DEEP DIVE INTO DEEP TECH INCUBATION



HOW COVID-19 IS AFFECTING THE DEEP TECH STARTUP ECOSYSTEM

The disruption to all industries as an outcome of COVID-19 has been lasting and severe. This is especially true for the national research ecosystem supporting early-stage technology startups. The lost research output due to temporary closures of most state economies has wreaked havoc on the pace of innovation and commercialization in the U.S.

COVID-19 HAS BEEN THE MOST PROFOUND SHOCK TO THE NATIONAL RESEARCH ENTERPRISE SINCE WORLD WAR II.

We partnered with the National Science Foundation, along with thought leaders from across government, academia, and the investment community, to help deep tech incubation companies navigate COVID-19 implications, build resiliency into their strategies and plans to strengthen their business models, and be better prepared to weather crises. In addition, we provided them with the fundamentals for being agile and adaptable in times of uncertainty and change.

AN UPSIDE OF THE COVID-19 PANDEMIC

Lockdowns and shifted perceptions around remote work activity opened the possibility of hiring technical and management talent outside your region.

CURRENT RISKS AND CHALLENGES IN DEEP TECH

- Deep tech offers big rewards but also poses financial and career risks. You should have a good understanding of what your personal risk tolerance is.
- If you're intent on bringing your technology innovation to market, first make sure it's replicable.
- Success requires both technical skills and business knowledge, including how to get all the way through production and development of a robust product portfolio.
- The level of proof required by investors seems inversely proportional to market size, which can disadvantage and discourage deep tech ventures.
- To raise capital without full proof requires selling investors on unknown market outcomes.

HOW FINANCING AND PARTNERSHIPS ARE CHANGING

- Every startup is different in some cases the COVID-19 pandemic has slowed investor interest, but others have said now is the time to plan for the future and aggressively pursue new relationships.
- Incubator facilities are only part of what deep tech startups need – they also need to tap into a full ecosystem of advisors and experts who can help guide them to the biggest vision possible and build out their management teams.
- Crowdfunding can be important not just to plug capital gaps but to also provide that community of backers with sincere interest in the success of a venture.
- The single most valuable asset a university can contribute when building out a deep tech incubator and program is access to its alumni network, which can offer knowledge, connections, partnerships and even potential investment.
- Entrepreneurs should think of National Science Foundation funding as a way to minimize technical risk, as investors as a whole have not gotten any less risk-averse about deep tech.

RESOURCES

National Science Foundation's Small Business Innovation Research National Science Foundation's I-Corps

WHAT DEEP TECH THOUGHT LEADERS HAVE TO SAY

The need to support commercialization of deep technologies is profound. And, I think that the current crisis has only highlighted this fact.





Successful deep tech, or as we call it Tough Tech, innovations require a lot of technical expertise coupled with business knowledge. One of the trickiest issues we face in Tough Tech is bringing these two elements together.





When you sign up to do a startup, it's not a small thing. It's a pretty big thing. You're looking at years and years of your life and so, when you commit to the deep tech entrepreneurial life, it is a very personal decision.

SAMIR SHREIM

If you're intent on bringing your technology innovation to market, first make sure it's replicable. But also have a good understanding of what your personal risk tolerance is.

RICHARD UHLIG

QUADRANT BIOSCIENCES



Deep tech startups face unique challenges and risks in terms of technology development, long runways to commercialization and requirement of sizable capital investments, as well as emerging and ever-changing market and regulatory landscapes. However, it is exceedingly rewarding to build and support deep tech startups. They have high potential to be financially rewarding and, more importantly, to significantly impact the toughest challenges facing our society today, such as the COVID-19 pandemic.

GRACE WANG

THE STATE UNIVERSITY OF NEW YORK



Check out the How COVID-19 Is Affecting The Deep Tech Startup Ecosystem webinar for more insights from our deep tech thought leaders. For more on the Deep Dive into Deep Tech Incubation initiative, visit our Deep Tech resources page.