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Financing Deep Tech

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Deep tech companies—those built on advances in biotechnology, robotics, electronics, artificial intelligence, and other advanced technologies—aim to solve complex social and environmental challenges. Today the majority of deep tech companies are being launched in developed countries, yet the solutions they can provide are applicable globally. Many of these solutions are especially critical to emerging markets, as the intractable challenges of climate, health, and connectivity, among other issues, disproportionately affect these nations. Addressing these challenges is a strategic priority for development finance institutions and governments worldwide, so financing deep tech companies and boosting deep tech ecosystems in order to deliver new solutions globally is a pressing matter. Doing so, however, requires substantial capital and carries a higher degree of risk than ordinary venture investments. This note examines the process of financing a deep tech company, including the benefits and drawbacks of currently available types of financing, and suggests examples of promising but not yet widespread alternatives.

Deep Tech Financing Challenges

Over the last few years deep tech has been gaining momentum. Deep tech companies are attracting record venture capital (VC) investments, and the trend is accelerating: \$76.7 billion was invested across approximately 5,000 transactions in 2020, and nearly \$78 billion has been invested across some 4,000 transactions worldwide over the first 8 months of 2021.¹ While more funding than ever is being allocated to deep tech, these numbers represent only around one-fourth of all VC investments in 2021, a relatively low proportion given that deep tech companies tend to be more capital intensive than other start-ups.²

Financing deep tech start-ups is different from traditional venture financing, as deep tech entrepreneurs need to

BOX 1 What is Deep Tech?

Deep tech is a term for technologies that are based on scientific or engineering breakthroughs and have the potential to be commercialized. These technologies include artificial intelligence (AI) and machine learning (ML), materials, advanced manufacturing, biotechnology and nanotechnology, drones and robotics, photonics and electronics, cleantech, spacetech, and life sciences.* Deep tech companies are research and development (R&D) intensive and multidisciplinary.

Source: IFC. For more information see EM Compass Note 94, *Deep Tech Solutions for Emerging Markets*, November 2020.

* Life sciences start-ups are often counted separately from the rest of deep tech companies, as biotech and pharmaceuticals have an established path to commercialization, unlike most other areas of deep tech.

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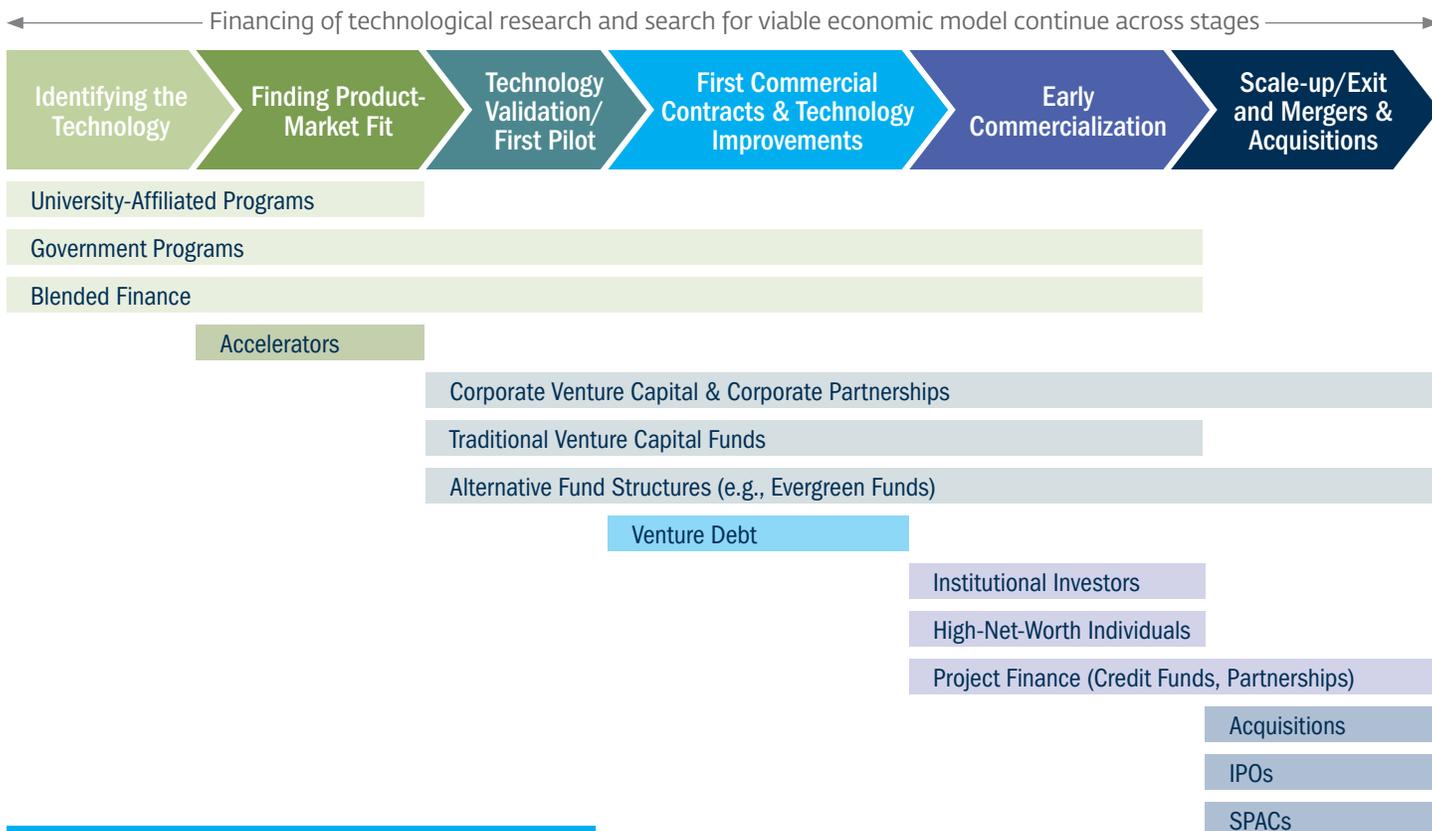


