



BERLIN: STARTUP REPORT

A 2022 overview of the state of the Berlin startup ecosystem

PROJEKT ZUKUNFT

Senate Department for Economics, Energy and Public Enterprises

BERLIN



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INTRODUCTION

It's almost impossible to imagine Berlin without startups! And the startup world can hardly be thought of without Berlin.



Stephan Schwarz, Senator for Economics, Energy and Public Enterprises
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Young, innovative companies are attracting talent from all over the world to the capital region and - as this report shows - creating a considerable number of jobs: almost 70,000 in Berlin alone. Innovative business models and technological innovations are developed and tested in the Berlin startup ecosystem and find their way into the market.

Particularly noteworthy: The young entrepreneurs from Berlin find financial support worldwide. In 2021, more money flew into Berlin startups than ever before: over EUR 10 billion. This puts Berlin among the top 10 locations for financing on a global scale. In other words: Berlin has come of age as a startup capital. The city can be proud of the achievements of young, innovative entrepreneurs.

This report confirms our government policy guidelines and it demonstrates that startups are key to the future of Berlin's economy, whether it's innovation, sustainability, or talent and diversity. And, of course, it is about creating jobs, opportunities and good, sustainable work.

We also learn that it pays to look more closely. Startups are not all the same. As a state, we can support "young" startups differently than "grown-up" startups - so-called scaleups. And scaleups, with their size and structures, can also give more back to the state than fledgling startups.

We are happy about this open, lively startup scene. Our goal is more than just to listen to its needs; we want to provide support where necessary, too. We want to foster connections and open doors. We want to continue to provide funding - as we do through IBB and the VC funds of IBB Ventures. We will continue to use the Berlin Startup Scholarship as a talent factory and innovation pool for Berlin and help promising startup ideas achieve a break-through with the startup bonus program by IBB. The Berlin Business Immigration Service provides advice and assistance to incoming talent. Berlin's eleven "Zukunftsorte" provide space for young teams. In addition, Berlin universities are equipped with startup services.

Our business development agency Berlin Partner for Business and Technology provides support via its startup team. Time and again, and also personally, we as the state of Berlin will continue to make our mark as Germany's startup capital through the Bundesrat [Federal Council] and the Conference of Ministers of Economics.

This report shows where the focus should be placed. We are taking up these suggestions to further develop the Berlin Startup Agenda.

As a first step, we have established a personal relationship with representatives of relevant public institutions. Because we want to further unfold our collaboration with the startup ecosystem. Our common goal is to develop Berlin - also with the help of young companies - into one of Europe's leading business and technology locations.

Stephan Schwarz

Senator for Economics, Energy and Public Enterprises Berlin

EXECUTIVE SUMMARY



A DIVERSE FUNDING LANDSCAPE

Berlin startups can draw on a diverse funding landscape made up of public, private, and institutional actors.



RECORD CAPITAL INFLOW

Financing rounds continue to be encouraging and further records are on the horizon. Further large financing rounds without foreign investors are being sought to reduce the risk of companies and know-how leaving the country.



ECONOMIC FOOTPRINT OF STARTUPS

Startups are writing a Berlin success story from an economic and employment policy point of view. Due to the ambiguous classification of startups in official statistics, their economic significance can only be approximated using key figures.



JOBS AND TALENT SEARCH

For many startups, the search for specialists/"talent" is currently the greatest challenge.



ENABLING EMPLOYEE PARTICIPATION

The issue of employee participation is joining the ranks of operational co-determination - the existing framework conditions should be further adapted at the federal level.



WOMEN ARE SIGNIFICANTLY UNDERREPRESENTED

The percentage of women as founders and investors is too low. Numerous initiatives have emerged in recent years, but there is still plenty of untapped potential in the promotion of female startup founders.



UNIVERSITIES AS NUCLEUS FOR STARTUPS

The outstanding relevance of Berlin's universities and their startup centers is obvious. A more in-depth analysis should help to facilitate spinoffs.



STARTUPS AND MEDIUM-SIZED ENTERPRISES GROW TOGETHER

Digital transformation continues to play a prominent role in collaborations between startups and medium-sized companies. Berlin should continue to attract small and medium-sized companies (SMEs).

STARTUP CAPITAL BERLIN

The Berlin startup scene has come of age. It has proven its success and is now not only the engine of Berlin's economy but a pacesetter for startups throughout Germany and Europe.

Startups have become the linchpin of Berlin's economy. The new government coalition states for the years 2021-2026 that it wants to "develop Berlin into one of Europe's most important business and technology locations and make Berlin's economy into a role model for sustainable business practices,"¹ and wants startups to be in the very center of these efforts.

This Startup Report for 2020 and 2021 shows: The Berlin startup scene has come of age; it has proven its success and is now not only the engine of Berlin's economy but a pacesetter for startups throughout Germany and Europe. The Berlin startup ecosystem benefits from Berlin's internationality and diversity, even if this diversity is not always reflected in all startups. The Berlin startup ecosystem can be promoted by politics as an instrument for a desired societal change towards more sustainability - because this goal is also pursued by most startups. Some examples and initiatives in this regard can be found in this report.

The current development of startups includes new records in the financing and valuation of the companies. Equally present are the current biggest challenges of integrating more women into startups, removing barriers to employing foreign professionals, and enabling more employee participation in their companies. For Berlin's policymakers, this means taking responsibility in some cases for the further development of startups beyond Berlin's borders at the federal level and in Europe.

In this report, the Institute for Strategy Development (IFSE) has compiled the most important data on the current situation of startups on behalf of the Senate Department for Economics, Energy, and Public Enterprises. The findings are presented in focus areas where also key challenges of the ecosystem are identified:

- A diverse funding landscape
- Record capital inflow
- Economic footprint of startups
- Jobs and talent search
- Enabling employee participation
- Women are significantly underrepresented
- Universities as a nucleus for startups
- Startups and medium-sized enterprises grow together

More than one hundred links and sources are provided for further reading. The definition of startups varies depending on the source. The common denominator used in this report is that startups are characterized by an innovative, usually technology-oriented, business idea with great potential. Questions from the Berlin House of Representatives served as orientation.²

"The Berlin startup scene has come of age; it has proven its success and is now not only the engine of Berlin's economy, but a pacesetter for startups throughout Germany and Europe."

Hergen Wöbken | Founder Institute for Strategy Development (IFSE), author of the Startup Report



Hergen Wöbken © Jeanne Degraa

¹ Berlin Coalition Agreement 2021-2026, p. 119

² "Startup overview in the capital," printed matter 18/1835 of April 12, 2019

OVERVIEW BY FOCUS AREAS



A DIVERSE FUNDING LANDSCAPE

Berlin startups can draw on a diverse funding landscape of private and institutional sector leaders.

PROMOTION OF THE STARTUP ECOSYSTEM

The strategic framework for Berlin's innovation policy is provided by the joint innovation strategy by Berlin with Brandenburg, which is unique in Germany as it transcends the boundaries of the federal states: "[innoBB 2025](#)". Within this framework, eight innovation support programs of the Senate Department for Economics, Energy, and Public Enterprises contribute to strengthening Berlin as a business and innovation location. The programs stimulate activities in the field of research, development, and innovation, related to private innovations as well, as startup activities³.

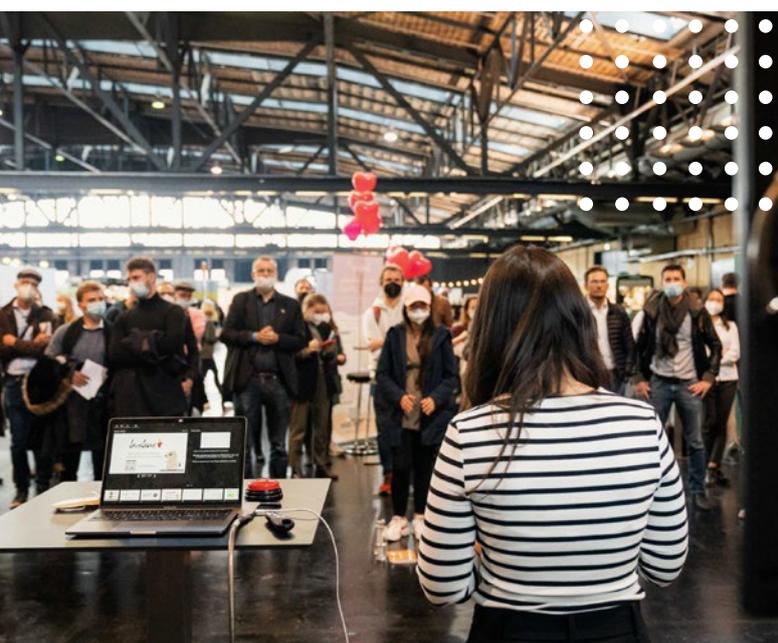
A joint, coordinated, and continuous approach by all stakeholders is crucial for the successful promotion of startups and the development of a startup ecosystem. For this overarching goal, the state of Berlin founded the [Berlin Startup Unit](#) in 2015 together with business development organizations.

The [Business Plan Competition Berlin-Brandenburg](#) is more than a competition with more than EUR 50.000 in prize money.

Here, founders are supported in the creation of business concepts (business plan or business model canvas) with free seminars, workshops, networking events, consultations, and feedback. In 2021, founders from Berlin and Brandenburg were also able to present their innovative business models in the Startup Arena at the startup fair [deGUT](#).

