

European Startup Monitor

2015



Initiator

German Startups Association

Authors

Prof. Dr. Tobias Kollmann, Dr. Christoph Stöckmann,
Jana Linstaedt, Julia Kensbock – University of Duisburg-Essen,
Department of Economics and Business Administration,
E-Business and E-Entrepreneurship Research Group

Technical Execution

Julian Bühler – ESCP Europe

Art Direction & Design

Björn Matthes (www.araproject.de), Judith Hettlage (www.judithhettlage.com)
Björn Wiegmann (www.wiegmann-design.de)

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Greetings from the European Commissioner for Digital Economy and Society



We are all looking to Silicon Valley, to its vibrant startup scene. No doubt, Silicon Valley is unique: But we can do a lot to push Europe's ecosystem. First of all, we need to be supported by the right policies - the Digital Single Market is needed for them to grow and scale, and the environment should welcome failure as a learning experience. Our legal regimes should be streamlined and simpler to navigate for our startups. Hiring talent from all over the EU should be simpler, as should getting access to finance. Policies should be focused on achieving measurable results, and decisions made simpler to take by access to quality information and data. If you can't measure it, you can't manage or understand it. We all realise the potential of startups, their significance to the economy and their role in education. It is very rewarding to see young people take the risk of starting their own company and learn so much about business processes. Our continent becomes closer knit together when people from different countries collaborate around creative ideas. However, we need to focus on the impact of startups, to make sure we stay on the right

track. We should not be carried away by a general feeling that startups are good, but be able to demonstrate how they are good and what they have achieved. In an increasingly connected economy, we also need to be able to connect initiatives – with people, with technologies, with regions and with the development of the industry. Without having concrete indexes based on which real decisions can be taken, we run the risk taking the wrong turns. Toward this end, it is a pleasure to welcome the European Startup Monitor. It is an effort toward reaching concrete goals, while at the same time acting as a motivation for people who want to build their own future and an excellent example for cooperation between European startup-ecosystems.

Günther H. Oettinger – European Commissioner
for Digital Economy and Society



Overview

The European Startup Monitor (ESM) represents more than 2,300 startups with more than 31,000 employees in all 28 European (13 in-depth analysis) member states and further important countries.

Startups are defined by 3 characteristics: Startups are younger than 10 years. Startups feature (highly) innovative technologies and/or business models. Startups have or strive for a significant employee and/or sales growth (definition of startups, p. 15).

Objectives of the 1st ESM: To present the development and significance of startups and to understand European founders. To identify and compare country-specific and common challenges that startup ecosystems face in Europe. To foster communication between European entrepreneurs.

Facts from the 1st ESM

European startups are job engines

European startups create on average 12.9 jobs (incl. founder/s) after 2.5 years. Moreover, the average startup plans to add 6.8 more jobs within the next 12 months.

Focus on high-tech

Most startups in the European Startup Monitor form part of the digital economy.

Startups are innovation drivers

Almost 2/3 of the startups in the European Startup Monitor rate their products and/or services as novel across the European or global market.

Startups are founded in teams

Most European founders are between 25 – 34 years old. 14.7 % of the startup founders in the ESM are female.

International markets

More than half of all startups already serve international markets, with 8 out of 10 startups planning further internationalisation in the next 12 months.

European startups are international

11.9 % of startup founders and 31.6 % of their employees are from countries other than the location of the startup.

ESM startups have raised € 2.5 million

ESM startups have raised on average € 2.5 million in external capital. As part of the growth process, startups plan to raise an additional € 3.3 million in external capital on average.

Satisfied & Positive atmosphere

More than 90 % of startup founders are satisfied with their present business situation: 72 % assume positive business development over the next 6 months.

Important challenges

Sales/customer acquisition, raising capital and product development are the most

important current challenges for European startups.

Bureaucracy & regulations

Political expectations: European founders hope for more financial support and improvements in political regulations and bureaucracy.

Room for improvement

The European startup environment is rated as satisfying, but there is room for improvement and there are significant differences between countries.

Introducing 8 European startup ecosystems

mature SME market and many corporate headquarters reside in Brussels. Most other startup hubs are 3 hours' travel distance away, so Belgium is considered the hotspot from which to conquer Europe.

Karen Boers

CEO Startups.be

Austria

Austria has a vibrant and fast growing startup scene. Many co-working spaces and networking events are the perfect opportunity to find the right team. The state provides excellent financial support for startups & young entrepreneurs and offers its comprehensive services in 15 languages. Vienna with its own startup festival (Pioneers Festival) is becoming a magnet for talent. The infrastructure for startup founders is a perfect combination of internationality and affordable living. Recent exits and the new VC Speedinvest show that startups can find the right investors in town.

Christoph Jeschke

Co-Founder Austrian Startups

Belgium

Belgium offers a high density of skilled entrepreneurs and business people in areas such as healthcare, media, fintech, IT as well as creative industries and fashion tech. A wide variety of experienced mentors and business angels are contributing to a fast growing and maturing startup ecosystem and entrepreneurs have found a common voice through Startups.be. Startup.be has mapped out 1,400 startups and scaleups, with Sirris, a local research centre. This is an estimated 40 % of all startups in Belgium. The country offers an excellent test market for multi-language and multi-stakeholder businesses, a

Germany

Germany is an economy in which the “mittelstand” has a longstanding tradition and an important meaning, especially in engineering and technology. Furthermore, the German startup scene is full of potential, creating highly qualified and forward-looking jobs, driving innovation and growth across large sections of the German economy. In the face of the digital transformation, the information and communication technologies (ICT) sector is gaining more importance in the light of digital transformation. This trend is reflected in the high percentage of startups with

innovative business models in the digital economy. Against this background, a Young Digital Economy Advisory Board was established as part of the Digital Economy Action Programme to strengthen the young digital economy in Germany. The number of startup foundations has also grown over the last two years. This was a positive trend reversal after decreasing or stagnating startup activities following a boom period in the job market around 2005/2006 (*Metzger 2015*). The German startup scene is located primarily in Berlin, Munich, the metropolitan region Rhein-Ruhr, Hamburg and Stuttgart/Karlsruhe (*Ripsas & Tröger 2015*).

Prof. Dr. Tobias Kollmann

Young Digital Economy
Advisory Board

Israel

Israel is well known as “The Startup Nation” with over 4,000 startups operating mainly

in an increasingly maturing startup ecosystem developing around Tel Aviv and Jerusalem. Israel is ranked 1st in the world for innovative capacity in 2014 by the IMD Global Competitiveness Yearbook. In 2014, a banner year Israel broke all records: over 70 public issues of Israeli companies for the total amount of 15 billion US dollars. The data shows that Israeli startups are being acquired faster than any other startups, and the average time between startup and acquisition stands at 3.95 years. Furthermore, Israel is a highly rated country in being trusted by investors, second only to the United States. On a per capita basis, the Israeli high-tech and venture capital sectors were larger than in any other country in the world. What’s even more surprising, is that the Israeli high-tech startup exit amounts increased by 980% over the past five years to a record of \$9.2 billion in 2014 (*like Mobileye, Viber and Waze are examples of recent*

record exits). Israel’s ecosystem consists of smart, eager, tech savvy, native speakers of a variety of languages including Spanish, Portuguese, French, German, Italian, and Russian, are always around.

Noam Band

CEO Algomizer

Italy

Italy is an increasingly maturing startup ecosystem developing around the city hubs of Rome and Milan. Abundant talent and energy in the startup pipelines, flowing from the Italians’ innate creativity as well as the financial crisis are the main entrepreneurship behaviour changers. The youth need help and education on what a startup is and how the venture business works. A public registry of 4,000+ startups includes hundreds of agencies, consultancy firms and local SMBs. Recent directives from the Bank of Italy cancelled many

syndications and investment clubs who were covering the seed stage equity offering. Issues are over-regulation, excess incubators, lack of accelerators, lack of VC operators, while research spin-offs are struggling to use their grants productively. Talented resources are competitively priced, quality of life is excellent and Italy leads well in several markets, but there is room for more innovation. Returning entrepreneurs can increase international practices and help the ecosystem mature.

Gianmarco Carnovale

President Roma Startup

Netherlands

The Netherlands is a small country with big tech footprint. It all happens in 10+ innovation hubs that are 90 minutes apart, giving entrepreneurs access to one of the most highly educated, flexible and motivated workforces in Europe. The Dutch startup ecosystem

has more than 2,600 tech startups and with more than 44 accelerators the Netherlands has a unique proposition as a ‘testbed’ and ‘launch pad’ for international startups and scale ups. In this testbed a startup can find his problem solution fit and test how well their product lands with its future customer base. The Ecosystem’s success stories include a Startupbootcamp, which is a global accelerator program now operating in more than ten countries, and the first Dutch tech unicorn called Adyen. Moreover, in 2015, Dutch startups raised 430 million euro with a number of 150 deals, and an average deal size of 2.85 million euro, placing the Netherlands at the third rank of the total amount of VC deals in Europe. To further enhance the ecosystem’s global impact the Dutch government launched the StartupDelta initiative, which is assigned to tackle challenges that hinder growth for startups and create favorable regulations. StartupDelta, led by Special Envoy Ms. Neelie Kroes,

former European Commission Vice-President for the Digital Agenda, closely collaborates with the 10+ tech hubs to make the Netherlands one of the top three most attractive startups ecosystems in Europe in one and a half year time.

Sigrid Johannisse

Director Startup Delta

Spain

Due to the crisis and the high rate of unemployment (*50 % for young people*), between 2012 and 2013 the term „entrepreneur“ became trendy in Spain. A country where until then the most preferred professional career was public worker, suddenly was full with inexperienced founders. This attracted to the growing ecosystem good people without much experience but willing to put a lot of effort promoting initiatives that could help improve the sharing of knowledge, and opportunistic people trying to take advantage of these new

founders. In 2014 and 2015 the situation started to improve very fast, in part because founders were gaining first hand experience, and because some startups found the winning formula of finding investment and clients outside Spain but keep the development team there, where the quality of living is high and the cost of living is low. An increasing number of Spanish talent that had been working on startups outside Spain for a few years, started to come back, bringing with them their expertise and the contacts. One of the main challenges for startups in Spain are personal relations and family connections, making newcomers in disadvantage regardless of the quality of their product or service.

Carmen Bermejo

CEO Spanish Startup Association

Sweden

Sweden is a mature ecosystem with hubs such as Stockholm, Gothenburg, and Malmö.

Stockholm, having produced six unicorns to date, is the second most prolific tech hub globally - beaten only by Silicon Valley. Successful entrepreneurs are re-investing time and money into the many exciting startups in various phases and the community is a vivid, tight-knit one. Entrepreneurs and other stakeholders share knowledge and experience through several different initiatives, like recurring events and natural meeting places. The pros of the Swedish ecosystem is that it is easy to start a company, capital is ready and available with Angels and VCs congregating, the country is filled with early adopters and we have the fourth highest internet rate in the world (*94 % use the internet*). We have top notch programmers at good prices and the flat organisations encourage innovation and creativity in the workplace. The cons are that, especially in Stockholm, it is tough to find accommodation. The taxes are high and there is also a funding gap between

seed and series A. The limited communication between different startup support organisations means there are many silos and not enough coherence in the ecosystem.

Nils-Erik Jansson

Co-Founder Swedish
Startup Association

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Motivation

The European ecosystem as a location for startups

Startups are important drivers of the European economy. By creating new ventures, entrepreneurs generate new wealth, add products or services to the market and create jobs.

In the worldwide comparison however, Europe is lagging behind the global pace in terms of new business creation: Compared to Asia or North America, where early-stage entrepreneurs make up around 13 % of the adult population, in the European Union only 7,8 % of adults pursue early-stage entrepreneurial activities (*Global Entrepreneurship Monitor 2014*). Moreover, according to a 2012 issue of *The Economist*, European founders still focus very much on small businesses built primarily to ensure the livelihood of their founders (“corner shops, hairdressers and so on”).

In order to keep up with globalised markets however, Europe must foster innovative startups that positively contribute to European economies by creating products, services and jobs. The European Startup Monitor (*ESM*) 2015

examines European startups that pursue innovative business models. It evaluates entrepreneurial activities, motives and attitudes of entrepreneurs across European and other countries relevant to the European ecosystem and startup landscape.

The ESM explores the role of startups, their growth throughout Europe and national characteristics that influence entrepreneurial activities.

The goals of the ESM are to assess the current situation of startups throughout Europe and selected countries, to identify country-specific differences and common challenges. It also explores the future of European startups by noting current trends and developments in the European startup ecosystem.

Overall, the ESM aims to identify factors that are crucial to fostering entrepreneurial activities throughout the European startup ecosystem. The study may also encourage communication between European entrepreneurs.

Definition

Building a startup is a special form of business. According to well-known Silicon Valley serial entrepreneur Steve Blank, a startup is “an organisation built to search for a repeatable and scalable business model”.

Based on this concept, the European Startup Monitor only selected businesses with the following features to participate:

- 1. Startups younger than 10 years**
- 2. Startups that feature (*highly*) innovative technologies and/or business models**
- 3. Startups that have or strive for a significant employee and/or sales growth**

A venture qualifies as a startup for the ESM when the first point of definition above is met, along with one or both of the other two definition points. The ESM's definition differentiates startups from conventional businesses and SMEs that do not

promote innovative products or services, or exist primarily to secure the livelihood of founders, without a growth perspective (*hairdresser example*). In contrast to such “mice companies” that are started to generate income but without ambition to grow, the ESM conceives startups as “gazelle companies”, meaning growing young ventures that are built to create wealth (*Aronsson 2004*).

So far, the startup concept is most often used when talking about businesses in the digital economy (*as they make up the majority of startups*), but there are also other industries in which startups flourish, such as medical technology or education. All of these kinds of startups are taken into consideration in the ESM 2015.

The ESM provides a full-scale picture of the promising and high-potential new ventures in Europe that are built to achieve growth and drive innovation in the following years.

Academic framework

The academic framework of the ESM focuses on established approaches to research on entrepreneurial ecosystems and is based on the Babson Entrepreneurship Ecosystem Project (*BEEP*) by Daniel Isenberg (*Isenberg 2010/2011*). Entrepreneurship ecosystems are characterised by several impact factors on startup activities. These include (FIGURE 1):

Policy – Government, regulatory framework, etc.

Finance – Financial capital in general, venture capital, etc.

Culture – Societal norms, acceptance, etc.

Support – Financial support, advisory support, etc.

Human capital – Employment, professional training, educational institutions, etc.

Markets – Customers, market perspectives, etc.

The ESM report evaluates the European startup ecosystem with recourse to these central factors. The six impact factors on startup activities and the sections in which these issues are addressed in this ESM report are displayed in Figure 1.

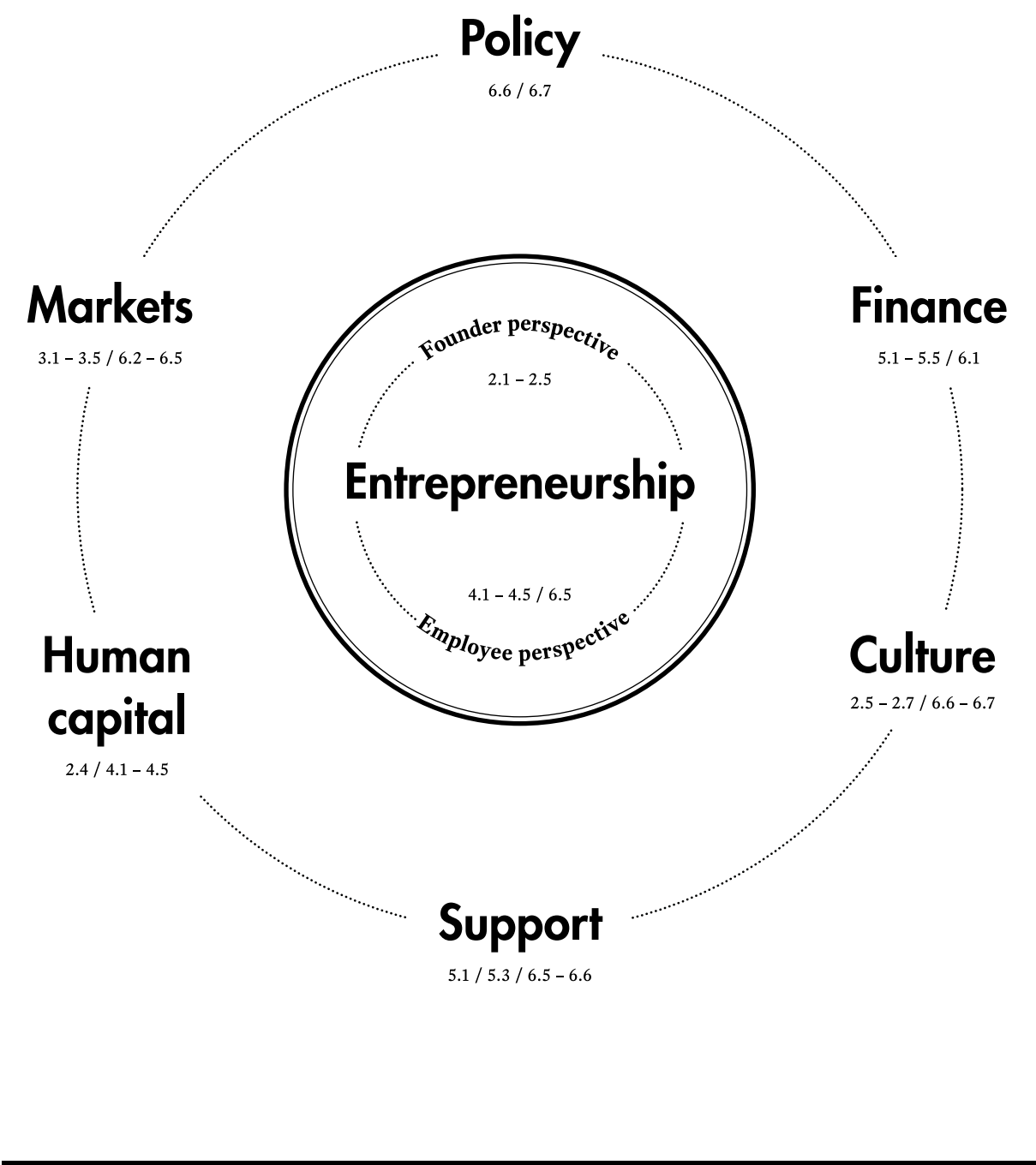


FIGURE 1. Academic framework

I. Basic characteristics of European startups

Location of startups: The European Startup Monitor encompasses data from 2,365 startups from all 28 European member states and further important countries in the European startup ecosystem (e.g. Israel). The map (FIGURE 2) shows all participating countries (*light shading*) and all countries for which we are able to make detailed statements due to a sufficiently large sample of startups (*dark shading*). The 13 major countries that are analysed in more detail in this report include Austria, Belgium, the Czech Republic, France, Germany, Israel, Italy, the Netherlands, Poland, Romania, Spain, Sweden and the United Kingdom^{1,2}. The highest number of participating startups is located in Germany. Major regional hotspots represented in the ESM are Berlin, London, Paris and Tel Aviv.