FIGURE 1 Stages of Financing Deep Technology

Source: IFC and Bpifrance.

navigate competing priorities and timelines (Figure 1). To best understand the financial instruments available for deep tech start-ups, it is useful to deconstruct the process of financing deep tech and examine the financing options available for a deep tech entrepreneur at each stage of the company’s development.

Traditional funding models and cycles often fail to meet the unique needs of deep tech start-ups, as these companies generally don’t follow a linear venture stage investing process. The approach chosen for this Note, therefore, relies on a mapping of financial instruments in **development stages** rather than in traditional funding rounds. This new approach encourages investors and other deep tech stakeholders to consider deep tech investments as financing a solution to a global challenge, rather than financing an individual project. It does so by reinforcing the importance of ecosystem-building and goal-orientation in the financing of deep tech. The sections that follow identify and explain these development stages.

Identifying the Technology

A deep tech company starts with technological research aimed at commercializing a known scientific discovery. At this stage the entrepreneur is focused on identifying the technology that is worth validating further. This exploration is driven by

a progressive validation of technological building blocks to open new development paths and potential applications, and these cannot be known in advance because they depend on the emergence of the technology and on the creation of new customer demand for a brand-new technology.

Thus, for deep tech companies, arriving at a fully-fledged solution and deploying it outside of the lab requires years of development, often requiring access to specialized R&D assets such as laboratories, as well as costly infrastructure and hardware. For example, developing holograms for commercial communication requires more time and money than creating an e-commerce app. The longer timeframe and higher risk of failure make it challenging for pre-seed deep tech start-ups to obtain funding.³

For this reason, initial financing for deep tech often comes in the form of non-dilutive funding from university-affiliated or government programs. A track record of non-dilutive funding is indicative of a new technology’s relevance to strategic business needs or national strategic priorities and can signal technical competence to private investors at later stages.⁴

University-affiliated programs are usually a part of a university’s technology transfer office (TTO), although sometimes they function as an independent entity.⁵ Such programs provide entrepreneurs with access to lab facilities and a network of

industry experts. The program terms vary by country, with TTOs in the United States and Israel often providing assistance and grants to start-ups,⁶ while many TTOs in Europe take a larger equity stake in a start-up in exchange for their services.⁷

Government programs allocating funds for deep tech are aligned with national technology strategies or industry-specific development plans. Governments play a major role in enabling deep tech at the pre-seed funding stage. For example, the U.S. government is currently the world's biggest deep tech investor, through funding of R&D in universities and laboratories as well as through grant programs such as those of the Small Business Innovation Research (SBIR) program.