EARLY-STAGE FUNDING FOR STARTUPS

One focus of public funding is on the early stages of innovative startups and the pre-startup period. One important instrument here is the "Berlin Startup Scholarship", which supports selected founders with a technology-based startup concept over six to twelve months to realize their market entry. Incubators of universities and companies can become administrative program heads of the scholarship. During the funding period, the prospective startups receive up to EUR 2,000 per person per month, access to infrastructure and technical equipment, business know-how, and supporting coaching or qualification modules. The current program priorities focus on sustainability and innovation, to gear the scholarship more towards solving key societal and environmental challenges. As the Berlin Startup Scholarship program is part of the operational program of the European Social Fund, in the current ESF funding period 2014-2023, this instrument will support 1,800 individuals with a total volume of almost EUR 50 million. The percentage of women was comparatively high at 38.3% in the period 2016-2020. The goal is to increase it to 40%.



deGUT - Startup Arena, © deGut | Felix Sehr

³ [These programs were last evaluated in early 2020 for the years 2018/2019](#)

"Crucial to the promotion of startups and the development of a startup ecosystem is a joint, coordinated and continuous approach by all stakeholders. For this overarching goal, the state of Berlin founded the Berlin Startup Unit in 2015 together with partners from the startup economy. This bundles the competencies of the state of Berlin and partners from business support and science in order to thus advance the ecosystem in the capital, achieve an improvement in the framework conditions and make the already diverse support services for startups transparent, develop them further and supplement them."

Marcia Schraner | Coordinator Startups, Berlin Partner



Marcia Schraner © Berlin Partner – Fotostudio Charlottenburg

FINANCIAL SUPPORT FROM THE STATE'S INVESTMENT BANK

The investment branch of Investitionsbank Berlin, IBB Ventures, has a leading role and was no. 3 of the "Top investors of German startups"⁴ in 2021. Since 1997, approximately EUR 250 million has been invested as lead, co-lead, co- and investor and a total of approximately EUR 1.7 billion has been made available in consortia with partners. The IBB Gründungsbonus-program has been available since 2018. For innovative startups in Berlin, the program provides a cost subsidy of 50% of the total eligible costs up to a maximum of EUR 50,000. In 2021, 430 (2020: 399) applications were submitted. A total of 183 applications with an approval volume of around EUR 9.1 million were supported in 2021.⁵ IBB and IBB Capital also play a central role in the [Corona support program for Berlin startups](#) that have run into a financing bottleneck in the wake of the Covid-19 crisis. In 2021, 198 startups were funded with the three different building blocks amounting to EUR 134.2 million. "In the startup scene, which is so important for Berlin, 3,000 jobs could be secured providing such aid."⁶

The entire diversity of startup funding in Berlin can be found in [IBB's "Business Support Guide"](#). A comprehensive overview of the support offered by the Senate Department for Economics, Energy and Public Enterprises, the Chamber of Commerce, associations and others can be found on the [Berliner Startup Map](#).

NEW DECENTRALIZED ZUKUNFTSORTE AS AN ANSWER TO RISING OFFICE RENTS

According to all forecasts, the city of Berlin will continue to grow.⁷ The vacancy rate for office space had fallen as low as 1.2% before Covid-19 and average office rents have risen by more than 50% in the last five years.⁸ Since 2009, rents have almost tripled.⁹ With an average rent of around EUR 29 and a top rent of around EUR 40, Berlin is still very favorable compared to other startup locations internationally¹⁰, but in perspective, the increase will become a challenge as the city continues to grow. Just a few years ago, Torstrasse in Berlin's Mitte district was considered the nucleus of the startup scene. Meanwhile, the startup scene is expanding into less central parts of the city.¹¹ Since 2016, the Senate Department for Economics, Energy, and Public Enterprises has been focusing on the development of Zukunftsorte (Engl. [Future places](#)), which offers an affordable location beyond city center locations dense network with other actors to startups and other companies as well as scientific institutions

⁴ [Manager Magazin on June 22, 2021](#): "The most important investors of German startups"

⁵ Senate Department for Economics, Energy and Public Enterprises, Berlin

⁶ [Press release of December 2, 2021](#), Senate Department for Economics, Energy and Public Enterprises

⁷ See, for example, the "[Results of the population forecast](#)"

⁸ [Office market report Berlin 2021](#)

⁹ [Statista.com, Development of office space rents in Berlin](#)

¹⁰ [Gründerszene on December 1, 2021](#): "How startups can deal with skyrocketing office rents - and where cities are helping"

¹¹ [Gründerszene on March 18, 2019](#): "The startup scene is moving away from Berlin-Mitte"

RECORD CAPITAL INFLOW

Financing rounds continue to be encouraging and further records are on the horizon. Further large financing rounds without foreign investors are being sought to reduce the risk of companies and various industry expertise leaving the country.

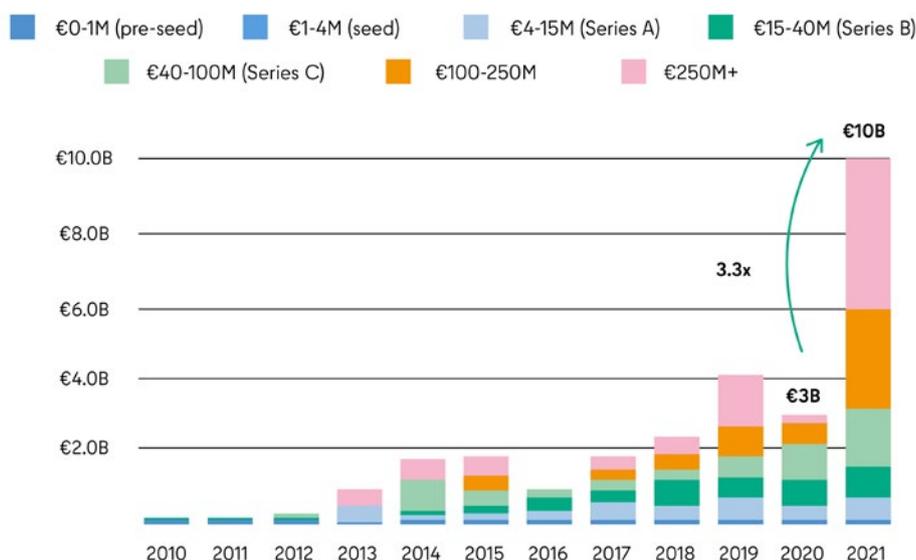
Particular media attention is paid to the high amounts of venture capital invested in startups. It should be noted that according to an analysis by the data provider Dealroom, only about one-third of all startups work with venture capital. However, these are precisely the high-growth startups that account for more than 60% of all jobs in Berlin startups.

2021 - RECORD VENTURE CAPITAL INFLOW

In 2021, records were set for the inflow of capital into startups in Berlin and worldwide. In Europe, more than USD 100 billion has been invested in startups, about three times more than in the previous two years.¹² According to data from Dealroom, German startups received in 1,351 funding rounds EUR 17.8

billion, more than twice as much as in the previous record year of 2019. Thirtyeight percent of Germany's number of rounds can be accounted for in Berlin, but 56% of the EURs raised. Among others, the cloud-based Fintech platform Mambu recently attracted attention with a valuation of USD 5.3 billion in the most recent financing round.¹³ In 2021 Berlin-based startups received more than EUR 10 billion in 518 financing rounds, 256 of which are plus EUR 1 million. For 2022 there are 132 financing rounds year-to-date with a total volume of EUR 2.2 billion.¹⁴ "Fintech" startups led the way with more than USD 3 billion, followed by "Food" and "Transportation." According to Dealroom, currently, 31 "unicorns" have their headquarter in Berlin¹⁵, i.e. startups with a valuation of more than USD 1 billion, and more than 63 in Germany as a whole. In 2021 alone 15 unicorns were created.

Development of VC investments in Berlin startups over the last 10 years



Source: Dealroom.co, as of May 2022

¹² Sifted, December 7, 2021: The state of European tech 2021: 21 things you should know

¹³ The Wall Street Journal, December 9, 2021: Mambu Valued at \$5.3 Billion in Investment Led by Private Equity Firm EQT

¹⁴ Dealroom.co, Overview funding rounds 2021 in der startup-map.berlin, as of 05/2022, Further information in the "Investment heatmap" of the startup-map.berlin

¹⁵ Unicorns with HQ currently in Berlin

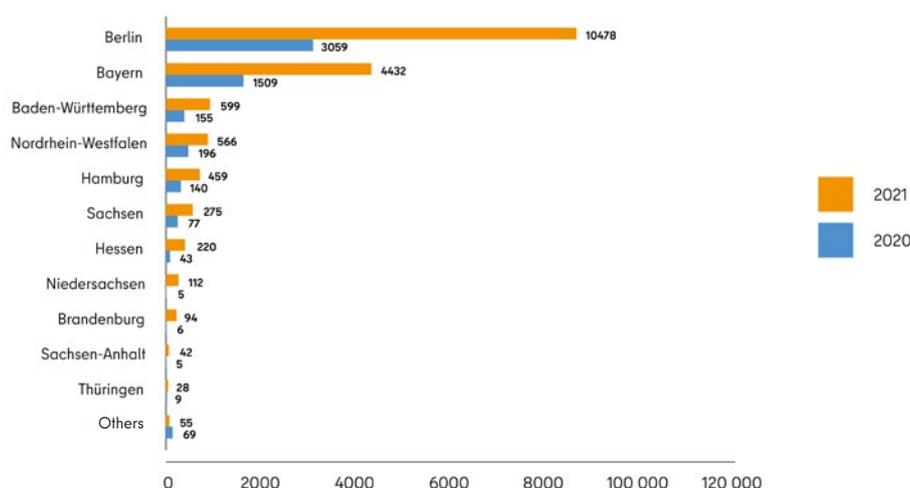


It must be taken into account that the actual VC data is always only approximated.

