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Marketing material

Who dares win: Financing German first-of-a-kind technologies critical to Europe's future

IN A NUTSHELL

– Scaling first-of-a-kind technologies in Germany and across Europe is crucial for competitiveness, prosperity, and achieving policy goals; however, growth financing has historically been lacking.
– Recent policy initiatives aim to expand Europe's ecosystem for technological growth and innovation with a focus on increasing the availability of financing to companies seeking to scale production.
– Geopolitics, policy priorities, and other drivers of demand are creating opportunities for investors to provide growth financing to German and European companies with first-of-a-kind technologies.


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Introduction

The rise of deglobalization and increasing entanglement between capitalism and national interests is ushering in a new era for capital allocation that is driven by the pursuit of technological primacy and industrial production capacity. Europe urgently needs to build out domestic industries by scaling emerging technologies that support economic resilience, defence, and sustainability. This is especially true in Germany, which has many early-stage companies with first-of-a-kind technologies that need to scale production and stand to benefit from increasing demand for technology and policy efforts to unlock private capital.

Despite Europe's need for technological growth and innovation, European companies with first-of-a-kind technologies have insufficient access to the growth financing needed to scale production of proven prototypes to industrial levels. In the past, such companies have been unable to turn to venture capitalists or banks because their capital needs do not fit the mould for traditional sources of financing.

However, growing awareness of the urgent need to address emerging threats to Europe's strategic autonomy and pursue technological sovereignty has led policymakers to take action to break down the historical barriers to investing in growth and innovation with the goal of making it easier for private capital to flow where it is needed. Programs such as the "Deutschlandfonds" project, which build on the momentum of the earlier German "WIN Initiative", are designed to help expand Germany as well as broader Europe's ecosystem for growth and innovation so that Europe can remain globally competitive and reduce its dependencies on technology trading partners.

While policymakers have already woken up to the existential need for reform and reorientation, investors must now wake up to the emergence of new opportunities available to those who are willing to embrace this momentum and invest in Germany, and ultimately Europe's future. Europe's technology policy strategy aims to address problem areas across the entire value chain to help ensure that the benefits of reform will be sustainable by unleashing the potential of the private sector without creating public sector dependency.

This report describes the significance of first-of-a-kind technologies to Europe's transformation, historical barriers that have limited the availability of financing to early-stage companies aiming to scale production, Europe's policy strategy to address these barriers, and Germany's leadership role in implementing Europe's strategy. The report analyses the growth financing investment opportunity landscape for European first-of-a-kind technologies with a focus on Germany due to the key role it will play in shaping Europe's future.

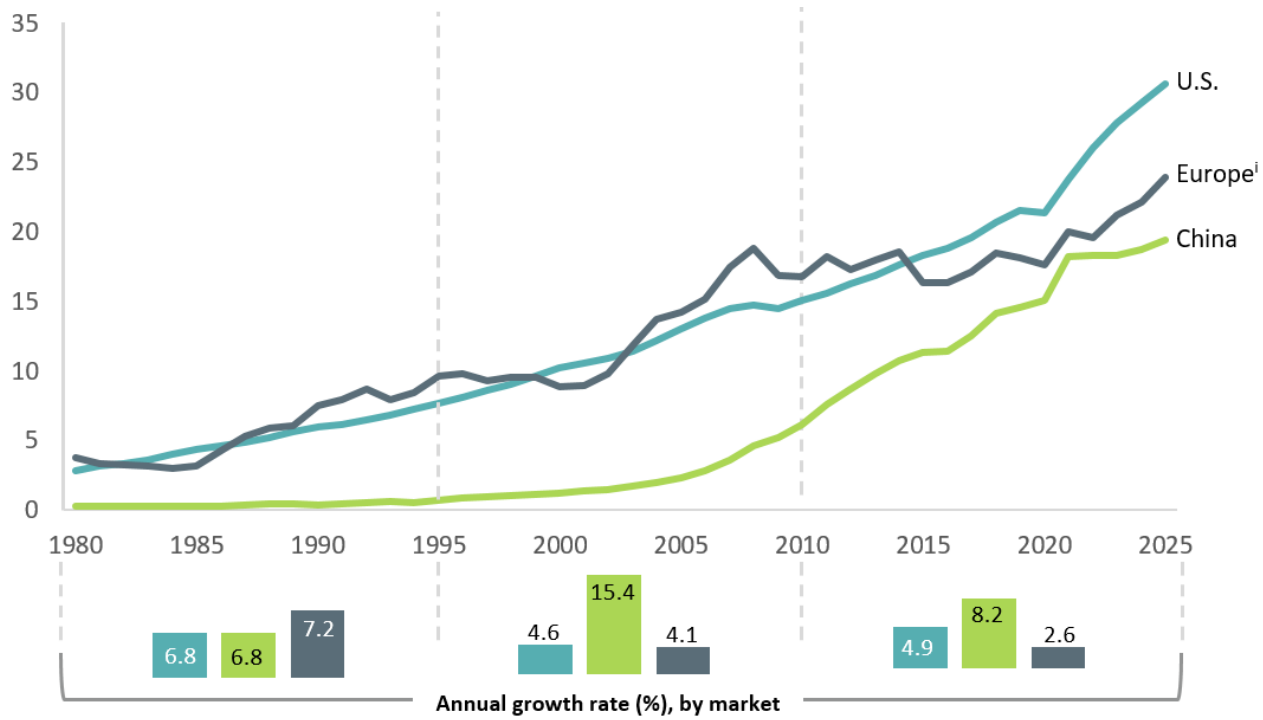
1 / Where are we? Significance of first-of-a-kind technologies to Europe's transformation

1.1 First-of-a-kind technologies and their relationship to Europe's policy priorities

First-of-a-kind technologies are technologies that have been successfully proven at a smaller scale but not yet commercially scaled to industrial levels. Examples include new forms of energy production and decarbonization, novel manufacturing processes and robotics, and dual use technologies like drones that can be used for defence or commercial purposes. Despite the wide range of technologies being developed by European companies that may be considered first-of-a-kind, the common thread is that many of these technologies have considerable potential to help deliver against Europe's policy priorities[1] and support its competitiveness on the global stage.

Since the emergence of the internet in the 1990s, Europe's nominal GDP growth relative to the United States and China has been non-linear and generally in decline following the global financial crisis, Figure 1[2]. In looking below the surface of this trend, countries across the globe who have embraced technological growth and innovation over the last couple decades have experienced a relative increase in their GDPs compared to countries that have not.[3] Europe's relative lack of focus on technology over this period now requires its public and private sectors to allocate more capital toward technological growth and innovation in the industries that are most important to Europe's economy and its policy agenda. Europe's need for greater investment in technology has become increasingly urgent in recent years as Europe is now facing the challenge of how to increase prosperity for hundreds of millions of Europeans while also developing technological sovereignty alongside policy priorities related to economic growth, defence, energy and sustainability.