However, direct government grants for deep tech R&D have been inconsistent. Globally, the number of grants rose from 2,200 in 2013 to 3,200 by 2015, falling back to 1,500 in 2018. Dollar volume increased from \$4.5 billion globally in 2013 to \$6.1 billion in 2015, but fell to \$4.7 billion in 2018.⁸ Moreover, many start-ups do not survive long enough to complete the process of obtaining non-dilutive funding from such programs, and once public funding winds down, deep tech companies often remain months or years away from being able to attract private investors.

Box 2 Deep Tech and the Sustainable Development Goals

Achieving the Sustainable Development Goals (SDGs) is a strategic priority for development finance institutions and governments worldwide.

In 2021 IFC invested in The Engine, an early-stage deep tech fund based in Boston, which is backed by the Massachusetts Institute of Technology, Harvard University, and the University of California. IFC is working with the fund's management team to enable The Engine's portfolio companies to accelerate the adoption of their solutions in relevant emerging markets that would most benefit from these breakthrough technologies.

For example, Boston Metal has invented a coal-free, emissions-free, modular method of industrial steel production using electricity. Lilac Solutions enables the increase in lithium supply needed for electric vehicles by commercializing a new lithium exchange technology for lithium extraction from brine resources that is significantly faster, cheaper, and more scalable.

E25Bio has developed a rapid, at-home fever panel that diagnoses mosquito-borne illnesses in minutes, not days, with a simple blood test, enabling potentially life-saving treatment. And by analyzing urine and stool collected in sewers, Biobot Analytics makes it possible to detect the signs of a pandemic before a community exhibits symptoms, enabling protective measures to prevent the spread of the disease.⁹

Adapting government programs to fill this need for continuous support from technology identification to scale-up will be key to boosting deep tech ecosystems. In Europe, the European Innovation Council (EIC)¹⁰ budgeted over €10 billion for 2021–2027 to develop and expand breakthrough innovations. Its model combines research on emerging technologies with an accelerator program and a dedicated equity fund (€3 billion) to scale up innovative start-ups and small and medium enterprises (SMEs). Similarly, French investment bank Bpifrance's Plan Deeptech was also built to meet the needs of deep tech start-ups.

Launched in 2019 with a €2.5 billion budget over five years, Plan Deeptech's goal is to encourage the creation and growth of French deep tech start-ups, and to boost innovation ecosystems through its Les Deeptech Community. Plan Deeptech focuses on three priority areas with high social and environmental value: Greentech, Health, and Industry of the Future. In 2020 alone, 400 deep tech start-ups benefited from €220 million in innovation funding through grants and repayable advances; 270 of them also received coaching and tailored diagnostics. In addition, close to €870 million was injected into the ecosystem through investments in funds.

Other governments and government-affiliated organizations around the world are enabling deep tech through partnerships with the private sector, such as in India where the Ministry of Electronics & Information Technology (MeitY) has partnered with accelerator programs to roll out national support to deep tech companies.¹¹ Moscow-based Skolkovo Innovation Center, a nonprofit that enables the growth of deep tech start-ups, partners with key Russian and international corporations in deep tech verticals (e.g., clean energy) to launch industry-specific accelerators.¹²

Blended finance products are a helpful de-risking tool at the pre-seed investment stage and beyond. Blended products include grants in combination with automatic or conditional equity financing, a suitable way to boost the funding available early on and mobilize large amounts of growth capital at later stages. Blended products have been instrumental in mobilizing private financing to help solve difficult global challenges such as clean energy transition (one third of blended finance deals target UN Sustainable Development Goal 7: Affordable and Clean Energy¹³).

The public funding portion of blended products is typically sourced from government-affiliated donors, philanthropic foundations, or high-net-worth individuals. For example, the European Innovation Council's Accelerator program's blended finance option includes a maximum grant of up to €2.5 million and equity investment of up to €15 million. Another example is Activate, a nonprofit supported by the U.S. Department of Energy as part of its Berkeley Lab.

