



Booming Berlin

A closer look at Berlin's
startup scene



Published in partnership
with Factory Berlin



IFSE

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Berlin, April 2016



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The Berlin startup scene is growing up

“What is happening in Berlin?” Until recently, this question usually referred to the art and creative scene in the city. Not surprising – for decades the motto has been: Berlin is a fun place, for making money go somewhere else. In actual fact, however, beyond the Old Economy a digital economy is growing which might become internationally competitive. We at the IFSE therefore decided to focus more closely on the growing digital economy. We wanted to know more about these Berlin startups and therefore, as early as 2012, began an internal study that would place our findings of the developments in Berlin on a sound basis, using data from a number of companies and their employees. Now we took another close look and compiled the current study. Compared to the investigation in 2012, this study enables us to understand the development over the last three years on the basis of concrete figures of companies and their employees.

What do we really know about the startup hype, which suddenly made Berlin, ahead of London, the favorite among investors in Europe? What figures do we have? According to statements by reputable newspapers and institutions, every 20 hours a startup is founded in Berlin, there are said to be 2,500 startups and more than 60,000 employees working in all of the startups. But is this correct?

The sources are often dubious. And often there is no definition what is meant by a “startup”. What characteristics can be used to arrive at meaningful conclusions? Sales and profits are no meaningful indicators for startups, and everything else that could be used is qualitative. This is where our study comes in. We define our objective and use the number of employees as an indicator to describe startups and their development at a certain location. We wanted to know what substance there is beyond the hype, and how we should advise companies and other players interested in Berlin startups within the context of their digital transformation.

“The hype is good for us”, one of the founders tells us. Because he is thinking of an important factor for a successful location: Talent, which is attracted by it. Yet the hype also has a downside: Investors and companies do not quite trust the situation – but trust is the most important location factor also in the digital economy. Berlin looks good without a need for exaggeration: Its economy shows an above-average growth trend. It is the Mecca of the creative and innovative. Berlin is the most important location for startups in Germany. Internationally, Berlin falls within the top ten so-called startup ecosystems. The capital can be proud of the development over the last years. It is at the center of extensive changes that society is experiencing. Startups are our laboratories, they experiment with the possibilities offered by the evolution of the internet society.

A spirit of optimism was once before evident in the summer of 1999. Econa AG, an entrepreneurial holding company, organized a “Gründersommer” where entrepreneurs met representatives from business and politics, and Kai Biermann wrote an article in the Berliner Zeitung about a “new concept” called “Incubator”. It was the first time it became obvious to some players what kind of development potential the city might have. During the same year the three brothers Marc, Oliver and Alexander Samwer, together with others, started the internet auction house Alando. With this founding, and despite all the justified criticism of their business methods, these three brothers laid the foundation of something that, about ten years later, would give Berlin international exposure as a relevant location for startups

In 2009 we met players from the Berlin startup scene in connection with our “Digital Mentality” study, amongst others Alexander Ljung, the founder of Soundcloud. While a majority of the companies in 1999 appeared satisfied to have a website, most companies, in 2009, the essence of the business model of most companies were affected by an extensive digital transformation. Internet companies that were small in 1999 or had not even been founded are now considered as avant-garde of the economy. They are impressive due to their innovative power, their reach, their growth and, particularly, their speed. Soundcloud is a company from Berlin, which is a perfect example of this transformation and which attracts attention well beyond Berlin. It is also one of the few “creative” companies in Berlin that was able to attract money on a large scale. While the Creative Scene is in the limelight, companies, which fruitfully copy ideas from other companies, continue to be more successful.

To us, a startup is a company that is unthinkable without the internet, has a scalable business model and is less than five years old. In our 2012 study, we counted 270 such companies which employ a total of 6,700 employees. In 2015,

only three years later, we counted 620 companies which employ 13,200 employees. All startups taken together would thus be the fifth largest employer of the city of Berlin – after the Berliner Verkehrsbetriebe and ahead of Siemens. The 50 largest startups – and thus only approximately eight percent – employed approximately half of all staff. The structure of the few large and many small businesses had therefore hardly changed. But while in 2012 a higher proportion of businesses emerged from the empire of the Samwer brothers, responsibility for today's large companies rest on several shoulders. It turns out that important new players have arrived in the city. At the same time, priorities are changing. While the numbers of startups in the “Content” and “E-commerce” categories are decreasing, the number of the startups in the “Services” category is increasing. Within a few years, Berlin has become more tech-orientated. All these are positive developments.

Without the Samwer brothers and their business models, Berlin today would be insignificant regarding startups. Yet with these business models, which are mainly based on imitation and most efficient execution, a culture entered the city which finds itself in an area of tension typical of the Berlin work culture of the “Digital Bohème” around the turn of the millennium. We need to make the most of this area and create a Berlin startup culture that combines profitability with sensemaking and innovation with sustainable business models. In the center of all of this is one of the largest creative scenes in the world, which to date has not been part of the startup scene. Obviously there is some exchange between creative minds and startup founders, but with only approximately 20 of 620 companies, the portion of the startups connected to the creative industry is, compared to the potential, much too small. The same applies to the Social Business. In this context, creativity and sensemaking are convincing differentiating characteristics of Berlin in the global competition with other locations. Today, Hamburg or Munich continue to sometimes consider themselves to be in competition all of this Berlin. But we, in Germany, must understand that neither Berlin nor, unfortunately, any other German location can be the new Silicon Valley. We need the different combined strengths of the comparatively small locations in Germany and Europe, too, in order to not miss the boat.

The Berlin startup scene has emerged from puberty. We are at the beginning of an exciting development. If we get it right, Berlin can become one of the most significant startup ecosystems in the world through digitalization and the further attraction of talents and startups. Let us look after and cultivate this hype, but let us not forget to also sometimes put it into perspective.

To us, this study is not the end, but a beginning. During the recent years we learnt much about what startups do differently in strategy and management, organization and marketing and what they sometimes do better than the Old Economy businesses. Another important aspect that we became aware of is that of the importance of re-orientation regarding location policy. This policy needs to answer the question in which direction we want to develop our digital economy between participation and platform capitalism. Digital location policy is being challenged to reinvent itself through networking and cooperation. The question therefore is not how Berlin distances itself from or with whom Berlin compares

itself. The question must be what is Berlin's reference point and with whom Berlin connects as a startup ecosystem.

In this sense I am looking forward to the conversation with you and hope you will enjoy reading our study!



Hergen Wöbken, Founder and Managing Director IFSE
Berlin, April 2016

I wish to thank in particular Quincey Stumptner and Till Witzleben as well as David Stephenson, Tobias Wolfanger and Gunda Trepp for their collaboration in this study. I also thank the innumerable interviewees and insiders who kindly provided us with helpful insight. Most of these wish to remain unnamed. In place of all of them I thank Andrea Bury, Founder and CEO of *ABURY*, Norbert Kunz, Founder and CEO of *Social Impact Lab*, Dr. Christian Nagel, Partner of *Earlybird Venture Capital*, Sascha Schubert from *Bundesverband Deutsche Startups e.V.* and journalist of the newspaper *DIE ZEIT*, Jens Tönnemann, as well as our *Witten/Herdecke University* fellow students, i. a. Oliver Skopec, co-founder and CEO of *Tupomoja Holding AG*, Patrick Hyscher, founder & CEO of *Skill Hero GmbH*, and Jens-Philipp Klein, Partner *Atlantic Labs*. I also thank the *German Consulate General* in San Francisco and *Let's Ensemble* in New York City, where we presented our results for discussion for the first time at the beginning of March.

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A closer look at Berlin's startup scene

A Flourishing City ...

Recently, the *Guardian* praised Berlin's startup scene for "knuckling down to business", describing the strong dynamics in the city.¹ There seems to be no end to the euphoria about Berlin as a city and Berlin's Internet startup scene, with the city and the startup ecosystem of Berlin booming alike. Berlin as a city has been experiencing a major influx of inhabitants over the past few years. Between 2012 and 2014 a total of 135,000 newly registered "Berliners" took on the city. The Senate of Berlin expects a further growth in city's census over the next years, which could already pass the mark of 4 million by 2030,² up from 3.61 million inhabitants in late 2015.³ The international visibility of Germany's capital is also increasing: Tourists love the city, pushing up overnight stays to 28.7 million per year in 2014, which is an increase of 3.7 million since 2012. Furthermore, the city becomes more and more international: According to *Berlin Partner* 186 different nationalities reside in the city. 17.3% of Berlin's residents do not hold a German passport, which amounts to 621,000 foreigners within Berlin.⁴ Economically Berlin has also been continuously growing. In 2014 the GDP of Germany's capital increased by 4.4% compared with 2013,⁵ while Germany's GDP grew by 1.7%.⁶ Summing up, the city has been flourishing with an increase of job opportunities, but also with rising cost of living over the last years.

... and a Booming Ecosystem

The booming city has repercussions on the startup ecosystem and most likely vice versa. For the past couple of years the city has been declared to be one of *the* new hot spots of the world's entrepreneurial startup scene. In a March 2013 article the *Frankfurter Allgemeine Zeitung (FAZ)* estimated between 10,000 and 30,000 employees working in 2,500 Berlin-based startups for the year 2012,⁷ while in November 2015 *Süddeutsche Zeitung* reported that every twenty hours the city sees a new startup appearing on the scene (totalling the number to 438 new startups in 2015). According to the newspaper the "digital scene" provides about 60,000 jobs.⁸ Although it is obvious that the city's ecosystem is booming, these numbers on startups and their workforce must be scrutinized. To date, there has not been any reliable footing for numbers and basis for argument and we are therefore talking about estimates and, in addition to that, we are not always referring to the same thing. In most instances there is no general applicable and clearly defined definition provided. This important discussion is on shaky ground.

