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The upside in times of downturn

Macroeconomic challenges could be growth opportunities for Germany's start-up ecosystem

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May 2023

1. Introduction: Disruptive events have set a troubling economic scene in Germany

Several simultaneous macroeconomic realities are creating a challenging business climate in Germany. In 2020, the reverberations of the pandemic-induced lockdown sent the global economy into a tailspin. Today, expectations for the business climate are again as low as they were two years ago, with Russia's war in Ukraine and further geopolitical instabilities being the catalyst.

Exceeding its one-year mark, the war has contributed to high inflation, a sharp increase in energy prices, supply chain constraints, and an overall decline in economic activity worldwide. The impact of these forces is especially visible in the consumer landscape. Average European GDP growth in 2022 was only 1.9 percent. The projection for the coming year is even weaker, with expected growth of just 0.2 percent. Additionally, higher production and import costs have driven up the price of goods. Inflation in Germany reached 8.6 percent in December 2022—the highest level in more than 70 years. In response to rising inflation, the European Central Bank raised the key interest rate from 0 percent to 3 percent—in a series of five hikes since July 2022—significantly increasing the cost of capital.

Amid this crisis, one thing has become increasingly clear: the war in Ukraine and the related tensions between Russia, China, the United States, and the European Union have created global supply chain and capital constraints that have pushed Europe—and Germany with it—further into the background and widened the existing technology gap. But while these macroeconomic events are global (for now), they seem to be having a greater impact on the start-up ecosystems in the United States and China than they do on Europe's. This disparate impact is an opportunity for Europe to close the technology gap. Additionally, large macroeconomic trends such as demographic shifts and climate change are creating opportunities for new, transformative business models driven by intellectual property, for which Europe has been an innovation engine in the past.

The strength of Europe's start-up ecosystem lies in start-ups that scale slowly but are more capital efficient. Needing less capital to grow has been a protective factor in this climate of capital constraints. We found that the median revenue per invested dollar in Europe is 2.4 times higher than in the United States for B2B start-ups and 1.2 times higher for B2C start-ups. European start-ups have historically matured in an environment where capital was significantly less abundant than it was for their US counterparts. Furthermore, several professional skill profiles critical to B2B start-ups (such as software developers) are often way less costly in Europe than in the United States.

As capital gets more expensive and less available for hyperscaling, this might be a pivotal moment for the more capital-efficient European ecosystem due to its greater focus on B2B models and intellectual property.

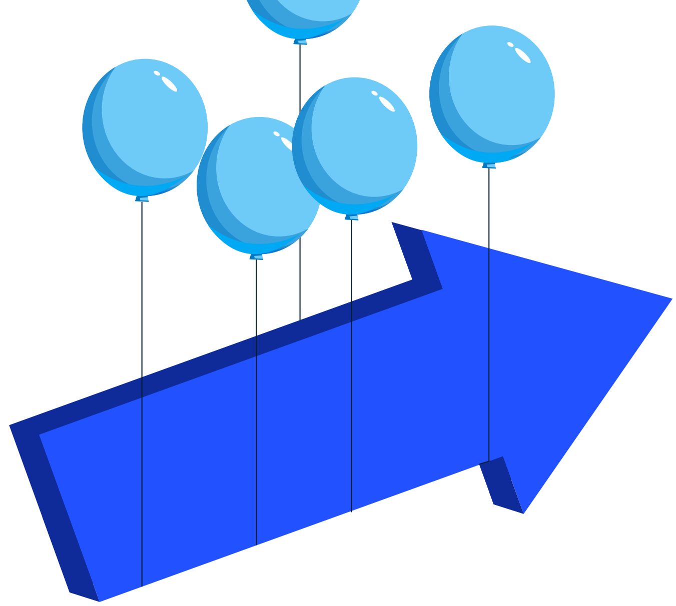
Given this relative advantage, Europe could be in a good position to more fully realize the potential of its start-up ecosystem.

Within Europe, the German start-up ecosystem can benefit from additional unique strengths, such as a strong industrial base and the German *Mittelstand* (its small and medium-size enterprises) that can provide credibility and capital in times of uncertainty. By working together in clusters, established corporations and start-ups can benefit from each other's unique combination of experience and resources. Thus, despite the overall uncertainty, the German start-up ecosystem may be poised to succeed as an engine of national (and regional) growth. In the context of a never-before-seen set of global circumstances, this unique opportunity to close the gap to other leading start-up ecosystems is one that must be seized.

About the research

The insights in this article were derived from quantitative analyses based on data sets from PitchBook, the EU Startup Monitor, and Dealroom. They cover B2B and B2C companies founded from 2010 to 2022 in Europe (focus country: Germany) and the United States, drawing data from funding rounds, investor records, and McKinsey analyses.

In addition, interviews with approximately 20 investors, founders, and venture capital executives were conducted in December 2022.



2. For the start-up ecosystem, the downturn has meant more of a “shift to maturity” than a “shock”

The current macroeconomic reality has had an end-to-end impact on Germany’s start-up ecosystem. Start-ups at every stage of maturity have been affected. The shape of the impact, however, varies. While the various macroeconomic forces described above have negatively affected some aspects of the German start-up ecosystem, they have revealed opportunities in other areas—for the start-up ecosystem and the German economy as a whole. Following is a detailed breakdown of the impact on key aspects and areas.