Activate is developing a dual fund structure, which includes a philanthropic-only fund providing recoverable grants and a fund capitalized by its limited partnerships, corporations, pensions, and endowments.¹⁴ Similarly, in July 2021 the U.K. government launched a program to make equity co-investments with private sector investors in growth stage R&D-intensive companies.¹⁵

Finding Product-Market Fit and Designing a Customer Model

Every digital start-up must simultaneously envision both its product and its potential customer as it develops the technology. For deep tech start-ups, the challenge lies in the ability to conduct technical and market design at the same time, considering the longer timeframe needed to develop the technology and then figuring out the right unit economics and revenue model to enable commercialization and scaling.¹⁶

Governments and academia power much research but they lack support to move ventures from grant to funding and scaling.¹⁷ Finding product-market fit is often challenging for deep tech start-ups as they are more technology-driven than market-driven. Founders from academic backgrounds may have limited experience interacting with end users such as consumers or business, and may be tempted to overly focus on the technology rather than on the strategy to get it to market.

Conversely, some deep tech entrepreneurs may be tempted to hyper-customize their products. In such cases, they tend to focus solely on the expectations of a single customer, making it more difficult to ensure the adaptability of the technology to other customers. Spreading lessons learned from one industry to others should be encouraged by funders at this stage of a company's development. Moreover, the pandemic and the effects of climate change are leading to increasing government commitments to accelerate the commercialization of some technologies, which is also driven by investor appetite among financial institutions and corporations.

Start-up accelerators with strong ties to scientific and technology communities and to specific industries are a key source of funding for deep tech companies looking for product-market fit. Many accelerators are private. For example Y Combinator (YC), a U.S.-based start-up accelerator best known for producing a number of software unicorns, has been working with deep tech companies and has dedicated biotech cohorts. YC's pitch to founders focuses on go-to-market strategy and long-term planning mentality.¹⁸ Paris-based Agoranov is a public incubator that relies on a well-established ecosystem of experts to support start-ups in designing their customer models.

Some VC firms indirectly support start-ups at this stage by backing accelerator programs. For example, SOSV, a global

There is a gap in the interconnections between players in the deep tech ecosystem, especially between innovators and investors. Removing or reducing information barriers around deep tech investments through tools such as Bpifrance's EuroQuity platform is a first and necessary step to boost the development of successful deep tech companies.

—Isabelle Bébéar, Director of International & European Affairs, Bpifrance

firm that operates early-stage start-up development programs, backs several deep tech accelerators with various focus areas. IndieBio is one of them, focused on early-stage biotech, while HAX (Hard Tech) covers industry 4.0, enterprise solutions, robotics, and medical and consumer devices. In India, nonprofit Biotechnology Industry Research Assistance Council (BIRAC) allocates funding to biotech incubators across the country to ensure equal access to funding for promising biotech start-ups via its LEAP fund.¹⁹

Online matchmaking platforms can also make a difference in connecting start-ups to the right partners and investors. For example, the EuroQuity platform²⁰ owned by Bpifrance has become a reference for connecting high-potential start-ups at all stages of their development with investors and business partners across borders in Europe, Africa, and beyond. More than 30 percent of companies that participated in its programs in 2020 and 2021 raised funds, and 70 percent of the ones that didn't are in discussion stages.

Validating the Technology and Conducting a Pilot in the Field

Once a technology has been tested in the lab and the first go-to-market strategy has been developed, a pilot has to be conducted to test it in real market conditions. One financing option for deep tech at this stage is to engage in corporate partnerships or raise funding from a Corporate Venture Capital (CVC) fund. Such investments in deep tech have been on the rise for the last five years, notably as corporations have been restructuring their R&D strategies from internal development of new technologies to identifying and supporting external entities, effectively outsourcing innovation.²¹ Corporate partnerships are usually limited to testing the technology in the commercial environment of the parent company while CVC funds offer operational capital and testing/pilot partnerships in exchange for an equity stake.

Traditional investors see corporate involvement as supporting the technology de-risking, as they are directly involved with pilot and demonstration phases of projects, and as CVCs may have more in-house technical expertise.

An example of a successful corporate partnership leading to an investment by a CVC is between China-based self-driving car start-up Pony.ai and Japanese automaker Toyota in 2019. The goal was to pilot Pony.ai's driving system on public Beijing and Shanghai roads to accelerate the development and deployment of autonomous vehicles. In 2021, Pony.ai received a \$400 million investment from Toyota to speed up the commercialization process of a self-driving technology.²²

Corporate partnerships can also provide support through technological co-development. For instance, French multinational Thales, which designs and builds electrical systems, created an acceleration program for cybersecurity start-ups. During this six-month program, Thales offers start-ups access to its markets in every sector (aerospace, space, ground transportation, defense, and security), free of charge and without compensation such as equity holding.