International Recognition and Venture Capital Investments

The startup scene of Berlin is not only considered a hype on a national level, but is receiving growing international attention. The latest *Global Startup Ecosystem Report* from 2015, published by San Francisco-based *Compass*, ranks Berlin highest in their growth index. The city tops the 20 startup ecosystems assessed in the report regarding this category and receives the maximum score of ten (on a scale from one to ten), while second ranked Bangalore receives five. The report connects this rating to an “*explosion of exits and VC investment*” in Berlin startups.⁹ Overall, Berlin has been climbing the ladder in great steps since the 2012 version of the report: Back then the city was ranked number 15 out of 20. Within three years the city has surpassed six other startup ecosystems, being ranked number nine, after Seattle and before Singapore. The report estimates the number of active startups to be between 1,800 and 3,000.¹⁰

A major factor that makes Berlin’s perceived boom tangible is its surpassing of London in the category of invested venture capital (VC) in 2015. That year startups in the city received VC investments worth 2.145 billion euros, which made Berlin the VC capital of Europe, while second ranked London received 1.773 billion euros.¹¹ The major influx in VC is currently due to some big startups, such as *Delivery Hero* (586 million euros), *Foodpanda* (193 million euros) and *HelloFresh* (185 million euros). Nevertheless, the overall amount creates a lighthouse effect and attracts international capital. Additionally the investment boom and international visibility was strengthened by several exits such as *6Wunderkinder*. The to-do app was bought by *Microsoft* in 2015 for a price between 100 to 200 million euros.¹² In 2014 the IPO of two Berlin-based companies attracted wide international attention. *Zalando* and *Rocket Internet* both entered the stock market and were able to raise a remarkable sum of 2.2 billion euros (*Rocket Internet* 1.6 billion euros, *Zalando* 600 million euros).¹³ *Rocket Internet*’s IPO was the biggest of any Internet company in Europe since the dot-com boom years until 2000. These events helped to build the confidence of investors that Berlin’s startup ecosystem is gaining in maturity and the balance between ideas and capital is falling into place.

Rising Interest from the Corporate World and growing Importance for Policymakers

The growing interest of Germany’s established corporates in the startup scene is an indicator that Berlin’s boom is not just a temporary one. Many companies from the Old Economy start to regard the scene not only as a hub of innovative and young potential employees, but as potentially strong competitors. Other corporates are seizing the opportunity to gain a foothold in the startup scene. *Daimler*, owner of *Mercedes-Benz*, rented office space in the *betahaus* in October 2015, one of the most renowned co-working spaces in the city, in order to use the innovative resources of young entrepreneurs on the scene¹⁴. Several others, such as the *Deutsche Telekom* and *Metro Group* set up corporate accelerator programs in the city. During the last couple of years, Berlin politicians seemed to have

also got caught up in the vibe. Both, mayor Michael Müller, and the senator for economic affairs, Cornelia Yzer, have been promoting and supporting the scene throughout 2015. Several visits were made to Tel Aviv and New York City in order to strengthen ties of cooperation.¹⁵ Moreover, media visibility for startup politics has increased throughout 2015.¹⁶

“Berlin isn’t proven yet”

So far, there have been several studies on startups in Germany and in Berlin, which widely differ in their definition of “startups”. These studies, to some extent, provided useful quantitative information, but fell short in an in-depth-analysis of Berlin’s startup ecosystem. The study at hand aims to provide a solid base for argumentation on Berlin’s startup scene. It works with a feasible definition of the debated term “startup” and gives, according to its criteria, a total number of startups in Berlin and their workforce. Information on the distribution of startups in categories of workplaces and on the distribution in previously defined categories of business is provided, which enables us to draw conclusions. The distribution of workforce in the six-fold scheme of startups is also analyzed. All numbers are compared to our results from our first internal study we carried out in 2012, which further enables us to assess the development within the last three years. This assessment is continued when we analyze the implications of those numbers: grown “startups”, media outlets, venture capital investments, events, organizations, coworking spaces and incubators contribute to the odds of success of Berlin’s ecosystem. A light is shed on the role of social business in Berlin, too. Additionally, the macro factors (the city’s historical legacy, its geographical location, its diversity, low living costs and the role of creative industry), a comparison to the startup scene in Munich and Hamburg as well as an international comparison are made. The study enables us to draw reliable conclusions about the startup ecosystem of Berlin and hopefully enables stakeholders to take Berlin’s boom even further. As Alex Ljung, the co-founder of *SoundCloud*, put it in 2013 in a *New York Times DealBook* article “The scene is very young. Berlin isn’t proven yet. It’s much like a start-up in that way.”¹⁷ By now, the startup Berlin is three years older. Let us see how it is further developing.

What is a Startup from Berlin?

As *Wikipedia* puts it “the exact definition of ‘startup’ is widely debated, at their core, however, most definitions are similar to what the *U.S. Small Business Administration* (the US government agency supporting entrepreneurs) describes as a ‘business that is typically technology oriented and has high growth potential.’”¹⁸ *Gründerszene*, one of the German online portals focussing on startups, defines startup as a “recently founded company”¹⁹, while US-American entrepreneur and academic Steve Blank defines the term as “an organization formed to search for a repeatable and scalable business model.”²⁰ The *Global Startup Ecosystem Report* follows this definition, specifying that their “products are mostly software-based. This includes web, mobile, and telecom software, as well as

eCommerce”, but excludes “hardware, biotech, nanotech, and cleantech from [their] analysis.”²¹ The report estimates the number of startups in Berlin to be between 1,800 and 3,000.²² The *Bundesverband Deutscher Startups e.V.* (German Startups Association) focuses on Blank’s definition given above and estimates 2,500 Berlin-based startups, according to Sascha Schubert, its vice-chairman and representative for the city of Berlin. *McKinsey & Company’s* study “Berlin Builds Businesses” lists “five initiatives for Europe’s startup-hub”²³, and, while failing to provide a definition of the term “startup”, claims that more than 700 startups were founded in the city in the year of 2011.²⁴ *EY’s Startup-Barometer 2015* doesn’t clarify the term either, while it includes companies, which were founded in 2005, ten years earlier. On average, the 181 “startups” in Germany examined in the study are four years and seven months old.²⁵ Likewise, *Deutscher Startup Monitor 2015*, defines “startups” as companies that are firstly younger than ten years. Furthermore they need either to be highly innovative or strive for a growth rate of their profits or their number of employees. In the study, 46.7 percent of the consulted “startups” are in the “startup” phase, while 17.5 percent of the “startups” have not reached this phase yet, and the remaining 35.8 percent have already passed it.²⁶ Furthermore, 0.8 percent of the consulted “startups” are at least ten years old, thus contradicting the study’s definition of “startup”.²⁷ What the studies have in common is, that they either lack a clear definition of the object of investigation or include “startups”, that are older than *Twitter*, which was founded in 2006. We view this as a shortcoming, since an analysis of the startup scene must be preceded by the definition of relevant criteria to set the framework of analysis. Therefore, we’ll set up a feasible definition of the term.

Definition of Startup by IFSE

To address these shortcomings, we will be setting three definition criteria for the term “startup”. The term is usually associated with a young business from the tech-sector. Such predetermination hints at various distinction criteria that may serve to identify a startup. In the following, we will specify the three criteria in order to define a startup used in the context of this study, before adding a fourth one to specifically identify “Berlin-based startups.”

1. Age: No more than five years old

2. Business model: The business could not exist without the Internet

3. Management model: The startup has an independent management

Our first criterion for startups is their age. We have included all businesses into our data set that were founded in 2011 or later and thus were not older than five years on January 1st, 2016. We assume that, with a functioning business model, a startup evolves into a grown company within the first five years, although we

are aware of the fact, that in some business categories (for example in biotechnology) companies might take longer to do so. As a consequence, some companies, which are generally considered “startups” from Berlin are not on our current list because they have emerged from the first five years, such as *DaWanda* (founded in 2006), *Zalando* (2007), *Babbel* (2007), and *SoundCloud* (2007).

In order to distinguish “startups” from the formation process of any “regular” company or *Existenzgründung* (any form of self-employment), we set up a second criterion. We suppose that the business would not be possible without the Internet. Consequently, the reference to technology is imminent in the business model of startups in our definition. The business model is easy to scale, possible consumers are not necessarily in the same city or country as the company, but might be located worldwide, and the startup aims to achieve a big share of this international market. The dependence on the Internet differs for the various types of startup business models, but generally there is one. In this study, we determine the qualitative condition that a startup fitting our definition could not survive without the existence of the Internet. In doing so, we account for the fact that different segments of the web are of varying relevance for the startups.

We set up a third criterion, in order to distinguish startups from corporate spin-offs. Our definition of startups includes only businesses with organizational independence. Hence, startup-like products or brands of already existing companies are not included in our dataset. The formal criterion for this distinction is the existence of an independent management.

Definition of Berlin-based startup

Besides the three criteria, we included a spatial limitation in the definition as fourth and last criterion to specify startups in Berlin: The main location must be located in Berlin or immediate proximity in the state of Brandenburg. In the following, we will speak of a Berlin-based startup when the businesses have their only office or at least their headquarters in Berlin or the surrounding communities of the neighbouring state of Brandenburg. Several “startups”, such as British mobile point of sale provider *SumUp*, were not included in our dataset, since they have their headquarters outside of Berlin and its surroundings in the immediate proximity of the state of Brandenburg. Additionally, many Berlin-based startups might already have employees outside of Berlin, who are not included in our database either. The four established criteria for the definition of the term “startup” aim to provide a sound base in order to estimate the number of startups in Berlin and their number of employees.