● major ESM hotspots

ESM countries analysed in detail:

Austria
Belgium
Czech Republic
France
Germany
Israel
Italy
Netherlands
Poland
Romania
Spain
Sweden
United Kingdom

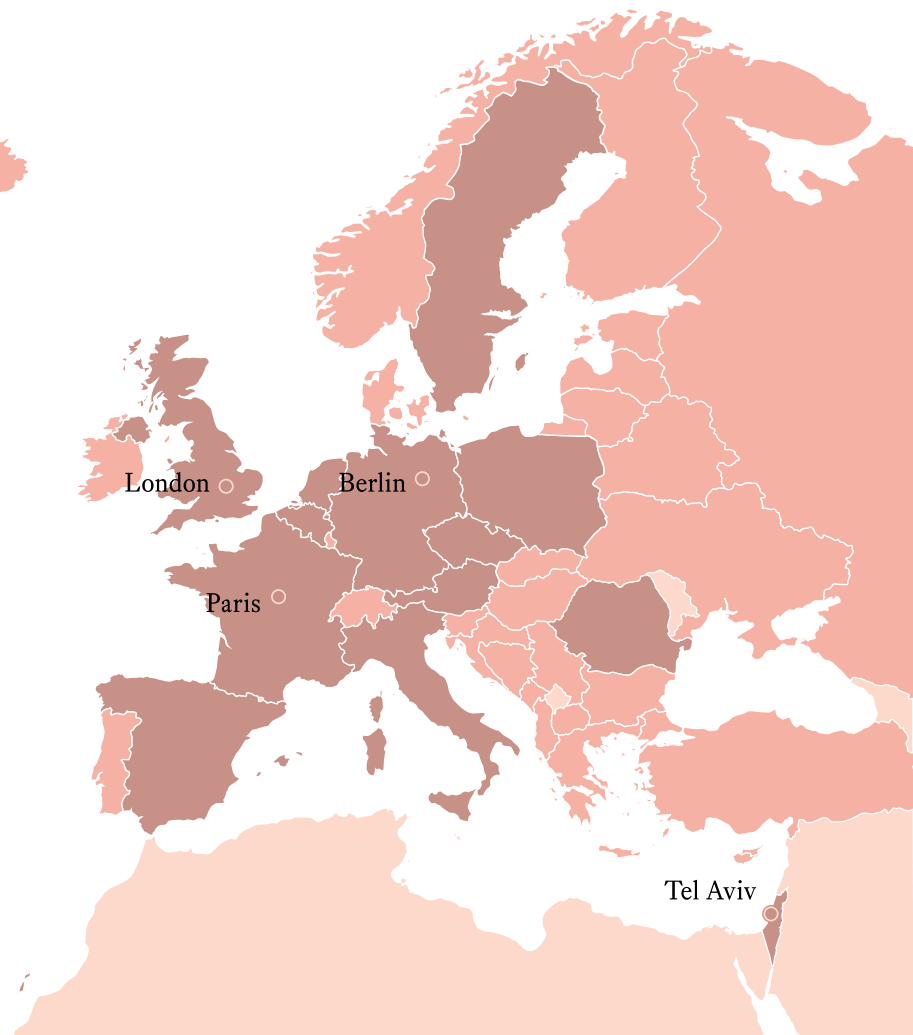


FIGURE 2. The European ecosystem / Countries analysed in the ESM 2015

Startups are on average 2.5 years old

The participating startups that were analysed were on average 2.5 years old (FIGURE 3). The startups that reflected the highest age on average were located in Sweden (5.3 years), followed by Spain (3.8 years) and Belgium (3.7 years). The youngest ventures were located in Romania (1.3 years) and Italy (1.7 years).

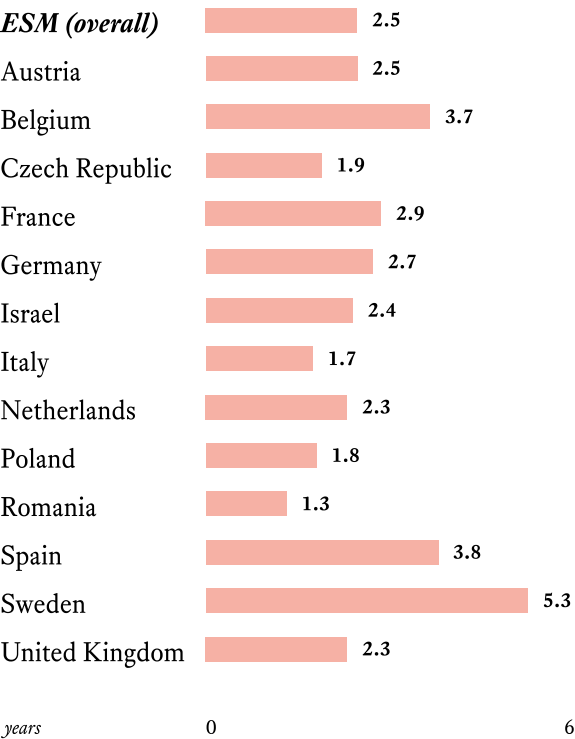


FIGURE 3. Average age of startups (ESM countries) ³

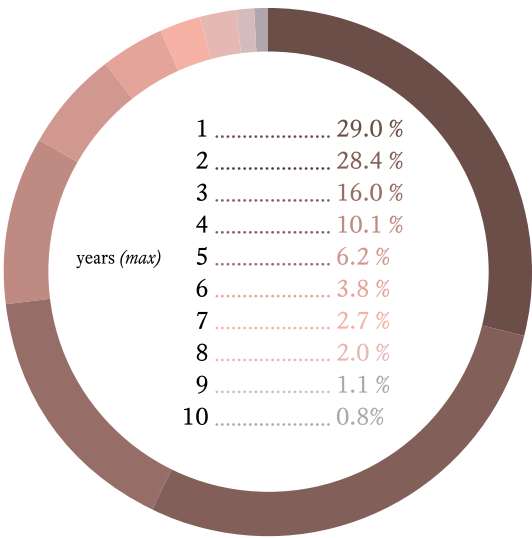


FIGURE 4. Age ranges of startups (ESM overall)

Of the responding founders, 29.0 % stated that their European venture was not more than a year old. Almost three-quarters (73.4 %) of the founders reported that their startup was no more than three years old. Most of the startups (83.5 %) were no more than four years old (FIGURE 4).

There was a noticeable predominance of young startups no more than a year old in the southern ESM countries (Spain: 49.5 %, Italy: 43.7 % and Israel: 32.5 %). We observe many of these very young startups in rather small economies as well (Israel: 32.5 %; Czech Republic: 39.3 %; Romania: 36.7 %).

Most ESM start- ups are in the *startup stage*

Developmental stages: The model applied in the ESM comprises five stages (*Ripsas & Tröger 2015*). As demonstrated (FIGURE 5), 21.2 % of the ESM startups are in the seed stage, in which founders are still developing their business idea and have not yet generated any revenue.

Most of the startups (48.5 %) are in the startup stage and have succeeded in generating revenue. The third strongest category comprises startups in the growth stage (23.9 %), where they have reached market maturity and robust user and revenue growth.

Only 1.6 % of the startups are in the later stage, established in the market and likely to seek further growth through a trade sale or an IPO. Lastly, 3.0 % of the study participants responded that their startup has already reached the steady stage.

It is noticeable that Romanian (50.5 %) and Israeli (43.4 %) startups have predominantly stated that they are at the seed stage. Israel also features a relatively high number of startups in the later stage (6.6 %). Overall, startups in the ESM all follow the same trend.



FIGURE 5. Current developmental stages of startups (ESM overall)



II. Founders and teams

14.7% of the startup founders in the ESM are female

85.3 % of the European startup founders are male, while 14.7 % are female. Considerable differences between countries (FIGURE 6) can be observed. The countries indicating the highest percentage of female founders are Sweden (33.3 %) and Romania (28.1 %). The ESM sample did not include any female founders (0.0 %) for the Czech Republic.

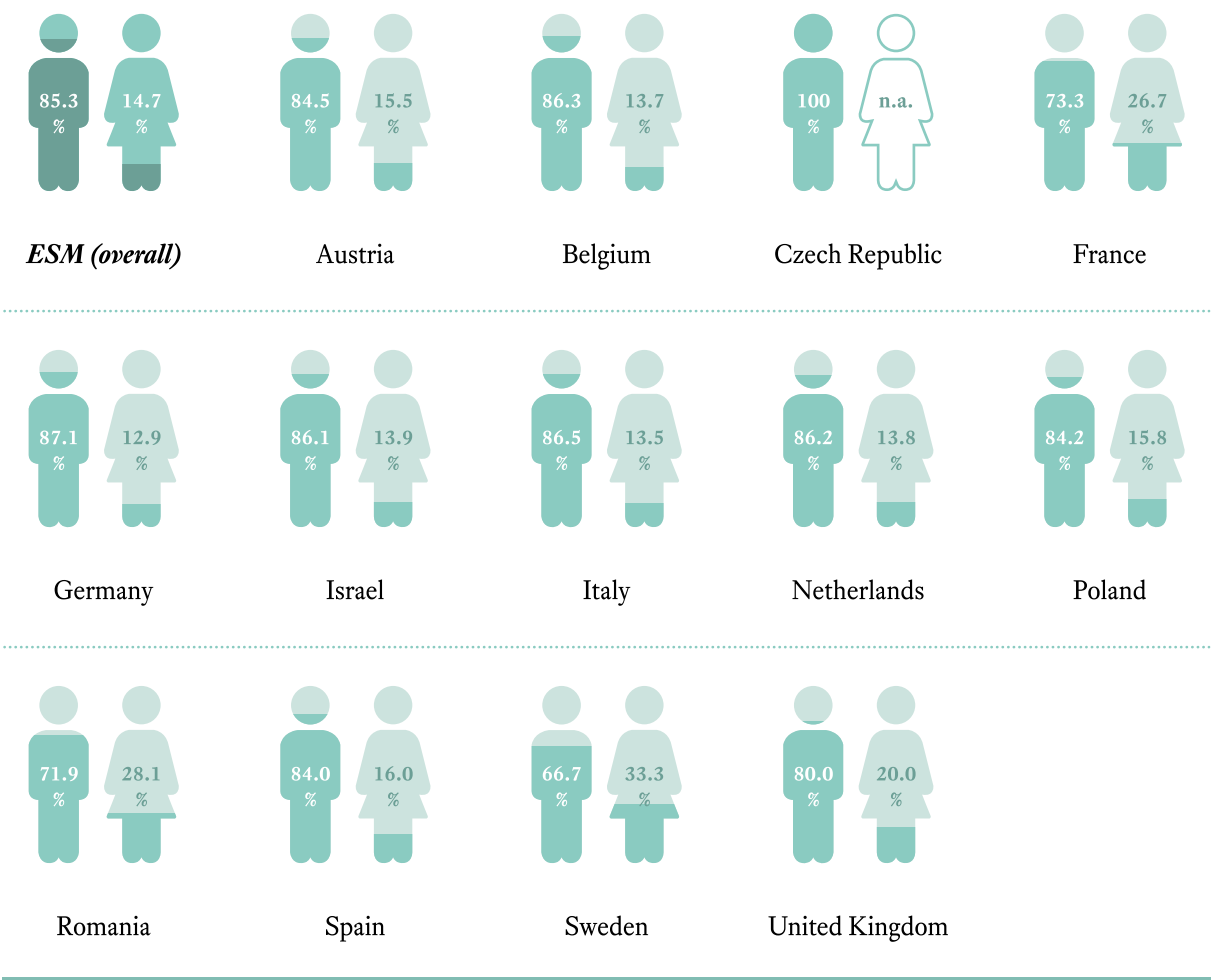


FIGURE 6. Gender of founders (ESM countries)

Most European founders are between 25 and 34 years old

The founders responding to the survey were on average 34.6 years old, with 14.3 % of the founders older than 45 years (FIGURE 7). ESM countries with a comparably high percentage of very young founders (< 24 years) are Belgium (17.6 %), the United Kingdom (15.0 %) and Italy (12.9 %). Individuals between 25 and 34 years often build startups in eastern ESM

countries such as Romania (68.8 %) and Poland (64.1 %). Countries in which comparably many individuals decide to start a business in their advanced adult age (35–54 years) are Sweden (60.6 %), the Czech Republic (50.0 %) and Spain (46.8 %). ESM countries with the highest percentage of founders in the oldest age category (> 55 years) are Israel (16.9 %) and Sweden (12.1 %).

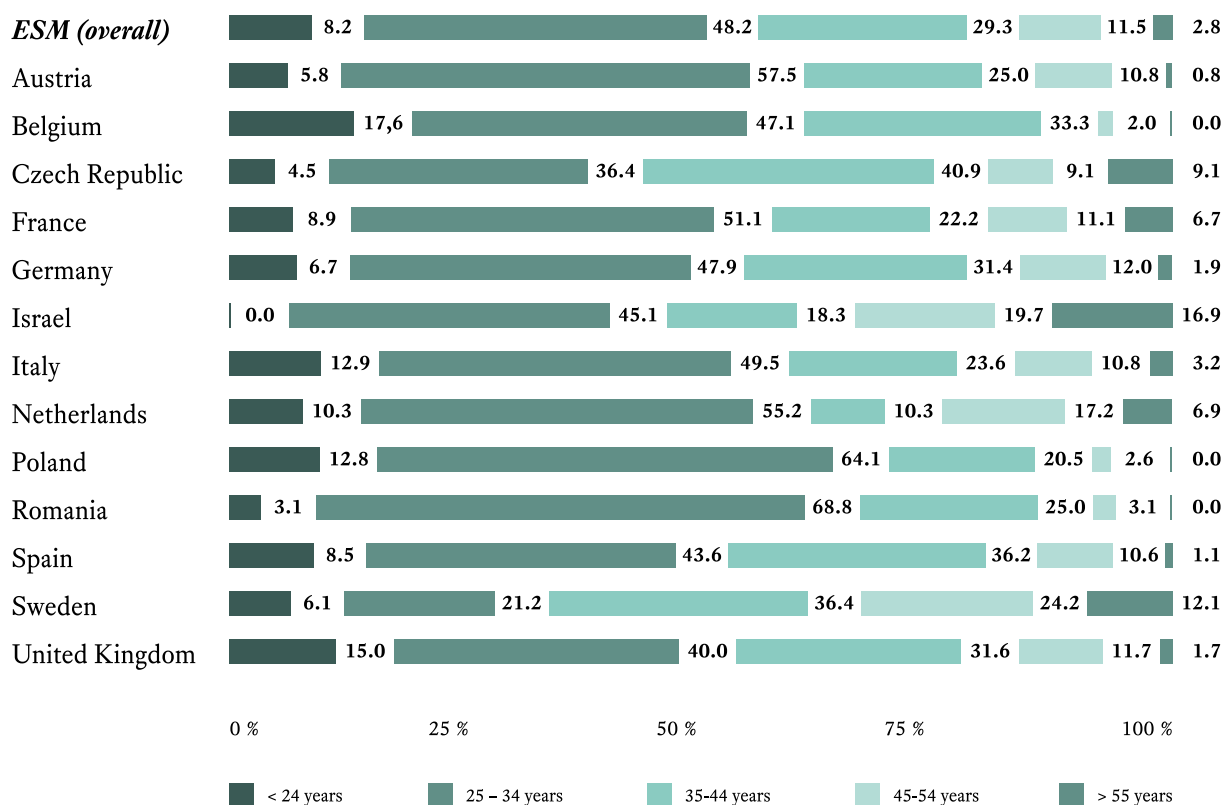


FIGURE 7. Age ranges (ESM countries)

