



Science Founders Toolkit

“If you've made a discovery that you think can lead to a drug or a pharmaceutical, or a device, or whatnot I've come to the realization that we have an obligation to society to take that into the marketplace.”

— [Entrepreneur and Prof. Harvey Lodish, MIT](#)

Welcome!

This Toolkit brings together science and engineering academics from leading universities and research hubs who are interested in entrepreneurship and commercialisation.

It is a live document filled with essential resources to guide you as you traverse your commercialisation journey from scratch.

This document is accessible only by URL, you are welcome to download content, book sessions with experts and contribute to making this a better resource.

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Introduction

“Science and everyday life cannot and should not be separated.”

– [Rosalind Franklin](#)

History demonstrates the inextricable link between scientific progress and a nation's progress in health, welfare, jobs and economy. What has often started with military spurred innovations has led to monumental developments from radar, duct tape, satellites to the internet. What has often started as lab research has led to developments from new therapies, medical devices to renewable materials.

Yet the path to commercialising one's research is not as straightforward as building a software app.

Building science ventures is different from building technology ventures. The world of science commercialisation is complex. It tends to involve a different set of stakeholders including public sector and higher education institutions and inherently bears a different flavour of risk: on *science, product, market, regulation, people and capital*. But none insurmountable. And when it all comes together it has the opportunity to create transformational shifts for society.

As a scientist considering the path of entrepreneurship, how then do you optimise on these risks?

It starts with understanding what it takes to build a venture and, in parallel, understanding how *you* fit in this journey. At Wilbe, we have consolidated the key skills for [becoming a science founder](#) in a 4 week Fellowship, that said, the journey of building a venture is a much longer one!

Now that you are considering or are on this journey it helps to have access to a set of essential resources, to experts and to peers on a similar path, to accelerate your entrepreneurial venture.

This is a live and evolving toolkit intended for:

- science and engineering academics (phds, postdocs, research fellows);
- who are interested in and or have just begun commercialising their research

A few ways you can use this Toolkit:

- gain best in class resources on building your business from our *knowledge bank*
- bounce ideas + get feedback on your venture on our dedicated Slack channel
- contribute content, *leave feedback* on how we can improve

The quick links provided in the header serve as easy navigation of this document.

Knowledge Bank

Basic research leads to new knowledge...It provides scientific capital. It creates the fund from which the practical applications of knowledge must be drawn.

— [Vannevar Bush](#)

This document gathers a set of resources that serve (almost) as '*masterclasses for science commercialisation*'. They are particularly suited to founders who are at the initial and perhaps the most critical stage of venture formation: from lab to market, which has also historically been considered the 'valley of death'.

The resources consolidate material from successful science ventures and spin-outs, Wilbe's proprietary venture building Engine deployed to over 40+ companies and of course any resources that you contribute.

Optimising Risks

“Above all, don't fear difficult moments. The best comes from them.”

– [Rita Levi-Montalcini](#)

The key elements of building a successful science venture:

- the **science** works, is defensible and is feasible at scale;
- the **product** is solving a real problem;
- for a large and/or growing **market** that is willing to buy it over the **competition**;
- that the **regulations** and **timing** are favorable and support the product in market;
- there is sufficient **financial** backing from aligned investors (private, public);
- and all this is delivered by an experienced **team** supported by a collaborative entrepreneurial environment.

Building a company involves managing all these risks or taken in another sense, creating value across all these elements. Scientists often spend most of their time on the **science**, but there is no point perfecting a solution that does not have a **market** that will buy it. Similarly, even if the science is feasible, there's a clear value proposition and market, without the **financial backing** and the right **team** to execute, there is no company.

It's hard, maybe impossible to attain perfect alignment in a steady state, however, it is about continuously thinking through the relevant strategy and actions to optimise value and reduce risk across all these elements.

The success of your venture ultimately rests on your ability to do this. Which is also why knowing how you fit in this journey and thereby building the right team is perhaps one of the most fundamental aspects of building a successful business.

Value Proposition

When an investor considers investment in a venture or a customer considers working with you or talent decides to join you, there are a couple of things that they are looking to understand (be convinced of) in order to make the decision:

- The product value proposition: what problem is your product solving? Is this a big, important and growing problem? Are there customers willing to pay for your solution? Will the market be ready for this?
- The science: is there a defensible asset or IP or features that act as a moat? What is your secret sauce, how are you differentiated from competitors?
- The team: who is the team behind the venture, are they in a strong position to execute and bring this science to market?

A good starting point for any entrepreneur, in particular science entrepreneurs who are strong technically but may not have spent enough time on the commercial side, is to outline their business proposition. This then acts as an anchor document that will keep getting refined as you progress through the journey. It's not a static document rather one that gets sharpened with each iteration or experiment that reveals a unique insight, discovery or strategy.

Enclosed below is a sample outline for a pitch deck that will help you build your business plan or pitch deck and then actually pitch it.

There is no right time to create this deck. If the entrepreneurial path is the one you have decided to embark upon, the earlier you are able to articulate your product value proposition the earlier you will be able to start building.

FYI the business plan document is nothing but a more detailed and fleshed out version of the pitch deck.

Sample Pitch Deck

[Download a Sample Pitch Deck Storyline](#)

Build your own and don't worry about the # of slides for the initial draft, get the story right first.

Customer Discovery

One cannot emphasise enough the importance of customer discovery in the early stages of commercialisation (and then at every stage thereafter). Understanding the market before/ while building the product is hugely important. Sounds obvious but is often the one of the chief causes for science ventures getting stuck in the valley of death.

Who is your customer and what value do they derive from using your product?