Workforce as Indicator

Finding the right indicator to measure the economic power of startups, their growth dynamic, and their quality is generally challenging. Although companies are obliged by German law in the *Handelsgesetzbuch* (Germany’s Commercial

Code) to release their annual balance sheet and financial statement in the *Bundesanzeiger* (Federal Law Gazette), these numbers are released up to nine months after the balance sheet date. Hence, information on economic output can only be given retrospectively. But not all startups are *Kapitalgesellschaften* (limited companies), to which those laws apply. Furthermore, startups do not necessarily aim for profits yet. *Rocket Internet* backed apartment platform *Wimdu* reported a loss of about 16.5 million euros in their first financial statement in 2011, while competitor *9flats*'s financial statement of the same year lists a loss of 5.8 million euros.²⁸ Consequently, using financial statements as an accurate indicator did not seem plausible to us. Under these circumstances, we decided to operate with each startup's workforce as main indicator to measure economic power, growth dynamic, and quality of startups. In this study, we use the terms "workforce" and "employees" synonymously and include founders (who are generally self-employed and not "employees"), when speaking of "employees". We are aware of the fact that labor is not a homogenous good, because a "software as a service" startup with twenty employees might differ significantly from an "E-Commerce" startup with the same workforce. But the number of persons that are subject to the mandatory social insurance contributions in Germany is an adequate indicator to draw conclusions from, although there are other indicators as well. For that reason, we have further included qualitative aspects in our analysis of Berlin's startups.

Setting up the final Database

The database for this study is the result of an elaborate research on startups in Berlin. We started this research in 2012 and have been continuously working on it since then. The relevant information about businesses were acquired through German online portals *Gründerszene*,²⁹ *Deutsche Startups*,³⁰ *Silicon Allee*,³¹ *TechBerlin*³², *Netzwertig*³³ (until its closure in late 2014), and *BerlinStartupMap*³⁴ (until 2014), as well as numerous blogs and social networks. Other important resources were US-American websites *Crunchbase*, *TechCrunch*'s database, and *AngelList*. Information from the magazines *Berlin Valley News*, *The Hundert* and *Startup Guide Berlin* was also included. During the last years, media coverage of Berlin-based startups has constantly grown, and as a result our research possibilities have continually improved. Only businesses that met the previously defined criteria were included in our dataset. The subject of this research are businesses entered in our database before January 1, 2016. We are aware of the fact that the ongoing development of the startup scene makes it difficult to accurately represent the most up-to-date situation of the scene and that several startups have been founded in the first months of 2016, while we were analyzing our dataset and writing this study. All online sources of our research were checked in the end of March, 2016. We acquired the number of employees working in Berlin-based startups using at least three different sources. Generally, we screened the respective website of each startup for information about its employees. Additionally, we researched the number of employees of each startup shown on the business profile of employees in the career networks *LinkedIn* and *Xing*, which represented

two further sources for us. For some smaller businesses, we found no results through research in the career networks. In these cases, we resorted to the information on the business website alone. Having researched these numbers, we estimated the total number of employees per startup. Whenever possible, we verified our estimates by direct communication with informal contacts. We only included confirmed numbers of employees in our dataset. As a consequence, our estimate is conservative. If we had broadened our definition criteria for “startups”, we of course would have obtained different results. According to our estimates, the total number of employees would nearly double, if we included companies that are up to ten (instead of five) years old, as *Deutscher Startup Monitor 2015* does in its definition.

Categorization of Startups

In order to allow for a more in-depth analysis, we classified the startups in a scheme according to their primary business activity.

Attribution Criterion – Provided Service

| | |
|----------------------------|--|
| Marketplace | Businesses that provide a trade platform for suppliers and demanders without being traders themselves. In contrast to commission business, marketplaces are principally neutral to both sides of the market. |
| Commission Business | Businesses channelling selected product offers to customers and customers to selected shops; based on payment of a commission. |
| E-Commerce | Businesses that trade with physical or digital goods from their own or foreign production. |
| Social | Businesses whose service consists of the creation of (social) contacts that are not directly aiming at the trade of goods. |
| Content | Businesses that create, administrate and present digital content. |
| Services | Businesses that provide services to other businesses or end customers. |

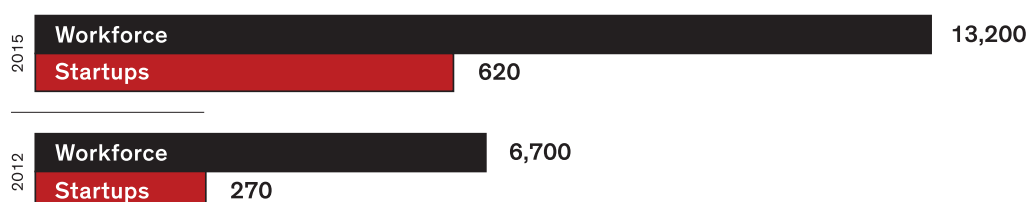
A crucial challenge of establishing a categorization scheme stems from the so often unique business models of startups: new Internet companies often try to occupy market gaps by modifying, re-combining and optimizing existing business practices or replacing them with technology-based solutions. This leads to a fundamental challenge of systematically classifying Internet-startups. *Deutscher Startup Monitor 2015* gives 18 different categories for the 330 Berlin-based startups they included, while EY’s *Start-up-Barometer* of January 2016 lists nine categories. Neither of these suits our purpose. Since none of the existing categorizations was considered as sufficiently precise or stringent, IFSE

developed a new classification scheme. The core criterion to classify a startup into one of the following six categories is the type of provided service or activity of the business.

Quantitative Analysis of Berlin's Startup Ecosystem

With a database of 620 Berlin-based Internet-startups, the Institute for Strategy Development (IFSE) estimates a total workforce of about 13,200 employees.

Startups and Workforce 2012–2015



The number of startups has increased by 127 percent since our research in 2012, when we identified 270 startups according to our criteria. The workforce has increased by 97 percent in comparison to our estimate in 2012, when we identified 6,700 employees. If one hypothetically counted all examined businesses as one joint entity or big company, this company would rank fifth in the list of Berlin's largest employers, between *Berliner Verkehrsbetriebe (BVG)* and *Siemens AG*.³⁵

Most recent list of largest employers in Berlin

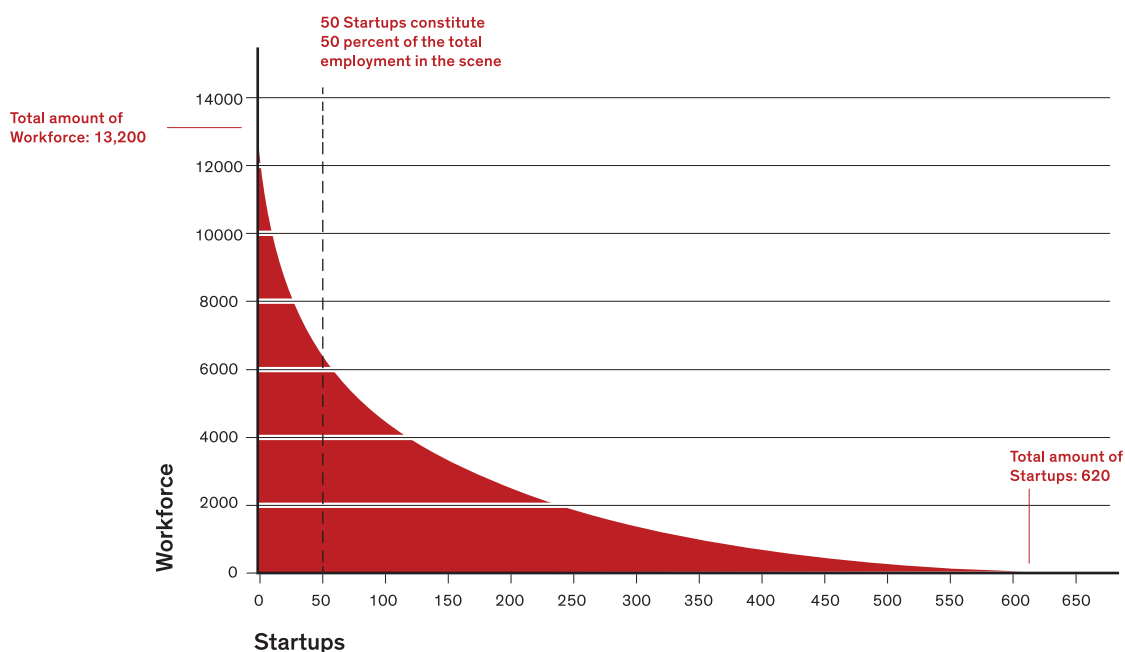
Source: IHK Berlin, Berlin's Economy in Numbers, Edition 2015

| | | |
|----|---|---------------|
| 1 | Deutsche Bahn AG | 19,466 |
| 2 | Charité – Universitätsmedizin Berlin | 16,800 |
| 3 | Vivantes Netzwerk für Gesundheit GmbH | 14,714 |
| 4 | Berliner Verkehrsbetriebe (BVG) | 13,776 |
| | Berlin-based Startups | 13,200 |
| 5 | Siemens AG | 11,818 |
| 6 | Deutsche Telekom AG | 6,833 |
| 7 | EDEKA Minden-Hannover Stiftung & Co. KG | 6,831 |
| 8 | Deutsche Post DHL Group | 6,500 |
| 9 | WISAG-Gruppe | 6,466 |
| 10 | Daimler AG | 6,203 |

In 2012, the hypothetical joint company would have ranked 7th in the list of Berlin's largest employers, between the *Deutsche Telekom* (7,600 employees) and the supermarket chain *Kaiser's Tengelmann* (6,546 employees).³⁶

Given the total number of startups and the total number of employees we deduce that an average Berlin-based startup employs 22 employees. 78 percent of all startups have less than 22 employees, while 22 percent have 22 employees or more. The workforce median is nine, meaning that 50 percent of the Berlin-based startups have less than nine employees, while 50 percent have more than nine employees.