Most of the European founders come from their country of residence (88.1 %), while 7.6 % of the founders come from other European countries and 4.3 % come from non-European countries. There are differences between gender with respect to origin. While 89.4 % of the male founders come from their country of residence, 83.8 % of the female founders are citizens of the country their startup is located in. Compared to only 6.7 % of the male founders, 10.8 % of the female founders come from other European

Most startups are *founded by residents*, but there is a significant influence of founders from different EU and non-EU countries

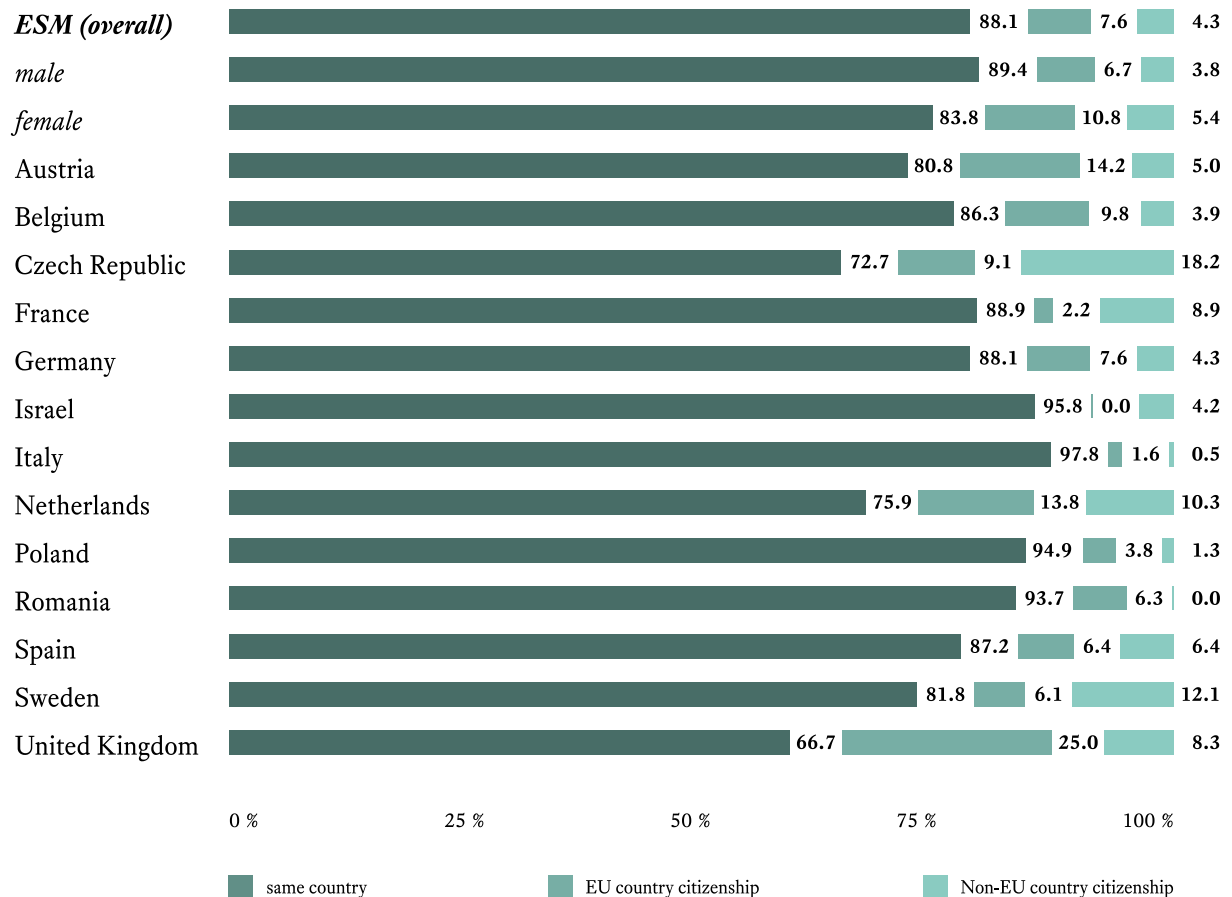


FIGURE 8. Citizenship and gender (ESM countries)

countries. Compared to 3.8 % of the male founders, 5.4 % of the female founders come from non-EU countries (FIGURE 8). The northern ESM countries feature a relatively high rate of founders from non-EU countries (*United Kingdom: 8.3 %; Netherlands: 10.3 %; Sweden: 12.1 %*). Among these countries, the United Kingdom and the Netherlands comprise a relatively high rate of founders from other EU countries (*25.0 % and 13.8 % respectively*). In contrast, two southern ESM countries indicate the highest rate of founder from the same country of residence (*Israel: 95.8 %; Italy: 97. 8%*).

The majority of startups are *founded in teams*

Most (79.1 %) of the founders responded that they started their venture as part of a team. Only 20.9 % stated that they founded their startup on their own (FIGURE 9). While founders from northern ESM countries preferred to begin their startups alone (*United Kingdom: 29.7 %; Netherlands: 29.7 %; Sweden: 26.8 %*) southern ESM countries preferred to start their businesses in teams (*Italy: 88.6 %; Israel: 87.5 %; Spain: 82.1 %*). Just over a third (36.3 %) of the participants stated that they founded their venture in a team of two. Almost a quarter (24.4 %) of the founders started their venture in a team of

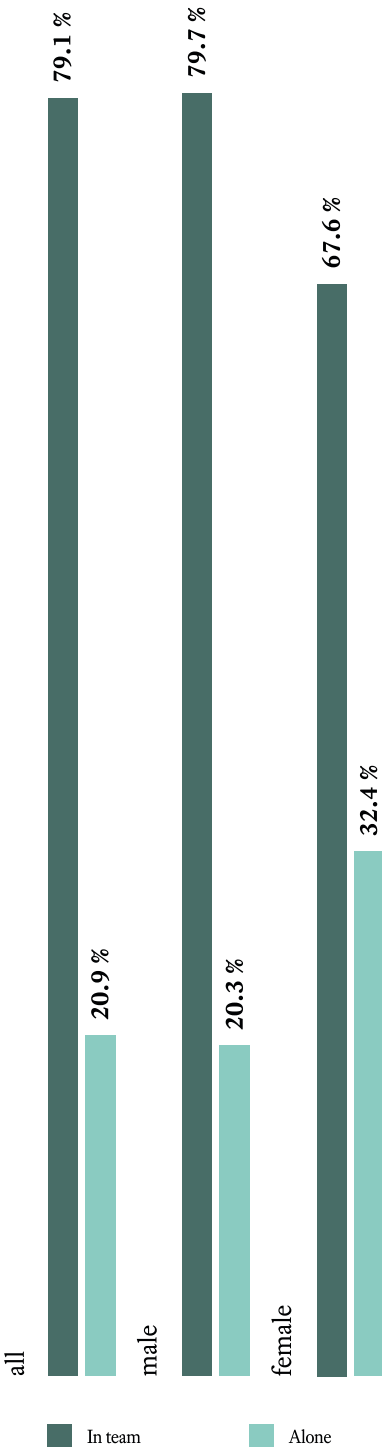


FIGURE 9. Founding in teams by gender (ESM overall)

three, while 18.4 % founded their venture in a team of four or more people. The average team size is 2.7 individuals in the ESM countries. The largest average founding team size is indicated by Italy (*3.1 team members on average*). The smallest teams are found in Belgium (**FIGURE 10**), the Netherlands and the Czech Republic (*2.2 team members*). A larger percentage of female founders (32.4 %) preferred to start their business alone, compared to only 20.3 % of the male founders.

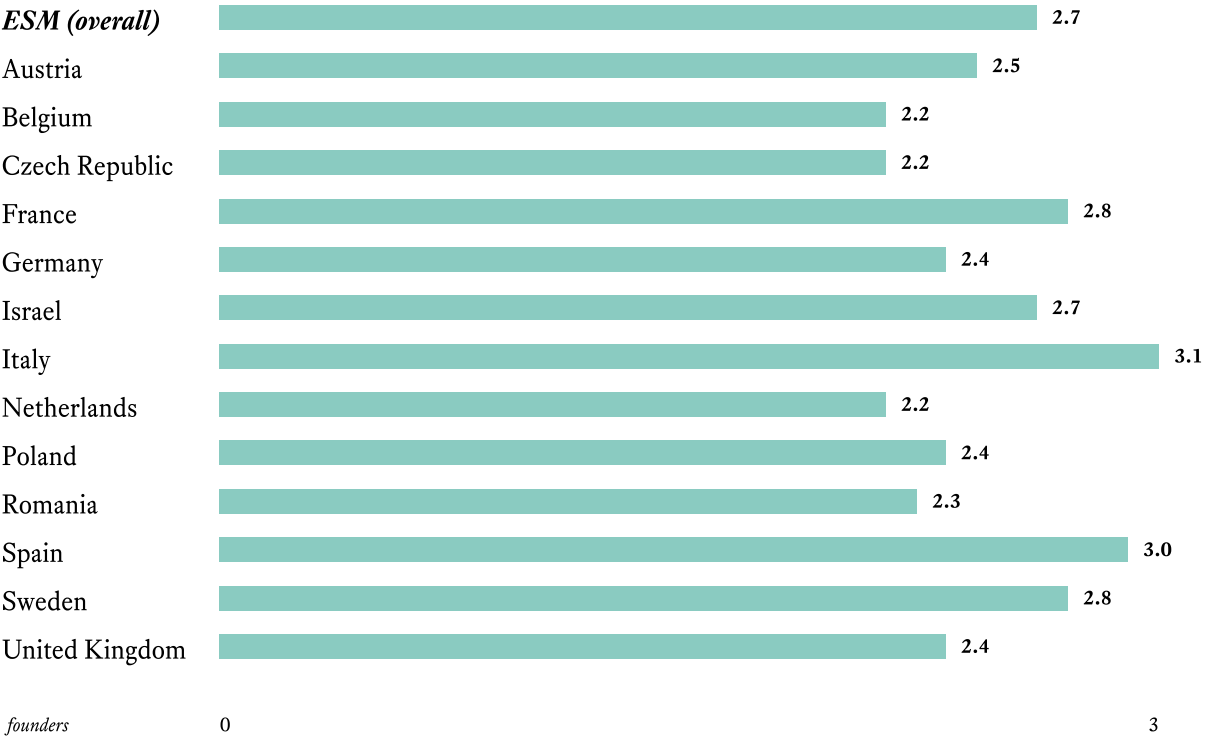


FIGURE 10. Average number of founders (ESM countries)

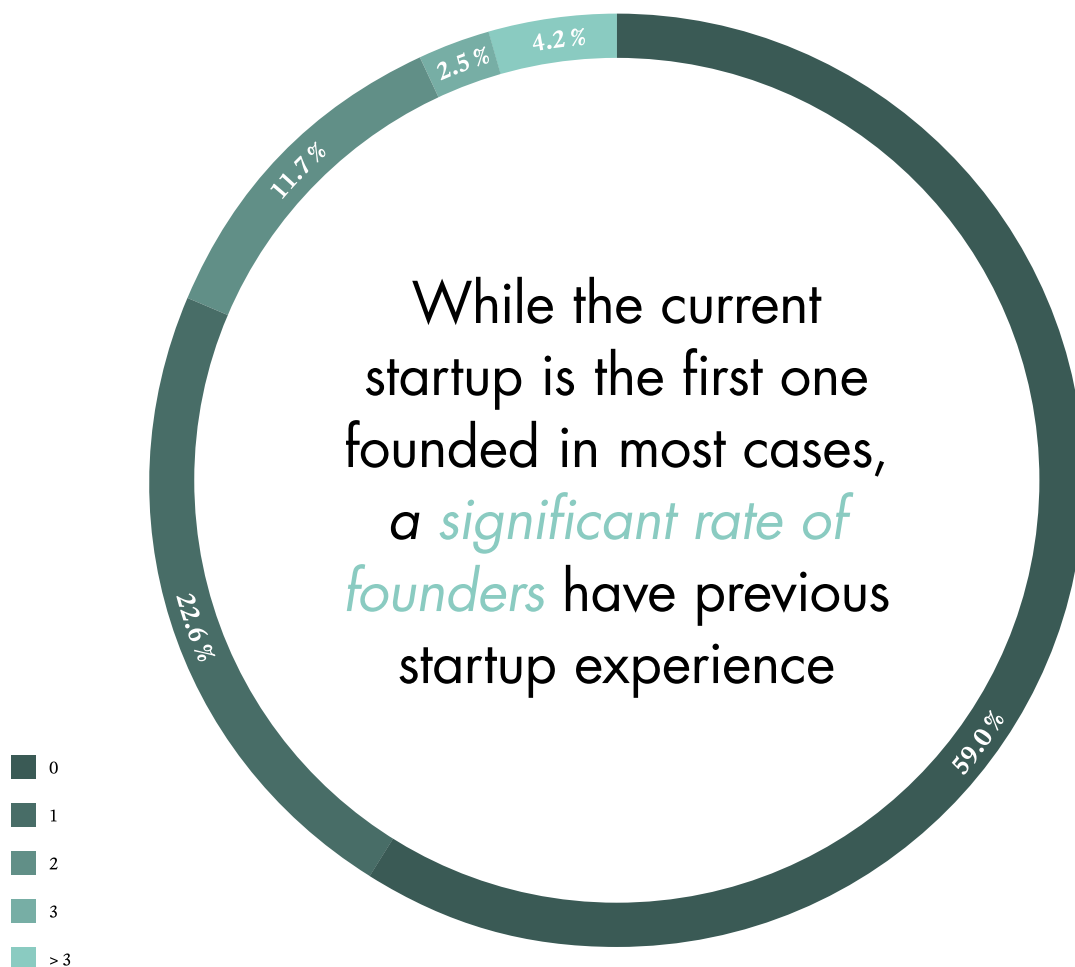


FIGURE 11. Number of previously founded startups (ESM overall)

Of the founders, 41.0 % reported that they already began at least one other startup before they started their current business. About 18 % founded 2 or more startups before (FIGURE 11).

Most of the founders with previous startup experience come from the Czech Republic (10.7 % of all ESM founders with previous startup experience).

Founders from the United Kingdom also form a

large proportion of all founders with previous startup experience (9.8 %).

The smallest percentage of founders with startup experience comes from Belgium (4.1 % of all ESM founders with previous startup experience), followed by Germany (5.1 %).

Relationship to the previous startup: Most founders (37.0 %) stated that they are still shareholders and that the venture still exists as an independent unit. A slightly smaller percentage of founders (28.3 %) responded that the business operations of their former startup were discontinued voluntarily, followed by founders who sold their company completely (16.0 %). Lastly, 14.2 % of the participants were shareholders and left while the venture still exists. Only 4.5 % of the founders stated that business operations were discontinued due to insolvency

(FIGURE 12 AND TABLE 1). In detail, founders from the northern ESM countries most often stated that they sold their last company (*Netherlands: 23.1 %; Sweden: 20.0 %; United Kingdom: 18.2 %*). Founders from larger economies tended to respond that they sold their last company (*France: 21.4 %; United Kingdom: 18.2 %; Germany: 15.5 %*). Countries with smaller economies showed the lowest rate of insolvency (*Israel: 3.6 %; Czech Republic: 0.0 %; Romania: 0.0 %*).