Corporate venture studios also help alleviate some of the risks associated with deep tech. BP's Launchpad, a studio that sits alongside BP's VC unit, has a goal of building five billion-dollar businesses to tackle the dual energy challenge by 2025. Corporations have many advantages beyond their capital and hard assets, including soft assets like established brands, data customer relationships, industry partnerships, and captive customer bases. Corporate funding, however, is limited and unevenly allocated between deep tech verticals. Moreover, rigid corporate processes can also stifle innovation. In addition, corporate partnerships sometimes have limited tolerance for uncertainty, risk, and failure, and an inability to move quickly.

While venture capital is a key source of funding for start-ups at this stage, the amount of capital available for early-stage deep tech companies is limited due to: i) the small number of specialized deep tech VC funds and the fact that they invest in a small number of start-ups due to smaller fund sizes—only about one-fifth of U.S.-based VC funds are larger than \$100 million,²³ and ii) barriers for generalist VCs to invest in deep tech, particularly in emerging markets, notably as a result of a lack of in-house qualified experts.

Several factors currently discourage VCs from investing in deep tech until after they receive their first contract.

- Development timelines for deep tech are less predictable than for other start-ups. On the technological side, deep tech solutions often require three or more key technological components to work together simultaneously. This means that a VC investing in a deep tech start-up early on may need to wait longer to be able to reach the target revenue levels it sets

out to achieve. For example, Commonwealth Fusion Systems, a start-up building a compact thermonuclear fusion power plant, is raising Series G funds and is still pre-revenue. However, there is a trend toward the acceleration of development timelines.²⁴

- Second, this timeline challenge is compounded by the “double unknown” stemming from the inherent technical and market innovativeness of deep tech. That is, deep tech solutions require a simultaneous technology validation and search for product-market fit to even begin to develop breakthrough disruptive technologies. This means that the metrics used by investors, which are typically based on quantitative indicators such as revenue or proof of traction, can't be applied to deep tech as there is no clear path to commercialization for most of these technologies. In addition, deep tech companies tend to represent a higher credit risk than other start-ups because their assets are intangible (e.g., intellectual property) and difficult to value, especially pre-revenue. Traditionally, VC investors rely on a set of standard metrics such as revenue growth, customer acquisition cost, or burn rate when evaluating a company, yet deep tech start-ups typically cannot offer this data to potential investors until later stages.

BOX 3 Alternative Fund Structures

Some VC funds have been experimenting with structures that can better address the needs and challenges of deep tech financing. Sidewalk Infrastructure Partners (SIP) adopted one such alternative fund structure. SIP makes long-term investments in deep tech verticals such as energy, transport, and wireless communications, and is structured as an infrastructure holding company. It is set up to invest over a longer timeline, with only two institutional limited partners. The holding company structure affords SIP a greater degree of flexibility, allowing it to both acquire assets and invest strategically in start-ups that complement those assets.

Evergreen funds also solve the long runway-to-commercialization challenge and allow for an expanded investment horizon while aligning incentives between LPs, GPs, and deep tech founders. 2050, a new evergreen European fund focused on climate, plans to periodically open up liquidity distribution windows to allow existing investors to sell their positions.²⁵ Breakthrough Energy Ventures adopted a 20-year investment horizon.²⁶ In deep tech, alternative structures with long investment horizons (such as 20 years) have significant potential, as deep tech funds can allow for secondary markets, given the multiple stakeholders, high valuation of companies, and global coverage.

Receiving First Commercial Contracts and Improving the Technology

After the entrepreneur successfully concludes the pilot, she or he may need to marginally improve the technology and lock in the first commercial contracts while fine-tuning unit economics or the revenue model. Often, first contracts may be negotiated on a subscription model, making delivery of capital-intensive products difficult for the start-up. These minor improvements and operational expenses are often not accounted for when considering the milestones for raising a follow-on round of fundraising.