Distribution of Workforce

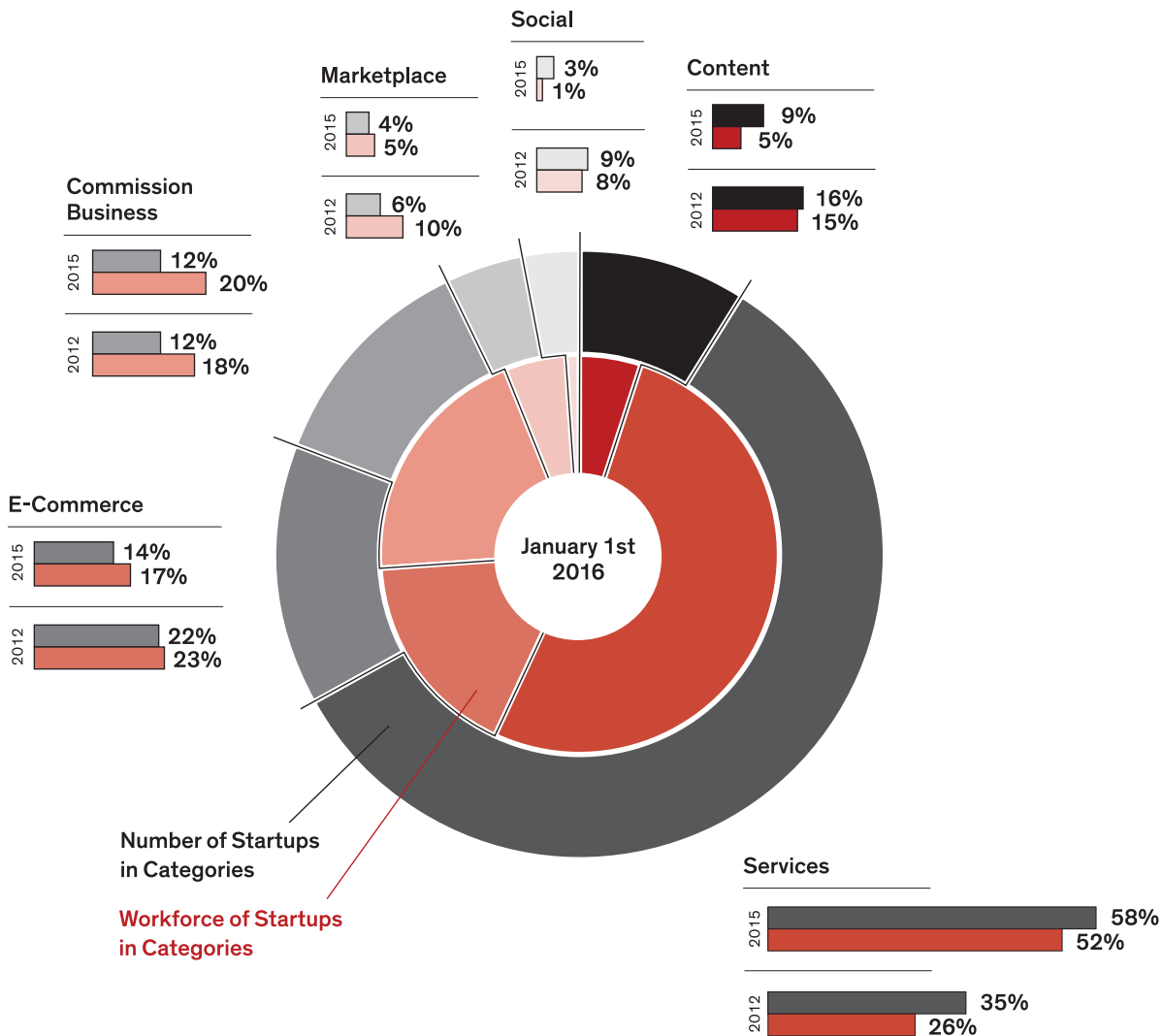


This unequal distribution of workers is also reflected in the categories of workplaces that we established (1–10, 11–25, 26–50, 51–100 and more than 100 employees). About 57 percent of all Berlin-based startups have less than eleven employees, while startups with more than ten and less than 26 employees make up for 24 percent of all startups in Berlin. Startups with more than 25 and less than 51 employees sum up to ten percent. Accordingly, startups with less than 51 employees represent 91 percent of all Berlin-based startups. Five percent of the startups have more than 50 and less than 101 employees, while startups with more than one hundred employees amount to four percent of the total number of startups.

Distribution of Workforce

Regarding the distribution of workplaces it becomes apparent that a large proportion of employees can be found among a few startups. A large share of startup employment emanates from a small number of businesses – the largest 8 percent of the startups constitute 50 percent of the total employment in the scene. 68 percent of the smaller startups in Berlin make up for 20 percent of all employees in the scene. This percentage might even be higher – for example, really small startups of only one or two employees might not have reached the threshold of media attention nor have been included in *Crunchbase* or other databases. Startups in the category of less than eleven employees, which represent 57 percent of the number of startups, make up 13 percent of the workforce. In contrast, startups with more than 50 employees represent 53 percent of the workforce in Berlin’s startups.

Insights from the Categories – Distribution of Businesses ...



A purely quantitative assessment of the total number of employees in the Berlin startup scene does not yet give us information about the qualitative requirements of these jobs. However, we can formulate some hypotheses that will need further empirical validation. For example, it can be assumed that startups with few employees will have a high ratio of self-employed persons and consequently, a small ratio of persons that are subject to the mandatory social insurance contributions in Germany. Also, for startups in the E-Commerce sector, there will tentatively be a higher number of employees and a higher percentage of physical labor involved in the service provision, while a software as a service startup might need less employees and less physical labor. Consequently, startups in the different categories probably require different qualification of their workforce. Looking at the total number of startups examined, more than half (58 percent) of the examined startups are most suitably classified in the category “Services”. About one seventh (14 percent) fall into the category of “E-Commerce”.

These numbers show a significant change in comparison to our research in 2012, when 35 percent of the examined startups were most suitably classified in the category “Services”, while 22 percent fitted in the category “E-Commerce”, 16 percent in the category “Content”, 12 percent in the category “Commission Business”, nine percent in the category “Social”, and six percent in the category “Marketplace”. As stated before, the total number of startups according to our criteria and research grew by 127 percent from 2012 until the end of 2015. The number of startups in the category “Services” grew significantly higher than average by 278 percent during that period, in the category “Commission Business” similar to the average by 124 percent, and in the categories “E-Commerce”, “Marketplace” and “Content” below average (48, 29, and 26 percent, respectively). The number of startups in the category “Social” decreased by 26 percent.

... and Distribution of Workforce

In the following, the total estimated number of employees will be classified into these previously defined categories. Businesses falling into the category “Services” constitute more than half (52 percent) of all employees in Berlin startups. This figure is followed by the categories “Commission Business” (20 percent) and “Commerce” (17 percent). An aggregated 11 percent of all employees work in the categories “Content”, “Marketplace” and “Social/Connect”. With regards to the average number of employees, differences between the categories are noticeable. Startups with a focus on “Commerce”, “Commission Business” and “Marketplace” tend to have rather large numbers of employees, whereas businesses in the categories “Service Provision”, “Content” and “Social” tend to have fewer employees.

Content

The category “Content” comprises startups, which create and administrate content for the web – with produced content ranging from journalistic content to the development of online games. The median of employees is six, which is the

second lowest. On average the number of employees in the “Content”-sector is with 13 employees rather small compared to other categories. We state a decrease of 35 percent compared to 2012.

Services

Startups in this category focus on business-to-business (B2B) or business-to-client (B2C) service provision. The large number of service providing startups (58 percent) employs an average of only 19 persons, which grew by 23 percent since 2012. This might be related to business models that are often promising due to their approach to occupy market gaps with innovative technology-based solutions. The median of employees is nine, which is the third highest.

E-Commerce

Startups in the E-Commerce-sector have a relatively large number of employees that is not much lower than that of “Marketplace”. We state an average of 25 employees per category, which grew by 15 percent since 2012. The median of employees is eight, which is the third lowest.

Commission Business

“Commission Business” make up for 12 percent of all Berlin-based startups and show the largest average number of employees. We state rather high numbers of 36 employees per business, which grew by 19 % since 2012. The median of employees is ten, which is the second highest.

Marketplace

The startups in the category “Marketplace” show also rather large numbers of employees. However, only few businesses (3.5 percent) fall into this category in the first place so that the mean value is not very robust. The median of employees is 11, which is the highest. We state an average of 27 employees, which decreased by 18 percent since 2012.

Social

In comparison to the other categories, few Berlin startups fall into this category (less than three percent). The median of employees is five, which is the lowest. The average number of employees is by far the lowest, with six employees, and decreased by 72 percent. Main reason for this is that the online dating platform *eDarling* was included in 2012, but excluded in 2015 due to its age.