This is how Kreditanstalt für Wiederaufbau sums up the data situation: "There is data from information providers that capture published VC transactions in addition to investor association data. In 2018/2019, according to the association's data, EUR 1.7 and 1.9 billion of institutional VC investments in Germany will be offset by VC deals with a total volume of EUR 2.3-6.2 billion, depending on the data provider. The large spread shows how difficult it is to determine the 'true' size of the VC market." (KfW Venture Capital study 2020)

The Startup Barometer of Ernst & Young last published in January 2022, regularly summarizes financing for startups in Germany. In addition to the Crunchbase database, sources include communications from startups and investors. The figures from the data provider Dealroom differ slightly in total from the figures in the Startup Barometer and are categorized differently. They are shown in the "Heatmap" of the Startup Map Berlin by industry. While Dealroom's 2020 total is expected to be in the range of 3.3 billion in 358 rounds, Ernst & Young recorded EUR 3,059 million in 314 rounds. For 2021, Dealroom counts 518 rounds so far, totaling EUR 10 billion. Ernst & Young reports 504 financing rounds for last year with a total amount of EUR 10.478 million: "Once again, Berlin startups were able to raise by far the most capital: Three out of five euros invested in startups in this country (Germany) were invested in Berlin startups in 2021."¹⁶

Startup Financing 2020/21 | Number of Financing Rounds by Federal State



Source: E & Y Startup Barometer 01/2022, p. 7

A LOOK BACK INTO 2020 - FEWER BUT LARGER FUNDING ROUNDS

All in all, the inflow of capital to Berlin - and this also applies to Germany as a whole - reaches a new record level almost every year. This development "...is not least an expression of the increasing interest of American and Asian investors in European startups, which is reflected in a significantly increased investment volume."¹⁷ Despite Covid-19, there were more VC financing rounds in Berlin in 2020 compared to 2019, however, according to Startup Barometer, the total value of investments in Berlin decreased by EUR 632 million and thus by about 17%, mainly because the large deals were scaled back. 278 of 687 German startups that were founded in the year 2020 received at least one round of funding from

Berlin, which is a good 40%. Berlin was the clear national leader in financing, with 314 out of 743 deals nationwide and EUR 3,059 million out of EUR 5,272 million nationwide in Germany - as it has been for years. 58% of the total invested capital in 2020 went to Berlin, which shows that on average higher sums were also invested in Berlin startups per deal. The largest financing rounds over EUR 100 million played a major role in this, with four out of five taking place in Berlin. Auto 1 Group, Tier Mobility, Grover, and Infarm received a combined EUR 806 million in 2020. Berlin's dominance was greatest in e-commerce (88%) and Fintech/Insurtech, with a market share of over 80%.

¹⁶ E & Y Startup Barometer 01/2022, p. 7

¹⁷ Berlin Startup Monitor 2020, p. 22 with reference to data from Dealroom

GAPS IN FUNDING

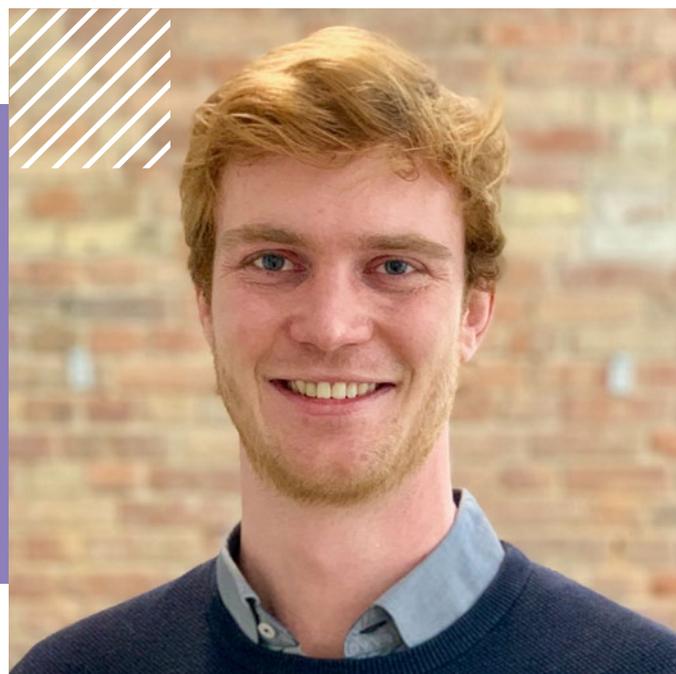
The Berlin Startup Monitor states that "financing by business angels (40.1%) and venture capital (29.1%) is much more common in the capital than in the rest of the country." When comparing sources of funding used, the Startup Monitor survey says for Berlin-based startups there has been little "gap in business angels as well as government funding." "In the area of venture capital, on the other hand, there is a clear discrepancy between desire and reality. 48% of Berlin's startup companies preferred venture capital, while only 29.1% had been successful so far".¹⁸ The federal future fund ("Zukunftsfonds"), which is on its way, is therefore of enormous importance for the Berlin ecosystem.¹⁹

Although Berlin has a top position in Germany, Germany as a whole has a lot of catching up to do in the European and international comparison, especially when it comes to large VC financing rounds. The KfW Venture Capital Study 2020

concludes: "The German VC ecosystem needs to take the next stage of development and produce larger funds that can accompany startups through multiple large financing rounds. Although large financing rounds are no longer a rarity on the German VC market, German investors are hardly in a position to do this on their own: In 9 out of 10 cases, foreign direct investors are on board."²⁰ According to an estimate by Thomas Prüver, responsible for Ernst & Young's Startup Barometer, "more than three-quarters of the capital invested in Berlin startups comes from abroad. Especially for growth financing with at least EUR 10 to 15 million, the founders are dependent on the money of large funds from Asia, the UK, and the US."²¹ As locations of the funds which carry out VC rounds, Dealroom lists Germany for about 20%, Europe for about 20%, the US for over 40%, and Asia for more than 10%; for the startup hotspot, Berlin with its high VC rounds even only about 15% of such funds are from Germany, 23% from Europe, 43% from the US and 15% from Asia.

"Successful entrepreneurs who, as business angels, reinvest their experience, network and capital in the startup ecosystem are the pioneers of successful startups. I am always impressed by how much time and energy angels throughout Berlin devote as volunteer mentors, advisors, and advisory board members to support founders in their first steps. But the capital needs of startups are also constantly increasing, so we need to get more people involved as business angels, both financially and with early-stage expertise."

Sebastian Schwenke | Managing Director - BACB e.V



Sebastian Schwenke © BACB e.V.

¹⁸ Berlin Startup Monitor, p. 22

¹⁹ KfW on March 24, 2021: "Future fund launches - Federal government strengthens startup financing in Germany"

²⁰ KfW Venture Capital Study 2020, p. 16

²¹ Berliner Zeitung of October 6, 2020

NEW RECORDS INSIGHT

The "[State Of Venture Report Q2 2021](#)" by CB Insights illustrated this international distribution of VC capital and reported already in mid-2021 that we can expect new records, especially for large financing rounds: "Global funding to startups smashed new records. Funding was up 157% compared to Q2'20. This marks the biggest quarter for dollars raised in the last decade."²² In the full year 2021, 390 new "unicorns" were created worldwide. In 2020, that number was 128.

In light of the major transformation of the economy required by climate change, some actors expect, and some are calling for, even greater investment in the next few years, especially more investment from Germany. This is how venture capitalist and founder of the venture capital fund Lakestar, Klaus Hommels, analyzes the record year 2021: "To build a new Mittelstand, it will take about EUR 100 billion of growth capital per year."²³

The fact that old companies are disappearing from the German SME sector at the same time puts these high investments into perspective. Fritzi Köhler-Geib, the chief economist at KfW, sees growing risks in the large share of capital from abroad and says: "Germany is in danger of losing out internationally in important technology areas for which venture capital plays a major role." Concerning the location, she calls for more large financing rounds without foreign investors to "reduce the risk of companies and know-how leaving the country."²⁴



Roger Bendisch © Jordana Schramm

"IBB Ventures has always invested together with private investors since it was founded in 1997. In the startup phase, these are business angels and family offices; in the startup phase, private VCs or corporate VCs. This has the advantage for startups that they can receive twice the support and may extend their funding reach."

Roger Bendisch | Managing Director
IBB Beteiligungsgesellschaft mbH

²² [CBInsights, State of Venture 2021 Report](#), p.10

²³ [Handelsblatt of December 23, 2021](#)

²⁴ [KfW press release of September 30, 2020](#)

ECONOMIC FOOTPRINT OF STARTUPS

Startups are also writing a great Berlin success story from an economic and employment policy perspective. Due to the ambiguous classification of startups in official statistics, the economic significance can only be approximated using common key figures.

THE DIGITAL ECONOMY PROVIDES ORIENTATION

The share of startups in Berlin's economic output can only ever be approximated because startups are not recorded as a separate category by official statistics. With just under 168,000 Berlin companies subject to sales tax²⁵, startups currently account for a share of 2-3%. With around two million employees in Berlin²⁶, the share of startups is already up to 8%, depending on differentiation. Of the approximately 4,600 companies in Berlin with more than 50 employees²⁷, startups with more than 50 employees account for about 4%. Valid statistical data is available on the "digital economy," which was analyzed in November 2020 and in December 2021 by Investitionsbank Berlin.