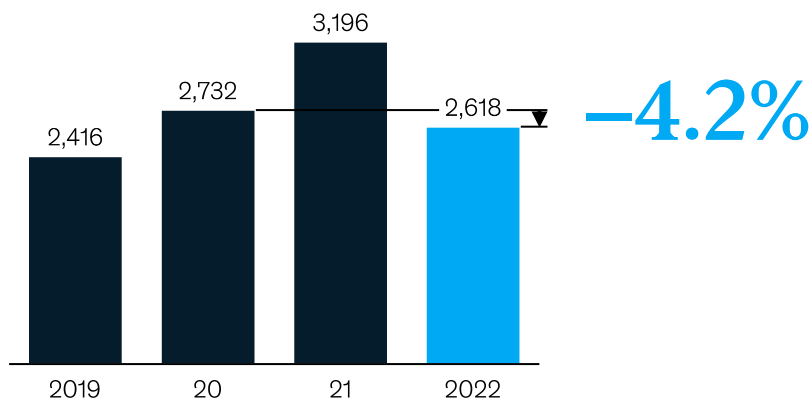
2.1 Founding activity and early-stage investments

In the context of founding activity and early-stage investments, three trends were discernible:

Fewer start-ups founded. The number of start-ups founded in 2022 decreased by 4.2 percent compared to 2020 and by 18.0 percent compared to 2021 (Exhibit 1). This could be attributed to prospective founders deciding to keep their current jobs during a time of uncertainty and market volatility.

Exhibit 1

The number of German start-ups founded in 2022 decreased by 4.2% compared to 2020



Source: Startupdetector

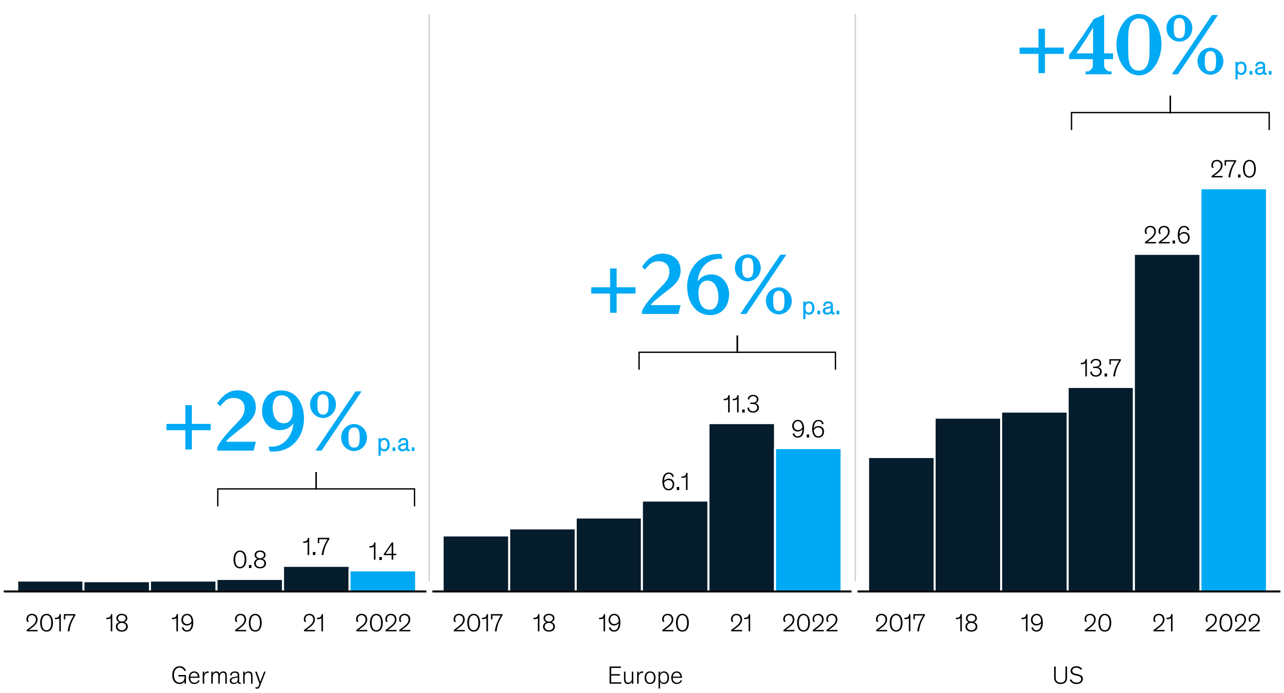
Second-highest funding activity of all time for early-stage investments. Though funding may have dropped overall, activity in early-stage funding in 2022 was the second highest of all time in Germany at $1.4 billion (2021 was the highest at $1.7 billion). Since 2020, early-stage funding has grown at a compound annual growth rate of 29 percent (Exhibit 2). The venture capitalists interviewed for this article remarked on how early-stage funding is still shielded from the macroeconomic trends that seem to have put the brakes on later-stage funding. Early-stage funding also continued to be strong in the United States in 2022, where it even exceeded 2021 levels. With fewer start-ups being founded in Europe, more funding was allocated to the United States instead.

> “Within the first half of 2022, 80 percent of globally invested money was in the United States, as Europe was under geopolitical risk. It usually takes two to three years to return to the normal environment of asset allocations, including subsidence of geopolitical risk.”
>
> —Founding partner of a growth equity investor

Exhibit 2

Early-stage funding remains comparably stable

Funding investment, $ billion



Source: PitchBook

In the short term, seed funding in Germany dropped compared to the record year of 2021, but it still shows a strong long-term growth trend. With the financial dry powder that is still available in the market, investors believe that such funding will quickly pick up again, albeit at a potentially lower growth rate than from 2020 to 2021.

