on 60GHz WiMesh for wireless infrastructure based on large phased arrays.

Output-power-limited.

Prior startups were too early, and are output-power-limited, restricting range and cost (larger antenna array).

Comparative





Competitive Landscape Overview

	PH	ACCION SYSTEMS	BUSEK	AEROJET ROCKETDYNE
Thrust/Power (mN/W)	0.11	0.02	0.02	--*
Specific Impulse (s)	700	2000	3500	40
Adaptable/Customizable	✓	✗	✗	✗
Rapid Production Capable	✓	✗	✗	✗

*chemical propulsion system - can achieve higher thrust but effective efficiency is low

- Describe competitive landscape: Who are the key large (and small) players and why can you win against them or work with them?
- Use **relevant** metrics when comparing your solution to the competition
- What are some barriers to entry? What is proprietary?
- Compare yourself, but be sure to be critical of your own approach

5 Competition (Life Science)

Overview of Arch Oncology's Anti-SIRP Antibodies				
	 SIRP60*	 SIRP250*	 18D5**	 KWAR-23**
SIRPα Binding	High	High	High	High
SIRPα Variant Specificity#	V1	V1, V2	V1	V1, V2
Blocks cellular SIRPα/rCD47	Yes	Yes	Yes	Yes
Cellular SIRPγ Binding	Yes	No	No	Yes
Blocks cellular SIRPγ/rCD47	No	No	No	Yes
Single Agent Phagocytosis Activity	Yes	Yes	No	No
Combination Phagocytosis Activity	Yes	Yes	Yes	Yes
Inhibition of T cell proliferation	No	No	No	Yes

*Murine IgG1 antibodies
 *Competitor antibodies
 # V1 and V2 are the two most common variants of SIRPα in human population

- Describe the current State of Care for the addressable patients
- Conduct a thorough search on the current treatments in development – especially in late stage development
 - If the current treatments in development may change the standard of care or raise the bar, please include the new baseline
- Outline technical differences compared to other closely related technologies

6

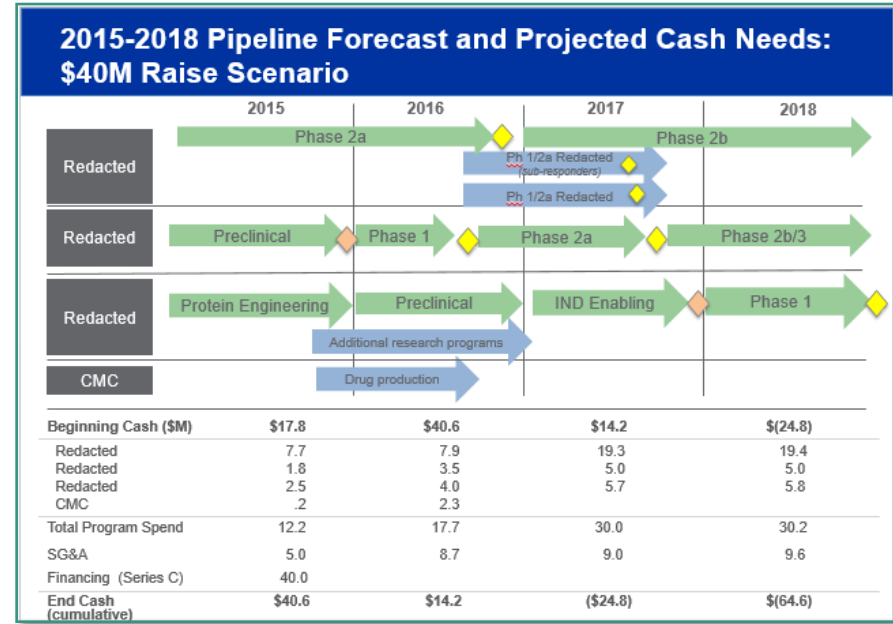
Operational Plan / Milestones

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- Outline the overall timeline to get through initial proof of concept in the clinic
- Show value creating milestones along the drug development path
 - Identifying the development candidate, completing IND enabling studies, dosing healthy subjects for PK, demonstrating clinical PoM and PoC
- If possible, provide the budget needed to reach each of the value creating milestones
 - Include any realistic non-dilutive or BD opportunities that can reduce the capital required or de-risks capital need during development period