Startups can largely be counted as part of the digital economy, but the digital economy does not have an age

differentiation of companies and does not capture startups whose industry is not counted as part of the digital economy. The results of the investigation: In 2020, a total of 108,905 people were employed in Berlin's digital economy; by the end of 2021, this number had risen to 118,172. Between 2008 and 2020, a total of 77,363 jobs were created in the sector.²⁸ This means that the digital economy has grown more than three times as fast as the rest of Berlin's economy (9.3% compared to 2.8% p.a.). Every sixth new job in Berlin was created in the digital economy. Sales of the 11,423 digital companies amount to EUR 17.3 billion (2020: EUR 13.7 billion); gross value added amounts to EUR 8.2 billion (2020: EUR 6.4 billion). The digital economy generated just under 18% of Berlin's economic growth over the past seven years.

"The Berlin startup scene has undergone tremendous development over the last two decades and is iconic of the increasing importance of the entire sector. Berlin thus also plays a decisive role in strengthening the startup ecosystem throughout Germany: this applies to the topic of international networking as well as the exchange of experience. Other regions can benefit enormously from this, and at the same time they should keep their location factors in mind - because in the end, it's all about scoring points with your own strengths."

Dr. Alexander Hirschfeld | Head of Research
Bundesverband Deutsche Startups [German Startups Association]



© Dr. Alexander Hirschfeld

²⁵ Statistics Berlin Brandenburg

²⁶ Statistics Berlin Brandenburg

²⁷ Statistics Berlin Brandenburg - Company

²⁸ IBB, Digital Economy - A Pillar of support in the Crisis, p. 3

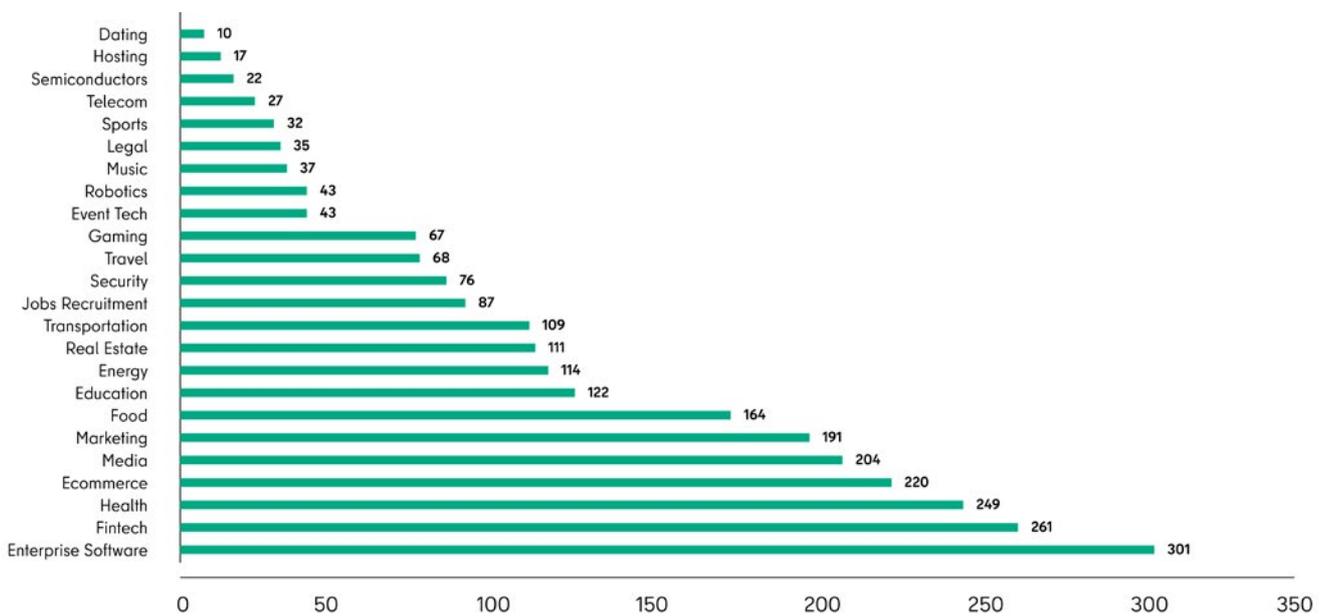
FOCUS INDUSTRIES SHIFTING

An overview of startups in Berlin is provided by the Startup Map of the Senate Department for Economics, Energy, and Public Enterprises. The data collection currently contains around 4,500 startups, which can be filtered and analyzed according to various criteria, such as industries or time of foundation.

The differentiation of the industries is partly fluid and in the case of young companies in the process of change, some focal points can be identified.

Startups that offer "Software as a Service (SaaS)" and focus on business customers (B2B), as well as Fintechs and startups with a focus on the healthcare sector now dominate Berlin and have overtaken the former leading sectors such as e-commerce, media, marketing, and food. In the coming years, the greatest growth impetus is expected to come from startups dedicated to the major societal goal of transforming to climate neutrality.

Number of Berlin startups by "industries"



Source: Dealroom.co, as of January 2022, n = 2,610 startups



"Berlin is perfectly suited for Greentech startups, due to the focus on diversity, activism and impact in the city. We have noticed that often employees in Berlin are looking for meaningful challenges here."

Lubomila Jordanova | Cofounder and CEO
PlanA.Earth GmbH and Greentech Alliance

Lubomila Jordanova © Plan A

"Berlin startups are key drivers of digitization - in the capital, but also throughout Germany. For example, they particularly often rely on innovative technologies such as artificial intelligence, data analysis or Blockchain - with this know-how, startups offer smart solutions for current challenges that our city is facing. Today, startups are already cooperating more and more often with large but also medium-sized companies and are carrying innovation into the Berlin administration as well. At the same time, startup founders are creating highly skilled jobs, which have proven to be particularly resilient to crises, especially during the Covid-19 pandemic."

Maxim Nohroudi | bitkom national spokesman



Maxim Nohroudi © Door2Door



The startup [mujō](#) produces compostable materials based on algae.
© weißensee kunsthochschule berlin, Juni Neyenhuys, Annkathrin Grüneberg, Malu Lücking, DesignFarmBerlin

BUSINESS MODELS

Business customers (B2B) now lead over private consumers as the startups' target group. According to the "Berlin Startup Monitor 2020" by the German Startups Association in cooperation with Berlin Partner SaaS solutions and online platforms are the two most important business models in Berlin: "More than a quarter of all Berlin startups (26.8%) operate in the SaaS sector - a sector that provides IT infrastructure and software as a service to customers and other companies."²⁹

STARTUPS

According to the [startupdetector 2021](#) report, 741 of 3,348 documented startups in Germany, or about a quarter (22%), was established in Berlin. There were 711 in 2020 and 616 the year before. All new entries in the commercial register that meet the criteria of a startup according to startupdetector were taken into account.

²⁹ [Berlin Startup Monitor](#), p. 17

JOBS AND TALENT SEARCH

The search for skilled workers/"talent" is currently becoming the greatest challenge.

JOBS IN STARTUPS

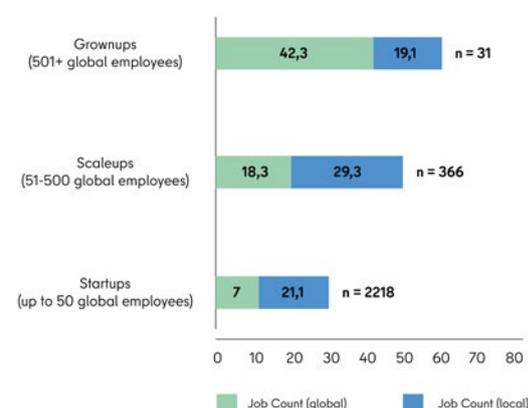
Exactly how many jobs startups create depends on which differentiation and definition of "startup" are applied. If we limit the focus to jobs located in Berlin around 70,000 people work in Berlin-based startups; worldwide, with the locations of Berlin-based startups outside of Berlin, the number is near twice as many (approx. 137,000). This corresponds to approx. 2,615 startups, considering only those with two or more employees. According to Dealroom, Berlin startups account for a total of more than 150,000 jobs without this local differentiation.³⁰ The nationwide Startup Monitor (DSM) from the German Startups Association determines among its startups for Berlin an average of over 50 jobs per startup, which means a top position in Germany. Nationwide, DSM startups have an average of 17.6 employees. More than a quarter come from abroad, and Berlin is particularly international, according to 2021 DSM.

Since startups are not covered by the official statistical industry classification, statements on jobs subject to social security contributions can only be approximated. Figures on jobs in startups are collected by data providers such as Dealroom from publicly available sources. In most cases, these figures correspond to the number of employees of the respective startup that can be found on the professional social network LinkedIn - which may differ from the actual figures. In addition, the job figures for the startups do not make it clear at which location these jobs are - they cannot be attributed to only one location, since jobs of a startup registered in Berlin could also be in other locations in Germany or abroad.

GLOBAL AND LOCAL JOBS

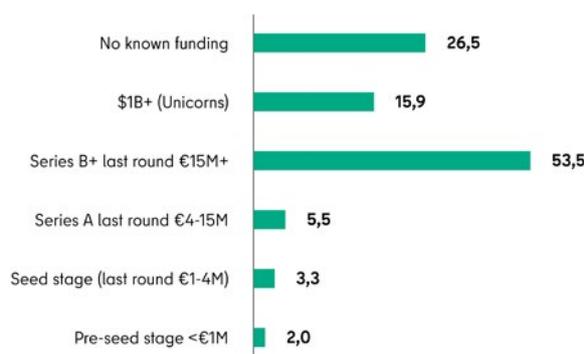
The large startups ("scaleups") in particular have a high degree of internationalization and employ a considerable portion of their staff abroad. For example, in its annual report, Delivery Hero reported for the group worldwide as of December 31, 2020, 35,528 employees and for its headquarters in Berlin 1,726 employees.