Venture debt financing is a critical source of funding for start-ups that do not yet have positive cash flows or significant assets to use as collateral. Venture debt is a loan available to companies that have previously raised capital, and it is a flexible instrument that allows early-stage companies to complement the equity they've raised, extend cash runway, and achieve certain performance milestones ahead of the next equity raise. The instrument has been used mostly for biotech investments, yet it is now being explored in other CAPEX-heavy industries such as spacetech, with D-Orbit securing a \$17.8m venture loan from the European Investment Bank (EIB).²⁷

Additionally, venture debt provides institutional investors that may not have the technical expertise to assess deep tech companies with an option to develop expertise while investing in deep tech, with limited risk exposure. These venture debt providers often become equity investors during follow-on rounds. The venture debt market has been growing, especially in biotech.²⁸ In August 2021, the Los Angeles Cleantech Incubator (LACI) launched its Debt Fund for cleantech founders, to provide loans of \$20,000 to \$40,000 with interest rates at or below market for companies that don't yet qualify for traditional loans.²⁹

Early Commercialization

When the product is in demand and the entrepreneur has a number of commercial contracts in place, it is time to accelerate growth, either through scaling up product delivery or by expanding to new markets. Scale-ups require substantial funds for capital-intensive deep tech companies to deploy their solutions. As deep tech companies develop highly innovative solutions, there is typically no proven scale-up strategy or defined set of milestones they can use to gain investors' trust. This makes it difficult to obtain funding for scale-up to enter the growth stage.

A challenge for many VCs at this stage is to meet the amounts needed for deep tech start-ups to scale, as their high CAPEX needs often require larger investments than other start-ups. This is particularly an issue in Europe, where the typical fund

size tends to be smaller than in the United States or Asia. Encouraging co-investments between VCs is one avenue to increase funding for deep tech while reducing risk.

Blended finance, as a de-risking tool, can be leveraged at this stage too. For example, Breakthrough Energy Ventures' Breakthrough Catalyst raises capital from philanthropists, governments, and companies looking for ways to transition to cleaner business models and uses a blended financing facility to make the large capital investments and help businesses negotiate agreements with suppliers by buying down any remaining extra cost associated with the clean product.³⁰

Additionally, over the last two years, a number of government-backed funds focused on scientific scale-ups have been introduced across Europe. For example, the French government created a €6 billion fund in 2020, supplied by institutional investors, to finance the best "French Tech" start-ups over

BOX 4 The Role of Governments in Building Deep Tech Ecosystems

Governments can play a critical role in facilitating the development of deep tech start-ups with the potential to have a large positive social and environmental impact. On the fundraising side they can provide a start-up's first grant to finance a risky project that no private investor would fund, and can decrease investor risk when moving a technology from lab to industry. The French government instigated the creation of Technology Transfer Accelerator Offices (SATTs) to accelerate the transformation of French research into innovations.

Since their creation, SATTs have supported the creation of close to 600 start-ups and helped them raise over €800 million. Governments can also act as a catalyzing force for deep tech ecosystems by putting their influence and financing power behind key goals that require deep tech innovations. For example, French President Emmanuel Macron recently announced that his government plans to invest €30 billion by 2030 in strategic sectors, including disruptive innovations for agriculture and green hydrogen.

Governments can also support the development of deep tech ecosystems by alleviating regulatory constraints and easing the flow of information. An example of this was the French government's creation of the French Tech Visa to help tech talents obtain multi-year residence permits.

Last but not least, governments can help de-risk deep tech for private investors at later stages of start-ups' development. The EIC Scaling Up Program was set up by the European Commission to identify the 30 best European deep tech start-ups looking for series B or C funding and connect them with investors, in order to decrease the uncertainty that currently prevails around deep tech.

three years. More than 20 institutional investors committed to investing through the fund, which aims to provide a national alternative to French start-ups that currently have to look abroad for funding rounds over €100 million due to private financing gaps in France. Through this type of initiative, the state can play a key catalyzing role for the financing ecosystem.

Institutional investors are also key to financing deep tech companies. Limited partners are still largely reluctant to invest in deep tech funds due to a perceived mismatch with their expected risk/reward profiles. However, there are exceptions. Some pension funds that have a thematic investing angle (e.g., energy) and choose to invest in higher-risk, less-liquid assets (two to five years) can explore verticals like climate tech, with the most notable example being the Ontario Teachers' Pension Plan (OTPP) commitment to achieve net zero emissions by 2050. OTPP will significantly grow investments in companies that generate clean energy, reduce fossil fuel demand, and help build a sustainable economy.³¹

Sovereign funds have started playing a role in deep tech financing, as they align strategic priorities and focus more on impact funds. In 2020, they invested a total of \$2.3 billion in sectors important to combating climate change, including forestry, renewable energy, and agritech.³² Bpifrance invested in SOSV's Pili (biopigments), among other deep tech start-ups, while EIT InnoEnergy, funded by the EU as a key part of the European Green Deal, has funded hundreds of start-ups, including SOSV's VoltStorage battery.³³

High-net-worth individuals also have the ability to shape the deep tech financing landscape. A notable example of this approach is Breakthrough Energy Ventures, a venture firm formed by Bill Gates, Jeff Bezos, Vinod Khosla, and other high-profile investors. Formed in 2016, Breakthrough Energy Ventures was expected to allocate \$1 billion into cleantech companies over the next 20 years. Today the firm is on track to deliver on that commitment with more than 40 portfolio companies.