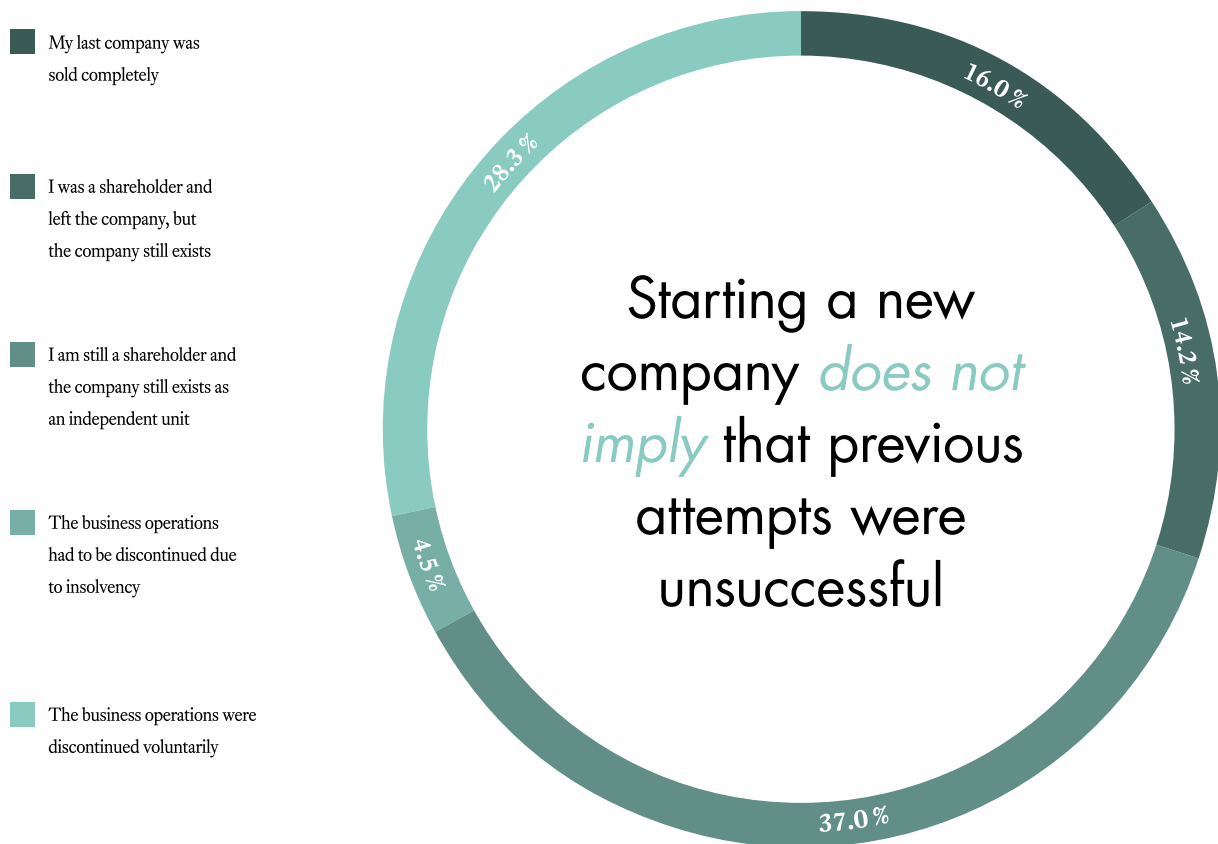


FIGURE 12. What happened to your last startup? (ESM overall)

ESM (overall)	Still a shareholder	Business operations discontinued voluntarily	Company sold
Austria	Still a shareholder	Business operations discontinued voluntarily	Company sold
Belgium	Still a shareholder	Company sold	Business operations discontinued voluntarily
Czech Republic	Still a shareholder	Left the company	Business operations discontinued voluntarily
France	Still a shareholder	Company sold	Left the company
Germany	Still a shareholder	Business operations discontinued voluntarily	Company sold
Israel	Business operations discontinued voluntarily	Still a shareholder	Company sold
Italy	Still a shareholder	Left the company	Business operations discontinued voluntarily
Netherlands	Business operations discontinued voluntarily	Company sold	Still a shareholder
Poland	Still a shareholder	Insolvency	Company sold
Romania	Business operations discontinued voluntarily	Still a shareholder	Left the company
Spain	Still a shareholder	Company sold	Business operations discontinued voluntarily
Sweden	Still a shareholder	Company sold	Business operations discontinued voluntarily
United Kingdom	Still a shareholder	Business operations discontinued voluntarily	Company sold

TABLE 1. Top 3 responses to the question "What happened with your last startup"

Failing with the current business would not discourage most founders from founding another business

The founders were asked what they would do if they failed. The largest response category (69.9 %) comprises the statement that the founder would found another startup in case of failure, while 10.6 % responded that they would work as a freelancer or consultant. Another 3.0 % would engage as business angels or investors. Only 15.4 % would work as an employee, while 1.0 % stated that they would no longer work at all (FIGURE 13). Founders from countries with small economies do not become discouraged and stated that they would continue by founding a new startup (Romania: 90.3 %; Czech Republic: 73.6 %; Israel: 71.2 %). In Romania especially, founders would not consider working as an employee (3.2 %) in case of failure.

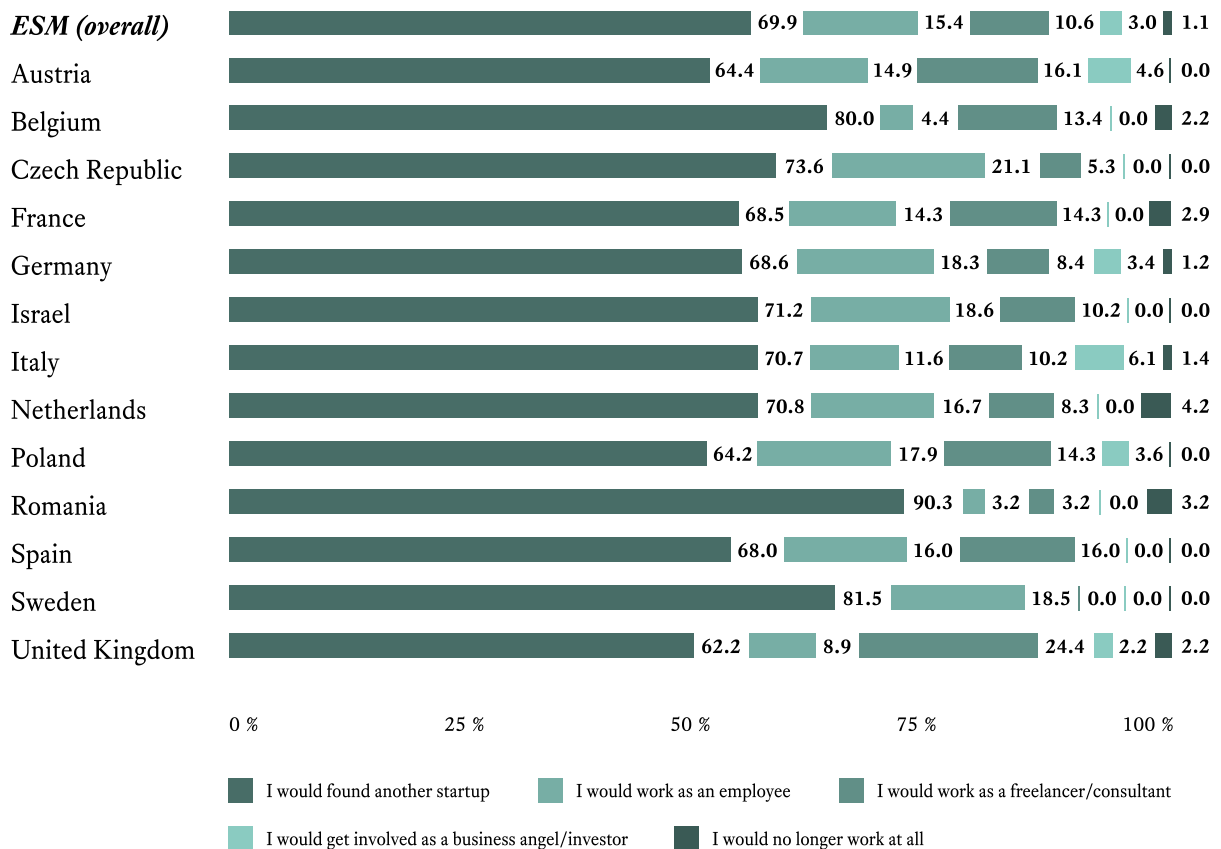


FIGURE 13. Future scenarios following potential failure of the current startup (ESM countries)

III. Industry, customers and markets

The industry categorisation of startups emphasises the *importance of the digital economy* in Europe

The participants were asked to choose the industry category that represents their business model best from a list of 18 industry categories (FIGURE 14). Most participants stated that their venture belongs to the category software as a service (16.4 %). This was followed by startups that are assigned to the category IT/software development (9.1 %). These results emphasise the relevance and importance of the digital economy in Europe. Southern ESM countries (TABLE 2) tended to answer that their startup was categorised as an online marketplace (*Israel: 8.0 %; Spain: 9.0 %; Italy: 7.9 %*). Eastern ESM countries predominantly put their startups in the software as a service category (*Poland: 20.3 %; Czech Republic: 30.8 %; Romania: 21.2 %*).

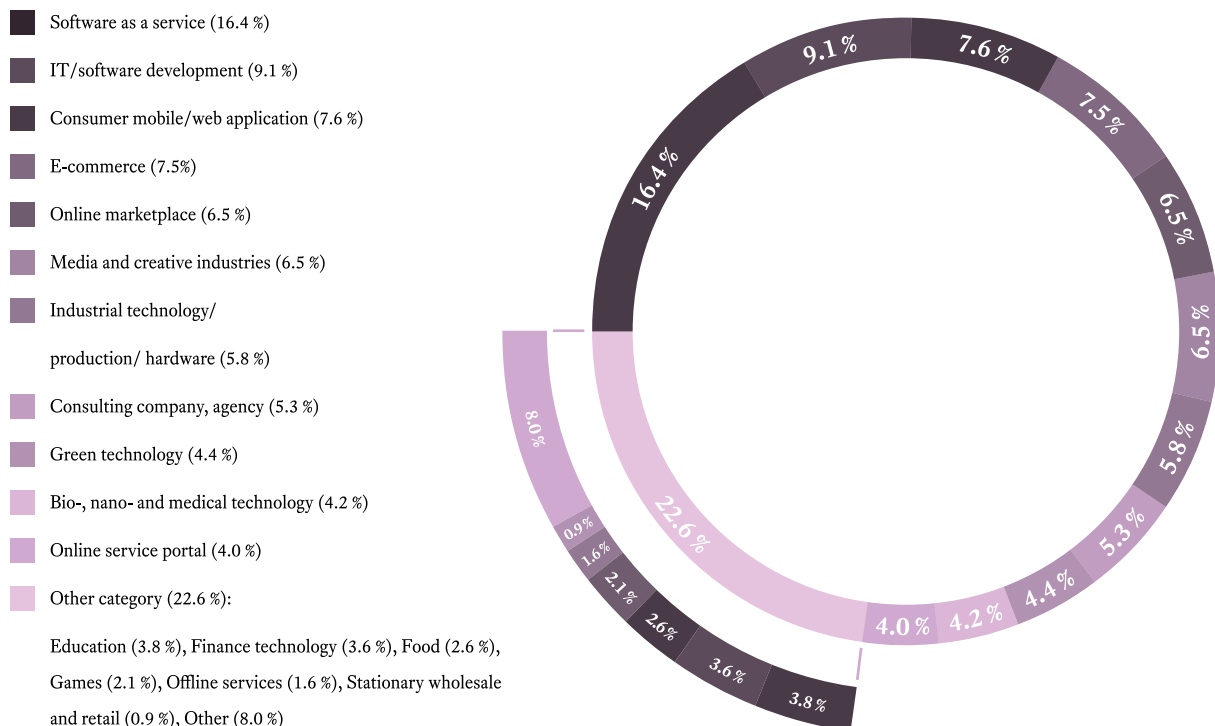


FIGURE 14. Categorisation of startup industries (ESM overall)

ESM (overall)	Software as a service	IT/software development	Consumer mobile/web application
Austria	Software as a service	IT/software development	Food
Belgium	Software as a service	Media and creative industry	IT/software development
Czech Republic	Software as a service	Consumer mobile/web application	Industrial technology/production/hardware
France	Bio-, nano- and medical technology	Software as a service	E-commerce
Germany	Software as a service	E-commerce	IT/software development
Israel	Software as a service	Consumer mobile/web application	Online marketplace
Italy	Software as a service	IT/software development	Online marketplace
Netherlands	Software as a service	Industrial technology/production/hardware	Consulting company, agency
Poland	Software as a service	IT/software development	Media and creative industry
Romania	Software as a service	Consumer mobile/web application	IT/software development
Spain	Software as a service	Consumer mobile/web application	IT/software development
Sweden	Consulting company, agency	Software as a service	IT/software development
United Kingdom	Consumer mobile/web application	Software as a service	Media and creative industry

TABLE 2. Top 3 startup categories per country

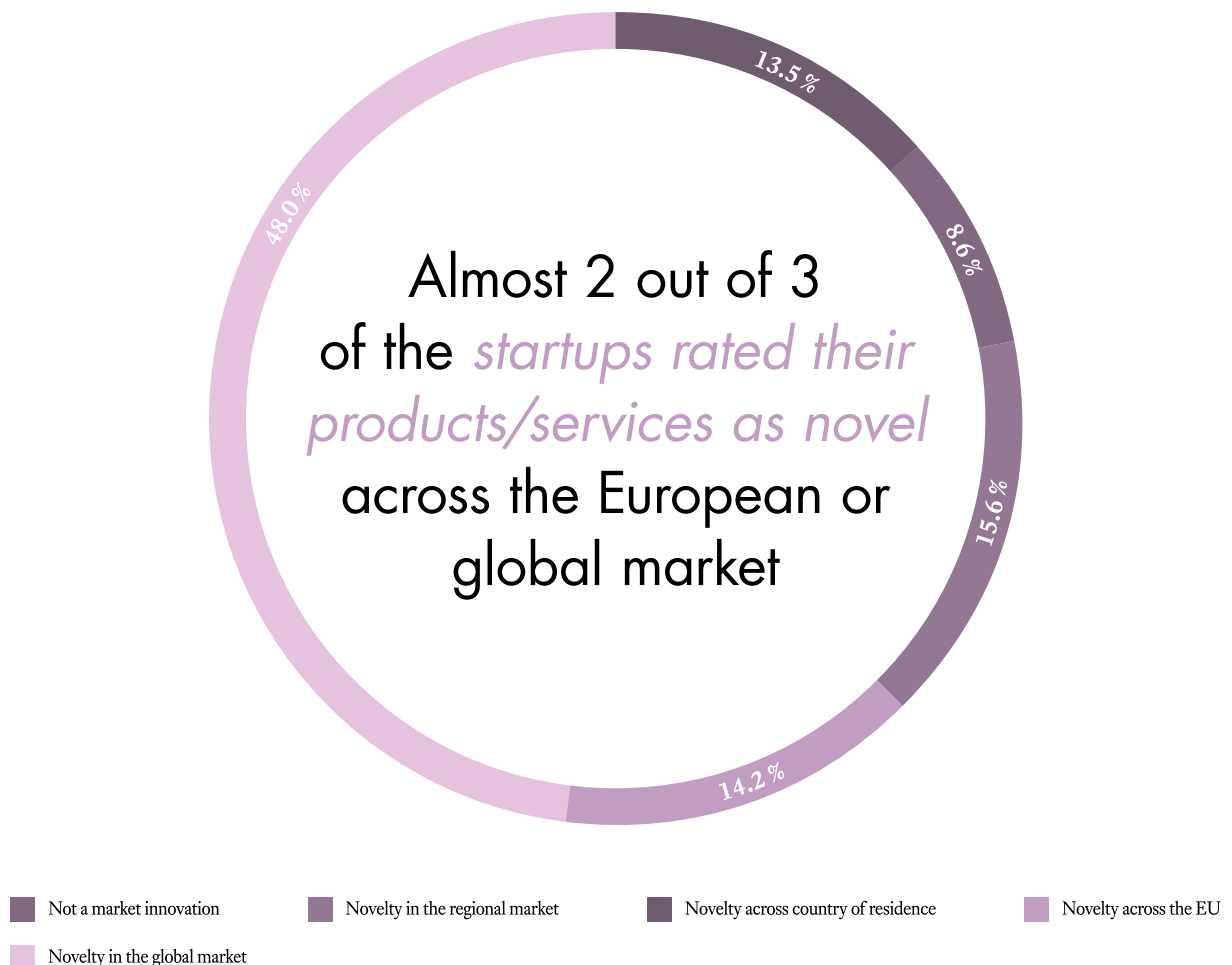


FIGURE 15. Novelty of startups' products or services at the time of foundation (ESM overall)

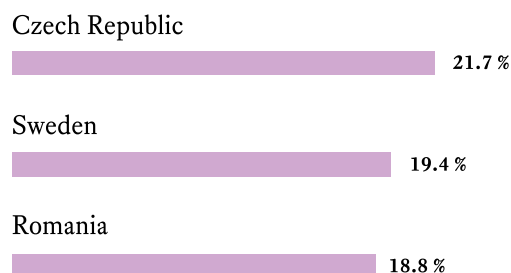
Novelty is a pivotal feature of startups, therefore participants were asked to rate their products' and services' degree of novelty with regard to the regional market, the country of residence, the EU and the global market. About half of the participants (48.0 %) stated that their startup represents a novelty in the global market (FIGURE 15). Another 14.2 % and 15.6 % of the startups were rated as re-

presenting a novelty across the EU or the country of residence respectively. Only 13.5 % stated that their startup does not comprise any novelty in any market (FIGURE 6).

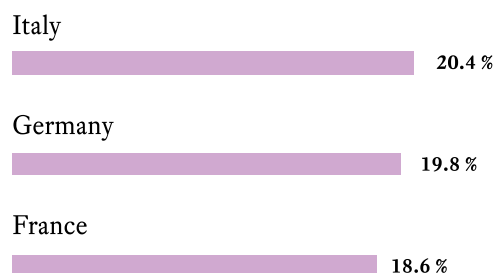
The Czech Republic is the country with the highest percentage (TABLE 3) of startups with global market innovation (21.7 %). Italy (20.4 %) and Belgium

(25.0 %) have startups with the highest percentage of novelty in the EU or across the country of residence. Small economies estimated their startups to focus more on regional novelty (*Israel: 11.3 %; Czech Republic: 21.7 %; Romania: 18.7 %*) than larger economies (*Germany: 7.4 %; United Kingdom: 8.6 %; France: 5.1 %*).

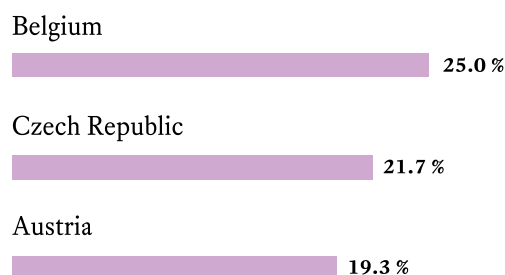
Countries with the highest percentage of startups providing a novelty in the regional market are primarily from ...



Countries with the highest percentage of startups providing a novelty in the market across their country of residence are primarily from ...



Countries with the highest percentage of startups providing a novelty in the market across the EU are primarily from ...



Countries with the highest percentage of startups providing a novelty in the global market are primarily from ...