Figure 1: Nominal GDP growth of Europe, the U.S., and China 1980-2025



[i] Eurozone, Norway, Sweden, Switzerland, and UK.
Source: International Monetary Fund, as of 31 December 2025.

[1] For more background please refer to DWS Research Institute report (December 2025) Vorsrpung durch Technik: Germany's next industrial revolution.
[2] McKinsey (2025), Europe's deep-tech engine could spur $1 trillion in economic growth.
[3] McKinsey (2025), Europe's deep-tech engine could spur $1 trillion in economic growth.

1.2 Importance of increasing the availability of growth financing to companies with first-of-a-kind technologies

The urgent need to accelerate European technological sovereignty has drawn attention to the difficulties that young companies often face when trying to obtain debt financing to scale production of first-of-a-kind technologies to industrial levels. For the purposes of this paper, this need for capital of early-stage companies is referred to as "growth financing" and is differentiated from the capital needs of late-stage companies that have achieved industrial-level production but need capital to grow into global leaders. However, many of the issues described in this section that have limited the availability of growth financing for European companies have also constrained Europe's overall technology landscape and are addressed by the EU's broader policy strategy described in Section 2.

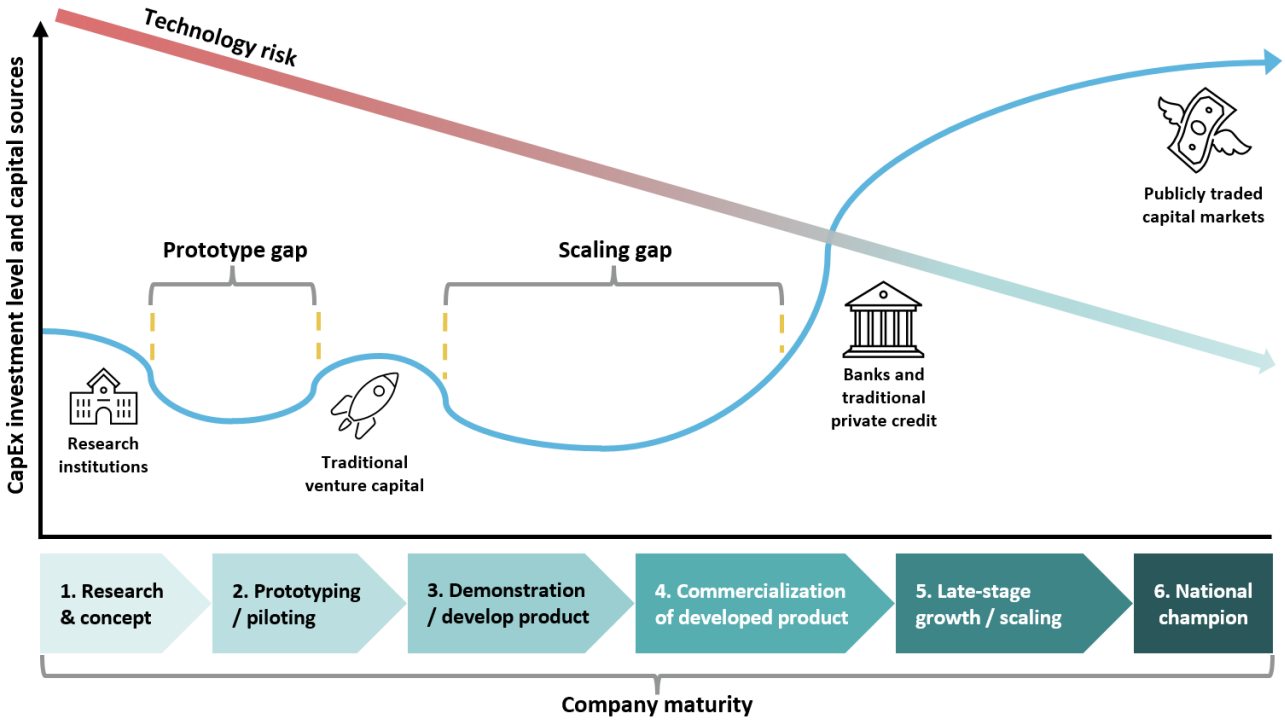
Despite its strong industrial base, highly skilled workforce, and world-class universities, Europe's capital markets have not always been conducive to investment in technological growth and innovation. Regional investment views on risk coupled with Europe's bank-centric financial system and fragmented venture capital (VC) market have both contributed to the stagnation in Europe's economic growth relative to other markets and contributed to the ongoing loss of intellectual property to foreign investors. Nevertheless, this logjam has created the conditions for a new wave of opportunity. McKinsey estimates that overcoming the current barriers in the European startup space could create almost a €1 trillion in enterprise value and up to one million new jobs across Europe by the year 2030.[4]

In the context of first-of-a-kind technologies, "growth financing" refers to capital that is needed for capital-intensive projects such as the construction of a factory or manufacturing plant that can be used as a model for additional commercial facilities in the future. These types of projects typically carry greater risk and higher costs relative to projects related to scaling production involving established technologies because of the inherently novel nature of first-of-a-kind technologies. Projects to scale first-of-a-kind technologies are complex engineering undertakings that encompass the full project lifecycle for constructing a company's first commercial facility.

As young companies grow, they typically face two "valleys of death" that must be overcome: the first when they are a startup trying to develop a marketable product, and the second when they need to scale production to achieve commercial viability Figure 2.[5] The second valley of death and the underlying need for growth financing is particularly severe for European companies that have grown quickly, as the level of risk remains high because of a company's need to meet its increasing working capital requirements while also needing to make large CapEx investments. Companies at this stage often struggle to obtain growth financing because of the lack of solutions available in the financing "scaling gap" between VC financing and financing from banks and traditional private credit funds.

[4] McKinsey (2025), Europe's deep-tech engine could spur $1 trillion in economic growth.
[5] European Commission (2025), The EU Startup and Scaleup Strategy {SWD (2025) 138 final}.

Figure 2: The two valleys of death on the path from startup to national champion



Source: DWS International GmbH, as of March 2026. See European Commission (2025), The EU Startup and Scaleup Strategy {SWD (2025) 138 final}.