> **"Especially for early-stage start-ups, we see enough money in the market. Compared to the last crisis, we still see a lot of financial firepower going into early-stage start-ups."**
>
> —Managing director of a B2B start-up

Universities are key drivers of entrepreneurship. One of the most differentiating and interesting factors influencing the vast size of the German start-up ecosystem is the university environment, which was the breeding ground for roughly 10 percent of start-ups in 2021. Universities such as TU München and RWTH Aachen continue to be lighthouses driving entrepreneurial activity in Germany, proving that the country is uniquely equipped to commercialize its research. After a 2.5-year slowdown due to COVID-19, universities are resuming their start-up catalyst activities.

> **"The university ecosystem is finally picking up again after 2.5 years of COVID-19. We have hosted the largest demo day this year and are optimistic about what's to come."**
>
> —Vice president of an entrepreneurship center

2.2 Funding and scaling

With regard to funding and scaling, three key developments have been observed:

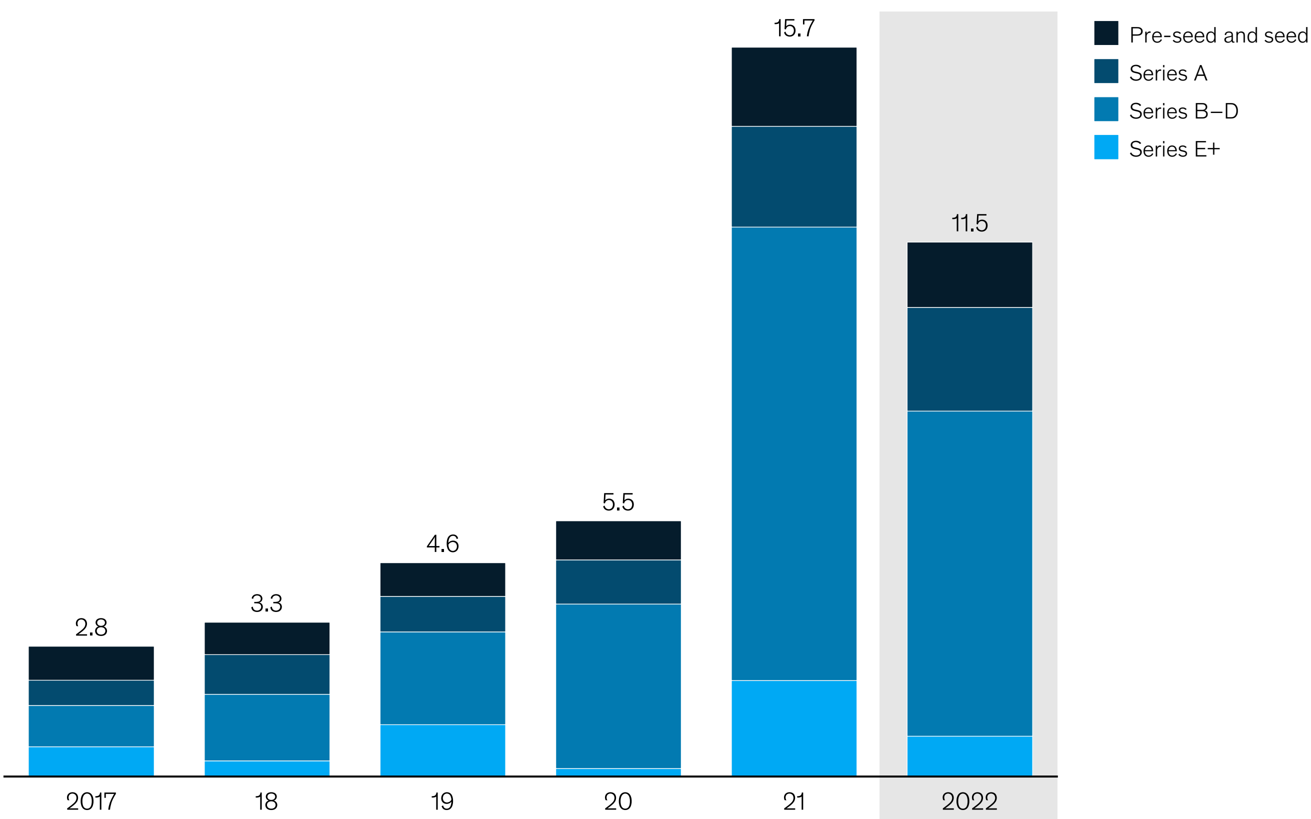
Funding in Germany remains stable. With a total funding volume of $11.5 billion (including seed and pre-seed activity), 2022 marks the second-highest year in terms of start-up funding, with 33 percent annual growth since 2017 (Exhibit 3). This is also reflected in growth-stage funding activity in 2023, led by Enpal's $215 million in Series D funding.