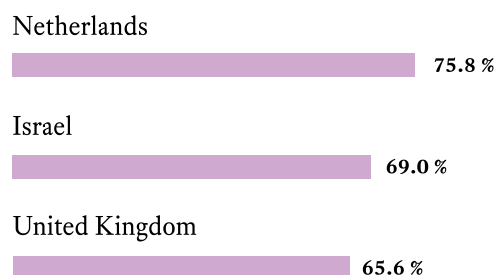


TABLE 3. Novelty of products and services: Top 3 countries

Most European *startups address* customers/users mainly in *the B2B sector*

In total, 6 out of 10 ESM startups (59.0 %) address the business to business (B2B) sector as their most important market (FIGURE 16). The business of 9.6 % of all startups is evenly distributed across private and corporate customers (B2B and B2C equally). About a third of startups (31.4 %) operate primarily on the business to consumer (B2C) market. Startup locations with a primary focus on the B2B market include Belgium (84.7 %), Sweden (72.2 %) and the Czech Republic (70.8 %). The B2C sector is an attractive market, especially for startups from Romania (48.5 %), the United Kingdom (44.8 %) and Spain (43.2 %).

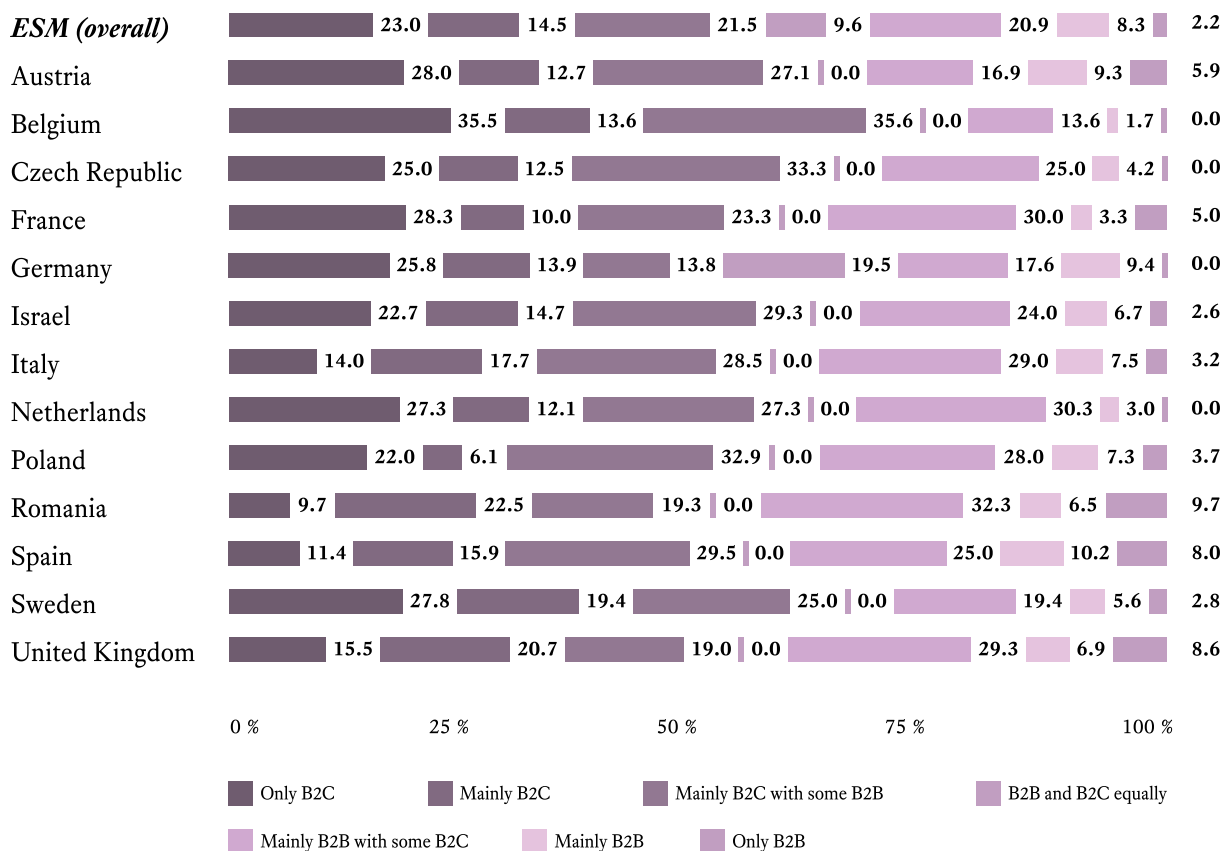


FIGURE 16. Customers and/or users addressed by the ESM startups (ESM countries)

More than *half of all startups serve international markets*

To date, around half of the ESM startups (49.0 %) focus their business activities on their home country only (FIGURE 17). The other half of the startups have entered markets in other European countries (21.2 %) or even operate worldwide (29.8 %). When comparing the market penetration of all ESM countries (FIGURE 17), it is clear that startups in economically powerful nations in terms of GDP, such as Germany or France, focus primarily on their strong domestic market. This is not surprising, given a high purchasing power and sales potential in these countries. In contrast, startups in countries with a rather small economic or geographical market, such as Israel, the Netherlands or Austria, tend to focus more on European or worldwide markets.

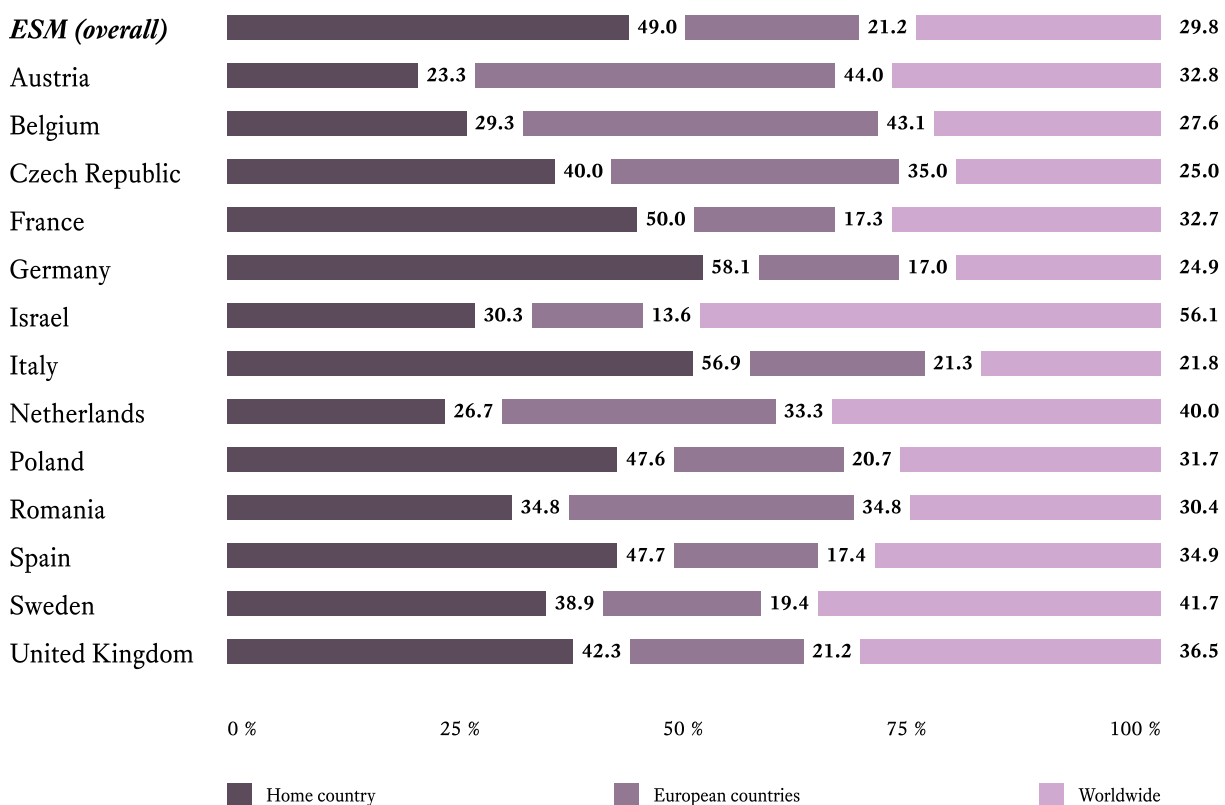


FIGURE 17. Current markets in which startups generate revenue (ESM countries)

Planned internationalisation is *higher* than current internationalisation.

When asked about their internationalisation plans for the next 12 months, only 18.4 % of all startup representatives indicated that they would not plan any internationalisation (FIGURE 18). More than 3 out of 4 participants plan to expand to other European countries (35.5 %) or even worldwide (46.1 %).

Out of the startups that currently operate only in the home country market, most (72.3 %) plan to expand to other international markets in the following 12 months. Out of the startups that already operate in global markets, a large majority of 87.7 % plans further internationalisation.

In all ESM countries, the planned internationalisation is higher than the current internationalisation. Figure 19 shows that especially startups from countries with a low current internationalisation rate are planning to expand to international markets. Startups from southern ESM countries such as Italy (*current internationalisation rate* = 43.1 %; *planned internationalisation rate* = 90.2 %) and Spain (*current internationalisation rate* = 52.3 %; *planned internationalisation rate* = 91.4 %), but also eastern ESM countries such as the Czech Republic and Poland are planning enormous expansion in international market activity.

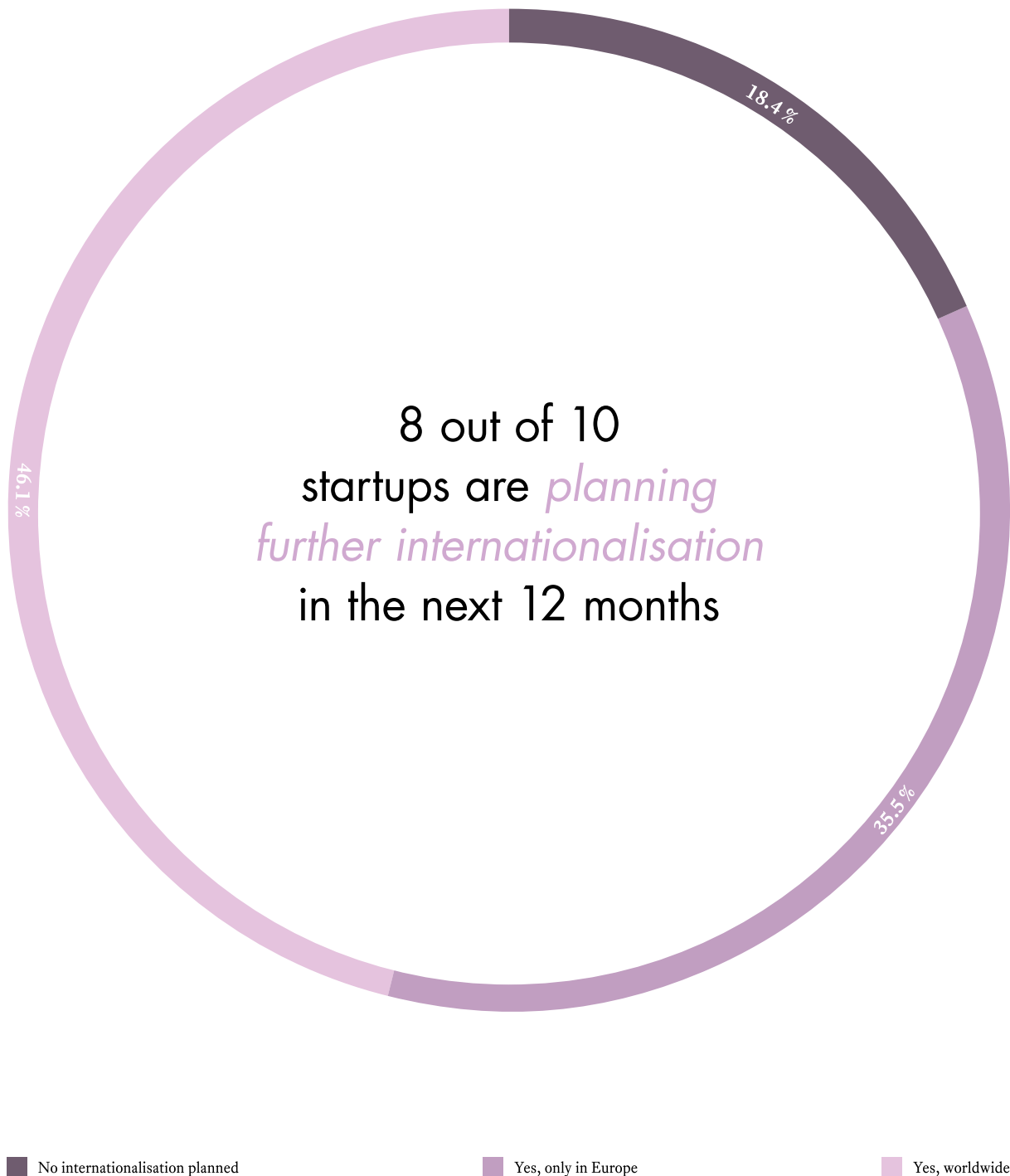


FIGURE 18. Future markets/planned internationalisation (ESM overall)

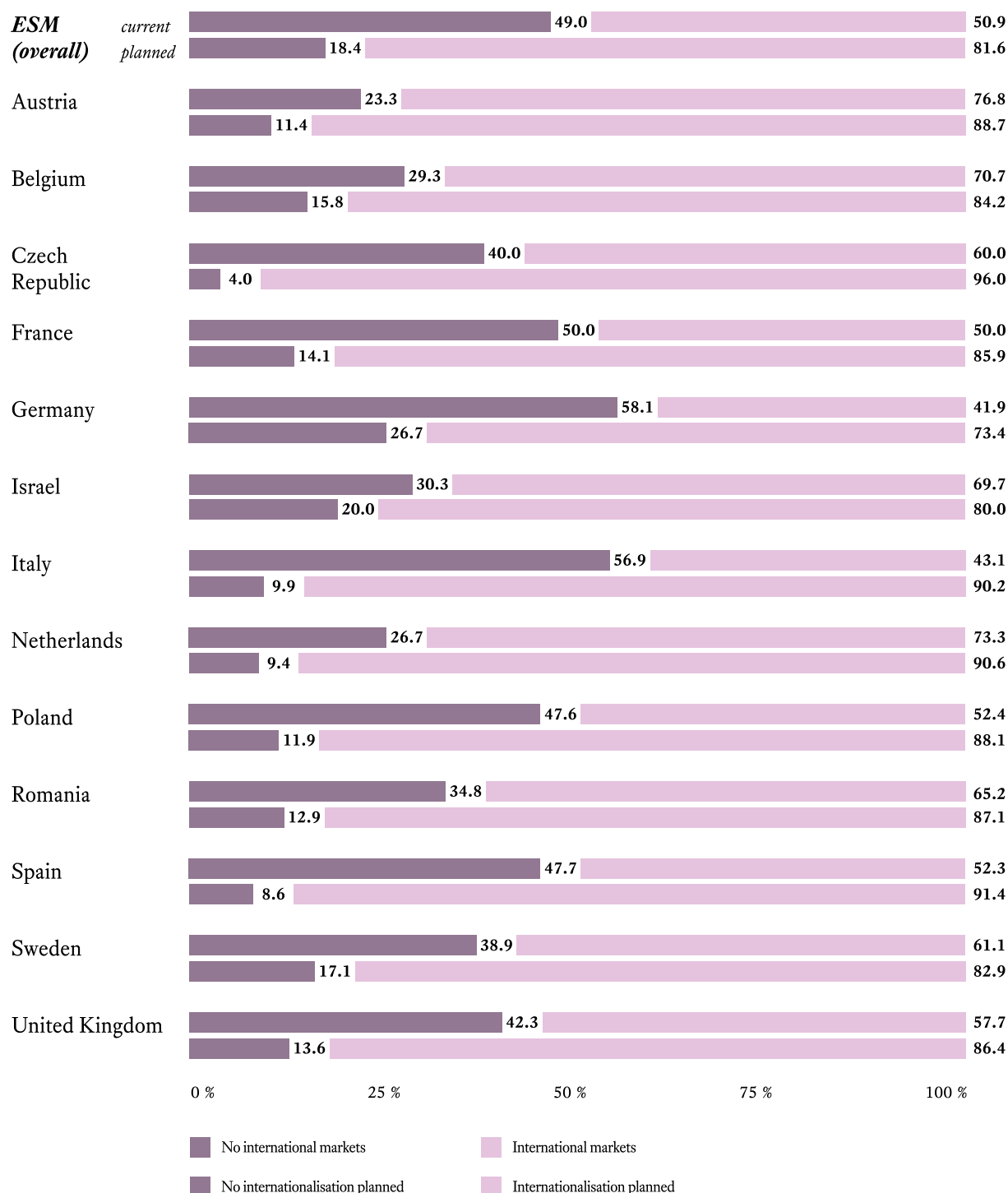


FIGURE 19. Current versus planned internationalisation (ESM countries)



IV. Employment

Startups are *job engines*

The startups that participated in this study employ on average 10.3 employees (*excluding founders*). Adding the average number of founders (*section 3.4, page 38*), ESM startups account for a gross impact on employment of 12.9 jobs after 2.5 years. Germany leads the way with an average of 17.4 jobs (*including founder/s*). Comparing the ecosystems in the European countries (**FIGURE 20**), we observe a large difference in job creation. Startups in Germany, the United Kingdom and France create on average more than 10 jobs, whereas startups in other countries tend to focus on ensuring the livelihood of the founder/s without creating additional jobs for employees. Large percentages of such founder-focused startups are found in, for example, Romania (*where 27.8 % of the startups have no additional employees*), Austria (*21.1 %*) and Sweden (*18.6 %*).