Although many companies with first-of-a-kind technologies are able to raise capital in the VC market after developing a prototype, they are often not able to obtain growth financing for large CapEx investment from VC investors. VC equity mandates are not generally able to structure investments suited to lower, varied risks, especially in industrializing proven prototypes, which require an understanding of factory ramp-up risks and effective credit enhancements. In addition, venture debt financing from non-traditional lenders is used to meet working capital needs as a bridge between equity financing rounds and cannot be used for large CapEx investments.

Similarly, European companies in the growth stage often cannot obtain traditional bank financing for large-scale CapEx investments because banks require companies to have positive operating cash flows for at least two years and they often cannot meet this requirement. Many European companies are consequently faced with a "chicken and egg situation" where they must invest in CapEx to generate a financial track record and achieve profitability to obtain financing while also being unable to obtaining financing to invest in CapEx.

1.3 Factors contributing to the historical growth financing gap

The historical underinvestment in technological growth and innovation that has led to a lack of sufficient growth financing available to European companies is largely attributable to regional European investment perspectives on risk relative to return, the bank-centric nature of the highly regulated European financial system, and the size and fragmentation of Europe's VC market. Over the years, these three factors have hindered the ability of European startups to scale effectively and led some companies to seek out foreign capital sources, which in turn has also contributed to the loss of European first-of-a-kind technologies and intellectual property.

(1) **Regional investment perspectives on risk:** European household holdings of growth assets relative to Europe's GDP is less than half that in the U.S. as more EU households store a greater share of their savings in cash and other assets that prioritize value preservation over growth. European pension funds and insurance companies allocate less than 1% of their assets under management to European VC due to structural risk aversion and external constraints.[6]

[6] European Commission (2025), Study of barriers to, and drivers of, the scaling-up of funds investing in innovation and growth companies.

European institutional investors seeking to invest in the VC space must navigate the requirements of Solvency II, which does not include a carve out for VC.[7]

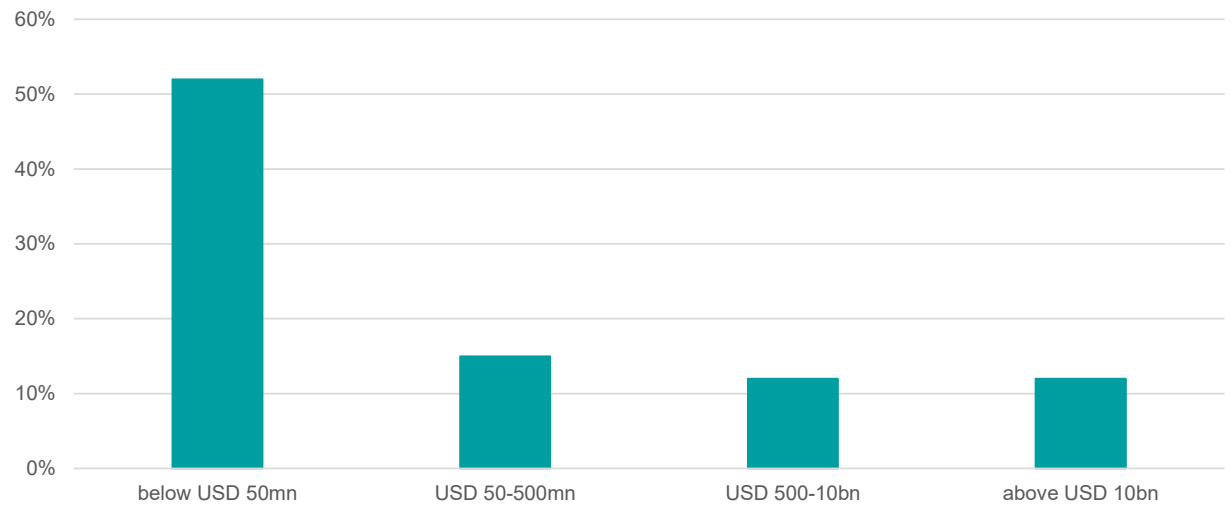
(2) **Bank-centric financial system:** Total EU bank assets are 300% of its GDP whereas total U.S. bank assets are just 85% of its GDP and EU listed equity is 68% of its GDP whereas and U.S. listed equity is over 170% of its GDP.[8] Banks provide about 70% of corporate financing in Europe whereas about 70% percent of companies in the U.S. are financed through U.S. capital markets.[9] In practice, Europe's restrictive bank regulatory environment means that its banks have limited ability to provide growth financing to companies with first-of-a-kind technologies despite their dominant role in Europe's financial system.

(3) **Size and fragmentation of VC market:** On a GDP-relative basis, Europe's VC market is less than a third the size of the U.S. and has considerably less large VC funds able to construct a deep portfolio of investments.[10] As of 2024, there were 137 VC funds with AUM over USD1 billion in the U.S. compared with only 11 in the EU and 10 in the UK.[11] Differences across Europe with respect to carried interest taxation, corporate laws, and regulatory requirements have resulted in the fragmentation of Europe's VC market and a structural "home bias" of Europe VC fund managers that has impacted cross-border investment.

1.4 Consequences of insufficient growth financing in European capital markets

Although the bankruptcy rates of European and U.S. startups are relatively similar, European startups have historically been about 30% less likely to progress from the seed stage to a successful outcome (post series C[12] funding or exit) than U.S. startups.[13] Compared to their U.S. peers, European startups often stall after an equity funding round rather than progressing to bigger financing stages or exits as reflected in the size of the broader European corporate landscape relative to the US.[14] Although the EU has more than half the number of companies as the U.S. valued below USD 50 million, the EU has only about one sixth as many companies as the U.S. valued between USD 50-500 million and less than one eighth as many companies as the U.S. valued at USD 500 million or more[15], Figure 3.

Figure 3: Number of EU companies relative to U.S. companies across valuation ranges (%)



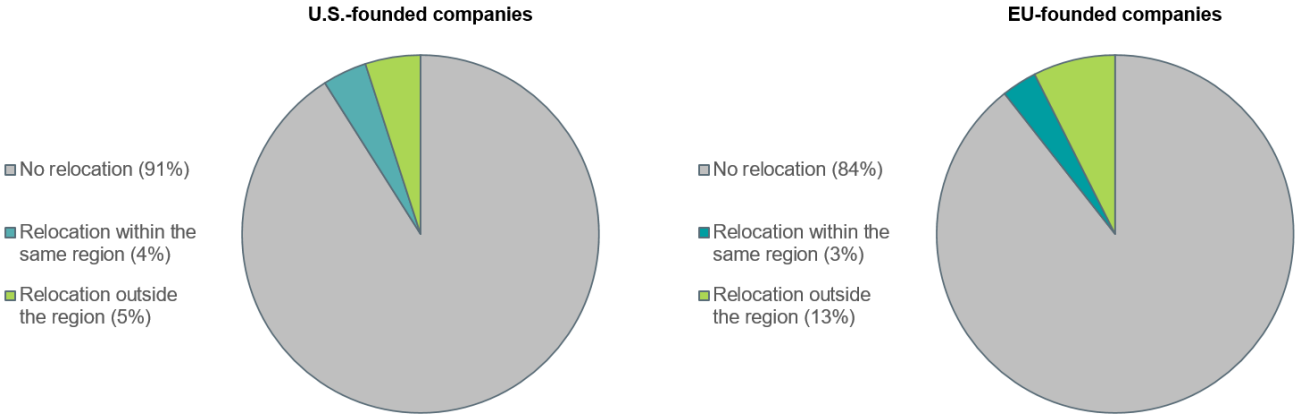
Source: European Investment Bank (2024), The scale-up gap.