> "The allocation speed is returning to its normal deployment cycles."
>
> —General partner and venture capitalist

Exhibit 3

Germany saw its second-highest level of start-up funding in 2022

Total funding investment by series, $ billion



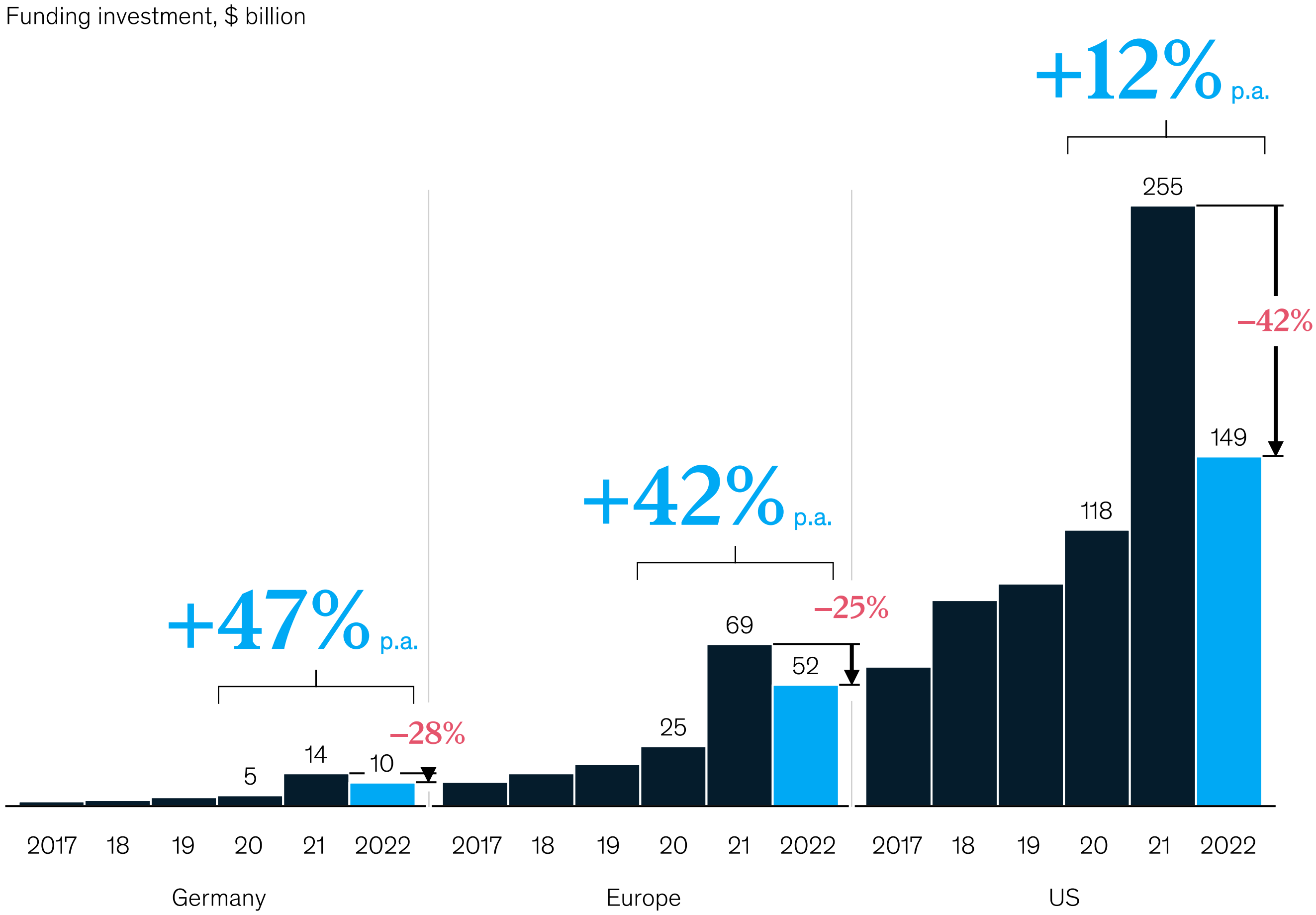
Source: PitchBook

Growth-stage funding (Series A and beyond) in Germany is outperforming that in the United States. It has become more difficult for founders to secure funding, especially in the growth stage. Like the global trend, total investment volume is also lower year-on-year in Germany (a 28 percent decrease from 2021 to 2022). However, if we look at the bigger picture, the total investment volume for growth-stage investments still increased 47 percent per year since 2020, outperforming the rest of Europe and the United States (Exhibit 4). This higher attractiveness of German growth-stage start-ups can be explained by B2B-focused models that are heavy in intellectual property, with proven higher capital efficiency and a greater chance of profitability.

Exhibit 4

Growth-stage investments remain stable after a dip in 2022

Funding investment, $ billion



Source: PitchBook

Though the short-term trend (from 2021 to 2022) indicates negative growth across the majority of the top nine highest-funded industries in Germany, the long-term compound annual growth rate clearly shows a stable growth trend across all sectors (Exhibit 5). This means that the ecosystem is still growing steadily and sustainably, with 2021 simply being an outlier of exorbitant growth.

In addition, the number of “mega-rounds”[1] has decreased significantly, leading to a greater number of smaller rounds. Investors are looking for start-ups with a clear path to profitability and unit economics, resulting in many start-ups exerting great effort to become more capital efficient, which improves their burn ratios. This is reflected in a decline in the overall valuation of start-ups in 2022.

Funding is shifting sideways. There’s a widespread sentiment that funding volumes decreased in 2022. While this is generally true, we have observed more of a sideways shift than an overall drying-up of funding. In other words, not all industries have lost funding at equal rates, and a lot of funding has simply moved into different industries or business models. While in 2021 pure growth was the focal point for investors, some previously heavily funded industries such as e-commerce have experienced major drops in financing. B2C start-ups are especially dependent on overall consumer sentiment. A shift toward a more favorable sentiment requires a specific turnaround event, such as a clear sign that inflation is slowing or the market situation has begun to restabilize.