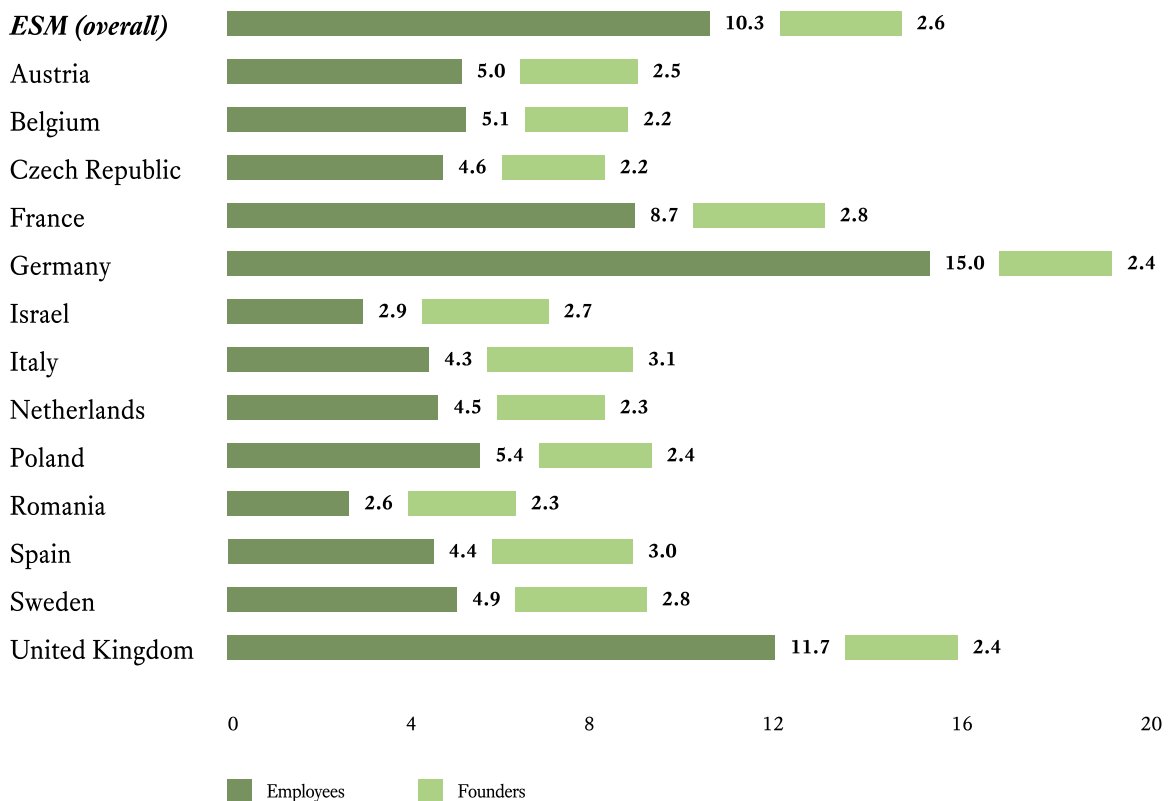


FIGURE 20. Average number of employees and founders (ESM countries)

Startups in all developmental stages are planning substantial *growth in the number of employees*

The impact of European startups on employment becomes even clearer when considering the developmental stages of startups. The chart (FIGURE 21) shows the average number of current employees, including founder/s, per developmental phase. Already during the seed stage, startups across Europe employ on average 5.1 employees. Ventures in the startup stage offer on average 7.6 jobs. In the growth stage, startups provide on average 26.3 jobs. Startups in the later stage currently employ on average 83.5 people. Startups in the steady stage still offer 10.5 current jobs.

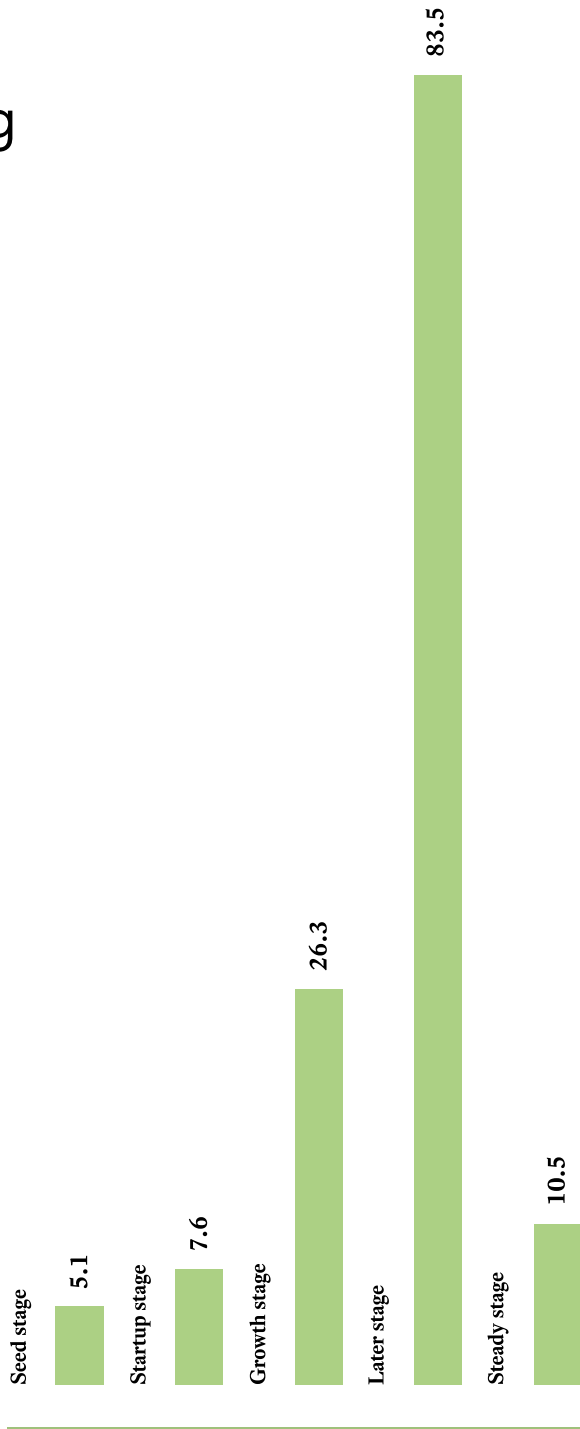


FIGURE 21. Current average number of employees (including founder/s) per startup phase (ESM overall)

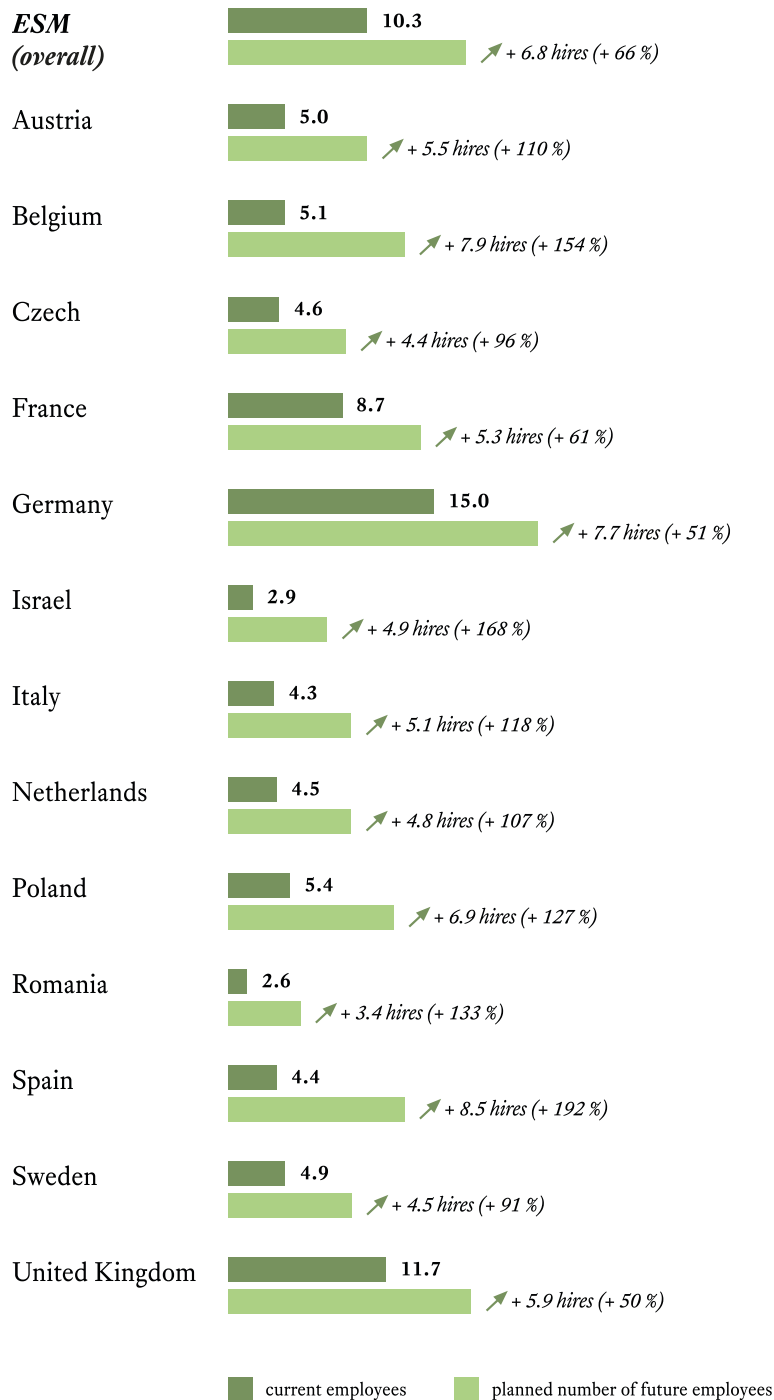


FIGURE 22. Current average number of employees versus planned number of employees (ESM countries)

Almost all
startups plan
to grow over
the next
12 months

Almost all (92.6 %) of the participating startups stated that they plan to hire additional employees (including students and interns) over the next 12 months.

On average, an ESM startup plans to add 6.8 jobs in the next 12 months. While the absolute difference in planned recruitments between most countries are fairly comparable, we observe large differences in recruitments relative to the existing number of employees (FIGURE 22). In countries where startups are relatively small (*e.g.*, *Romania and Israel*) increases in employees are over-proportional, whereas large startups in Germany and the United Kingdom plan only moderate hires.

A third of all European startup employees are international employees

Most (68.3 %) of the employees working for the startups are originally from the country of the startup's residence. Among the 31.7 % of employees who are from foreign countries, 20.9 % have the nationality of an EU country and 10.7 % of a non-EU country. Countries with the highest percentages of home country citizenship employees are Poland (95.4 %), Israel (92.4 %) and Italy (92.1 %). Countries employing the highest percentages of non-EU employees are Sweden (26.6 %), the Netherlands (14.4 %) and Germany (11.9 %). Taking a look at the major European startup hubs – Berlin, London, Paris and Tel Aviv – the chart (FIGURE 24) shows that London and Berlin have the most international employees. In London, even more than half of all startup employees come from abroad. In contrast, Paris and Tel Aviv primarily rely on employees from their home countries in order to run their businesses.

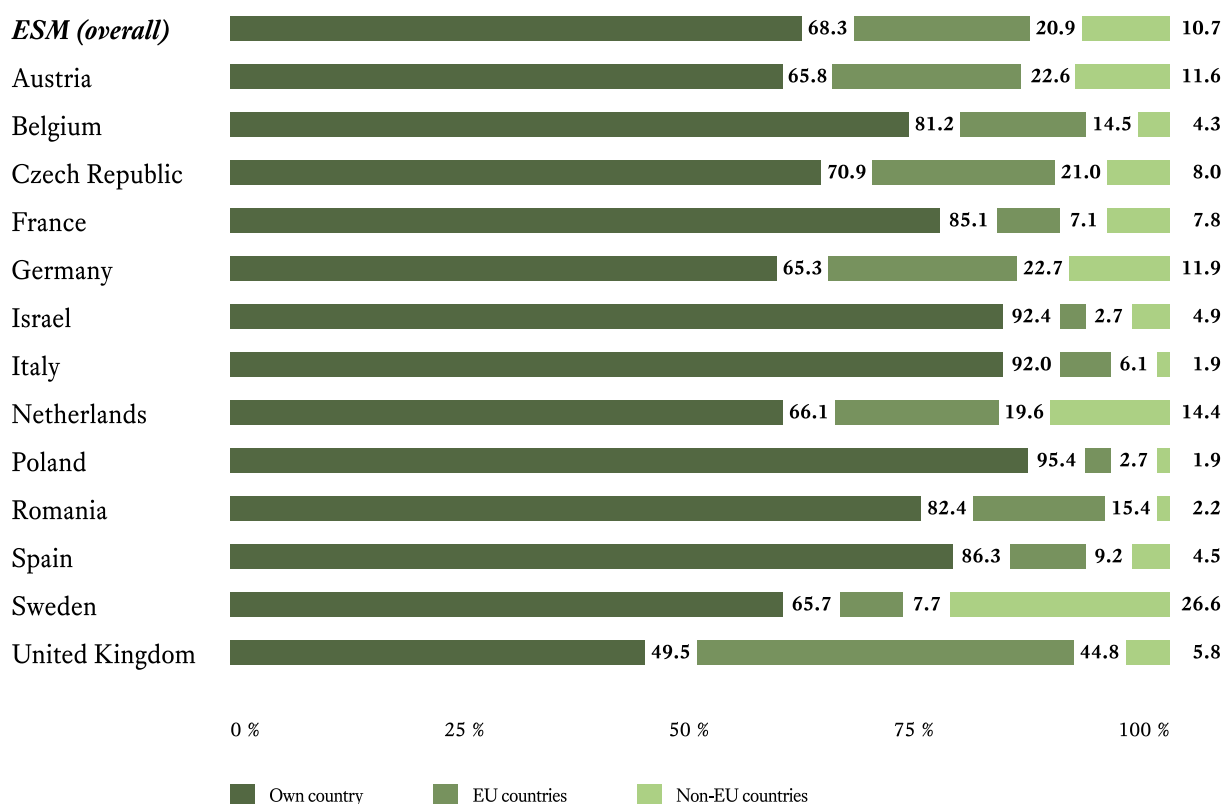


FIGURE 23. Origin of employees (ESM countries)

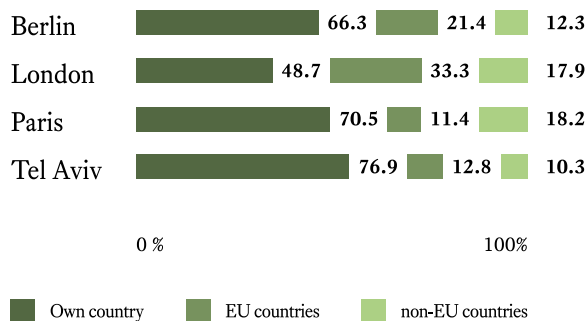


FIGURE 24. Origin of employees in major European startup hubs ⁴

European startups employ *on average 3.1 interns or students*

European startups provide a considerable number of full-time jobs, as well as opportunities for the development of professional careers in the form of internships and student jobs.

While ESM startups on average provide more full-time jobs (*10.3 employees*) than jobs for interns or students (*3.1 interns/students*), only 22.1 % of all startups do not employ any students or interns to support their business activities (FIGURE 25). Startups without interns or students are primarily in Germany (31.7 %). In contrast, startups from the United Kingdom employ on average 5.7 interns/students (FIGURE 26).

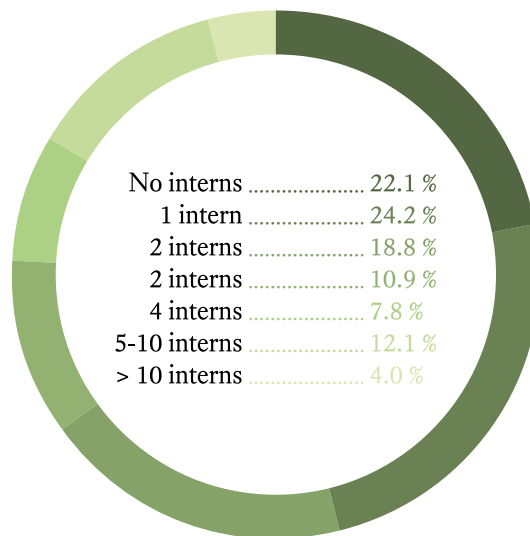


FIGURE 25. Number of interns/students (ESM overall)

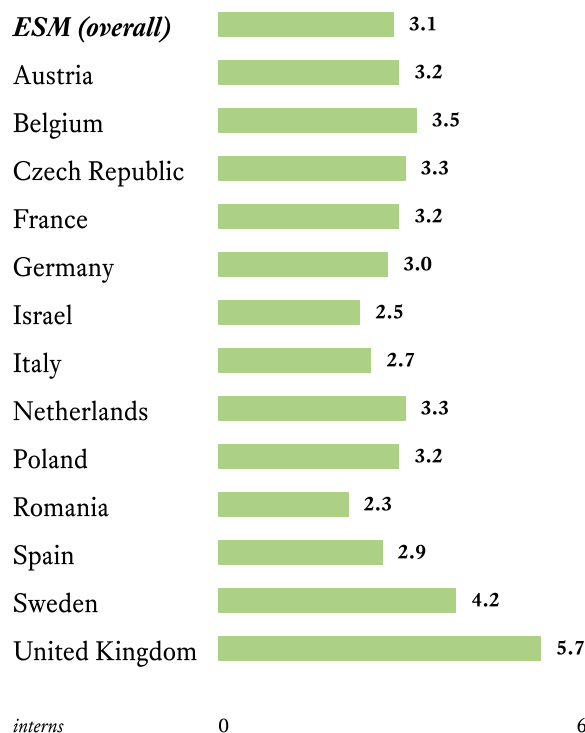


FIGURE 26. Average number of interns/students (ESM)



V. Financing

With regard to financing, most European founders indicated (FIGURE 27) that their major capital source was their own savings (69.1 %), followed by support from friends and family (25.1 %). In the third place, founders relied on governmental funding and subsidies (21.9 %) and in the fourth place, business angels supported the founders' business activities (21.3 %). In the Europe-wide comparison (TABLE 4), founders that finance their startups through own savings are primarily found in Germany (79.5 %), Romania (75.0 %) and the Netherlands (72.5 %). Business angel financing is especially common in Germany (29.6 %) and the United Kingdom (22.8 %). Venture capital is a popular source of financing among German (19.1 %) and Polish (12.1 %) startups.