[7] European Commission (2025), Study of barriers to, and drivers of, the scaling-up of funds investing in innovation and growth companies.
[8] European Investment Bank (2024), The scale-up gap.
[9] European Investment Bank (2024), The scale-up gap.
[10] KfW (April 2025), Venture Capital Dashboard Q1 2025.
[11] European Investment Bank (2024), The scale-up gap.
[12] Series C is typically the last stage of equity financing before going public or being acquired. Source: Corporate Finance Institute (Jan 2026)
[13] European Investment Bank (2024), The scale-up gap.
[14] European Investment Bank (2024), The scale-up gap.
[15] European Investment Bank (2024), The scale-up gap.

Even though 8.1% of global VC fund capital has been invested in EU companies over the last 10 years, only 5% of global VC fund capital raised during this period came from the EU whereas 52% was raised in the U.S.[16] In Germany, there has been dependence on investment from investors in the U.S. and other countries as 57% of VC and growth investments in Germany are made by non-EU investors.[17]

The net positive flow of VC funding into Europe contributes to a greater rate of company relocation relative to the U.S. While U.S.-founded companies generally relocate within the U.S., EU-founded companies are more likely to relocate abroad, particularly to the U.S. Figure 4.[18] The costs of EU company relocation are felt through entrepreneurial brain drain and a reduction in opportunities to grow the local ecosystem, which weakens the flywheel effect needed to support future generations of European startups.

Figure 4: Relocation frequency (%)[ii] and destination of scaling EU companies relative to scaling U.S. companies



[ii] Excludes cases from the original sample population where a company closed operations (3% for EU and 2% for U.S.) or no information was available (3% for EU and 2% for U.S.).
Source: European Investment Bank (2024), The scale-up gap.

[16] Pitchbook (2025), EIB director sees gap in European venture debt for tech-savvy lenders.
[17] KfW Research (2025), Trends in cross-border venture capital investments in Germany and Europe.
[18] KfW Research (2025), Trends in cross-border venture capital investments in Germany and Europe.

2 / Where are we going? Europe's technology policy strategy to unlock growth and innovation

2.1 EU Scaleup and Startup Strategy and other European policy initiatives focused on growth and innovation

In recognition of the need to expand Europe's growth and innovation ecosystem, policymakers are increasingly focused on the development and roll out of initiatives with the goal to strengthen all parts of the value chain. Unlocking additional growth financing is a key element of Europe's strategy to deliver upon this goal based on the critical role that this capital plays in helping young companies bridge the gap between protype and industrial scale production before they are able to access traditional sources of financing.

The EU Startup and Scaleup Strategy is the European Commission's (EC) central policy to facilitate the creation, growth, and retention of innovative companies while strengthening Europe's research base and addressing conditions that have historically made it difficult for European companies to scale into global tech leaders. The strategy puts forward a framework of actions to foster an environment that is friendly to growth and innovation, drive financing, support market expansion and uptake, and develop as well as retain talent.

With respect to facilitating investment in growth and innovation, the EC has highlighted the following issues to be addressed[19]:

(1) **Limited role of institutional investors in the VC ecosystem.** Over the past decade, only 7% of VC funding in the EU has come from pension funds and there have been limited commitments from other types of institutional investors, such as insurers.

(2) **Small and fragmented nature of the VC ecosystem.** The smaller European VC market is driven by its bank-centric financial system, lack of equity culture, risk aversion, and fragmented capital markets from varying national rules and regulations.

(3) **Difficulties using intangible assets as collateral or security.** Companies face strict European banking requirements, underdeveloped IP valuation standards, low awareness of established standards, and limited recognition of IP-backed financing.

(4) **Obstacles to cross-border investment.** Cross-border investment obstacles lock in angel investments over a long time frame and implementation of the foreign direct investment requirements can be burdensome and stifling for European startups.

(5) **Limited availability of suitable exit options in the EU.** The EU accounts for only 11% of all global IPOs, exits are concentrated in a few countries, and the stock market to GDP ratio is 55% compared with the U.S.'s stock market to GDP ratio of 147%.

(6) **Mergers and acquisitions by non-EU companies.** Over 60% of European startup buyout exits are by non-European companies to the detriment of the region's technological sovereignty and its ability to grow the broader European VC ecosystem.

(7) **Persistent financing gap for emerging technologies.** Companies lack sufficient access to capital needed to scale during their growth phase, partially with respect to high-risk, capital intensive technologies needing investments above €100 million.

To help address these key issues, the EC has announced the €5 billion growth and late-stage Scaleup Europe Fund and issued guidance for Member States that defines the vision and action to be pursued to improve conditions for growth and innovation.[20] The Scaleup Europe Fund will be a fund-of-funds structure that invests in Europe's promising technologies and the EC's guidance for Member States includes topics like regulatory reform, improving access to financing, talent development and retention, and market update. The idea is that national-level initiatives based on the EC's guidance should reduce structural friction and

[19] European Commission (2025), The EU Startup and Scaleup Strategy.
[20] European Commission (2025), Commission partners with private investors to set up multi-billion Scaleup Europe Fund.

