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 NIPPOTICA

Building a deeptech venture is a fundamentally different challenge from launching a typical startup. It demands not only scientific and technical expertise but also a clear understanding of markets, capital, and team dynamics.

Deeptech Ventures offers a practical framework for founders, investors, and venture builders navigating the complexities of early-stage innovation. With an emphasis on disciplined execution, strategic alignment, and long-term value creation, it translates the hard lessons of venture creation into actionable insights.

DEEPTECH VENTURES

An Entrepreneurial Guide

Kambiz Homayounfar

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Preface

This book is not about building a unicorn.*

Because unicorns—those semi-mythical tech startups valued at over a billion dollars, typically before they've ever produced a profit or, occasionally, even a product—have become the dominant folklore of our entrepreneurial age. There are now incubators, pitch decks, and investor newsletters seemingly engineered to mass-produce these creatures, as though market gravity could be gamified with the right jargon and a few hockey-stick graphs. Growth is divine, valuation is gospel, and the humble art of creating something real and resilient often gets lost in the confetti storm of media hype.

But let me say it again, more clearly: this is not a unicorn-hunting manual. You will not find here a checklist for launching the next Uber-for-mitochondria or a crash course in deploying ChatGPT as your co-founder. There are already too many books that promise that. What you'll find here instead is something rarer: a field guide for the strange, high-friction, low-glamour, deeply rewarding terrain of deeptech entrepreneurship.

What is deeptech, you might ask? It's a fuzzy term, partly because it's more of a topography than a taxonomy. Broadly, it refers to companies rooted in scientific discovery or engineering innovation—not a better social network or a faster grocery app, but something more fundamental. It might be a new material, a breakthrough in energy storage, an AI model that generates new hypotheses rather than parrot predictions. It's the stuff that's hard to explain in a tweet and harder still to fund in its early stages.

* That alone should thin the crowd a little.

Deeptech is weird. It's unsexy, unscalable (at first), and wildly out of step with the pacing of conventional startup wisdom. It's slow-cooked innovation in a world obsessed with instant ramen. But that slowness hides a paradox: deeptech companies, when they succeed, have staying power. They create not just products but foundations. Think of Qualcomm, whose wireless patents quietly power the phones in your pockets. Or Moderna, which spent a decade being mostly ignored before becoming a household name. These are companies that didn't just launch a feature; they shifted a frontier.

This book is for the people who might do that next.

If you are a scientist whose research paper got more attention from peer reviewers than potential customers, this book is for you. If you're an engineer who's sick of watching your prototypes sit in a lab while someone else turns a knockoff into a business, this book is for you. If you're an academic secretly wondering, What if I built the company instead of just licensing the patent?, welcome.

I know that wondering. I've sat in that chair, on three continents and too many startups to count. I've raised money in Tokyo, hired teams in Zurich, pitched to skeptical VCs in San Francisco, and battled regulatory dragons in Singapore. Some ventures flew. Some never got off the ground. All of them taught me something, though the tuition was occasionally brutal. I wrote this book to compress those lessons into something slightly less painful for the next wave of founders.

Let's get something else straight: I'm not a neutral narrator. This is not a bland compilation of case studies or a McKinsey-flavored framework dump. It is opinionated. It is practical. It is unfinished. Because if there's one thing I've learned about building anything at the bleeding edge of science and commerce, it's this: the map is always changing. What worked for CRISPR may not work for carbon capture. What raised money last year might be radioactive today. If you're looking

for absolute truths, read a physics textbook. If you want to navigate the fog, read on.

Now, let's address the cultural gap. Deeptech founders often come from domains where rigor, precision, and restraint are virtues. Academia rewards caution. Science punishes overstatement. But the startup world has its own dialect—part theater, part poker. If you enter this world expecting that truth alone will carry the day, you may be mistaken for a brilliant, broke idealist. Investors, customers, partners—they don't just want to understand your technology. They want to understand how it becomes a business. They want a story. Not fiction, mind you. But narrative clarity. Your job is to make them see what you see before the rest of the world catches up.

This doesn't mean you have to become a hype artist or abandon intellectual integrity. But it does mean learning to communicate risk and relevance in the language of decisions. You'll have to build a team of technical talent working with "translators"—people who can bridge the gulf between invention and adoption. You'll need to master the art of telling a story that's commercially inevitable. And you'll need to keep your sanity intact while doing it.

Which brings us to something I wish more startup books said out loud: this is hard. Not in the "long hours and Red Bull" sense, though yes, there will be nights when you wonder if you're going to die under a pile of legal paperwork. It's hard because you are trying to create value from things that don't yet exist, under conditions of maximal uncertainty, with people you barely know, and with money you mostly don't have. That's not entrepreneurship. That's magic, with spreadsheets.

So why do it?

Not because it's the fastest way to fame or fortune. (It's not.) Not because VCs will throw roses at your feet. (They won't.) You do it because something about the problem you're solving refuses to let you

go. You do it because you see something nobody else sees, and you believe you can make it real. You do it because, for all its absurdity, this might be the most meaningful professional thing you'll ever attempt.

And because, deep down, you know that not trying would haunt you more than failing ever could.

If this book helps you move one step closer to that kind of clarity—to build something that matters, endures, and maybe even pays its own bills—then I've done my job. You don't need to agree with every idea in these pages. But if a single framework, story, or hard-won insight saves you six months of wandering in the wrong direction, then we're both ahead.