Around the “numbers” – Share of “Startups” that do not fit our Definition Criteria

Many “startups” that do not fit our definition criteria are active in the city. Non-Berlin based startups, such as British *SumUp*, have offices in Berlin. Former startups that are by now more than five years old, such as *Babbel* and *SoundCloud* are headquartered in the city as well. “E-Commerce” retailer *Zalando* alone employed 3.000 people by the end of 2014, making it Berlin’s 29th largest

employer according to IHK Berlin (being the only company with a “startup” background included in the top 100).³⁷ According to our estimate the workforce of Berlin’s startups would increase by 100 percent, if we included companies that are up to ten (instead of five) years old. Furthermore we estimate, that the workforce would rise by 20 percent if we included purchased companies (now without an independent management) in our dataset, and ten percent each if we included non-Berlin based startups with offices in the city as well as “invisible” startups, that have not reached the threshold of media attention. Altogether, the workforce according to these widened criteria would amount to more than 30,000 employees, which possibly explains the number estimated by media outlets such as *Frankfurter Allgemeine Zeitung*. We do not think that this number would be adequate, and therefore stick to our number of 13,200 employees, which represents a confirmed number.

Number of Coworking Spaces Mushrooming

Since the *St. Oberholz* opened more than ten years ago, many coworking spaces have been established in Berlin. The *betahaus* has attracted freelancers and startups since 2009, and in the last years coworking spaces, such as *agora collective*, *ahoy!*, *co.up*, *fab lab*, *kaos*, *launch/co*, *mobilesuite*, *roof up*, *weserland*, *welance* (just to name a few), have mushroomed. *ImpactHub Berlin* and *Social Impact Lab* are two incubators / coworking spaces focussed on social business. US-American coworking chain *WeWork*, which runs 26 offices in New York City alone, announced that it would open two locations in Berlin in spring of 2016.³⁸ *Factory Berlin*, which aims to bring startups and mature tech companies together, was backed by *Google for Entrepreneurs* and opened in 2014. It announced in January 2016, that Google would further back them while a new building will be constructed on site.³⁹

Increase of Corporate Accelerator Programs and Incubators...

Big companies also try to participate in the startup boom. The number of corporate accelerator programs has grown in the last years. While there were only two (*Deutsche Telekom’s Hub:Raum* and *SAP’s Startup Focus*) in Berlin in 2012, when we started our research, up to 2015 the number had increased by eight (*Microsoft Ventures Accelerator*, *Deutsche Bahn’s Mindbox*, *Bayer’s Grants4Apps*, *E.ON’s agile Accelerator*, *Axel Springer Plug and Play*, *ProSiebenSat1 Accelerator*, *Coca Cola Accelerator*, *Techstars Metro Accelerator*) to a total of ten.⁴⁰ Furthermore, the number of incubators (public and private) has increased. The Berlin Senate lists thirteen public business incubators.⁴¹ For example, the *Free University of Berlin* announced in December 2015 the name “FUBIC” (Business and Innovation Center next to Freie Universität Berlin Campus) for its incubator for sixty to eighty enterprises, which is to open in 2020.⁴² While not all companies in public incubators can be considered “startups” (they possibly aim for “classical” Existenzgründung without scalable business model), private incubators are backed by investors and exist to help improve the odds of success for startups.

These incubators are spearheaded in Berlin by *Rocket Internet*, which employed around 450 people in 2015,⁴³ and *Team Europe*, with many more being based within the city limits, such as *Project A Ventures* and *Rheingau Founders*. While in 2012 *Rocket Internet* backed companies prevailed in our dataset of startups with the biggest workforce in Berlin, diversity in this regard has increased in the larger (and presumably more successful) startups over the last years. Still, one may not underestimate the importance of *Rocket Internet* for the evolution of Berlin's startup scene. Without it "Berlin would have never become, what it is today" as *Die Welt* put it in July 2015.⁴⁴

... as well as Venture Capital Influx

Sascha Schubert, vice-chairman of *Bundesverband Deutscher Startups e.V.*, thinks that the sale of *StudiVZ* in 2007 was the catalyst of Berlin as startup-hub, since its founders stayed in Berlin after their exit and reinvested parts of their personal profits. In the last years, more founders have set up their own venture capital fund after their successful exit, such as *Heilemann Ventures* of *DailyDeal*-founders Ferry and Fabian Heilemann. As a result, a self-perpetuating system has slowly emerged and has been strengthened within the last years. More and more successful founders invest as business angels or set up venture capital funds.

According to Dr. Christian Nagel, partner of *Earlybird Venture Capital*, the change over the last decade has been tremendous. While the company was operating from their offices in Hamburg and Munich, they would meet with startups at the *St. Oberholz* for years. Later, they would set up a small office close to this cafe on Torstraße. In 2011, they finally decided to move their Hamburg operations to Berlin, where they now maintain a large office. The numbers reflect these changes. An *Ernst & Young* study states that 2.145 billion euros were invested in Berlin's startups in 2015, attracting 1.254 billion euros more than the year before and making it the city with the highest venture capital investment in Europe.⁴⁵

Events Indicating Boom, Special Interest Group Established

An indicator for the boom in Berlin is the increase of events in the startup scene. According to Sascha Schubert, events such as *Startup Lounge* attracted few attendees about ten years ago, while the yearly *Startupcamp*, organized by *Bundesverband Deutscher Startups e.V.*, had about one thousand participants in 2015. Three thousand participants attended the third *Lange Nacht der Startups* (Startup night) in September 2015. *Gründerszene* organizes specific events for members of the Berlin startup scene, such as HR dinners.⁴⁶ *Berlin Geekettes* sets up monthly events to build a community for female (tech) entrepreneurs. Events like *Startup Grind Berlin*, which hosts interview sessions of 90 minutes with members of the startup scene, are backed by initiatives such as *Google for Entrepreneurs*.⁴⁷ Focussing on the creative industry, *Re:publica* is an annual conference held in the city since 2007 that deals with the topics of Web 2.0, information society and "digitalization" in general. Attendance has increased

tenfold from the first to its ninth edition in 2015, which received 7,000 visitors from 43 countries.⁴⁸ Generally, since its foundation in 2012 the *Bundesverband Deutscher Startups e.V.* as a special interest group has been trying to establish close ties to policy-makers in Berlin. The establishment of the organization reflects the increasing role of startups in Germany as a whole, particularly in Berlin as its major hub. The *Bundesverband* also initiated the *European Startup Monitor*, a “European benchmark on startups”, which is due to be published in the first quarter of 2016.⁴⁹ The report is going to follow the definition of startups applied by *Deutscher Startup Monitor*, meaning that “startups”, amongst other previously stated criteria, are younger than ten years.”⁵⁰

Development of Media Outlets

Media attention has also increased step by step. Main online platforms like *Gründerszene* and *Deutsche Startups* are based in Berlin,⁵¹ while a monthly paper called *Berlin Valley News* is being published. Magazines such as *The Hundred*, which published its seventh volume in January 2016, and *Start Up Guide Berlin*, which published its second edition in February 2016, have gained popularity among readers. There are also smaller internet platforms, often used for coordinating get-togethers, such as *TechBerlin*,⁵² *Berlin Startup List*,⁵³ and *Berlin Startup Jobs*.⁵⁴

Social Business in Berlin

Recently, the Guardian described the “rise of social innovation in Berlin” and its “fast gaining (...) reputation as a creative hub for sustainable and social businesses.”⁵⁵ Most of the existing social businesses in Berlin are not included in our database (although there are exceptions, such as *Kiron University*), because they do not fit our set criteria or have not quite reached the threshold of media attention. One of the hotspots of the scene is the *Social Impact Lab* in Kreuzberg, an incubator in the field of social business that has spread from its first location twenty years ago to a total of six in Berlin, Duisburg, Frankfurt, Hamburg, Leipzig and Potsdam. Norbert Kunz, founder and CEO of *Social Impact Lab*, states that only 10 percent of applicants are accepted at the *Social Impact Lab* with its limited capacities for 20 startups per year in Berlin. This is a good indicator of the boom of social business in Berlin. There are only a few reports on social businesses in the media. Kunz does not perceive this neglect of social business and the like as problematic, since media attention may not matter to social businesses as much as to regular startups.

Kunz finds common ground between the interaction of the startup scene and social business. Top entrepreneurs from both fields share highly innovative ideas, which confronts them with certain challenges and leads to interaction between the two. But contrasting the two sides are their different motivations for doing business. One assumes that one side tends to be more profit-driven, while the other tends to be impact-driven, although there might be exceptions

to the rule. This confronts social businesses with the known problem of how to measure its impact, which is not measurable in numbers. Andrea Bury, founder and CEO of *ABURY*, an on- and offline shop for handmade clothing from Morocco and Ecuador that gives half of its profits to these countries, describes it as difficult to find investors for her business idea, because social impact “is nothing [she] can sell to investors.” Despite the growing space for collaboration in Berlin, there are generally questions whether social businesses want to be scaled, and if so, can be scaled to have a greater impact. In order to search for the first “social unicorn”, a social business with a beacon effect that is similar to a billion dollar valuation, Berlin-based Waldemar Zeiler and Phillip Siefer set up the initiative *Entrepreneur’s Pledge*. The pledge is “a commitment by sustainably thinking entrepreneurs to dedicate their entrepreneurial gift to found at least one business that will have a positive impact on environmental and social challenges and re-invest 50 percent of the profits to further its cause”⁵⁶ and, by February 2016, was signed by 91 mostly Berlin-based entrepreneurs. An important conference connecting the world of business, social business and social innovation is *Vision Summit*, which was held between 2007 and 2014 and attracted 1,350 participants.⁵⁷ The conference is set to be continued in 2017.⁵⁸

The Agility and Variety of the Berlin Startup Ecosystem

Our analysis definitely shows the agility and variety of the Berlin ecosystem. Ciarán O’Leary, a then partner at *Earlybird Venture Capital*, in a *Guardian* article in October 2015, put it as follows: “Berlin was overhyped by the media several years ago when it was pitted as the next Silicon Valley... It’s important to compare apples to apples. The Berlin ecosystem is a quarter of the age of other European ecosystems. It wasn’t until two years that there was a VC [venture capital] fund in Berlin. What we saw three or four years ago were the first baby steps of Berlin ... Now, against the odds, with no capital here, Berlin has still made it. It’s imported people from all over the world, venture capital is now on a par with ecosystems in Europe – there’s been two several billion IPOs and companies like *SoundCloud* taking off. It’s important to reflect back on these as the foundation years when the magic of Berlin happened. Now we have the ingredients – capital, serial entrepreneurs, people who are experienced – and have established a global talent magnet.”⁵⁹

Following our description of the startup scene, we can agree with O’Leary. We could observe an increase in stakeholders or other measures in all mentioned categories. It shows that Berlin’s startups are well embedded in a functioning system, where most of their needs can be met. Of course, there are still points of improvement, such as an even better access to funding or better link to the corporate world and politics. Nevertheless, we can observe high dynamics, which leaves us to infer further growth of the ecosystem.