The only way to find this out is to step out of the lab and to speak to your customers. Understanding who your customer is and validating their needs is part qualitative and part quantitative process. Ultimately, you want to understand what would be the business case for them to purchase your solution. In other words, how much 'value' are you creating for them - is your product better, faster, cheaper than the status quo?

Through the customer discovery process you can glean data on your product including; differentiating features, pricing, cost, and value.

Here are a couple of resources that can help structure your customer discovery process.

[26 Resources to Help You Master Customer Development Interviews](#)

[From product to customer experience: The new way to launch in pharma](#)

Storytelling

Content

- [Creating your startups narrative & pitch](#) (relevant content, mind you this startup - Atrium - recently shutdown, a good reminder that storytelling is only one tool in the entrepreneur toolbox, execution + timing are others!)
- [The six principles of persuasion by Robert Cialdini](#)

Pitching Virtually

With the current realities, we are all getting comfortable with doing more virtually. Now pitching in a virtual world is different but there's no need for it to be any less impactful. Here are a few things we recommend to master the art of pitching virtually:

1. **Get the deck (story) right:** this remains the same virtual or not virtual - the content should convey a powerful story, [here's](#) a good outline
2. **One message per slide:** have limited text on slides, this encourages you to vocalise the story with less of a need to read, too much text confuses and distracts the listener and remember the 'why' behind each slide or section of your presentation
3. **Structure the meeting:** if you have 30 min, then spend the first 2 min on intro + a bit of small talk, spend 10-12 min max on the deck, leave ample room for discussion you are looking to squeeze in at least 5 questions (the more the better) so keep answers tight and finally spend the last 2 min wrapping up and proposing a call to action
4. **Slow down:** there's no point fitting in every word during the pitch if you sound flat or like siri
5. **Pause:** use pauses to let key information sink in or to drive excitement or urgency to the next message, try using transition slides as a way to pose a question to the audience or reveal a major insight
6. **Eye contact:** Yes this one is hard if there are more than 2-3 people on a video call but the key thing to remember is don't read the deck look at the camera!
7. **Use other verbal cues** such as; anchoring your message in a slide (we are building X and this will address 3 major challenges; 1... 2... and 3...), emotions (convey your commitment and excitement for the cause) and being conversational; be human.
8. **Practice:** do dry runs with your fam, friends, advisors, mirrors

9. **Few days before:** send the deck out with a reminder of the meeting logistics
10. **On the day:** Sign in early, get your camera, av, background sorted, breathe and smile!

Online workshops to improve your pitching skills

- **Own The Room:** This is a well reputed training by some of the Valley's [top coaches](#). If you are interested in signing up for one of these, reach out and we will get you a discount! [Online Communication Training | Virtual Training](#)
- **Zoe Chance on Powerful Communication, Yale Professor**
[Zoe Chance](#) helps great talent become more influential. At Yale School of Management, she teaches a popular elective called Mastering Influence and Persuasion, aka "Doing Uncomfortable Things That Make You a Better Person." If there's sufficient interest we can arrange a video session with Zoe on the topic. [Request here](#)

Vision and Goal Setting

Once you have defined your business proposition and begun building your venture, take some time out to whiteboard your grand vision for the company, what will help you get there (goals) and how will you measure progress along the way (KPIs).

Herein we enclose the reasoning behind and methods of running this exercise.

This Vision and Mission

- Drives everything we do
- Acts as a daily guide for our decisions and actions
- Helps us not get distracted
- Allows us to be consistent and clear in explaining our values to others
- Is easy for new people to join us and know what they work towards

Why do we do this VMG process

- To take the hidden and make it visible and clearly understood
- To remove misunderstandings and therefore remove wasted effort
- To understand the places we agree and disagree on
- To articulate the goals and metrics that will help us achieve this vision

What do we do to get to this Vision and Mission and make sure it's effective for us?

- Discuss it further to get to a single agreed version
- Understand how we can use it in the business
- Reword the VMG with clear wording that drives the Goals or actions of the business
- Assign KPI, Owner, Resources to each of the Goals

How do we use it from here?

- This is our north star, something we keep coming back to
- From here we can articulate the product-market fit clearly
- It becomes part of our pitch deck or business plan
- Can formulate communications plan
- Can define goals better and the further actions under goals

- Use it as a sense check for goals & ideas that pop up and excite us

To do: How to run the exercise?

If you are a;

- Sole founder: simply write down your company VMG as below
- If you are more than one founder: write down your VMGs separately, consolidate, discuss and agree on your north star!

Exercise:

1. Individually write down your VMG
 - Vision: what change do we want to see in the world?
 - Mission: how will we contribute to that change in the world?
 - Goals: what will we do to achieve our contribution to that change?
2. Consolidate, discuss and reword an actionable & ownable VMG
 - Do these resonate with you?
 - Can you imagine standing on a stage and saying this at every pitch to every stakeholder?
3. Start building the Pyramid of 3s for the goals we have
 - Owner
 - KPI
 - Measure



Online resources

Podcasts / Blogs / Books / Videos - collaborative effort!

- [Blog: resources for Bio founders](#)
- [Blog: Life science VC trends](#)
- [Podcast: a16z bio eats world](#)
- [Book on running a company: Let my people go surfing by Patagonia founder Yvon Chouinard](#)
- [Video: De-risking material sciences startups by Activate.org](#)
- [Video: Defining your Value Proposition by Wilbe BSF](#)

Work in progress!

Product-Market fit

Company formation

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Tech stack

Sales

Marketing

Social Media Training

Management Conflict

International Expansion

What else would you like content or input on? [Leave Feedback](#)

About Science Founders Community

This Community is the initiative of [Wilbe](#) and a few academic friends of Wilbe with the shared vision that the world's hardest problems can be solved with the help of science.

This community adheres to Wilbe's privacy policy, we do not track usage.

[2021 Privacy policy](#)