Jobs of Berlin startups in Berlin - and outside Berlin (in thousands)



Source: Dealroom.co, as of January 2022, n = 2,615 startups

Jobs per financing rounds (in thousands)



Source: Dealroom.co, as of January 2022, n = 2,615 startups

The goal of internationalization should play a role from the very beginning, not just when startups enter their expansion and growth phase. This orientation is more pronounced in Berlin startups than on the national average, but still has room for improvement. Because startups that take a global perspective on their market from the beginning grow much faster.³¹

"Three quarters (76.4%) of Berlin's startups plan to further internationalize. Nationwide, the value is only at 66,2%." ³² In addition to the EU (88%), North America (37%), and Asia (31%) were the most important target markets.

³⁰ „Dashboard“ der startup-map.berlin, as of: 02/2022

³¹ Startup Genome 10/2018, Global Connectedness: The Key to Fast-Growing Startups and Ecosystems:

“(.) startups that focus on and penetrate global markets from their earliest stage are able to grow revenues twice as fast.”

³² Berliner Startup Monitor 2020, p. 19

Berlin Partner, the program for internationalization of the Senate Department for Economics, Energy and Public Enterprises, and initiatives such as Asia Berlin support startups in their internationalization.

TALENT IS BECOMING SCARCE

Startups are holding on to Berlin as a location even as they continue to expand. Overall satisfaction is high. This is evident both in research and in conversations with founders.³³ The current German Startup Monitor 2021 from the German Startups Association quotes Qunomedical founder and CEO Dr. Sophie Chung on this: "With its active and, above all, international startup scene, Berlin offers many factors that are important for a successful startup. The cultural factor should not be underestimated in all of this: Berlin as a city is simply very attractive and that is a clear plus about the issue of talent."³⁴ The recruitment and integration of international workers and founders are supported by Berlin Partner.³⁵ So on the one hand, the conditions are in place for the growing startups to continue creating jobs,³⁶ on the other hand, it is apparent that the search for new employees, so-called "talent," from the point of view of many startups is currently becoming the greatest challenge, because they can no longer fill their vacancies, e.g. for software developers, with workers from Berlin.³⁷ The situation has been exacerbated by the Covid-19 pandemic and the associated travel restrictions, the influx of skilled foreign workers to Berlin has collapsed, with immigration to Berlin falling by almost 30% from just under 100,000 to less than 70,000 in 2020.³⁸

As chairman of the board of the Startup Association, Christian Miele openly voices what several founders complain about: The hurdles for startups to hire skilled workers who do not come from the European Union are high.³⁹ Yet the problems do not arise locally in Berlin, but in the German authorities abroad, which, from the startups' point of view, require long processing times of several months and cannot be reached, when a visa process for employment in Berlin begins for a worker from a non-European country. Christian Miele calls

for a fast-track visa process of no more than four weeks once an employment contract is in place: "We should have the ambition that people from all over the world come to Germany to implement their groundbreaking ideas here." While the shortage of skilled workers can be solved primarily through targeted migration and the necessary framework conditions at the federal level, some initiatives are focusing more on integrating local people with a migration background. This will not only attract skilled workers but also more diverse.⁴⁰ One example is Earlybird's Vision Lab in cooperation with Bain, Egon Zehnder, and Handelsblatt, to support "migrant founders" in Germany in the very early stages: The program offers pre-seed funding to 10 startup teams at a time for six months, followed in the best case by further seed funding with investors from Earlybird's network. The goal is to increase the visibility of the topic and create examples of success with "migrant founders who made it."

VOCATIONAL TRAINING AND STARTUPS

Startups do not yet play a particularly large role in vocational training. This is due, among other things, to the need for change in vocational training about digitization. This was demonstrated not least by the final report of the Committee of Inquiry on Vocational Training in the Digital Working Environment. The preliminary final report was submitted to the President of the Bundestag on June 22, 2021. In the best case, the results will lead to a discussion and political decisions during the current legislative period. In Berlin, the IHK [German Chamber of Industry and Commerce] launched the pilot project "Verbundausbildung in Startups" (Engl. vocational training in startups in association with partners) in 2016 because training for a startup alone is often a difficult task to manage.

So far, there are still high hurdles in establishing apprenticeships at startups where the perspective is uncertain. In addition, there is little knowledge about job profiles and flexibility in a vocational training company. So educating startups about their opportunities to train is currently the focus.

³³ The only deficit mentioned several times is the far too slow expansion of broadband. This problem has been identified and the vision is set:

"Berlin to become fiber-optic capital," in Berliner Zeitung, June 23, 2021; Further information on broadband: <https://breitband.berlin.de/>

³⁴ Deutscher Startup Monitor, p. 13

³⁵ reason-why.berlin, talent.berlin; A recent survey shows motives and profiles of foreign professionals

³⁶ See, among others, the „Longread“ by Anaís Cisneros on the development of the Berlin startup ecosystem on November 29, 2021: "Overall, it has taken a while for Berlin to become the startup capital we know and love. I am bullish on Berlin continuing to attract highly qualified talent and increasingly incubating more European unicorns."

³⁷ The shortage of skilled workers is affecting many sectors of the economy throughout Germany, see for example "1.2 million workers wanted" in Tagesspiegel of October 23, 2021 - Labor market experts estimate that around 400,000 international skilled workers need to come to Germany annually to meet the German economy's demand for skilled workers, see for example tagesschau.de August 24, 2021

³⁸ Data via Berlin Partner from the Federal Statistical Office (Destatis), 2021

³⁹ In a conversation on the TV, Berlin - The capital station of October 14, 2021

⁴⁰ Migrant Founders Monitor, April 2021; On the competencies of immigrant entrepreneurs, for example, earlier recognition of international opportunities, see "Do immigrant entrepreneurs have natural cognitive advantages for international entrepreneurial activity?" Sustainability, MDPI, vol. 12 (7), Laura Helen Middermann, April 2020

ENABLING EMPLOYEE PARTICIPATION

The issue of employee stock options is joining the ranks of employee co-determination - the existing framework conditions should be further adapted at the federal level.



CoWorking at Betahaus © Betahaus

WORKING CONDITIONS IN STARTUPS

Assessments of working conditions in startups are often polarizing: either everything seems better or everything seems worse in the startup professional world. The advantages cited include individual work organization, flat hierarchies, and, to a lesser extent, a "cool" working atmosphere. On the other hand, there is a high workload with predominantly low pay and a great deal of uncertainty, which is part of the nature of startups. A random comparison of the ratings on the leading platform Kununu shows that, on average, Berlin's ten largest "old economy" employers are rated just as highly with 3.4 out of 5 points as the ten largest startups in Berlin. All in all, Berlin is right at the top in the nationwide comparison

of employee satisfaction.⁴¹ But the distribution differs and confirms the impression of polarization. While the positive, negative, and balanced ratings tend to be evenly distributed among established employers, the very positive and very negative ratings predominate among startups. Three-quarters of employees rate their jobs as either very good or very bad. This polarization is probably the result of the hype and myths nurtured by many startups, which are debunked in the reality check.⁴² "There is often a certain discrepancy in startups between what is communicated and the actual day-to-day work. That sometimes produces disappointment."⁴³

⁴¹ [Happiness Index 2019](#): Here is where Germany's most satisfied employees work

⁴² [Anonymous experience reports from the Gründerszene editorial team](#), here of January 14, 2020

⁴³ Nicola Breugst in [Zeit Online of October 18, 2017](#)

HETEROGENEITY OF EMPLOYMENT RELATIONSHIPS

In 2021, the working conditions in the delivery industry were the main topic in the media.⁴⁴ However, the critical examination of aspiration and reality in the working world of startups is older. One well-known example is the book by Frenchwoman Mathilde Ramadier, who reports on her negative experiences at twelve Berlin-based companies.⁴⁵ Another example of a differentiated debate is the book "Im Startup die Welt gestalten - Wie Jobs in der Gründerszene funktionieren". (Engl. Shape the world in the startup - How jobs work in the startup scene).⁴⁶ It is not only the heterogeneity of working conditions that are highlighted but also, despite all the justified criticism, the fact that startups are under particular pressure to succeed within the shortest possible time - or disappear again.

This is how Joel Kaczmarek put it back in 2012: "In fact, it's almost impossible for a German startup to function differently."⁴⁷ Terms such as "Lean Startup"⁴⁸, "New Work" or "Agile Working" developed work cultures and concepts that are now being imitated by older companies to increase the speed of innovation. However, there remains a fundamental difference between startups and traditional companies. And it makes sense not to transfer criteria for assessing traditional employment relationships one-to-one to the assessment of working conditions in startups, which is not to say that jobs in startups always come with fewer rights than in other companies. Employees in startups are on average younger⁴⁹ and a job in a startup is often the first stop on a career path where, for example, the question of job security plays a subordinate role and instead the focus is on, for example, a hoped-for steep learning curve.

INVOLVE EMPLOYEES

The challenges of the new work relationships also require new solutions. And so it could be, for example, that the old question of employee co-determination is replaced by the new question of how employee participation can be designed in such a way that it contributes to a new fair standard in startups or develops such a standard in an exemplary manner.