It seems as if the network of the startup ecosystem is widening. Synergies between social entrepreneurship and traditional venture-capital-dependent

startups are one example of this overall development. In the same manner the creative scene and the startup ecosystem have been operating this way. Enterprises of the two systems have created synergies and both sides have gained from it. Additionally the increase of corporate cooperation with Berlin's startups can be seen in a similar light. With growing networks being established by startups and their stakeholders media attention will also increase. The startup scene employs wider networks than those of the Old Economy. With the stronger tendency of a startup network to communicate (a startup employee is much more likely to tweet and write on Facebook about their job than any employee of an established corporate) it results in a massive communication system that in addition develops high cooperation tendency. People originally not being associated with the startup ecosystem (like friends and family of the employees) will like and share their social media posts. That creates the impression the startups scene consists of a massive movement. Awareness about that movement increases which in turn fires up the communication about the movement itself again. The numbers being presented in this study back the generated "hype" by the communication phenomenon. This time the hype seems to be more justified and not to reflect a completely distorted view of what is actually happening in the startup scene.

Berlin's Geographical Assets and Historical Legacy

Berlin as a city and the startup ecosystem of Berlin are strongly interconnected. Berlin is situated in the middle of Europe. Even if only considering the EU as a geographical frame, the distances into each cardinal direction to the outer borders of the EU are relatively equal. The center position makes it easily reachable from other countries. According to Christian Nagel, partner at *Earlybird Venture Capital* in Berlin, people moving westward from Eastern Europe for example will first go to Berlin. Eastern Europe is a trending human resource market and has experienced an influx of well educated IT-specialists over the past years.⁶⁰ The former cultural relations between Eastern Germany and the eastward expansion of the EU have contributed to the attractiveness of the German job market.⁶¹ For example 50,000 well educated Polish citizens chose to live and work in Berlin due to better job conditions than in Poland, but also because of the close proximity to their home country. They are the second highest group of foreigners in the city, after people holding a Turkish passport.⁶² Berlin's startup scene can profit from this effect, since the city offers the best preconditions to tap into talent from Eastern Europe due to its geographical position.

Berlin's reputation of being a hub for creative folks and nowadays for startup entrepreneurs is nothing new. Culturally and historically the city offers perfect conditions for a flourishing startup system. Once before, at the end of the first world war, Berlin became *the* cosmopolitan city during the 1920s in Europe where anything was possible. It was for good reasons that historians labelled this decade as the *Roaring Twenties*. Berlin experienced its heyday as a world capital, with arts, music and science propelling themselves to the utmost performances. It was

the time when Albert Einstein lived in the city and was awarded the Nobel Prize in physics (1921) and when the German movie industry reached world reputation with films like *Metropolis* by Fritz Lang (1928). Many writers, painters and philosophers, such as Walter Benjamin or Bertolt Brecht, worked and lived in Berlin and achieved fame during this era. A similar creative energy and maybe boom atmosphere of trying to reach new horizons can also be felt today. Berlin's startup scene is a major contributor to and beneficiary of this energy. Therefore seen from a historical perspective, Berlin is continuing its path allowing its multiple identities and niches to attract people from all over the world. Especially for a startup ecosystem Berlin's legacy and vast range of possibilities can be seen as a great asset.

A Flourishing Local Human Resource Market

In addition to an inspiring legacy of the location, a functioning startup system requires the right people. From an educational perspective, Berlin offers the highest number of students in universities and higher education institutions in Germany.⁶³ 175,000 students studied in one of the numerous institutions to receive a bachelor's or master's degree or other higher education diploma in 2015. About 18,500 students of them were enrolled in IT and digital industry related courses, providing the job market of Berlin annually with many competent professionals for the internet based startup scene.⁶⁴ Overall 30,302 students of Berlin's higher education institutions graduated in 2014, which is twice as much as for instance Hamburg with 15,625 graduates in 2014.⁶⁵ Moreover, Berlin is the most popular university city in Germany.⁶⁶ This leads to the conclusion that from a human resource perspective, Berlin takes on a leading role in Germany, attracting and educating a high number of future employees. The ecosystem is able to pool its professionals from a vast local job market and it seems to be in need of it: The *Deutsche Startup Monitor 2015* states that Berlin entrepreneurs are planning to hire 11,9 people on average in 2016 – the highest number in the German startup scene.⁶⁷

Diversity as an Exceptional Benefit

Not only does Berlin offer a vast local job market, but apparently it is also attracting a great number of foreign professionals to work in its organizations. The 620,000 registered foreigners⁶⁸ in the city make up 16.5 percent of Berlin's total population. The city is a long way ahead of the German average (8.9 percent of total population).⁶⁹ According to *Berlin Partner*, 186 different nationalities reside in the city.⁷⁰ This is not only reflected in the multicultural cityscape but also within the startup scene. With 49 percent of its startup employees not being German citizens, Berlin's startup workforce is more diverse than Silicon Valley's (45 percent foreign workers) and only topped by London according to the *Global Startup Ecosystem Report*.⁷¹ Many renowned former startups like *Zalando* or startups like *Delivery Hero* state that Berlin's internationality was one of the key factors choosing it for their headquarters. If planning on scaling the company especially for European markets, Berlin offers professionals who speak most European

languages. According to the newspaper *Berliner Morgenpost* the startup *Delivery Hero* for example represents 42 different nations within their company, enabling it to have the necessary language skills in-house to properly manage their international markets. It is not unusual for startups to source on average between 40 to 50 percent of their employees from non-German citizens living in Berlin.⁷² The city's internationality and continuing attractiveness to foreign professionals can hence be seen as a great asset for the startup ecosystem.

Low Living Costs and Rents Granting a Freedom to Venture

For a long time the phrase “poor, but sexy” coined by Berlin's former Mayor Klaus Wowereit has been the major label associated with Berlin.⁷³ The attribute of being poor seems to change slowly, but the “sexiness” has probably stayed the same as the previous facts have already indicated. One major factor are the high living standards for relatively low prices in Berlin. This has always attracted creative people and artists. The city offers everything of a big metropolis but well below the prices of other European capitals. A study by *Mercer* conducted in 2015 lists Berlin on rank 106 of the most expensive cities of the world, way below London (ranked 12th).⁷⁴ Even within Germany, Berlin ranges well below Munich or Hamburg on most levels concerning living costs. The average rent per square meter in 2015 for example was at 12.25 euros in Munich, and at 8.63 euros in Hamburg, while the price in Berlin remains traditionally low at 7.18 euros on average.⁷⁵ Due to Berlin's lasting popularity this is changing, as the introduction of a rent control last year indicates, but property prices continue to be relatively low. This of course has an effect on the startup scene. For example many young companies cannot afford expensive office space. In comparison to other German cities, in this regard Berlin also remains affordable. With 22 euros per square meter for office space, it ranks fifth place among German large cities, way after Munich with 34 euros.⁷⁶ This in addition to the low private rents enables founders to better survive the first couple of years of hard financial constraints, when returns on investments are not yet very high. Also to set a low financial living standard is completely accepted in the city and nothing to be embarrassed about. This attitude makes Berlin an ideal hotbed for startups to flourish, says Norbert Kunz from the *Social Impact Lab* in Berlin. Another cultural effect of the label “poor, but sexy” is a very relaxed and flexible attitude towards societal categorization that is also common in the startup scene. Norbert Kunz puts it this way: “In Berlin social mobility is very high, society is not yet as clustered in different groups of people ... in Berlin you could sit in a coffee shop in between a billionaire and a homeless person.”

Being the Capital of Germany

Berlin is the biggest city in Germany and the capital of the most active and wealthiest economy in Europe. Due to its status the city is the political center of German politics. Even though Germany is not centrally organized but groups itself into 16 different states, it is nevertheless an advantage to stay close

to political decision makers, especially when lobbying for one's own interest. The *Deutscher Startup Monitor 2015* shows that startups in general are not yet satisfied with German politics. Founders grant the central government only a grade 3.7 (one being the best and six the worst grade to receive), which is a slight improvement compared to the year before (3.9/2014), but still not very positive⁷⁷. Therefore exercising political influence is badly needed for startups in order to feel being recognized by German politics. Another welcoming side effect of being based in the capital is the strong media attention, which the city receives due to its economic and political position in the world. The startup scene of the city can benefit from it and can use it for its own purposes.