Exhibit 5

Funding volumes for Germany’s nine highest-funded industries shrank significantly in 2022

Amount invested into German start-ups, 2022, $ billion

	Amount invested, 2022, $ billion	**CAGR,** percent **2017–22**	**2021–22**
Fintech	2.00	43	–52
Health	1.90	49	6
Energy	1.60	87	–27
Transportation	1.50	41	–46
Robotics	0.65	67	–27
Job recruitment	0.62	64	–4
Marketing	0.64	31	–54
Real estate	0.48	48	33
Food	0.46	54	–73

Source: PitchBook

[1] When a company raises more than $100 million in a round.

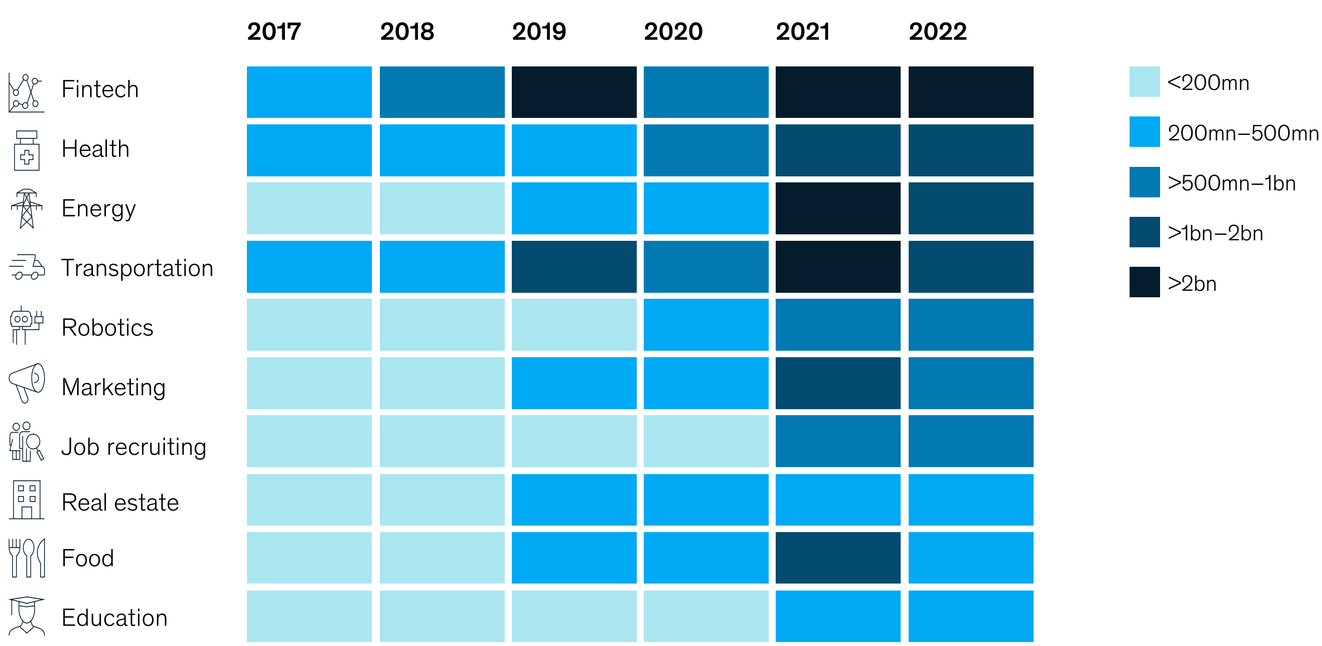
This year, investor focus has shifted more toward B2B models built on profitability, strong intellectual property, and capital efficiency, in industries such as health, energy, and transportation. These industries, respectively, have received total investments of $1.8 billion, $1.7 billion, and $1.3 billion in funding in 2022. Unsurprisingly, fintech remains the highest-funded sector, receiving $2 billion in 2022 (Exhibit 6). B2B business models attracted the most investor attention throughout the past year. B2B continues to be one of the key strengths of Europe's start-up ecosystem, with better funding efficiency compared to B2B start-ups in the United States and B2C start-ups in Europe.[2] This split is observed across all stages of maturity, meaning that across the board, investors are keener to invest in industries such as health and energy—supporting the theory that some industries may even be insulated from the economic crisis.

> **"We've noticed that the climate tech industry as well as climate funds are decoupled from the effects of the crisis."**
>
> —Managing director of a corporate venture capital firm

Exhibit 6

Fintech is the top-funded sector in Germany

Amount invested per industry in Germany, $



Source: PitchBook

[2] Karel Dörner, Max Flötotto, Tobias Henz, and Tobias Strålin, "Europe's innovation wunderkinds: The rising B2B start-up ecosystem," McKinsey, April 14, 2021.

2.3 Opportunities to capture

While layoffs make the news, there is still high demand for talent across start-ups. Some start-ups have started to extend their runways and find ways to improve cost efficiency, but news about layoffs continues to unsettle the ecosystem. Many of the key figures from the German start-up ecosystem that were interviewed for this report mentioned that they expect a bigger wave of layoffs in 2023. Additionally, many late-stage start-ups had to directly compete on salary with both incumbents and well-funded early-stage start-ups.

> **"In 2021, there was a huge lack of talent on the market, especially to fill senior positions. This resulted in inflated salaries."**
>
> —CEO of a late-stage start-up

> **"Hiring might be more difficult for early-stage start-ups, as available talent might seek the stability of an established employer."**
>
> —CEO and angel investor

As the war for talent rages on, there was a 42 percent increase from 2020 to 2022 in the number of start-ups that saw recruiting as a key challenge. The search for talent continues to be difficult, but the situation may begin to ease because the level of available talent is expected to increase, normalizing back to pre-2021 levels.