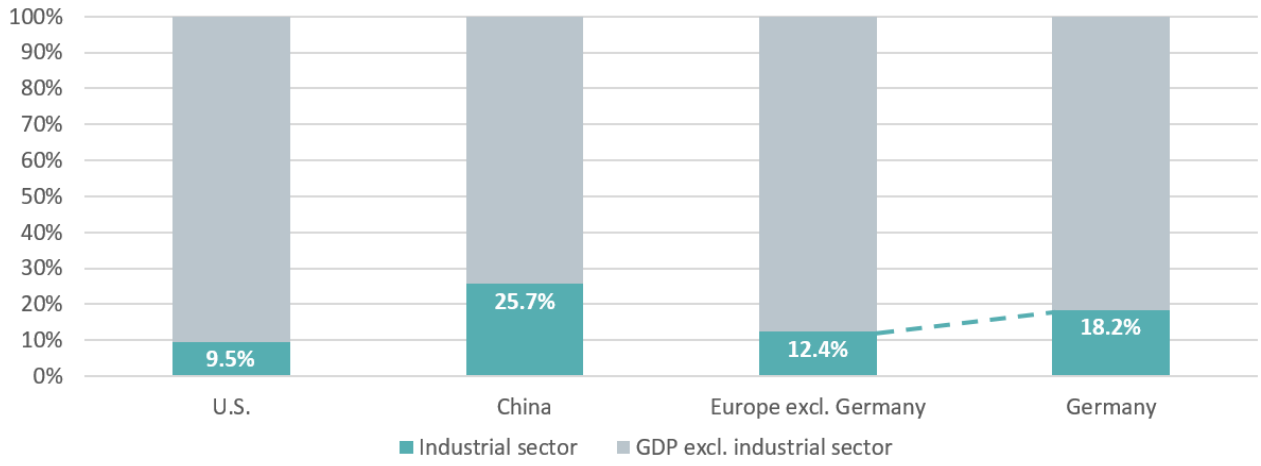
accelerate Europe's innovation pipeline while EU-level initiatives like the Scaleup Europe Fund are expected to provide late-stage growth capital for Europe's future global tech leaders.

In parallel, the European Investment Bank's (EIB) TechEU program aims to strengthen the equity base of young companies with critical technologies and improve their access to VC funds and growth capital.[21] Although not a policy initiative itself, TechEU is an EIB and European Investment Fund (EIF) program to operationalize EU policy objectives by deploying capital into the European VC ecosystem.

2.2 Importance of Germany to accelerating European growth and innovation

As the largest economy and most populous country in the EU, Germany will play a key role in operationalizing EU-level initiatives that are designed to support European technological innovation and expand the European VC market[22]. With a 2025 GDP of approximately €4.3 trillion and a population of over 84 million, Germany is the world's third-largest economy behind the U.S. and China, accounts for approximately one quarter of the broader EU economy, and is the largest consumer market in the EU.[23] Germany's industrial manufacturing sector represents 18.2% of its GDP and is the largest contributor to GDP following the service sector[24]. After two years of shrinking economic output, Germany's economy grew by 0.3% in 2025 and appears poised for further growth in 2026 and beyond.[25]

Figure 5: Germany's industrial sector contribution to GDP relative to the U.S., China, and Europe excl. Germany



Source: U.S. Bureau of Economic Analysis (2025), as of February 2026. National Bureau of Statistics Peoples Republic of China (2025), as of February 2026. European Union Eurostat (2025), as of February 2026. Destatis Statistisches Bundesamt (2025), as of February 2026

The sizeable contribution of the German industrial manufacturing and production sector underscores that Germany remains a manufacturing and export-oriented economy that is well positioned relative to economies that have de-industrialized. The dominance of Germany's service sector reflects its evolution from an industrial-only powerhouse into a diversified, high-income economy with stable income from services while remaining globally competitive in industrial production and exports. The combination of Germany's industrial capabilities with its innovation hubs should create the conditions to generate attractive opportunities for public and private capital.

Despite its industrial heritage and current capabilities, manufacturing's contribution to Germany's GDP has been in decline for decades and geopolitical developments have shed light on Germany's vulnerability to its reliance on trading partners and lack of supply chain resilience. Since its peak in the 1990s, manufacturing's contribution to Germany's GDP has declined with recent negative impacts to GDP from tariffs, energy and commodity price volatility, and pressures to decarbonize energy-intensive

[21] Bundesministerium für Wirtschaft und Energie (2026), €1.6 billion for innovation: Economic Affairs Ministry and EIF expand finance for startups in EIF German Equity
[22] KPMG (2026), Economic Key Facts: Germany.
[23] KPMG (2026), Economic Key Facts: Germany.
[24] KPMG (2026), Economic Key Facts: Germany.
[25] Destatis Statistisches Bundesamt (2016), Press release No. 017 of 15 January 2026: Gross domestic product up 0.2% in 2025.

sectors.[26] Germany's dependence on trading partners for critical technologies, such as the U.S. with respect to cloud providers, and China with respect to chip manufacturing, has given these trading partners strategic leverage over Germany and exposed it to the risk of supply chain disruptions across the globe. Awareness of these risk exposures has prompted policy efforts to address existing economic dependences and avoid future dependencies in critical sectors as well as enhance domestic and European manufacturing and processing capacity.

In January 2026, the EIF and Germany's Federal Ministry for Economic Affairs and Energy announced the creation of the €1.6 billion EIF German Equity fund of funds under the TechEU program to facilitate private investment in Germany.[27] EIF German Equity will invest in VC and growth funds focused on technology-driven startups and scaleups to act as a quality signal hat should help catalyse the allocation of private capital toward a broad range of technologies that includes artificial intelligence, digitization, energy and life sciences, and industrial and production technologies. The program's investments are intended to benefit founders by providing planning security while providing institutional investors with a public anchor in VC funds with high standards for governance and ESG considerations.

2.3 German policy initiatives and efforts to unlock growth financing for companies with first-of-a-kind technologies

Policymakers in Germany are acutely aware of the urgent need for European and national technological sovereignty and have unveiled programs focused on technological growth and innovation that support German policy priorities and the goals of the EU Startup and Scaleup Strategy. In 2024, the German Federal Government launched the WIN Initiative (WIN). WIN and the subsequent Deutschlandfonds project are designed to strengthen and expand the growth and innovation ecosystem for the benefit of early-stage companies as well as invest public capital into late-stage companies with technologies that support delivery against Germany's policy priorities.

Led by the state investment bank KfW, WIN brings together federal leaders and leading German companies to improve Germany's tax, legal, and financial climate for innovative businesses. It is expected that by 2030 WIN will have generated approximately €12 billion of private capital investment in the German venture capital market, with KfW coordinating the effort on behalf of the federal government as well as making its own investments into privately managed growth funds[28]. Among other things, Deutschlandfonds is intended to build upon and complement WIN by creating a €10 billion fund-of-funds that can directly invest in middle-sized companies that have survived the second valley of death (see Figure 2) but are seeking additional higher-risk capital to scale rapidly and invest heavily in innovation[29].

WIN attempts to fix the market environment by improving regulatory, tax, and financing conditions for young companies to make it easier for the market to allocate capital where it is needed and generate returns without creating a dependency on public funding. WIN builds on the momentum of the "High-Tech Gründerfonds" and "Zukunftsfonds" programs and is intended to strengthen the German and European ecosystem for growth and innovation capital through a 10-point action plan outlined below.[30] The experience from these initiatives is currently being used for the conceptualisation and implementation of the "Deutschlandfonds" programme.