Berlin's Creative Industry – Preparing the Scene for Startups

Creative folks have loved Berlin for a long time, and their high presence in the city is of great value for the startup ecosystem. As mentioned, Berlin's success on the field of creativity has a long history. But even after the Second World War Berlin stuck to its tradition. As early as the 1980s the city became a popular destination for artists of different kinds. Being cut off from the rest of Western Germany, West-Berlin was an island far off from strong government control or any societal boundaries. The contemporary art scene grew and became a special asset of the city. Stéphane Bauer, head of the *Kunstraum Kreuzberg/Bethanien*, an exhibition space for contemporary art in (former West-) Berlin, puts it this way: "In the 80s we had a lab situation in West-Berlin. Nobody knew what would come next. There were experiments with new social arrangements and artistic means."⁷⁸

In a study conducted by the IFSE in 2011 about Berlin's artist scene, 76.8 percent of the interviewed artists agreed on Berlin's flourishing and lively artistic scene being the major reason for them to move to the city. 71 percent mentioned the atmosphere in the city causing them to set up their center of living in Berlin and 68 percent pointed out the low rents for living and studios as an additional reason.⁷⁹ As a result Berlin established itself as one of the most important hubs of contemporary fine art production in the world. Likewise it became renowned over the past 15 years for its music scene, especially electronic music. Most of the international artists coming to Germany want to exhibit in the capital.⁸⁰ The *Kultur- und Kreativwirtschaftsindex 2015* developed by the *IHK Berlin and Brandenburg* (chamber of industry and commerce) counts 25.718 companies for Berlin associated with the creative industries. In total, approximately 218.086 employees are working in the creative sector of Berlin and Brandenburg. Unfortunately there is no specific number available for the employment in the creative sector for Berlin only. The sector itself is difficult to define as mentioned in the study by the IHK, which also includes the press and software industries together with the art market and the music industries⁸¹. Yet these numbers do show the significance of the creative scene not only for Berlin's appeal to continuously attract artists and creative folks, but also for its economy.

As for the startup ecosystem, the latter described development of the city was a major factor for the ecosystem to flourish. “Developers and entrepreneurs are also creative folks. In a way, Berlin seems to be attractive to them”, says Christian Nagel from *Earlybird Venture Capital*. This is how he puts the greatest potential of Berlin’s creative scene for startup founders in a nutshell: The mutual inspiration and especially talent that can be found in the city is highly valuable for startup entrepreneurs. Every startup, be it fintech or e-commerce, in addition to a good management team, needs the right professionals to design their apps or photograph their products. The creative scene of Berlin had already matured when the first startup entrepreneurs arrived. It provided them with a strong network and a professional attitude towards their work. Nowadays both scenes are therefore highly intermingled keeping up an atmosphere of “anything is possible” – there is not a better social paradigm to wish for in the eyes of an entrepreneur. “In Berlin there is a high social acceptance for startups, which you cannot find anywhere else”, describes Norbert Kunz of the *Social Impact Lab Berlin* the cultural advantages of the city for startups. Being accepted in most things you do and keeping a high degree of flexibility in work life and private worldviews is an integral part of any creative scene and perfect for a flourishing startup ecosystem.

Startups with a Creative Industry Background

Focusing this study on the Berlin startup ecosystem of course raises the question how startups that are doing business in the German capital are connected to the “traditional” strengths of the city. This requires taking a look at the creative sector. As previously discussed, Berlin is regarded as Europe’s creative hub for the production of contemporary fine art as well as for electro music and clubbing. Due to cheap rents and government support, the city is the primary destination for upcoming artists of different kinds and galleries. Not having the same financial power in the art market as London or Paris, it offers nevertheless one of the biggest primary art markets in Europe. This is reflected in the high number of galleries that can be found in the city.⁸²

Before the startup scene received more attention and started growing in the city, Berlin had mostly been associated with the artistic and creative industries. The creative industries and the startup scene have a lot in common. And they cross-fertilize in an intellectual and creative manner. But are the two scenes also interlinked on a business level? Do they benefit from each other or merely coexist? In order to gain insights into this matter, we evaluated our startup database with the criterion of “affiliation to creative industries”, meaning a representation of fine arts or arts in general (music, film, theatre, opera etc.) within the business model. Grouping Berlin’s startups in this manner, it became evident that only 21 startups fall under the criterion mentioned. That amounts to merely 3.4 percent of the represented number of startups in our database. The number can be regarded from different angles, but nevertheless seems to be quite small. The most prominent startup in this category is *Auctionata*, a renowned

online auction house. It operates in different countries around the world and is challenging the traditional offline auction format. Other startups affiliated with the creative industry are for example *Skoove*, an application to learn piano online or *Gigmit*, an online marketplace for club owners and event managers. They all have in common that they get their business ideas from what people in Berlin, who are influenced by the cultural and creative life in the city, want. And they cater to those demands in an entrepreneurial way.

The different examples show that there is quite a lot of potential to be realized when thinking both scenes together. One would imagine that by now more fruitful links would have been created. The small number of startups with a creative industry focus shows that Berlin's startup scene has not yet realized the full potential of its location. As elaborated in this study, the scene is making good use of the talent provided by the creative industry whereas the mutual inspiration in terms of business models has not been endorsed enough in order to join both scenes and contribute to the growth of both.

Fintech Startups

Fintech has been the latest buzzword in the startup scene, not only in Berlin. Many voices in media and the ecosystem itself label it the “next big thing”.⁸³ In 2015 investments in fintech apparently have doubled compared to 2014.⁸⁴ According to an article in *Forbes Magazine* investments in fintech startups were at 12 billion U.S. dollars worldwide in 2014.⁸⁵ The users of fintech products (meaning mobile banking solutions) globally has supposedly surpassed the mark of one billion, forecasted to reach two billion in 2020. That would amount to 37 percent of the world population.⁸⁶ London was named Europe's most active startup hub regarding fintech, since 68 percent of investments in Europe into fintech startups were raised by London-based startups.⁸⁷ These numbers are impressive and German companies seem to have woken up as well, trying to establish better surroundings for fintech startups. The German stock exchange in Frankfurt (*Deutsche Börse*) just announced that it will be opening a fintech laboratory in Frankfurt to nurture the scene with knowledge, support, contacts and money⁸⁸ and in mid 2015 *Deutsche Bank* did the same in Berlin.⁸⁹ In Berlin the trend also shows with the opening of a fintech incubator in the city.⁹⁰ While conducting our research we also stumbled across several startups being part of the fintech category, with 18 startups associated with this area in our database.

One of the most prominent fintech startups is *number26*, which has received a lot of media attention lately. The startup offers a mobile bank account solution for smartphones. It is connected to a *MasterCard* credit card, which makes keeping track of spending in real time possible. *Bergfürst* offers other interesting business models for example. The startup is aiming at opening the investment market (real estate, companies etc.) to anyone with a minimum of 10 euros of investment capital. *Cringle* offers money transfer to any smartphone number via electronic-cash and *Lendico* connects borrowers and lenders directly. All these

business models have in common either reducing the involvement of traditional banks to a minimum or cutting them out of the transaction process completely. This of course can be viewed as a great threat to traditional banking models. However, if fintech startups and the “old” banking sector are going to establish possibilities for cooperation between each other instead of persisting with fierce competition, much more innovation will be possible on both sides. The main reason for this is that the traditional banking sector holds a lot of knowledge and of course money, but also has the right political connections in order to create an appropriate policy environment for fintech to flourish.

Berlin in Comparison with Munich and other Startup Hubs

Munich is often called the “most northern city of Italy” due to its high quality of living. At the southern tip of Germany, it is only a two and a half hour drive to Italy, even less to Austria. Bavaria’s economy is the second largest in of all German states⁹¹ and contributes approximately 18 percent to the overall GDP of Germany,⁹² which is adding to the attractiveness of Munich’s high quality of living.⁹³ This means that Munich is offering a good environment for a well functioning startup ecosystem. The local startup web-portal *munich-startup.de* has 244 startups in its database within the city (without defining the term) and its close surroundings.⁹⁴ The US-American startup platform *AngelList* however has 423 registered startups in its database⁹⁵ (1.504⁹⁶ being in Berlin). The German online startup news website *Gründerszene* offers 201 registered startups on its website in Munich.⁹⁷ It becomes apparent that again the regular estimates of startups in a city vary greatly. According to the figures in this study, when taking the average number of startups of those numbers stated for Munich, it amounts still less than half of the number of startups located in Berlin.

From a VC perspective, Munich’s startup scene can look back at 206 million euros invested in 2015. Berlin was able to attract 2.1 billion euros in 2015.⁹⁸ One needs to take into account, however, that the largest amounts in Berlin were allocated to just a few startups. From these two perspectives it seems of course that Berlin is a long way ahead of the Bavarian capital. Looking at the average valuation of startups in Munich however, the opposite seems to be true. On average, Munich’s startups are valued at 5 million euros, according to *AngelList*. Berlin’s startups “only” reach an average valuation of 3.5 million.⁹⁹ Munich’s ecosystem is unique because of the special environment it offers. One of its highly valuable assets is the high representation of corporates in the city. With 13 DAX, MDAX and TechDax companies with a total stock value of 330 billion euros Munich is the leader in Germany.¹⁰⁰ According to *munich-startup.de* many of them are seeking close ties to the startup scene in Munich, as the example of *Siemens* shows in 2015.¹⁰¹ The so called Old Economy is seeking innovation potential through partnering up with startups. The latter benefit from a great pool of knowledge offered by the corporates, their capital and of course their established consumer networks.