> **"Other companies are still continuously recruiting talent, though not as aggressively as before."**
>
> —CEO of an enterprise software company

> **"Due to this [talent shortage] situation, there are more people on the market who would be willing to join a founding team compared to 2021."**
>
> —Managing director of a corporate venture capital firm

There are attractive opportunities for M&A deals. The effects of the economic crisis on stable start-ups differ widely across industries. Some start-ups had to resort to layoffs to improve unit economics and profitability. Roles in talent acquisition, sales, and marketing were especially affected by these layoffs, but these companies are still finding ways to grow organically, such as by leveraging their existing customer base. Other companies, which have already achieved positive cash flow, are now exploring other ways to grow, such as internationalization.

> “We are experiencing a large surge of M&A offers as smaller companies look for exit options. It’s a clear shift toward a buyer’s market.”
>
> —CEO of a late-stage start-up

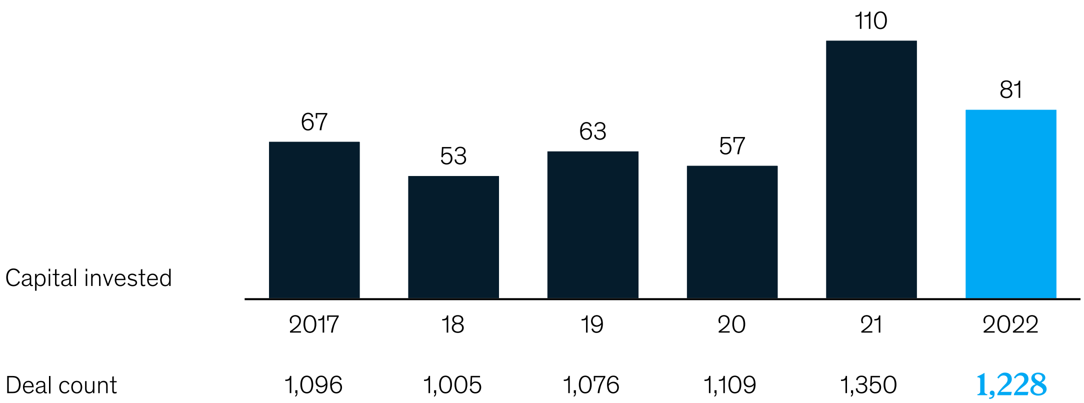
Due to the current market environment, consolidation pressure is increasing, presenting an opportunity for larger start-ups to strike M&A deals at lower multiples. This sentiment is also reflected in the numbers, with 2022 seeing the second-highest M&A deal count of all time (Exhibit 7).

> “You should use the window of opportunity before it closes.”
>
> —CEO of an enterprise software company

Exhibit 7

Germany saw its second-highest number of M&A transactions in 2022

Capital invested, $ billion



Source: PitchBook

2.4 Capital

The financing aspect of the start-up life cycle is facing three major changes:

Significant increase in venture capital availability. The underlying macroeconomic environment in 2021, with interest rates at or below zero and high availability of capital, led to a significant shift to alternative asset classes, including venture capital, as risk appetite increased and traditional portfolios were no longer generating the desired yields. This led to a strong inflow of capital into the market, reflected in deal activity and overall invested capital—resulting in many unicorns being founded in 2021, which increased start-up valuation multiples across all sectors.

> **"We lived in a bubble—it was never a problem for start-ups to raise money."**
>
> —Co-founder of a consumer health start-up

> **"2021 was a hyperactive year full of 'fear of missing out.'"**
>
> —Founding partner of a growth equity investor

It was the first time that public markets, M&A markets, and funding markets all moved in synchronization. However, within four to five months, the market returned to its normal state, accelerated by macroeconomic events such as interest hikes. In hindsight, the 2021 valuation approached a bubble in many areas of the start-up ecosystem, which deflated in 2022 due to rising interest rates and less abundant capital.

As public valuations now decrease, investors are scrambling to reallocate their portfolios to reduce their capital in private markets. Due to this, less venture capital is available than in 2021, but it might be distributed more efficiently. This leads to healthier ecosystems, but also to a potential decline in innovation, as not every idea receives funding. However, even after the record year of 2021, around $84 billion is still available and ready to be deployed.

> **"With the market shift, investors and founders are becoming more conservative. Innovation might take a toll."**
>
> —CEO and angel investor

The number of IPOs is down significantly, with volume remaining stable in Europe. The exit value of IPOs decreased drastically in 2022 as the market environment remained volatile (Exhibit 8). Many companies are postponing their exits to the public market to avoid decreased valuations, as the economic crisis is causing multiples to be compressed. This is reflected by the data, especially in the United States, which saw a significantly lower total exit amount in 2022 than in 2021. However, 2022 IPO exit amounts in Germany were higher than the previous year's, beating the worldwide trend. This is rooted in the structure of Germany's start-up ecosystem, which focuses on businesses with higher capital efficiency and proven paths to profitability. And while the IPO window is not yet open again, many start-ups are currently readying themselves to scale up, and they are likely to take the opportunity when the markets stabilize.