At the moment, Christian Miele describes the challenge of employee share ownership as follows: "On the one hand, employees pay a higher tax rate than outside investors. They have to pay tax on the shares at their individual income tax rate instead of the lower tax rate for capital gains as everywhere else in the world. In addition, they already have to pay taxes at the time of allocation of a share. That is before they receive a single cent from the sale of this share. If the company does not become as successful as it was expected, they have paid taxes on a profit they never receive. They don't get the money back either."⁵⁰ As with the shortage of skilled workers, the industry is dependent here on framework conditions that have to be negotiated at the federal level.

⁴⁴ See e.g. [Tagesspiegel of July 5, 2021](#)

⁴⁵ "Bienvenue dans le nouveau monde: Comment j'ai survécu à la coolitude des start-ups" (French edition), see in addition [Zeit Online on October 10, 2017](#)

⁴⁶ Bogott N., Rippler S., Woischwill B. (2017), Springer Gabler, Wiesbaden

⁴⁷ [Gründerszene of September 17, 2012](#)

⁴⁸ Ries, E. (2011). The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses. Crown Business.

⁴⁹ cf., p. 20 The average age of startup founders is 36.1 years, which is significantly lower than that of the general workforce (43.6 years; see Destatis 2018).

⁵⁰ Christian Miele in [brand eins, 04/2020](#)

WOMEN ARE SIGNIFICANTLY UNDERREPRESENTED

The proportion of women as founders and investors is too low. Numerous initiatives have emerged in recent years, yet there is plenty of untapped potential in promoting female startups.



Alina Bassi | Kleiderly © Jonas Holthaus

„I am very grateful to be a part of the Berlin startup ecosystem. Everyone is very well connected in the community, and it feels like everyone knows everyone. I think investors could work towards being less risk averse, such as in the US, to give new ideas a chance. I would like to see more support for ethnically diverse founders in Berlin.“

Alina Bassi | Co-Founder and CEO of Kleiderly, and Co-Founder of Founderland

LOW PERCENTAGE OF FEMALE STARTUP FOUNDERS

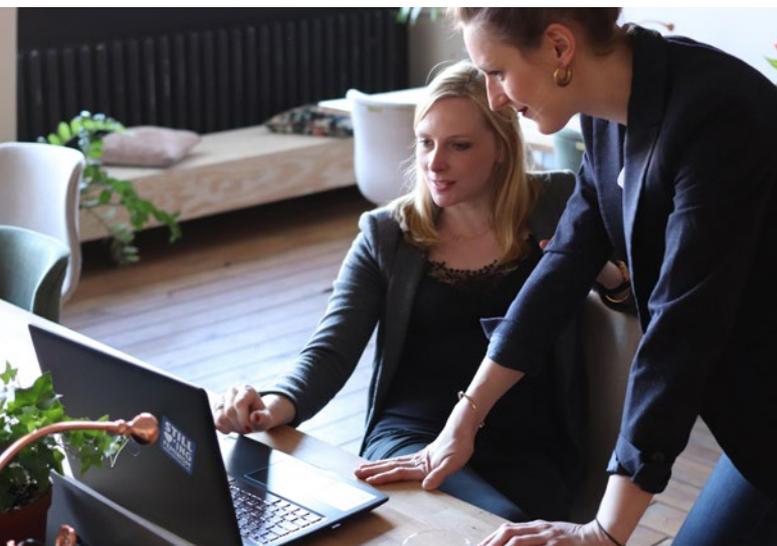
Among the startups that participated in the German Startup Monitor 2020, the female share was 15.9%. In the 2021 Monitor, the share has increased to 17.7%. Despite this, women remain significantly underrepresented in the startup ecosystem, and only a fraction of the available potential is being tapped. [The Female Founders Monitor](#) from the German Startups Association highlights that the German startup ecosystem is "still heavily male-dominated." This revealed high barriers to entry for women, with male founders being "more focused on growth and scalability, more clearly oriented toward external investors, and much more successful in obtaining high amounts of financing." Whereby one would like to add that this "female deficit" is due to patriarchal structures and not to a lack of competence.

SHAPING "OLD" STRUCTURES

The gender problem in startups also appears to be a widespread "macho culture" in startups. This culture is not only typical for organizations with a high risk and fast feedback system; it is also very common in traditional companies. About startups, it is rarely stated as clearly as by the former managing director of the Association of German Women Entrepreneurs (VdU) and now managing director of Verein Berliner Kaufleute und Industrieller e.V. [Association of Berlin Entrepreneurs], Claudia Grosse-Leege: "For starters, women are less present in the so-called STEM occupations. In addition, I hear over and over again from female founders that the startup scene is characterized by a 'macho culture' in which old mechanisms play a role."

Patriarchal structures in our society change only slowly and over generations. These structures have shaped us since childhood and influence, among other things, our choice of career.⁵¹ How we perceive our gender as male or female determines what we consider appropriate and which social spaces we feel close to, i.e. whether we - to put it exaggeratedly - identify with a firefighter who spares no risk, or with a nurse who is empathetic, helps and cares. Fittingly, some women in the startup scene note that there is little social acceptance for a man who takes on the care of his young children for years. Political and social measures are needed to change these old structures, at least temporarily.

The many causes for the low proportion of women in startups have been comprehensively examined in recent years⁵² and numerous measures have been taken to increase the rate of women in startups. Alone the German government's third equality report "Digitalization geschlechtergerecht gestalten" (Engl. Shape digitization in a gender-equitable way) contains "101 recommendations for action to strengthen realization opportunities in the course of digitization for all." Analyses show that startups led by women are more successful⁵³ and highlight the potential of promoting female startups.⁵⁴



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LACK OF ACCESS TO NETWORKS

According to Female Founders Monitor, there is a lack of resources such as networks, especially "to the established economy and into the investment sector," and thus access to venture capital, among other things. But there is also "specific potential" for female founders because they are "motivated above all by social problems" and are therefore predestined "to establish their innovative business models at the interface between business and society." One example is Femtech, which signifies "companies that focus on women's health with technological solutions."⁵⁵ The initiative launched by the German Startups Association and Bitkom e.V., the industry association for the German information and telecommunications sector - #startupdiversity focuses on promoting entrepreneurship and STEM subjects in schools and universities, providing better security for women while starting a family, and highlighting new role models.

The "Projekt Zukunft" has been committed for many years to the support, visibility, and networking of women in technology industries" and provides comprehensive information, including an inventory of initiatives that "work to increase the visibility, networking, empowerment, and professionalization of women," and that thereby "also include and address other diversity dimensions, for example, women with migration biographies, People of Color and LGBTQ+."⁵⁶ The Berlin Startup Map presents a "Landscape" for startups founded by women. For the Berlin Startup Scholarship, over 30% of scholarship holders are women. This is not only due to the presumably greater interest of female founders in this program but also due to the principles of the European Social Fund, which explicitly include the equal treatment of women and men, which are taken into account by the supporting institutions of the scholarship.⁵⁷

⁵¹ Gottfredson, L. S. (2005). Applying Gottfredson's Theory of Circumscription and Compromise in Career Guidance and Counseling. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (S. 71-100). John Wiley & Sons, Inc.

⁵² Most recently, among others, Gründerinnen-Nation Deutschland? [Female founder nation Germany?] Handelsblatt Research Institute and Google for Startups, Julia Ehler-Hoshmand, February 21; Female Founders Report 2021, Startbase - Vereinigung Baden-Württembergische Wertpapierbörse e.V., Magdalena Hinze, Dr. Julius Tennert, Jan Hendrik Reichenbacher et al., March 2021; and the conference "Funding for Female Founders - Barriers, Opportunities, Perspectives." on October 9/10, 2021

⁵³ BCG of June 06, 2018: Why Women-Owned Startups Are a Better Bet

⁵⁴ Harvard Business Review of October 31, 2019: The Trillion-Dollar Opportunity in Supporting Female Entrepreneurs

⁵⁵ Projekt Zukunft of June 21, 2021: Deep Dive #18: FemTech in Berlin

⁵⁶ Als filterable overview; for download

⁵⁷ See also: "More women at the start" in Tagesspiegel of February 22, 2021

"Instead of always lamenting the low percentage of female founders, it was important to me to actively change this. To do this, you have to pull the right levers - and one of them is female investors. More female investors lead to more female founders. It's about the role models these women are - that's why it's so important to make them visible to encourage others to influence them and to actively network them with female founders. Women want to invest primarily with impact and in female founders. Investments in women are therefore also a key to achieving sustainability goals. Given the societal challenges we face, we can't afford to do without the entrepreneurial strength and creativity of women."

Svenja Lassen | Managing Director primeCROWD Germany & Initiator Female Investors Network (FIN)



Svenja Lassen © Stefanie Kresse

MORE FEMALE INVESTORS

The consensus is that more female investors are an essential prerequisite for enabling more female founders and a higher proportion of women in startups. A prominent recent example is the female investor network [Encourage Ventures](#), an association of 60 prominent and successful German female managers who want to distinguish themselves in their dealings with the mostly male venture capitalists.⁵⁸ A study by Columbia University found: "Men are asked about their

visions for the future. Women, on the other hand, are more likely to provide information about the customer base, deliver concrete financial forecasts and justify what could go wrong with the business model."⁵⁹

Right now, awareness of this inequality is at an all-time high and many female founders see their opportunity to actively achieve more parity. One exemplary initiative is "[Mission #25to25](#)," which aims to achieve a 25 percent share of women in the startup scene by 2025.

⁵⁸ [Süddeutsche Zeitung of June 17, 2021](#): Women with money are looking for women with ideas

⁵⁹ [Harvard Business Review of June 27, 2017](#): Male and Female Entrepreneurs Get Asked Different Questions by VCs - and It Affects How Much Funding They Get

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UNIVERSITIES AS A NUCLEUS FOR STARTUPS

The outstanding relevance of Berlin's universities and their startup centers is obvious. A more in-depth analysis should help to facilitate spinoffs.