Scale-Up/Exit and Mergers & Acquisitions

Many deep tech start-up customers (who are typically large corporations) may be acquirers-in-waiting. They often choose to become acquirers after they get to know the team and the technology. They then make an offer out of fear of losing access to the technology solution, to get the technology on their roadmap faster, or to secure the team. As discussed above, corporate partnerships through investments, co-creation, or pilots could be a path to validate the technology and prove market readiness. It's important to consider that choosing a corporate partner at the very beginning of the development of a deep tech company might be essential for future growth, access to market, and potential exits, as deep tech companies

are usually embedded into the ecosystems of their potential corporate acquirers at the very beginning of their journey.

Initial public offerings (IPOs) are less common for deep tech companies at the pre-commercialization stage. The only basis an investor has to evaluate a deep tech company is what has occurred in the past, when often the value of the company is based on what could occur in the future.

In an attempt to fill this gap, special purpose acquisition companies (SPACs) are becoming an option to consider. SPACs enable companies to become public by merging with an already publicly listed shell company, thereby avoiding some of the more cumbersome listing requirements of the IPO process. They allow deep tech companies that need to access the public market for large sums of scale-up funding in early commercialization stages to attract alternative funding sources (i.e., from retail investors). As a result, we have seen climatetech and spacetech becoming key sectors for capital raising via a SPAC, particularly over the past 12 months. However, the sustainability of this instrument remains to be seen, as there are inherent risks with the funding model. In particular, the reputation and capabilities of the SPAC sponsors is key to assessing a target company with very limited cash flow, operating history, or revenues, and it can be risky for a new company to create such dependencies. There is also increasing scrutiny by national regulators such as the U.S. Securities and Exchange Commission.³⁴

Project finance as an instrument presents a range of financing opportunities for later-stage deep tech companies, as commercial scale-ups are CAPEX intensive. Increasingly, deep tech venture investors are developing a parallel credit strategy to support their scale-ups. For example, Energy Impact Partners (EIP) established a credit fund that offers debt financing solutions such as first- and second-lien secured term loans and unsecured debt to SMEs.

Conclusion

Deep tech solutions are addressing challenges that are global in nature and hence have strategic relevance to both emerging and developed markets. Governments, innovation agencies, and development finance organizations (DFIs) are playing a key role in defining the strategic challenges and mobilizing funding toward disruptive solutions. More DFIs and public entities need to build a portfolio of de-risking tools to help catalyze funding toward deep tech start-ups and accelerate adoption of deep tech solutions in developing markets. Committing to investing in solutions to a large challenge rather than to an individual start-up's product would help to spread the investment risk across development stages and technologies.

Private investors are often not familiar with the milestones and challenges that deep tech entrepreneurs face at different stages

The solutions developed by deeptech companies have the potential to disrupt entire industries, and therefore it is critical for governments to invest in deeptech to catalyze funding toward solutions that contribute to a future aligned with their social, economic, and environmental goals. This is the choice made by the French State in mobilizing huge resources around a Deeptech Plan operated by Bpifrance

—Pascale Ribon, Deeptech Director, Deeptech Department, Bpifrance

of their growth and commercialization journey. Developing and promoting the use of metrics customized for the vertical, yet also recognized across the industries, would facilitate the continuity of investment. Additionally, investors may need to better understand more formal IP valuation. Building the canvas of cross-stage linkages and managing the available financing options is crucial for sustainable development of the global deep tech ecosystem.

The ability to raise funds across stages requires not only a clear vision of the steps that need to be taken to get to the final product, but also a well-articulated narrative. As pension funds, endowments, and foundations continue to embed an

environmental, social, and corporate governance (ESG) lens into their core investment framework, stakeholders need to invest more resources into helping start-ups articulate the value of deep tech solutions to global markets.

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