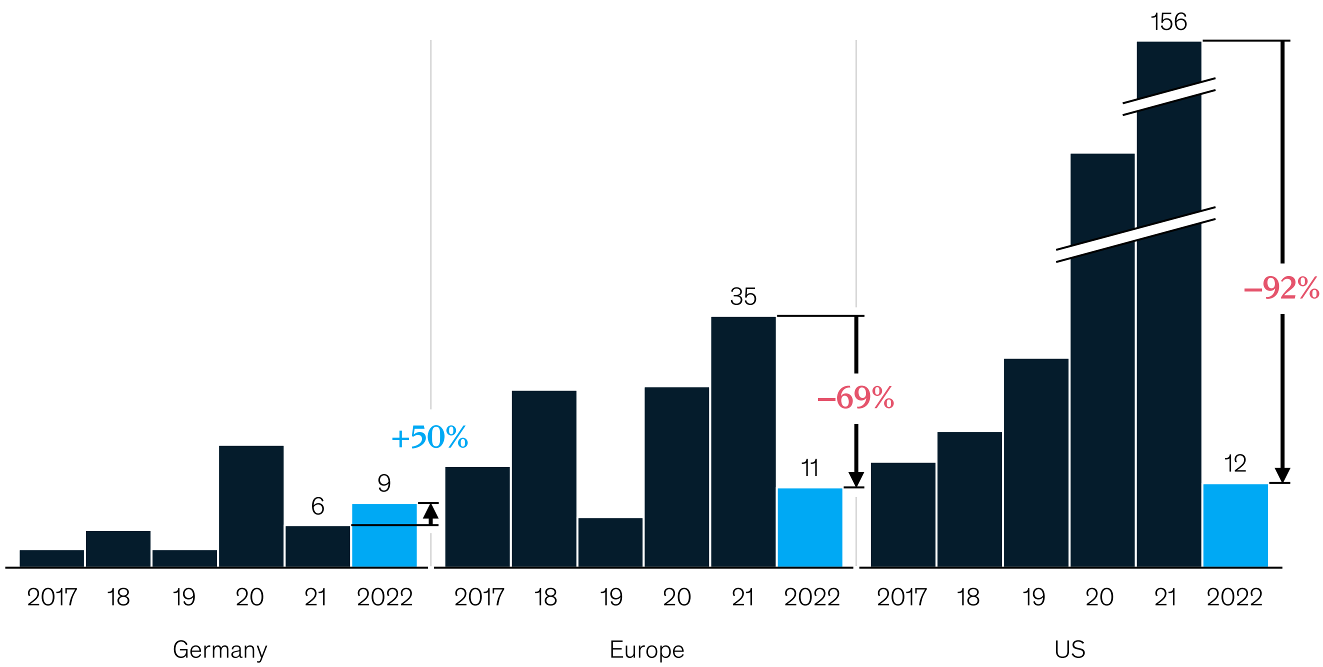
The dynamics between venture capitalists, general partners, and limited partners are changing. This shift has increased the time it takes between raising funds and actually injecting the capital.

> "Limited partners focus more on established managers and veteran blood."
>
> —General partner and venture capitalist

Exhibit 8

IPO exit amounts dropped in 2022, especially in the US

IPO exit amount, $ billion[1]



1. Not including special purpose acquisition company IPOs

Source: Dealroom

3. Founders can begin capturing opportunities from the current shifts

While it is true that all players must work in concert to promote a sustainable start-up ecosystem, current or prospective founders do not have to wait until all favorable structures are in place. There are several actions or considerations in key areas that founders can already take to position their start-ups for long-term success. These actions depend on the maturity of the start-up.

The first two actions relate to operating in an uncertain market:

— **Seek product–market alignment.** For early-stage founders, viable and scalable business models and good unit economics are now more important than ever before.

— **Focus on the core.** For later-stage founders, there should be a focus on the fundamentals; slow growth is now accepted in return for growing profit margins and profitability per customer. Founders should focus on their core value proposition and existing customer base to maximize liquidity, because fundraising and customer acquisition are expected to become major pain points in 2023. If founders are struggling with funds, they should consider discussing further investment and runway extension planning with their existing investors, as a lot of smaller internal bridge rounds are currently taking place.

Seizing the opportunities

The next two actions recognize that the current macroeconomic environment is not something to merely overcome—actual opportunities emerge from it:

— **Take advantage of available talent.** For new founders, now can be a great time to hire. There are more people available on the market today who are willing to join new start-ups compared to 2021, when the market was extremely tight. Furthermore, it is an opportunity to build solid future-oriented business models that truly solve real customer problems. Still, competition for talent is intense, and early-stage start-ups need good arguments to win the right talent in times of economic uncertainty.

— **Make strategic investments.** Certain later-stage start-ups should invest in strategic opportunities to grow, such as through M&As. They should also start developing robust resilience plans.

Across the board, the competitive landscape has improved, with Europe having an advantage due to its B2B strengths in the industries that have moved into the foreground due to the economic crisis, such as cleantech.

Some players will emerge from the crisis stronger than before, while others will experience losses as the ecosystem rebalances itself. If the number of start-ups that emerge as winners increases, stakeholders in the start-up ecosystem are better equipped to demand a favorable environment from regulators to further incubate more start-ups.

4. The “shift” has created a unique opportunity for Germany’s start-up ecosystem, but capturing it requires a new set of fundamentals

Many see the current macroeconomic environment as simply a crisis to overcome—but for stakeholders in the start-up ecosystem, it is also a long-term opportunity that they should capture. For Europe as a whole, this is a chance for the entire start-up ecosystem to shift its focus toward sustainable business models that can withstand similar macroeconomic events in the future, with entrepreneurship as a key lever.