STARTUP CENTERS AT UNIVERSITIES

The universities in Berlin and their startup centers⁶⁰ are of outstanding importance for startups in Berlin. Several Berlin universities are sponsors of the Berlin Startup Scholarship. Collaborations are to further strengthen this role. A [startup survey](#), conducted for the third time by the Center for Entrepreneurship at Technische Universität Berlin, summarizes that there is an "immense importance of university spinoffs for the economic region." In February 2020, the survey targeted "alumni and individuals who have used the know-how of the participating universities for a self-employment/startup." Ten universities from Berlin and Brandenburg participated in the survey.⁶¹ In summary, "the overall economic impact is estimated at 62,600 employees and sales of EUR 8.43 billion in 2019." However, there are diverse forms of spinoffs and collaborations, which additionally differ thematically among the 10 universities. The figures would become even more meaningful and provide an even better basis for development-oriented measures if they were recorded more systematically with indicators. Thus, a constructive comparison with other university startup environments in Germany⁶² or the United States with their traditional and successful entrepreneurial ecosystems would be possible. This would allow more learning experiences to be gained in the coming years and development perspectives to be worked out together.

Berlin startups rate the proximity to universities positively, but according to the Berlin Startup Monitor 2020 in a nationwide comparison with 73% less frequently than, for example, the leader Munich with 88%: "Overall, the task in the coming years is to bundle Berlin's broad and in part fragmented spinoff landscape more strongly and to involve the practice-oriented universities of applied sciences and private universities more closely to better exploit synergies and to

even better incorporate existing academic know-how as a location for innovation."⁶³

The "spinoff landscape" around the universities in Berlin is diverse; activities can be found at all levels that indicate a pronounced startup culture, from informal support from a chair to the official institutions at the respective universities to overarching programs. Even if this makes it difficult to keep track, this diversity can be advantageous. This small-scale nature is a sign that, at least potentially, appropriate solutions are being found in each case to support founders and their innovations. However, these informal activities depend in each case on the goodwill of the teachers and other responsible persons and often end with the pre-establishment phase, since from the establishment of a company it must be proven for any support that it is in line with compliance regulations.

Startups that emerge in the university context can and should develop there in a protected and supported framework. But at the latest when venture capital is needed for growth outside the university, it becomes apparent that early involvement of angel investors with their experience, a network, and potential customers can be useful. A research team led by Prof. Dr. Hannes Rothe (ICN Business School / Digital Entrepreneurship Hub) has highlighted this and other "untapped potentials" in a study using the example of research-intensive technology startups in biotechnology and the health industry and has developed solution strategies.⁶⁴ The further development of startup support at universities has been driven forward for years. In this context, the "cross-university collaboration in startup promotion" positively highlighted by the Startup Monitor Berlin 2020 plays an essential role for Berlin's universities to "exploit their enormous potential even better." Collaborations such as the "[Berlin University Alliance](#)", sponsored by the Berlin Senate, will

⁶⁰ [Gründen-in-Berlin.de, Startup from university](#)

⁶¹ Die Beuth Hochschule für Technik Berlin, die Fachhochschule Potsdam, die Hochschule für Technik und Wirtschaft Berlin, die Hochschule für Wirtschaft und Recht Berlin, die Humboldt-Universität zu Berlin, die Freie Universität Berlin, die Universität der Künste Berlin, die Universität Potsdam, die Hochschule für Schauspielkunst Ernst Busch sowie die Technische Universität Berlin

⁶² e.g., the universities in North Rhine-Westphalia and their "[Excellence Startup Center.NRW](#)"

⁶³ [Berlin Startup Monitor](#), p. 26

⁶⁴ [Deep Tech Futures Report 2021: Bio- & HealthTech Startups in Berlin](#)

further strengthen this role. The startup centers of these universities have joined forces under the name Science & Startups and in the summer of 2021 presented their model project K.I.E.Z. [Künstliche Intelligenz Entrepreneurship Zentrum], the "Artificial Intelligence Entrepreneurship Center" for the promotion of startups of science-related companies in the field of artificial intelligence, funded by the German Federal Ministry of Economics and Technology for four years.⁶⁵

STARTUPS AND PATENTS

As we see at this point, Patents play a subordinate role in the overall Berlin startup ecosystem. In 2020, there were 62,105 patent applications at the German Patent and Trademark Office (DPMA), 674 of them from Berlin.⁶⁶ Of these, only a portion is attributable to the more than 3,000 startups. The leading technology fields for patents in Berlin are transportation (78), medical technology (59), and computer technology (53). Examples of startups for which patents are important are WebID Solutions GmbH, which has developed a method for personal identification via video chat, Re2you GmbH with software that can be used to harmonize data and applications regardless of the operating system used, or Kleiderly UG with a patent for recycling used textiles as plastic.⁶⁷ These cases in terms of the total number of startups are rare, but this does not allow any conclusions to be drawn about the quality of the startup ecosystem. In Berlin, a development towards a higher technological standard can be observed among startups over the last twenty years. This

was represented by the digital platforms of the last decade or the current developments in areas such as Blockchain or the Internet of Things. Most startups continue to focus on the development of software, but the technologies used by startups⁶⁸ are dominated by "deep tech."⁶⁹ Patents only apply to software in conjunction with hardware; for software alone, copyright law provides protection. Internet-based startups in the platform economy also strive to be faster to market than the competition according to the principle of "the winner takes it all." "The lengthy patenting process tends to get in the way. Because it takes a lot of staying power to obtain a patent. The data ranges from two to seven years until the applicant holds the patent in his hands," explains Christian Hammel, division manager at Technology Foundation Berlin.⁷⁰ It is therefore advisable to take a look at the overall area of "intellectual property" (IP), which in addition to patents also includes the right to trademarks and other related property rights. In Berlin, there are several contacts to ask when it comes to the right IP strategy⁷¹ for startups. For the few patents, an easy-to-implement model should be established in Berlin that enables startups to develop marketable innovations from existing patents.

"K.I.E.Z. is the first thematically focused initiative of science & startups. It takes the existing offerings of the startup centers and expands them to include services specifically for AI startups. In the field of AI research, Berlin is at the top. Unfortunately, the situation is different when it comes to technology transfer: There is still considerable need for action here. In the future, K.I.E.Z. will close this gap and provide targeted and individual support to the most promising AI startups from the startup centers during their growth phase."

Dr. Tina Klüver | Director AI, K.I.E.Z.
Artificial Intelligence Entrepreneurship Center



Tina Klüver © K.I.E.Z., Tanja Schnitzler

⁶⁵ Pressemitteilung FU Berlin of June 10, 2021 - Berlin University Alliance strengthens startup ecosystem in the field of artificial intelligence

⁶⁶ German Patent and Trademark Office - Current statistics

⁶⁷ <https://webid-solutions.de/> - Conversation with founder and CEO Frank S. Jorga on March 10, 2021, <https://www.re2you.com/> - Conversation with founder and CEO Ghazaleh Koohestanian on November 15, 2021, <https://kleiderly.com/> - Conversation with founder Alina Bassi on November 23, 2021

⁶⁸ See startup-map.berlin

⁶⁹ The Senate Department for Economics, Energy and Public Enterprises supports this field of expertise, e.g. with the "Deep Tech Award"

⁷⁰ Berliner Zeitung of May 04, 2018

⁷¹ Exist in dialog, patents of 11/2019

STARTUPS AND MEDIUM-SIZED ENTERPRISES GROW TOGETHER

Digital transformation continues to play a prominent role in collaborations between startups and SMEs. Berlin should continue to attract small and medium-sized companies.



Ideas Workshop "Craft Meets Startup" © Chamber of Crafts

COLLABORATIONS WITH ESTABLISHED COMPANIES

"In Berlin, the network to other founders, possible collaborations with established companies as well as access to capital are considered to be particularly good."⁷² Established companies are represented in many ways with incubators, accelerators, or a team in a coworking space. The lively exchange also takes place - apart from the times of the Covid-19 lockdowns - at countless events or through the mediation of intermediaries who bring startups and established companies together out of entrepreneurial commitment or as a service to identify common ground. The networking of startups and SMEs is also actively supported by Berlin Partner and the Berlin Startup Unit. The startups that participated in the Startup Monitor rate the collaboration with established companies in Berlin positively at 42.9 %. This sounds like it could be improved, but it is above the national average of 37.2%. In addition, in a nationwide comparison, in Berlin more startups meet fewer industrial companies, so there is less potential for collaborations than in Munich, for

example. "Berlin, as a leading startup center has a below-average number of small and medium-sized industrial companies."⁷³ All the more important for Berlin are the platforms such as [Motion Lab](#), [factory](#) oder [Maschinenraum](#), to name just a few, which enable innovations in software and hardware and offer medium-sized companies from all over Germany opportunities for collaboration in Berlin.⁷⁴

DIVERSE COLLABORATION MODELS

For a closer look, not only the diverse goals and topics of collaboration have to be distinguished, but also the collaboration models and phases.⁷⁵ The "[Founder and Innovation Study](#)" (DGIS) by Gründerszene, KPMG, and HTW Berlin evaluated a nationwide survey in 2020 on collaborations with 324 companies, of which 62% were startups, 27% were small and medium-sized enterprises (SMEs), and 11% were corporates. The study contains indications of the distribution of existing collaborations,

⁷² [Berlin Startup Monitor](#), p. 24

⁷³ Klaus-Heiner Röhl, Barbara Engels: "More collaborations between startups and SMEs as an opportunity for digitization and innovation," Image 2, p. 5