Savings of founders is the *main source* of financing

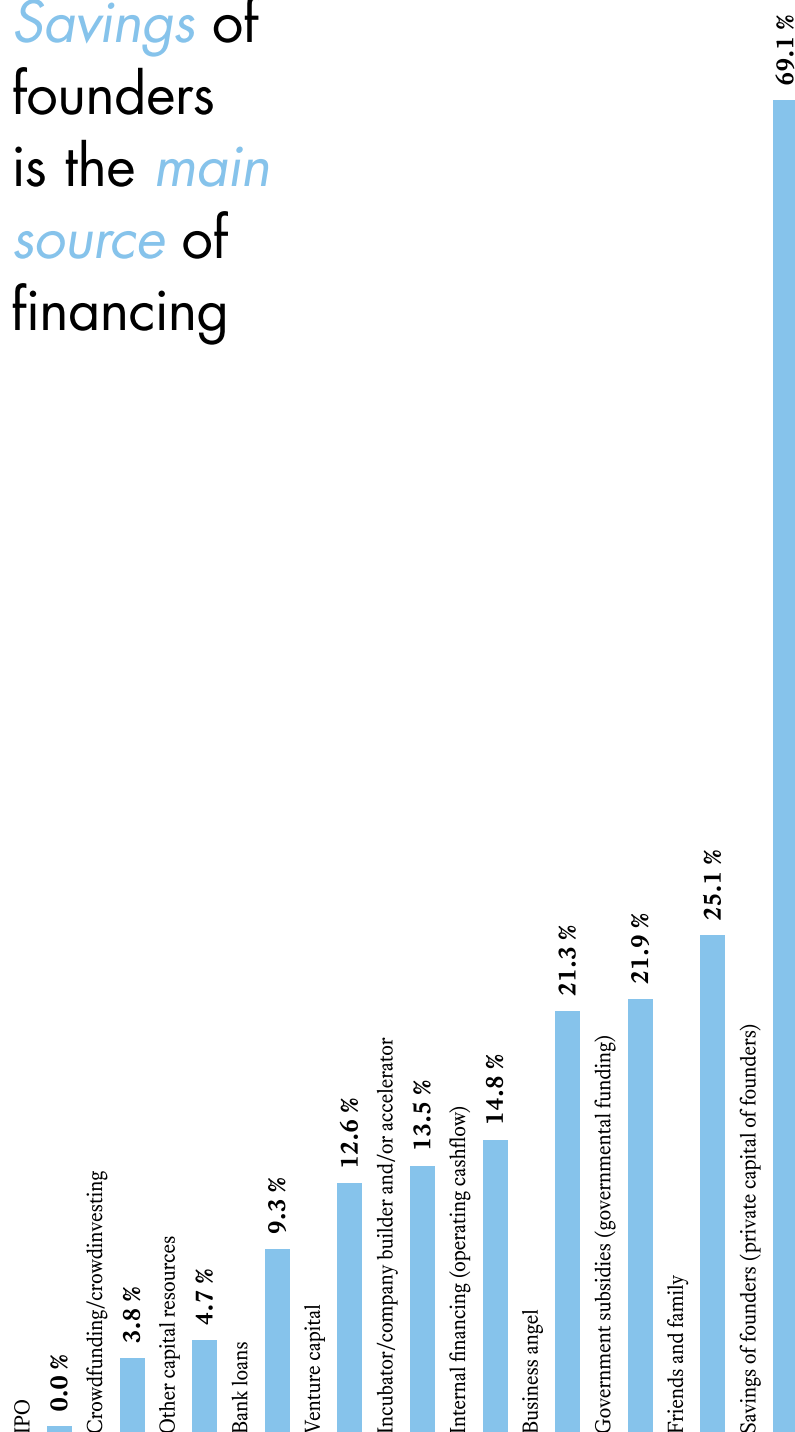
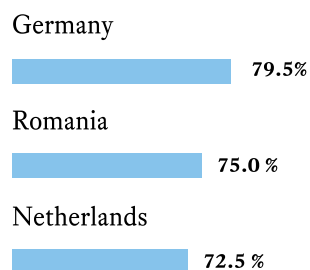
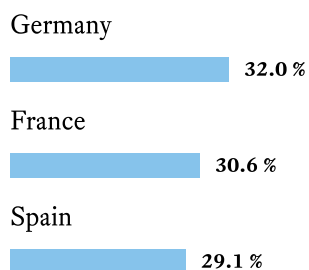


FIGURE 27. Major sources of financing (ESM overall)*

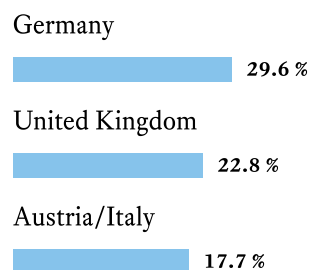
Savings of founders



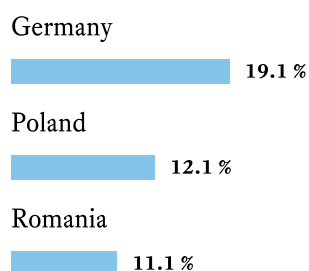
Friends & family



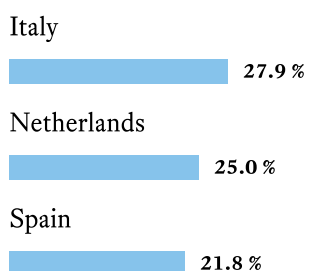
Business angels



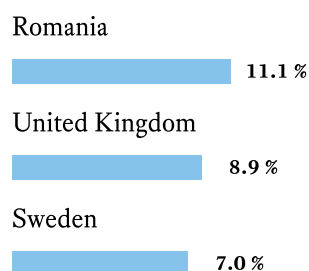
Venture capital



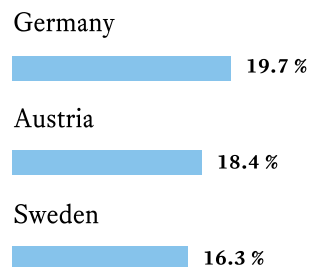
Incubator & similar



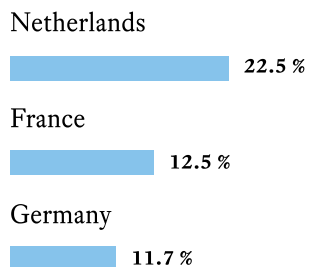
Crowdfunding



Internal financing



Bank loans



Government

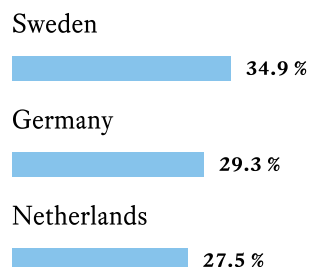


TABLE 4. Major sources of financing: Top 3 countries

Financing with own savings is especially common in eastern ESM countries

The chart (FIGURE 28) shows the percentage of founders per ESM country that financed their startups exclusively with their own savings. In the Europe-wide comparison, founders that finance their startups with their own savings are primarily found in the eastern ESM countries, such as Romania (53.1 %) or the Czech Republic (47.6 %). Thus, there might therefore be much potential for future investments.

In countries with a strong economy, such as France, Germany or the United Kingdom, startup founders have more access to other sources of financing and therefore they do not exclusively rely on their own savings.

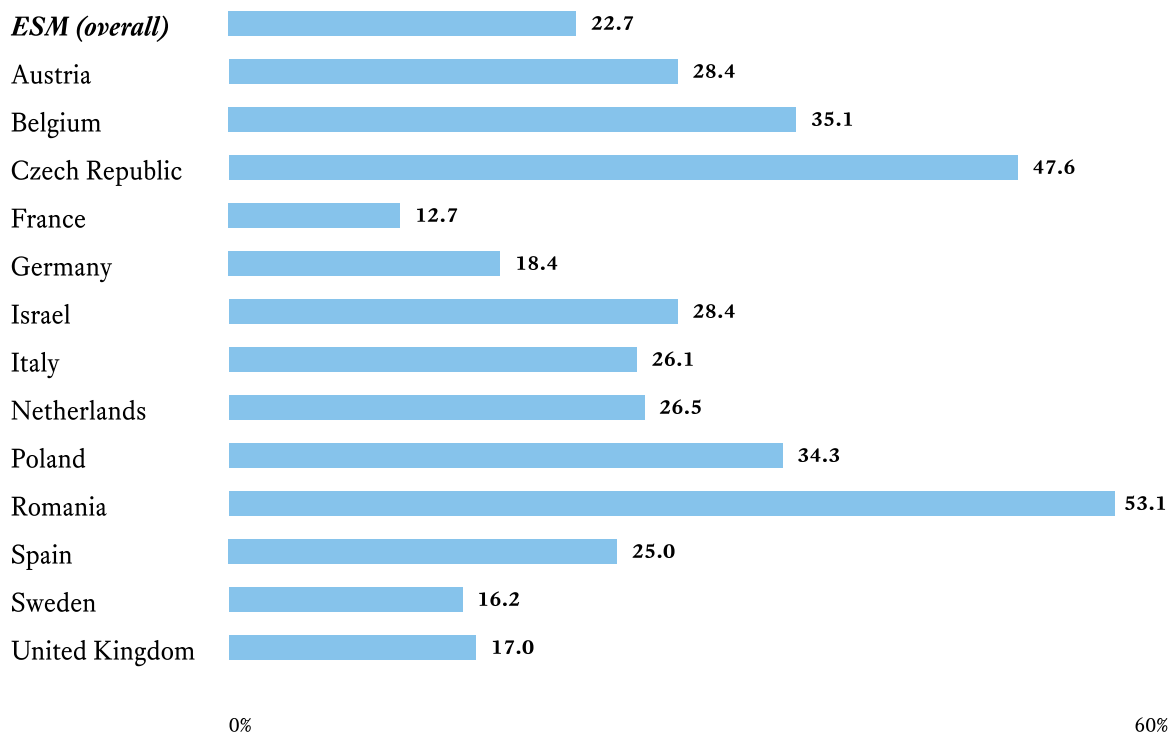


FIGURE 28. Financing only with own savings (ESM countries)

Private investors are *the primary kind of investors*

In order to find out more about the startup investors, founders were asked to indicate from which sources they had received financing (FIGURE 29). Private investors (*such as Index, Partech and Lakestar*) accounted for the majority of investments (77.3 %).

More than half of the participants (50.7 %) reported that they had received financial support from public investors. Another third (33.8 %) of all founders were supported by strategic investors, such as large enterprises that aspire to a strategic partnership.

Across ESM countries, this pattern of investments is relatively similar. One country that deviates from the general tendency towards private investors is Austria, where startup founders are most frequently supported by public investors (*e.g., European Angels Fund, national government-backed funding programs*; 47.6 %).

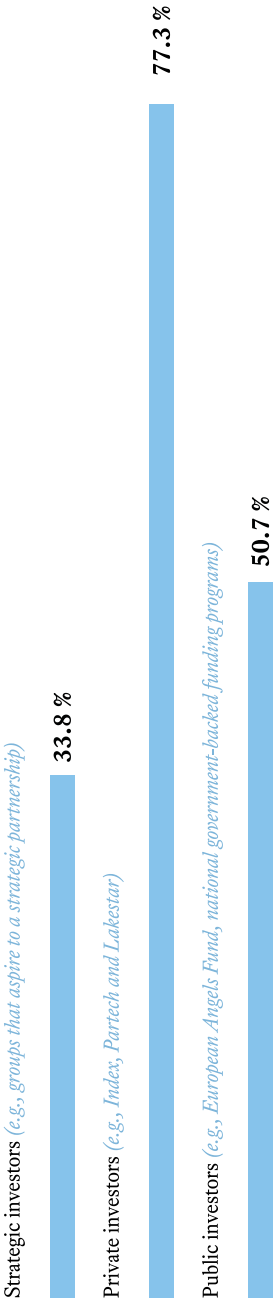


FIGURE 29. Frequency of the use of different kinds of investors (ESM overall) – Multiple answers possible.

Founders were asked to indicate the amount of external capital that their startups had received to date (FIGURE 30).

Among those founders that had already received capital, 42.1 % raised between € 1 and € 150,000. Amounts of external capital between € 150,000 and €1 million were raised by 31.7 % of all participants. Another 26.3 % of all founders raised more than € 1 million in external capital. Overall, those European startups having already received external capital raised - on average - € 2.5 million.

On average, ESM
startups have already
raised € 2.5 million in
external capital

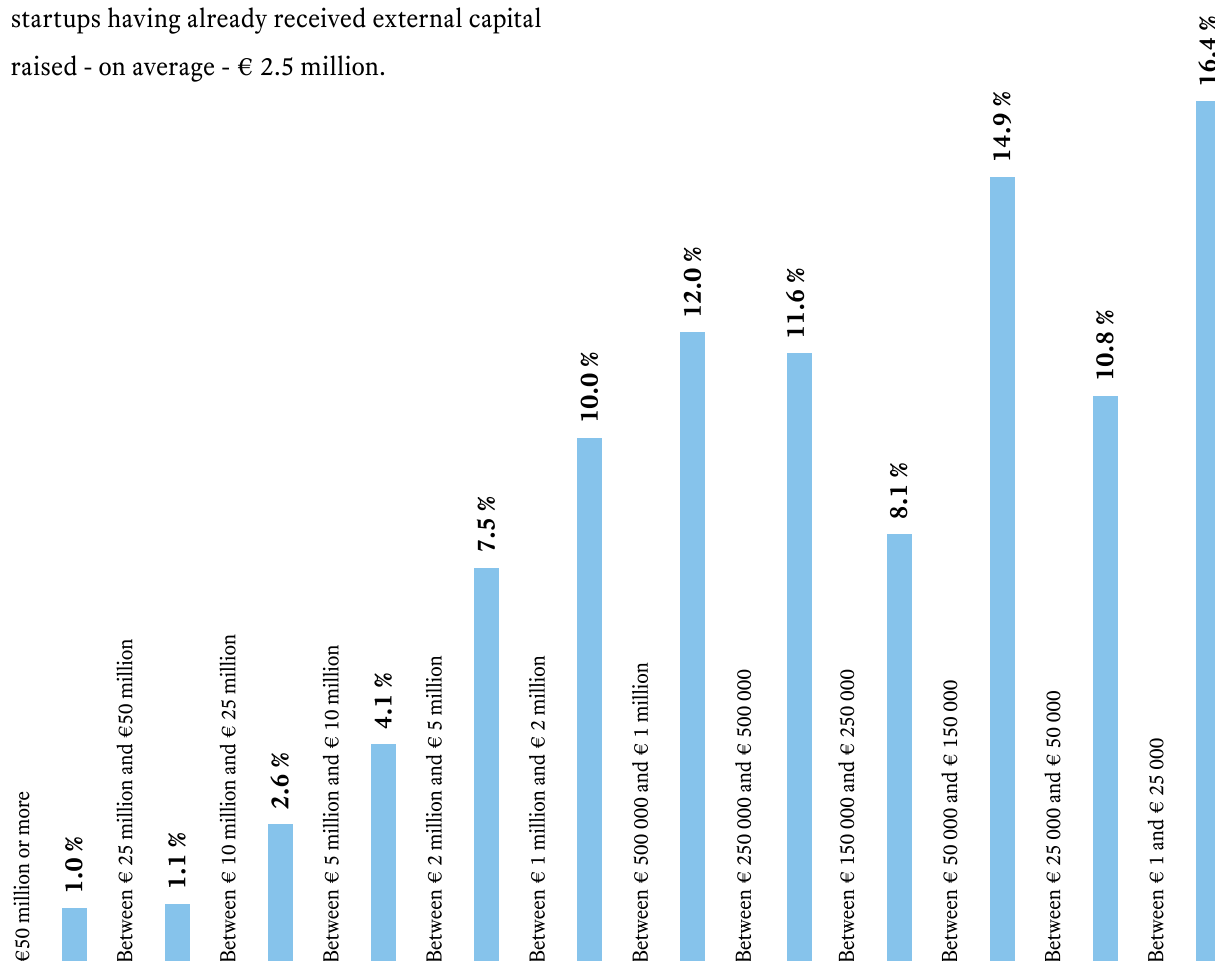


FIGURE 30. Received amounts of external capital to date (ESM overall) ⁵

Startups plan to raise an additional € 3.3 million in external capital on average

Founders also evaluated how much external capital they planned to raise over the next 12 months, based on their budgeting (FIGURE 31). Of the participants, 24.9 % indicated that they would raise no external capital for the following year. Among those who planned to raise external capital, the categories “between € 50,000 and € 150,000” (16.1 %) and “between € 500,000 and € 1 million” (16.1 %) were most frequently chosen. Lastly, 13.8 % of all founders assumed that their startups would raise € 2 million or more. Overall, ESM startups that intend to raise capital in the future are planning with € 3.3 million on average. Overall, it can be assumed that the amount of capital needed by the participating startups will continue to increase as the majority of startups in the ESM sample are still in the seed or startup phase and will progress with significant growth.