7 Financing Strategy

- Requested funds and expected progress
- Financing history – grants, angels, FnF
- Value inflection points with funding
- Financial projections
 - Forecast of future costs and revenues
 - Know your levers/knobs
 - Beware of naïve ambition
- Valuations
 - In general, let the market decide
 - If pressed, tell the VC you want to let the market decide
 - If pressed again, have some data in mind and provide a very wide range



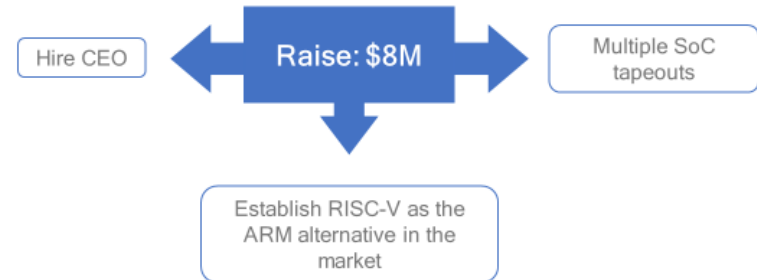
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Summary and Vision

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Summary

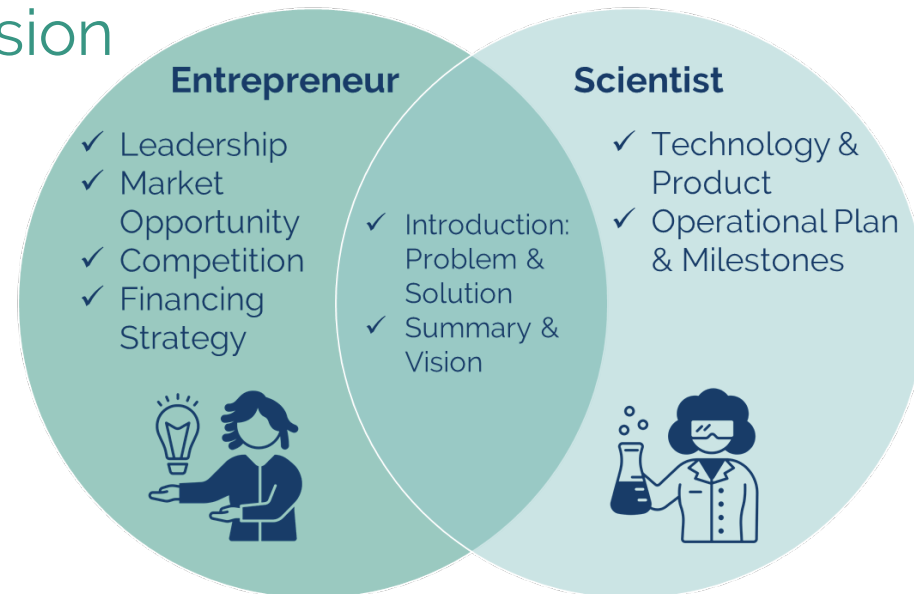
Bringing the power of open source and software automation to the semiconductor industry



- What does the company aspire to be?
- What will this look like in 5 years in success?
- Summarize the strongest features of the company: team, current traction, current investors, partners, advisors, technology, etc.
- Verbally ask for feedback and potential next steps

Summing it all up

- Great pitch decks clearly show:
 - Strength of the team
 - Compelling product/science vision
 - Clear value creating investment opportunity
- And, great 'pitchers':
 - Balance modesty & passion
 - Read the room
 - Play to their strengths



Thank You



Summary

Osage University Partners (OUP) invests in startups that have licensed technologies from universities and research institutions. OUP has partnered with over 100 institutions to invest in pioneering technologies and visionary entrepreneurs targeting large market opportunities. The Fund invests across a range of technology sectors and company stages, and typically co-invests with other leading venture funds.

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