In this new macroeconomic climate, start-ups that are on a clear path to profitability with a strong B2B focus will be favored by investors. Start-ups rich in intellectual property will have an advantage over capital-intensive B2C start-ups, which are dominated by US venture capital. Europe’s B2B start-up ecosystem boasts unique strengths and a growing number of high-performing B2B start-ups—Europe’s innovation wunderkinds[3]—thus becoming increasingly competitive and attractive for investors.

For the German start-up ecosystem, this is an opportunity to become more sustainable in the long run by building on more robust business models while maintaining a strong focus on profitability and growth. In addition, fostering a start-up-friendly environment is critical, which can be done by shifting attention to promising sectors and taking a whole-government approach—from regulations to public campaigns. But to do so, the German start-up ecosystem first has to identify and build on its unique strengths as well as those of the country’s economy and society—only then can it create unique value.

To tap into this potential, Germany should cultivate a new entrepreneurial culture that prioritizes start-up creation by promoting an entrepreneurial mindset as Germany’s new zeitgeist.[4] This includes providing access to the right education and opportunities at post-secondary institutions and improved conditions for start-up success, such as enhancing access to funding in the later stages of development. The following is a list of overarching, multistakeholder building blocks that could support the long-term success of Germany’s start-up ecosystem:

Stakeholder support and increased visibility. Germany can unleash the full potential of its start-up ecosystem by embracing a visionary approach. With a dedicated focus on the ecosystem that would create more visibility on start-ups among society as a whole, Germany would demonstrate a strong commitment to driving innovation and growth and position itself as a hub for entrepreneurs and innovators.

3 “Europe’s innovation wunderkinds,” April 14, 2021.
4 Markus Berger-de León, Karel Dörner, Max Flötotto, and Tobias Henz, “Entrepreneurship zeitgeist 2030,” McKinsey, October 26, 2021.

Seamless talent mobility across borders. Unleashing the full potential of Europe's start-up ecosystem, and thus Germany's, requires harnessing talent mobility. However, the current process makes it challenging for start-ups to access a diverse talent pool. It is essential to take a closer look at what the barriers are and how they might be removed to enable such change. Reexamining the talent flow pipeline could help give start-ups access to a wider pool of skilled individuals, enabling them to innovate and grow in new and exciting ways.

Employee stock option plans. These provide a valuable tool for start-ups to attract and retain top talent. By offering equity as compensation, start-ups can align their employees with company success and drive growth. To maximize the impact of employee stock option plans and support the success of Germany's start-up ecosystem, they need to be a financially attractive option for all stakeholders. With an enabling ecosystem and attractive employee incentives, start-ups and their employees can drive innovation and competitiveness in the sector, creating an ecosystem where entrepreneurship thrives.

Empowering diversity in entrepreneurship. A flourishing start-up ecosystem in Germany requires the participation of all talented individuals, regardless of background. Currently, entrepreneurship in Germany is relatively homogenous, and underrepresented groups such as women, immigrants, and those without university education face barriers to entry. By investing in education and networking opportunities and promoting diversity through targeted campaigns, governments and post-secondary institutions can help remove structural biases and broaden the pool of potential entrepreneurs. A more diverse and inclusive start-up ecosystem will lead to a more vibrant and innovative community, driving economic growth and prosperity for all.

Nurturing local investment. By fostering a favorable environment for local investment, German start-ups would have greater access to investors who understand the market, especially in the later stages of funding. This could lead to a virtuous cycle of capital being reinvested within the German ecosystem, driving innovation and growth.

Stock exchange advantages for start-ups. Europe is home to countless talented start-ups with boundless potential, and a vibrant stock exchange could be the key to unlocking their success. The current exchange landscape falls short in comparison to others around the globe, such as Nasdaq. A dynamic and thriving stock exchange would bring increased visibility and exposure, attracting more investors and helping start-ups reach their full potential.

Access to international markets. Start-ups looking to reach new markets should consider ways to ensure employment mobility across Europe. By breaking down regulatory barriers, Europe can unleash the full potential of its vibrant and thriving start-up ecosystem.

Efficient IPO process. Going public is a major milestone for start-ups, and having an efficient and effective IPO process can help them focus on building and growing their business. By creating an environment that supports start-ups on their journey, the value they create can stay within the ecosystem.

In 2021, investors had to make rapid decisions based on an outside-in view, as time was limited for in-depth due diligence. However, 2022 was less a major downturn for the start-up ecosystem than a natural and necessary shift away from unstainable growth and a return to a more normal pace. And the pace of investment decisions has now returned to its pre-2021 state. What this swing has revealed is the underlying stability of Germany's start-up ecosystem. 2022 has also revealed that attractive start-up growth cases still exist.

It may seem as though Germany's start-up ecosystem has lost ground with less activity and funding compared to 2021. The bigger picture, however, shows that Germany still had the second-highest funding activity of all time for pre-seed and seed investments. On a multiyear basis, the German ecosystem looks healthy, with steady growth rates, even outperforming the United States in Series A funding rounds and beyond. Moreover, the current macroeconomic environment favors mature, economically sustainable business models such as those in the German start-up sector, potentially providing a unique chance to catch up with the US sector.

To maximize the potential of these opportunities, several building blocks for stakeholders across talent, fundraising, and stakeholder support should be put in place. Last, but not least, founders themselves can take immediate steps to capitalize on the current economic shift.

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May 2023

Designed by Visual Media Europe

www.mckinsey.com