(1) **Expand cooperation between universities, investors and companies.** Build on the momentum of the EXIST Start-up Factories competition to further connect German universities, research institutions, and talent with promising startups.

(2) **Establish growth and innovation capital as an asset class for suitable private individuals.** Provide private individuals with the ability to invest in suitable growth and innovation funds through vehicles (e.g., ELTIFs) to mobilize capital from this group.

(3) **Strengthen fund-of-funds structures.** Build a follow-up product to the €1 billion Wachstumsfonds Deutschland fund-of-funds that invests primarily in European VC funds, which closed in 2023 with approximately two-thirds private capital.

[26] KPMG (2026), Economic Key Facts: Germany.
[27] Startbase (2026), 1.6 billion euros for start-ups: BMWE and EIF expand equity funding.
[28] KfW Group (2024), WIN Initiative Growth and Innovation Capital for Germany.
[29] KfW Group (2024), WIN Initiative Growth and Innovation Capital for Germany.
[30] KfW Group (2024), WIN Initiative Growth and Innovation Capital for Germany.

(4) **Improve access to growth financing for companies with first-of-a-kind technologies.** Provide public investment in private funds that are intended to provide growth financing to companies with first-of-a-kind technologies seeking to scale production.

(5) **Introduce investors to growth and innovation capital via transfer of expertise.** Educate investors on investing in growth and innovation, continue and expand KfW Capital's VC academy, and develop a training program for potential LPs.

(6) **Increase investment by public institutional investors.** Build an inventory of all German public funds and their VC investments and potential VC opportunities to promote greater connectivity between public funds and Europe's VC market.

(7) **Improve IPO/exit framework conditions.** Build upon the Future Financing Act to improve the conditions for startups to exit via IPO, increase the limits on securities offerings to the public without a prospectus, and accelerate prospectus reviews.

(8) **Strengthen the secondary market for VC fund shares.** Facilitate the establishment of an organized secondary market for LP shares in VC funds with input from market participants to help enhance the attractiveness of LP shares as an asset class.

(9) **Improve the tax framework for investments in growth and innovation capital.** Reduce the tax burden on fund investments in commercial partnerships and increase limits for tax treatment of reinvesting share sale proceeds held as reserves.

(10) **Modify the investment ordinance.** Modify the Investment Ordinance to lower the bar for small pension funds and insurers to invest in VC and increase the quota for VC and other higher-yield, higher-risk asset classes from 35% to 40%.

With respect to improving access to growth financing for companies with first-of-a-kind technologies (action #4 above), KfW intends to invest the federal government's capital into private growth funds on a pari passu basis to encourage private investment into these funds. In practice, operationalizing this action entails partnering with several German financial institutions that will launch growth funds that are designed to attract investors, raise capital, and make loans to companies with KfW as a passive investor. KfW's investments in these funds is intended to signal quality and draw attention to the network benefits from allocating capital to early-stage growth financing.

3 / Why should investors care? A complementary asset class to traditional private credit

3.1 Value proposition of asset class and relationship to private credit

Geopolitical developments and Europe's policy priorities are leading to an "urgent buyer era" where governments and companies are faced with emerging needs that cannot be satisfied by domestic technological solutions.[31] However, a collective sense of urgency and strategic policy imperatives can increase the demand for technology, jostle markets out of periods of risk aversion, and catalyse policy reform to promote alignment between public and private interests in critical areas like manufacturing, defence, energy, and cleantech.

Against this backdrop, allocators of public and private capital must be willing to consider accepting more technical risk than they would have been comfortable with in the past. While financing capital-intensive projects of early-stage companies is inherently more risky than more traditional forms of corporate credit, there are several key factors that make growth financing attractive to investors.

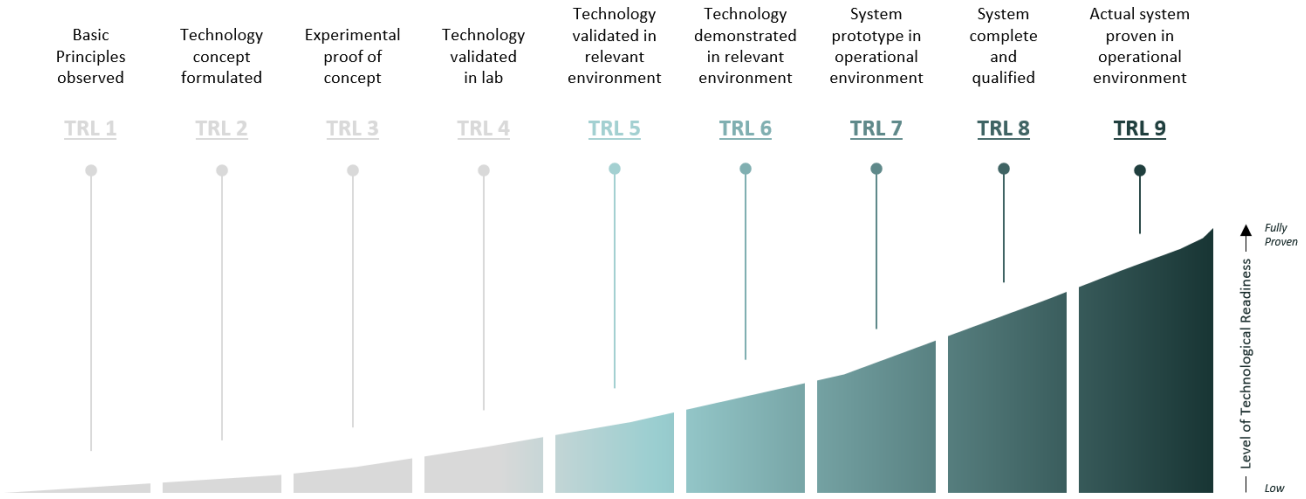
In addition to the fact that European companies seeking growth financing are incentivized to work with available solutions providers because of the general lack of alternatives, they also stand to benefit from establishing relationships with financial institutions outside of the VC and mega private credit fund segments that can offer companies with access to additional financial services as they mature. For example, asset managers that have partnerships or affiliations with banks can open the door to working capital and trade finance solutions to support top-line growth and subsequent equity financing rounds as well as M&A and IPO advisory services.

Growth financing is differentiated from, but is complementary to, private credit with respect to borrower profile, risk exposure, and potential upside. Private credit's growing role as an established asset class has contributed to standardization of investment guidelines, governance, processes, and borrower terms such that most private credit funds are optimized around financing mature companies with established cashflows, rather than early-stage companies in need of growth financing. As a result, traditional private credit funds are generally unable to access this opportunity set due to their lack the flexibility, risk tolerance, and technical expertise.