Now let's begin.

Kambiz Homayounfar
Tokyo, October 2025

序文

カンビズ・ホマユンファからこの原稿を最初に受け取ったとき、正直に言えば「今さら、これ以上『起業本』が必要なのだろうか」という疑問を抱きました。世にある多くの書籍は、ベンチャーキャピタルから資金を調達し、急成長を遂げてスケールを目指すという、お決まりの成功法則をなぞっています。一冊読めば、他も似たり寄ったりではないか。そんな先入観がありました。

しかし、読み進めるうちに、本書が既存の起業本とは全く異なるアプローチをとっていることに気づきました。本書が焦点を当てているのは、一般的なビジネス書ではあまり扱われてこなかった「科学研究を起点とした事業創出」という、極めて難易度の高いプロセスです。物理、化学、バイオ、材料、工学といったディープテック領域のスタートアップは、アプリ開発やプラットフォーム構築とは根本的に異なります。高度な科学を土台とするがゆえに、その社会実装には膨大な時間と、幾重もの実証プロセスが不可欠だからです。

この差異は決定的なものです。科学者やエンジニアが起業を志すとき、従来の「起業本」ではカバーしきれていない壁に必ず直面します。週末にプロトタイプを仕上げるようなものではなく、研究室を整え、装置を動かし、科学の諸原理が実世界でも間違いなく成立するかを、何度も検証し続ける必要があります。発見から市場投入までの道のりは気が遠くなるほど長く、不確実性に満ちています。

著者のホマユンファは、まさにこの険しき道を実地で歩んできた人物です。複数の国や産業領域で事業を立ち上げ、異なる文化圏で資金を調達し、技術の遅延や事業の停滞といった数々の難局を幾度も乗り越えてきました。彼の言葉が、単なる机上の理論ではなく、現場の生々しい体験に根ざしているのはそのためです。

本書が、耳当たりの良い安易な楽観主義を排している点も、彼の経験ゆえでしょう。いかに適切な助言を得て、努力を重ねても、市場は変化し、タイミングはずれ、強力な競合が現れるのが現実です。こうした厳しい実相を率直に描いているからこそ、本書は読者にとって、信頼に値する指針となり得るのだと考えられます。

また、本書はアイデアからエグジットまでの直線的な成功物語ではありません。ディープテック・スタートアップが直面する核心的な課題に切り込んでいます。技術の検証、チームの構築、長期にわたる開発のマネジメント、さらには専門外の人々に技術の価値を伝える術や、経営に不可欠な財務の基礎知識。これらはいずれも起業家にとって必須の要素ですが、アカデミアの世界に身を置くだけでは容易に習得できないものばかりです。

研究の世界では「慎重さ」や「厳密さ」こそが美德とされますが、スタートアップの世界では「迅速な意思決定」が求められます。限られた情報で判断を下し、人々を巻き込み、不確実性を前提として進まなければなりません。本書は、科学者としての規律を保ちながら、この「研究と経営」のギャップをどう埋めるかを丁寧に示しています。

とりわけ重要なのが、リスク構造に関する指摘です。多くの本が「市場リスク」のみを語るのに対し、ディープテックでは「そもそもこの技術は機能するのか」という、根本的な問いが常に付きまといまいます。この違いを理解することは、資金調達や戦略の立て方を根本から変え、無駄な回り道を避ける助けとなるはずです。

本書は日本の読者にとっても、極めて重要な示唆を含んでいます。日本の大学や研究機関には、世界水準の成果が眠っていますが、その商業化が難しい背景には、制度や文化の複雑な絡み合いがあります。研究で成功するための資質——忍耐や慎重さ——は、時に起業の姿勢と矛盾することもあります。ホムンファはその両面を理解し、両者の橋渡しを試みています。

もちろん、本書がすべてを網羅した百科事典ではないことも事実です。製造、規制、サプライチェーンといった専門領域については簡潔な記述に留まっており、筆者の主観が含まれる部分もあります。しかし、それこそが本書の価値です。困難な環境での実体験を通じて形成された、一貫した視点がそこにあるからです。

研究者が抱きかちな「理想的な期待値」を適正に補正してくれる点も、本書の大きな特徴です。「優れた技術なら、投資家も市場もすぐに理解してくれる」という幻想は、厳しい現実には打ち砕かれて初めて気づくものです。その現実をあらかじめ知っておくだけでも、研究者が進むべき道筋は大きく変わるはずです。

それでもなお、ディープテックでの起業に挑むことには揺るぎない意義があります。新しい科学の力なしには解決できない社会課題があり、誰かがその知を「具体的な解決策」へと翻訳しなければならないからです。本書は、こうした挑戦に使命感を抱く人々に向けて書かれました。

ニポティカが本書を出版するのは、このエコシステム全体の質を底上げしたいという願いからです。正しい指針はより良い意思決定を生み、それが強いベンチャーを育てます。創業者が正しい期待値を持ってスタートできれば、避けられる失敗を減らし、真に価値ある挑戦に力を集中できるでしょう。

研究者、起業家、そしてこの領域を支える投資家。どの立場であれ、本書はディープテックという深遠な領域で思考を巡らすための、最良のパートナーとなってくれるはずです。

ニポティカ株式会社
代表取締役 CEO 西 大治郎

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