A recent study by the consulting firm *Deloitte* assessed the situation in Munich in a similar way. The company ranks Munich highest in Germany from a digital competitiveness point of view. This means Munich is the best prepared city for a digital future, especially concerning human capital, according to *Deloitte*.¹⁰² The city offers the highest number of academics in Germany and a high specialization within the information and communication technology sector.¹⁰³ The number of employees in this sector grew approximately 34 percent between 2009 and 2014, which shows high dynamics in this market. Additionally there is the highest density of IT experts within Germany (6.4 percent of all IT experts in Germany work in the city). *Deloitte's* argument is backed by different networks of experts evolving around digitalism and their influence on the economy and society. The most renowned of this kind is probably the *Münchener Kreis*, a platform for stakeholders and decision makers in the digital transformation.¹⁰⁴ It is said that on an academic level, digital transformation is also a highly debated topic in Munich's startup society. Taking this analysis into account, Munich seems to offer great future potential for tech startups. Even though living expenses are amongst the highest in Germany,¹⁰⁵ the talent residing in the city should be worth paying higher wages.

Equally, Munich has much to offer when it comes to networking events. Most renowned is the 3-day conference *Bits & Pretzels*. The founders festival takes place at the same time as Munich's famous *Oktoberfest*, bringing together the international startup scene. In 2015, 3.600 founders, investors, consultants and companies turned up, held debates and made connections. It is one of the most prominent startup conventions in the country¹⁰⁶. Munich also offers considerable business exits, last year the former startup *Pay.On* was sold to *ACI Worldwide* for 200 million US dollars.¹⁰⁷

Hamburg – the media city

Hamburg is one of the top three most active startup ecosystems in Germany. The number of startups in the city and its close surroundings are again difficult to determine: *AngelList* has 261 companies in their database¹⁰⁸, the *Hamburg Startup Monitor* identifies nearly double that number of startups¹⁰⁹ in the city, i. e. 465. *Gründerszene* lists 173 startups in their database.¹¹⁰ Taking the average of those three estimates, the number lies slightly above that of Munich. A similar picture emerges from a VC perspective. In 2015 Hamburg's startups were able to attract 296 million euros to fund their ventures. That amounts to 90 million euros more than Munich, but is still a long way below Berlin. Sticking only to these numbers though in order to describe Hamburg's startup ecosystem would be neglecting the actual assets it has to offer.

Hamburg is the one of the most important media cities in Germany. Many big newspapers, such as *Zeit* or the *Spiegel* have their headquarters in the city. Media is one of Hamburg's specialities and it seems to have repercussions on the startup scene. *dpa*, the German press agency (*Deutsche Presse-Agentur*) just opened its

own office in the city to facilitate the catching up the digital revolution of the media industry.¹¹¹ Another big player in the media field connecting to Hamburg's startups is the publishing company *Gruner + Jahr*. In 2015 they set up an investment fund of 50 million euros to invest in media affiliated startups.¹¹²

A similar connection seems to exist between Hamburg's founders and the local government. Both ruling parties want to increase government's support for startups in their growing phase post early stage funding. The fund will operate with 100 million euros of which the government will contribute 10 percent, the rest will be given by private investors.¹¹³ This impression is being supported by the results of the *Deutsche Startup Monitor 2015*. Hamburg's founders awarded their local government a score of 3.3 (on a scale of 1 to 6, with 1 being the best) Berlin and Munich received lower scores.¹¹⁴ Equally important as an asset for its startup scene seems to be the high number of traditionally wealthy family businesses in the city. Compared to its size, Hamburg has one of the highest numbers of billionaires in Germany.¹¹⁵ Nevertheless it is still difficult for founders to tap into Hamburg's local wealth. Hamburg has the lowest percentage of German VC invested compared to other German startup hubs.¹¹⁶ But the immense funding potential should not be ignored.

The *Deloitte* study also has a favorable opinion regarding for Hamburg's digital competitiveness. The city is ranked third after Berlin and has a convincing presence with its high number of information and communication technology sector companies. Additionally Deloitte lists the city as a top performer in terms of e-commerce and draws a colorful picture for the future human resource market: Hamburg is supposed to be the most attractive city in Germany for future high-potential employees. Many students want to work in the Hanseatic city after graduating from university.¹¹⁷ Moreover, Ragnar Kruse, CEO of the Hamburg based mobile phone advertising company *Smaato* sees the education of IT-specialists as one of the greatest asset of Hamburg. According to his analysis of the city in an interview with *Die Welt*, he believes IT education in Hamburg to be state-of-the-art, and at least on par with Silicon Valley. Additionally, the high loyalty of employees to their company is of great value, Mr Kruse says.¹¹⁸

The latter issue also needs to be addressed when talking about Hamburg's startup scene: the work ethic and culture. In 2014, *Die Zeit* wrote, Hamburg is less sexy than Berlin, but profitable. The startup scene is apparently not so much focused on spectacular exits with a lot of media attention, but rather on business models that are profitable in the short term.¹¹⁹ The same year, the *dsm 2014* showed that Hamburg is only just behind Munich and only slightly ahead of Berlin (0.2 percent) when considering the percentage of startups generating no turnovers.¹²⁰ Here, the desire for profitability is a higher priority, but is not backed by numbers. The missing media attention might result from the tendency of Hanseatic founders to put an emphasis on the "business-to-business" market (B2B).¹²¹ Hamburg ranks right after Munich when it comes to the highest percentage of B2B business models, according to *dsm 2015*. Startups such as *Jimdo* or *Metrico*

with a marketing and data analysis focus are apparently typical for Hamburg's startup ecosystem. Also in absolute numbers, B2B seems to be the preferred option in Hamburg's startup scene. According to the *Hamburg Startup Monitor* from 2015, 83 out of 206 respondent startups focus on B2B as their target group, which is the highest number in the category target groups.¹²²

Comparison to Startup Hubs around the World

The *Global Startup Ecosystem Report* by the research group *Compass* offers an overview of the international frameworks and locational factors of business formations. The study is based on an analysis of more than 35,000 startups worldwide. The report not only includes traditional business data of startups from 40 different ecosystems, but also results from more than 11,000 interviews conducted. On top of that the researchers took into account various online databases.¹²³ By means of various indices, the study establishes a rating of 20 startup ecosystems. The report argues that Silicon Valley remains the biggest and most influential startup region in the world, however, other startup ecosystems are catching up.

In the global ranking, Berlin ranks ninth out of 20 in 2015. Since 2012 the city made a great leap from being listed 15th. The report recognizes Berlin's development from a "local powerhouse to a global player" within the international startup scene.¹²⁴ This description is backed by the growth index of the study: Berlin receives the highest ranking of ten in this category topping all other startup systems. The growth index measures the growth potential of an ecosystem by taking into account the annual number of startups, the growth rate of VC investments and the growth rate of the sum of exits. Researchers connect Berlin's leap to an „explosion of exits and VC investment".¹²⁵ London and Tel Aviv, the two direct European competitors of the German capital, are listed with 3.3 (London) and 2.9 (Tel Aviv).¹²⁶ Besides the growth index, the *Ecosystem Report* suggests five additional indices that each depends on various factors. In the following, we will elaborate on three of the indices. Generally successful startup ecosystems are ranked highest in the Performance and the Funding Index.¹²⁷ Additionally we will take a look at the Talent Index since it offers a well suited view on to the dynamics between London, Tel Aviv and Berlin. Berlin ranks in the middle field concerning its performance. With rank seven and an estimated ecosystem value of 24.7-30.2 billion US dollars¹²⁸ it ranks two spots behind London (fifth) and one spot behind Tel Aviv (sixth).¹²⁹

As for the other indices, Berlin holds a comfortable middle position, keeping a relatively constant distance to London. Tel Aviv is widening the range between the two cities in the categories funding and talent. Regarding the Funding Index, the implication is that Tel Aviv ranks first of the three with a grade of five, Berlin second with eight and London last with the number ten. As for a general comparison in invested venture capital, in 2015 Tel Aviv left the other two cities far behind.¹³⁰ Startups of the ecosystem raised about 3.2 billion euros¹³¹ and are

strengthening their position as the most dynamic startup ecosystem in Europe. Berlin attracted 2.1 billion euros of investments as opposed to London with 1.7 billion,¹³² which is a massive increase in VC investments over the last year. In 2014 Berlin only attracted 891 million euros.

The results of the talent category are slightly unexpected. Tel Aviv receives a three, London a seven and Berlin an eight. The unexpected results are in the detail of the index. The average salaries for software engineers, which partly make up this category do not show significant differences regardless of the immensely different costs of living in each of the cities and the different funding situations. London startups, with the highest living costs in Europe,¹³³ pay only 3,000 US dollars more per year than in Berlin and 2,000 more than in Tel Aviv. In terms of internationality (also constituting the Talent Index) Berlin is closely on track behind London (53 percent) with 49 percent of its employees coming from foreign countries. This time Tel Aviv is coming in last (27 percent). Christian Nagel from *Earlybird Venture Capital* assesses this factor as a valuable asset of Berlin, since it helps the city to build good talent in executing business models on an international basis.

Where does the journey lead to?

Compared to other startup hubs Berlin has made rapid progress in recent years. The prospects for the startup scene are excellent. If the development will continue like this, the Berlin startups will be the city's largest employer within the next two years. The young companies of the digital economy are changing Berlin. The question remains, in what direction. We will continue to follow further developments closely. Thank you for your interest!

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Design: Heimann und Schwantes, Berlin

Logo IFSE: Adrian Krell, Berlin

Foto Hergen Wöbken: Christine Lutz, Hamburg