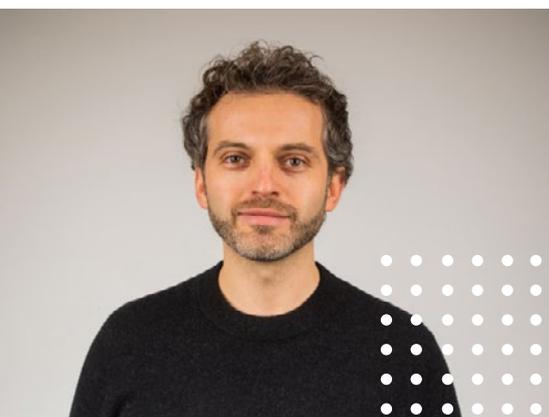
⁷⁴ See [Wirtschaftswoche of August 13, 2021](#): on [Maschinenraum](#) [engine room]: "The exciting SME project in Berlin"

⁷⁵ Martin Wrobel, Karina Preiß, Thomas Schildhauer: "Collaborations between startups and SMEs: Learn. Match. Partner."

as well as their topics and goals: Startups primarily want to develop their sales and marketing in cooperation with established companies, while SMEs and corporates want to gain access to new technologies and business models as well as to greater innovative strength. In addition, employees of established companies are expanding their expertise in digitization with the help of such collaborations. DGIS notes that corporates more often collaborate with startups through accelerator programs, acquisitions, company builders, and the provision of office and production space, while SMEs primarily collaborate with startups through joint events such as hackathons or meetups.⁷⁶ The Senate Department for Economics, Energy, and Public Enterprises supports the

networking of startups and industry as part of the Industrial City Berlin master plan.⁷⁷

As startups and SMEs converge, a movement is emerging that emphasizes commonalities more than differences and together explores ways to digitally and sustainably transform the German economy. Evgeni Kouris calls this movement "New Mittelstand" and has founded a platform for it that aims to combine the best of both worlds: "Sustainable value creation instead of fast money, combined with purpose-oriented radical innovation instead of copycats."⁷⁸



© Evgeni Kouris

"For many entrepreneurs, the Silicon Valley approach is not right. In Germany, we have mostly just copied in the startup world in recent years, with moderate success. Instead, we need to transform the Mittelstand or family businesses and promote those startups that are not exit-oriented ("zebras instead of unicorns"). This would have a real location advantage and could lead to the authentic future economy that is positive for society."

Evgeni Kouris | Founder New Mittelstand Transformation Initiative

"For trades businesses - as for SMEs in general - using modern methods to adapt your business model is more important than ever before if they want to remain successful in the digital transformation process. Collaborations with startup centers, incubators or innovation labs create access to academic founders and is an advantage of Berlin as a location. Trade business has or is the future."

Kerstin Wiktor | Representative for Innovation and Technology (BIT)*
of the Chamber of Trades Berlin



© Kerstin Wiktor

⁷⁶ See also <https://www.maschinenraum.io/>, <https://infralab.berlin/> and <https://spitze-bleiben.de/>

⁷⁷ CHIC, February 2, 2022, [Interview with Britta Teipel](#)

⁷⁸ "We don't need more unicorns - we need zebras" by Johannes Lenhard in [Gründerszene of June 21, 2021](#)

BERLIN CAN BECOME EVEN STRONGER BY JOINING EFFORTS

In recent years, Berlin's startup ecosystem has continued to grow and gain strong economic weight. Every year, over 500 new startups are founded in Berlin. Berlin's digital economy employs over 120,000 people, and Berlin startups - depending on the count - employ around 70,000. VC financing in 2021 for startups has far exceeded all previous records with more than EUR 10 billion. Digitization and the transformation of the economy toward greater sustainability and social participation can only succeed if socially acceptable technical innovations are also implemented. Startups can act here as "problem-solving engines" for current and upcoming social challenges.

POTENTIAL FOR JOINT FURTHER DEVELOPMENT

This report provides important facts from analyses and in exchange with the Berlin startup ecosystem to strengthen the future development of the startup ecosystem in Berlin; it also shows where the needs are. Highlights include:

- Strengthen sustainability and future viability of the economy and society
- Expand talent development, in particular by supporting and strengthening training, universities, and incoming talent
- Enable the contribution of startups to a digital and modern administration
- Promote diversity and female entrepreneurship
- Network with startups, SMEs and also with universities

The current Berlin coalition agreement plans on addressing these needs in a Startup Agenda and linking them with existing strategies and actors in the ecosystem. The inclusion of the further development of the Startup Agenda in the guidelines of the government policy of the new Berlin state government underlines the current and future importance of the startup ecosystem for the capital region. This effort can only be achieved together with the actors in the ecosystem to further improve the framework conditions for startups.

MONITORING THE STARTUP ECOSYSTEM

Reports like this one provide an important contribution to the overview and state of the Berlin ecosystem. A major challenge here is the diversity of Berlin's startups. This is where socially-oriented startups, rapidly growing Fintechs, and the research-intensive Biotech startup meet. A common denominator is that a startup is a company founded with an innovative business idea and high growth potential, but this is depicted differently in statistics. The startup-map.berlin is a useful tool to capture and map the diversity of Berlin's ecosystem in its mass.

According to the current coalition agreement, startup-map.berlin is to be continued as an instrument for monitoring Berlin's startup ecosystem. For reliable statements, however, partners are needed to constantly validate data and interpret them together in a dialogue for joint positive development of the startup location.

In addition to the current report, it should be considered in future years to focus on particularly relevant topics to map a special depth and expertise with a "deep dive." Here it could be useful to look at the university activities separately, also the sectors Fintech and Blockchain could be particularly interesting, or of course also the topics diversity and sustainability.

METHODOLOGICAL NOTES

The target audience for this report is interested stakeholders from politics and society who want an initial reliable and independent overview. In preparing this report, 21 questions from the Berlin House of Representatives were addressed. For further information, numerous sources are listed in the footnotes and the list of sources. It must be taken into account that these sources arise from different perspectives and knowledge interests, and define and delimit "startups" or innovative or digital companies differently, which must be considered when comparing the studies. Particularly in the case of quantitative data, attention should be paid to which delimitations and definitions are used in each case.

STARTUP MAP BERLIN

For our evaluation, we used data from the "Startup Map Berlin" database (<https://startup-map.berlin/>) initiated by the Senate Department for Economics, Energy and Public Enterprises and provided by the data provider Dealroom as far as possible. With the Startup Map Berlin, the Senate Department for Economics, Energy, and Public Enterprises has been providing an online overview of Berlin's startup ecosystem since the end of 2018. The data of the companies and other relevant actors come from the data provider Dealroom and can be supplemented. In addition to "startups" (young, innovative, and scalable business model) and "scaleups" (revenue growth and more than 51 employees) as well as "corporates" (established companies), investors, and financing rounds. Other actors such as co-working spaces, accelerators, and incubators as well as universities are also listed. Detailed information from the Senate Department for Economics, Energy, and Public Enterprises on public services and funding opportunities for startups in Berlin can also be found. The search is facilitated by a differentiated selection and a matching tool, for current and particularly relevant topics there are "curated searches" (search suggestions) and last but not least reports from Dealroom. In total, about 8,500 startups and scaleups can be found in Dealroom's database for Startup Map Berlin, of which about 4,500 are verified, i.e. entered or verified by Dealroom, the startups, or other interested parties themselves.

DEFINITION OF STARTUP

The diversity of markets, technologies, and forms of organization is as great as the range of sometimes explicit and often only implicit definitions of what a startup is. The common denominator is that a startup is a company with an innovative

business idea and high growth potential. When analyzing startups, it is just as impractical to define the time of founding as it is to define them according to the number of employees. It makes more sense to distinguish company phases by development, which can vary in length depending on the technology and industry, from a few months to several years for research-intensive technologies. A common denominator of all publications is a division into three phases, although here, too, the delimitations vary considerably.

Phase I (Seed)

In the startup or seed phase, an idea is developed and its marketability is tested. A fertile startup environment, as well as advice and support, play a role here. Often there is no legal form yet. The work has a project character and discarding the idea is possible at any time. In the best case, a prototype is created, the startup team has been found, the business plan is worked out, and legal and financing issues are clarified.

Phase II (Startup)

This is followed by the actual startup phase, in which the mapped-out idea must establish itself on the market and prevail over the competition. The invention must prove itself as an innovation, and the business model is adjusted ("pivoted") at any time if necessary. Up to this point, most ambitious startups fail as experiments, according to different statements up to 80-90%. It is not possible to determine this rate, as it is, by its very nature, very difficult to measure statistically.

Phase III (Scale-up)

Only when the startup phase is successful, the offering has proven itself in an initial target market and the possibility of profitability has been demonstrated, will a further expansion and growth phase follow. These companies have recently been increasingly referred to as "scaleups" to differentiate them. Financing needs often increase at this stage.

This heterogeneity must be taken into account in all questions, even if the term startup is used in this Startup Report as a placeholder for all three phases.

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To enhance the competitiveness and innovative strength of the ICT, Media, Creative industries in Berlin, Berlin's economic administration launched the Projekt Zukunft initiative in 1997. The initiative develops strategies for the location, prepares studies and campaigns, launches competitions on future topics, develops new funding instruments, organizes exchanges with companies, and initiates networks, events and international platforms. These include the Berlin Fashion Week and the Berlin Art Week. The goal is to sustainably advance cross-cluster networking and the digital transformation of the industries. Projekt Zukunft stands for more digital innovation and creativity in and from Berlin.

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