Within a broader private debt portfolio, growth finance can help investors diversify away from traditional corporate credit towards an asset class with distinct characteristics and correlations. The higher pricing of these loans can translate to greater returns than classic direct lending, outweighing potentially higher loss rates, which can be further mitigated by only providing capital to companies with mature technologies, e.g., TRL5 – TRL9, as illustrated in Figure 6, and commercial risk mitigants like established offtake agreements.

[31] The New Industrial Corporation (2025), The urgent buyer era.

Figure 6: EU Commission Technology Readiness Level (TRL)



Source: European Commission "Technology Readiness Level – Guidance for renewable energy technologies" (2017); DWS International GmbH, as of March 2026

For investors interested in technology, growth financing can also allow investors to gain exposure to long-term technology trends and participate in many sponsor portfolios without having to invest in their funds, thus avoiding concentrated equity risks. For investors that are not comfortable with, or unable to invest in, traditional VC but are interested in gaining exposure to emerging technologies, growth financing is an alternative asset class that provides this type of exposure while also offering structural features that may mitigate downside risk.

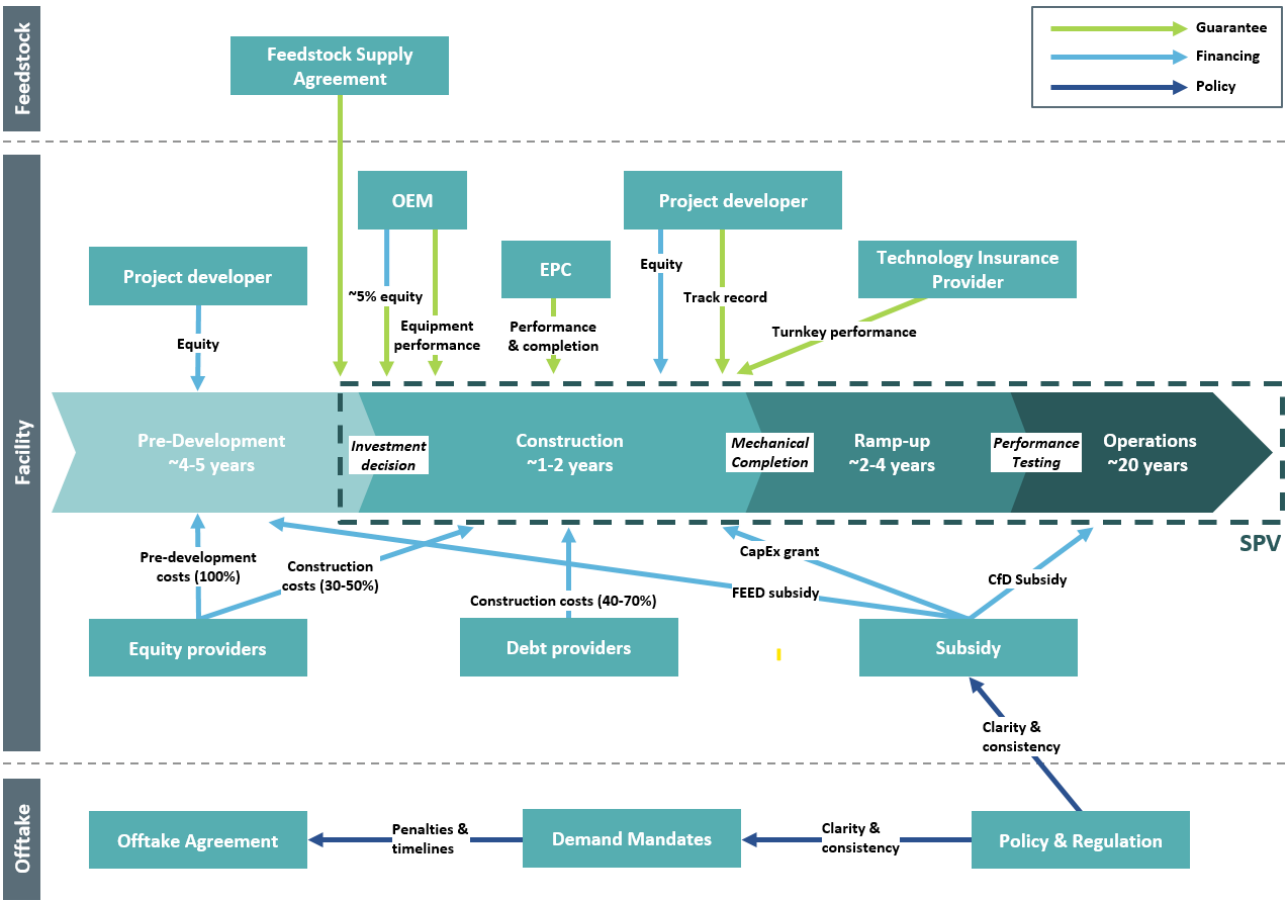
3.2 Growth financing investment risks, mitigants, and other relevant considerations for investors

Capitalizing on the European growth financing opportunity set requires managers of growth financing strategies to have DNA that is equal parts credit and venture to identify companies with novel business models or potential breakthrough technologies nearing commercialization that are poised for integration into the broader economy with the right backing. Investing successfully in this space depends on the ability to identify and invest in early-stage companies seeking to scale production of first-of-a-kind technologies with future commercial viability that are likely to avoid default and survive the second "valley of death" if able to obtain growth financing.

In addition to serving as a bridge between traditional VC and bank financing, growth financing serves as the connective tissue between technological innovation and mainstream infrastructure and industrial capital in the form of partnerships, offtake agreements, and direct investment. As illustrated in Figure 7, companies with first-of-a-kind technologies in need of growth financing are often attractive candidates for sophisticated investors that recognize the opportunity to structure risk across the value chain from construction through the ramp-up period onto industrial-scale production. In addition to the ability of lenders to structure the disbursement of loan proceeds to project milestones, offtake agreements and investments from industry players may, in certain cases, provide guarantees and signal quality to the market.[32]

[32] A guarantee is a legally binding commitment by a third party (the guarantor) to support specific obligations of a borrower, with the scope, conditions, duration, and level of recovery defined by the terms of the guarantee and often subject to contractual limits

Figure 7: Illustrative blueprint for production financing



Source: DWS International GmbH, as of 1 March 2026. [1] Original equipment manufacturers. [2] Engineering, procurement, and construction. [3] Contracts for difference. [4] Special purpose vehicle.

Key growth financing risk factors and potential investor approaches to risk mitigation:

(1) **Credit risk** (borrower will potentially default). Lenders can structure loan disbursements to follow a milestone-based approach and security, and guarantee arrangements can be matched to the level of risk (including collateral like equipment, intellectual property rights, company share pledges or guarantees from affiliated entities. Lenders can also incorporate non-call and make-whole provisions to reduce "wrong-way risk" that can arise if exposure is concentrated during less favourable credit periods or custom equity kickers designed to be realised either at the next funding round or upon a sale event.

(2) **Commercial risk** (financial stress or losses). Lenders can target borrowers with prior equity investments from relevant industry players, established off-take agreements from credible buyers, or evidence of successful small-scale production. An investment from a reputable organization is an indicator of quality and suggests that company management has access to external expertise. Similarly, off-take agreements support the integrity of forward-looking cashflow projections and prior small-scale production can serve as a proof of concept for the future build out of industry-level production facilities.

(3) **Technology risk** (failure of technology to deliver). Lenders can use the Technology Readiness Levels (TRLs) framework developed by NASA to evaluate the maturity of a technology, from concept to market readiness. TRLs have been adopted by the EU and industries worldwide to evaluate technologies and are an objective framework available to investors to guide financing decisions. Programs such as the Horizon Europe use TRLs to categorize projects as well as determine borrower eligibility and match borrowers with appropriate funding.

3.3 Snapshot of broader European VC market trends supporting opportunity set

Recent trends in the European VC markets coupled with efforts to implement the EU Startup and Scaleup Strategy suggests that there will be a sustainable pipeline of European companies with first-of-a-kind technologies in need of growth financing in the future. Policy initiatives such as WIN are intended to make it easier for companies to innovate, operate, and raise capital during their journey from early-stage startup seeking growth financing to scale production to late-stage scaleup seeking to expand into international markets.

As regulatory reform begins to take effect and additional capital enters the VC market, it should be easier for European companies in key sectors to build their capital stack and focus on building prototypes and then scaling production to industrial levels. Total European venture deal value in 2025 came to €66.2 billion for a 5.1% year-over-year increase relative to 2024.[33] The historically underinvested defence sector attracted €1.5 billion in new venture investment in the first half of 2025 alone because of accelerating geopolitical developments and security concerns.[34] Total venture debt deal value in 2025 came to €19.2 billion, which marked a yeah of stable activity following the asset class's record high total deal value achieved in 2024 of €26.9 billion.[35] Ongoing challenges to European IPO markets will likely support increased adoption of alternative financing mechanisms as companies delay going public.[36]

In recognition of the growth potential and attractive valuations of early-stage European companies, there has been a surge in interest in European technology companies from U.S. investors that are able to write large checks and offer access to U.S. markets.[37] While this is good news for many companies, it underscores the need for European VC investors and potential entrants to reflect on opportunities to invest in early-stage European technologies that were missed in the past, as well as the potential consequences of underinvestment or allowing foreign investors to continue to extract the emerging technologies, IP, and expertise that are critical to Europe's future.

3.4 Connecting the dots

In our last European Transformation white paper, we described how innovation hubs across Germany and other factors establish the conditions for the emergence of a new a "New Mittelstand" of companies whose technologies are increasingly vital to Europe's future. In this paper, we described the importance of first-of-a-kind technologies, structural issues that limited the availability of growth financing in the past, policy initiatives designed to address these issues, and the value proposition of growth financing as an investable asset class. We are hopefully that readers will benefit from our efforts to connect the dots between these topics as we believe that growth financing is an increasingly attractive opportunity for investors that seeking to gain exposure to first-of-a-kind technologies.

[33] Pitchbook (2026), European venture report – 2025 annual.
[34] Pitchbook (2025), European venture report – Q2 2025.
[35] Pitchbook (2026), European venture report – 2025 annual.
[36] Pitchbook (2026), European venture report – 2025 annual.
[37] Pitchbook (2026), European venture report – 2025 annual.

4 / Conclusion

Summary of key findings

1. First-of a-kind technologies are essential to the transformation of Europe: Europe's underinvestment in technology over the last few decades coupled with its need to reduce strategic dependencies on technology trading partners such as the U.S. and China suggests a need for increased investment in early-stage European companies with first-of-a-kind technologies.

2. The historical lack of growth financing has limited Europe's technological growth and innovation: European companies with first-of-a-kind technologies seeking to scale production to industrial levels have historically been unable to obtain growth financing from banks and faced difficulties trying to obtain growth financing from domestic VC markets.

3. The growth financing gap is attributable to risk aversion, bank centricity, and market fragmentation: European investors are generally risk averse and prefer value preservation versus growth, European financial markets are bank-centric and subject to restrictive regulations, and Europe's VC market is small and fragmented relative to the VC market in the U.S.

4. Germany is poised to play a prominent role in implementing Europe's technology strategy: Germany is the largest economy and most populous country in the EU's economy with quality research institutions, a network of innovation hubs, and an industrial manufacturing and production sector that is essential to competitiveness and reducing trade dependencies.

5. Germany's WIN initiative aims to reduce barriers so markets can allocate capital to where it is needed: WIN aims to strengthen the technology ecosystem in Germany, and Europe more broadly, through actions that support the entire value chain, which includes a focus on increasing the available of growth financing to companies with first-of-a-kind technologies.

Investor implications

1. Europe's "urgent buyer era" is increasing demand, catalyzing policy reform, and influencing risk tolerance: European governments and corporate customers are faced with existential needs that cannot be satisfied by domestic technological solutions, but Europe's challenges are creating the conditions for opportunistic investment in emerging technologies.

2. Borrowers are incentivized to work with growth financing providers and may stand to benefit. Early-stage companies with first-of-a-kind-technologies currently have few sources of growth financing but should benefit as more entrants enter the market and may additionally benefit from working with providers affiliated with banks due to future capital needs.

3. Growth financing is differentiated from, but is complementary to, private credit: Growth finance can help investors diversify away from traditional corporate credit towards an asset class with distinct characteristics and correlations as private credit is focused on mature companies and growth finance is focused on companies with products nearing commercialization.

4. Despite its risk profile, growth financing risk factors can be mitigated by sophisticated investors: Lenders can mitigate credit risk with structured disbursements and matching security to risk, commercial risk by targeting borrowers that have offtake agreements or small-scale production, and technology risk by using the Technology Readiness Levels framework.

5. Broader European VC market trends support the growth financing opportunity set: Overall European VC market activity is generally healthy with a growing focus on defense and other sectors that is attracting increased interest from U.S. investors such that non-U.S. investors should consider the opportunity set and the potential consequences of failing to act.

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