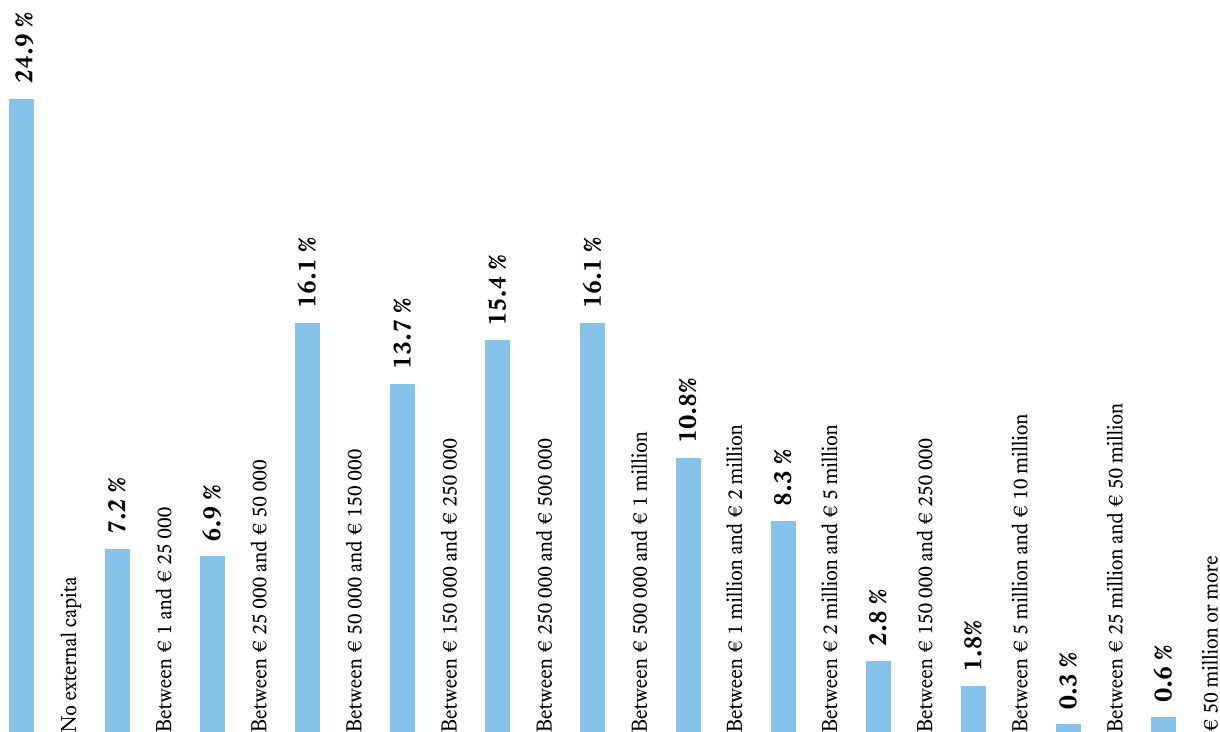


FIGURE 31. Planned raising of capital within the next 12 months (ESM overall) ⁵

In the ESM-wide comparison (FIGURE 32), founders that have enough financial resources and do not require additional external capital for the operation of their businesses in the following year most commonly come from Germany (33.8 %), Sweden (26.5 %) and Austria (25.7 %). Startups from eastern ESM countries (*Czech Republic: 55.0 %; Romania: 48.4 %*) are mostly planning for small amounts of external capital of up to €150,000. France (46.9 %), Israel (43.7 %) and Italy (41.3 %) are the countries in which startups most often plan to raise medium-sized amounts of external capital (*€ 150,000 to € 1 million*) (FIGURE 35).

The threshold of € 1 million, up to € 5 million planned external capital was most often exceeded by founders from the United Kingdom (20.4 %), Israel (16.9 %) and Spain (16.7 %). Startups from Belgium (9.4 %), France (6.1 %) and Germany (5.8 %) plan to raise the highest amount of external capital (*more than € 5 million*).

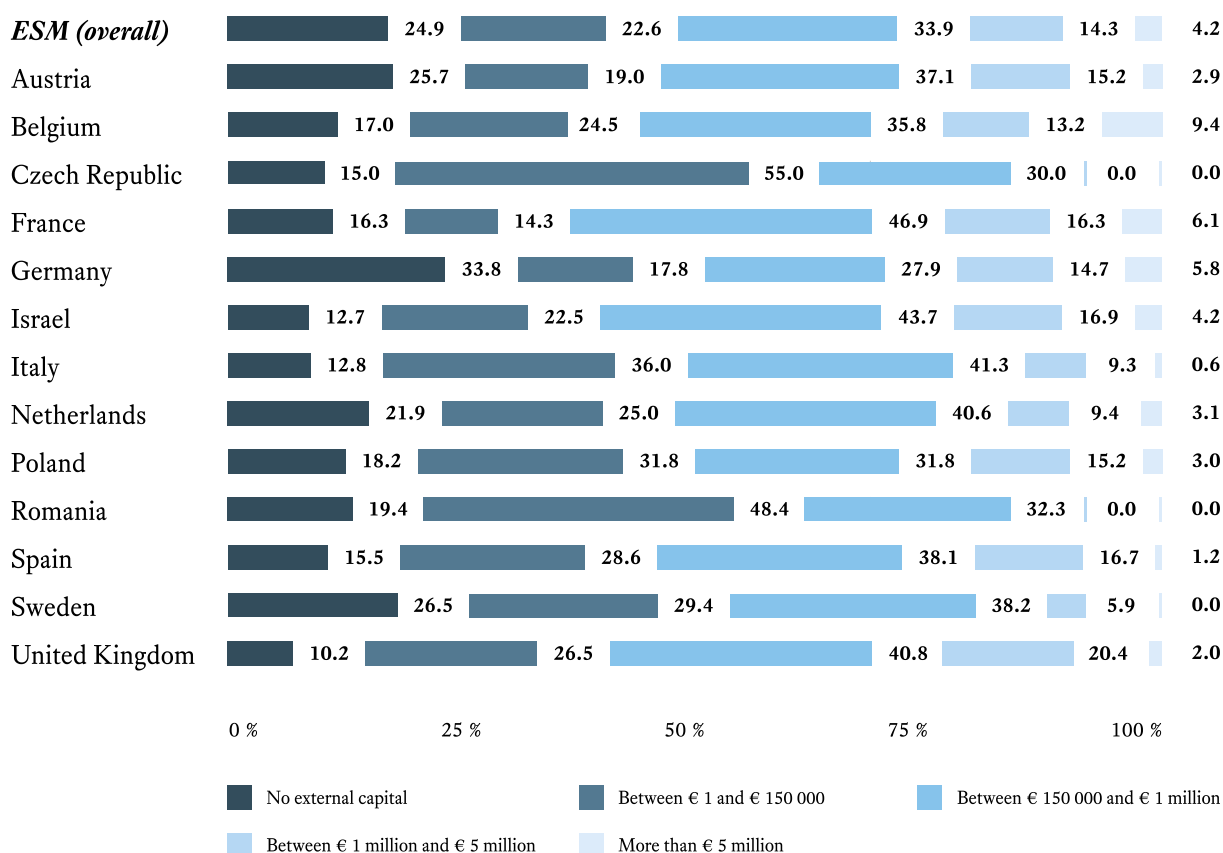


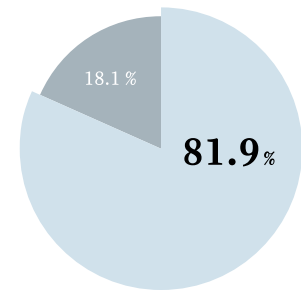
FIGURE 32. Planned raising of capital over the next 12 months (ESM countries)



VI. Economic situation, challenges and expectations



8 out of 10 ESM *startups generated revenue* in the last fiscal year



A large majority of ESM startups (81.9 %) generated some revenue in the last fiscal year (FIGURE 33). Among startups that recorded revenue in the last year, more than half of the ventures generated up to € 150,000. Another 21.0 % of all ventures had revenue of between € 150,000 and € 500,000. The threshold of € 500,000 was exceeded by

23.9 % of all ESM startups (FIGURE 34). In the two highest revenue categories, startups from large economies such as France or Germany lead the field, but Israeli startups were also strong in terms of revenue. Startups from countries with medium-sized domestic markets, such as Sweden or Poland, have lower ranges of revenue.

Generated revenue No revenue yet

FIGURE 33. Revenue in the last fiscal year (ESM overall)

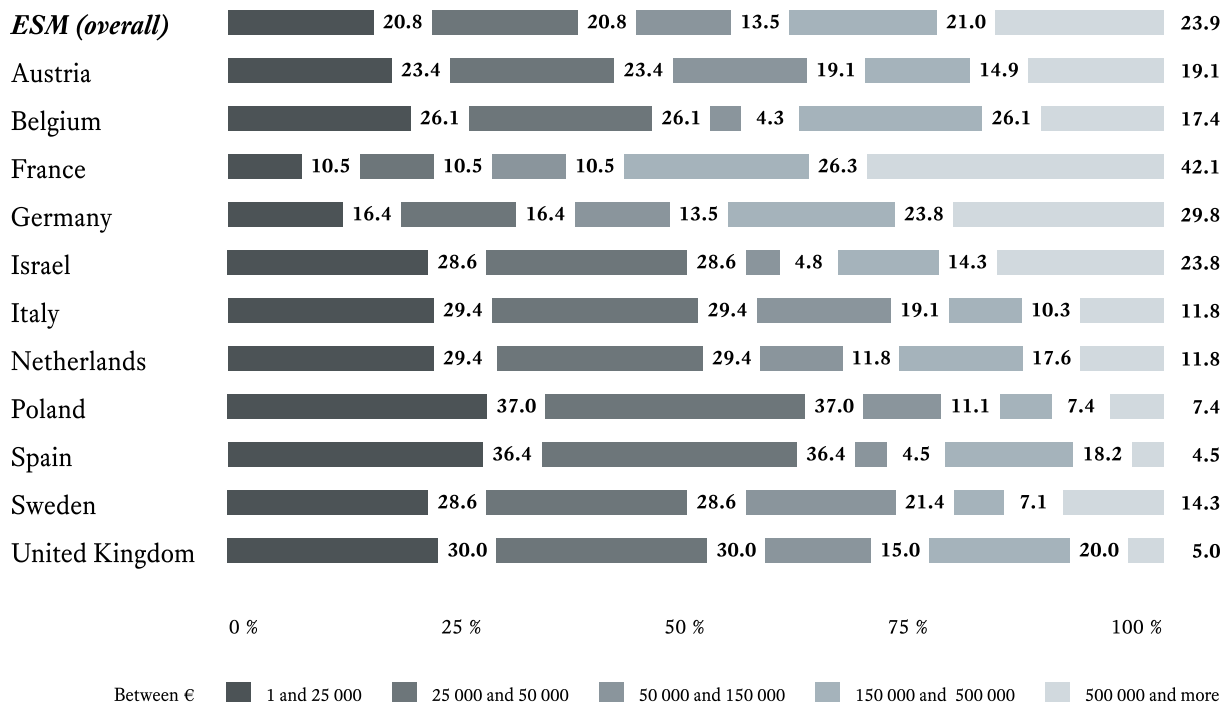


FIGURE 34. Revenue in the last fiscal year (ESM countries) ⁶

More than
**90% of startup
founders rate
their current
business
situation as
satisfying or
even good**

To assess the prevailing business climate in European startups, participants were asked to rate their current and future business situation (FIGURE 35). A large majority of founders indicated that their present business situation is good (36.3 %) or satisfying (54.0 %). Countries that stand out with a very good present business climate for startups include especially the northern ESM countries, such as the United Kingdom (55.6 % of participants indicated that the present business situation is good) and Sweden (48.3 %). In the southern ESM countries, most founders rate the present business situation as satisfying (*Spain: 61.8 %; Italy: 56.1 %*). Except for Romania, in which a large majority of founders rate the present business situation as satisfying, founders from the eastern ESM countries, such as the Czech Republic and Poland, perceive the current business situation as unfavourable.

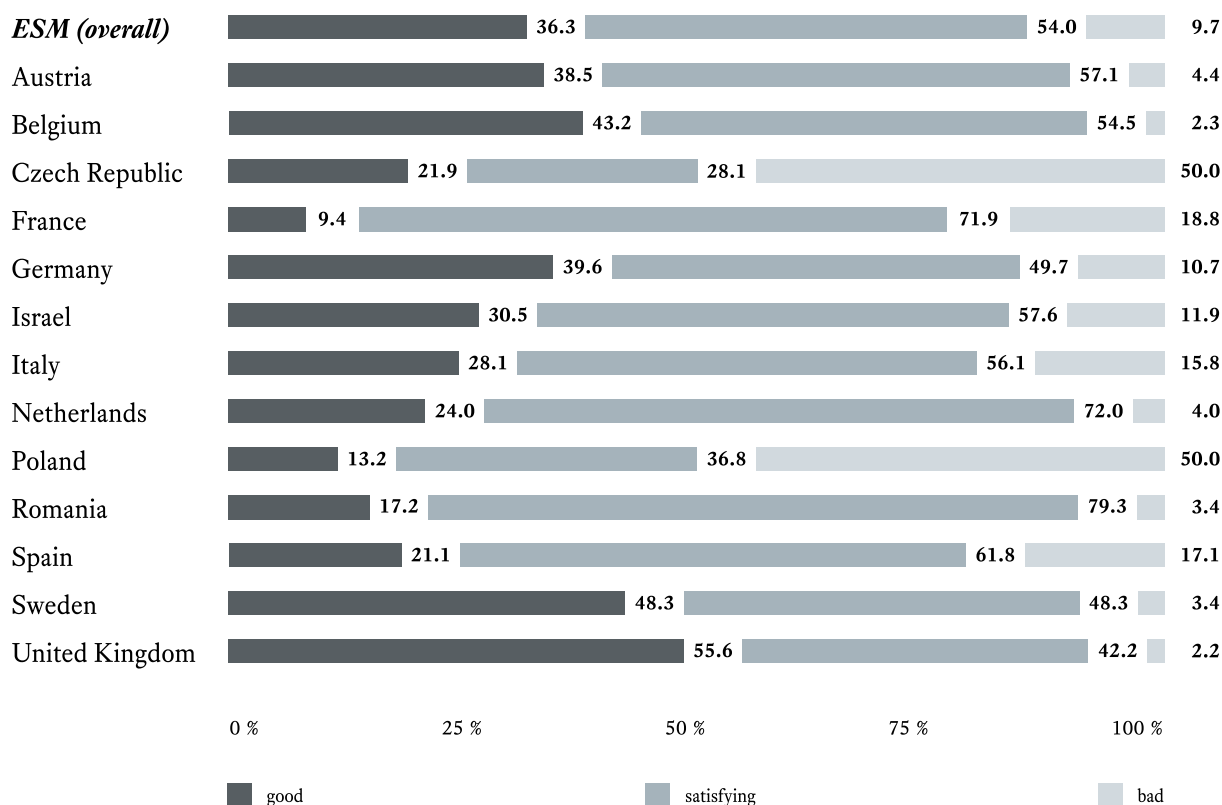


FIGURE 35. Present business situation (ESM countries)

72% assume a positive development during the next 6 months

Founders were asked about their assessment of their startups' future business situation (FIGURE 36). The outlook for the future business situation is very positive for most European startups, as 72.1 % of all ESM startups rate their future business situation as positive and another 24.7 % as neutral. Countries that stand out with a very positive outlook are Sweden (80.0 % of participants rate their future business situation as rather favourable), Poland (78.9 %) and France (76.7 %). The comparison between the current and future business situation shows that although few founders from eastern ESM countries (e.g., Poland and the Czech Republic) rate their current business situation as good, there is a high increase in optimism for the future.



FIGURE 36. Current versus future business situation (ESM countries)

80% of all European *founders* assume that they will permanently remain in their startups

The founders were asked how likely they rated four given scenarios to happen in the future of their venture (FIGURE 37). More than 85 % founders consider the probability to remain in their startups as rather likely to very likely. More than half of the participants (65.9 %) are optimistic that they will be able to sell their profitable ventures within the first ten years. Another 26.7 % of the founders consider it to be rather likely that their startup will be successful enough to become a stock exchange listed company (*IPO*). Finally, more than 95 % of all European founders are confident that their startups will continue existing in the future and will not close down. For most founders from all the ESM countries, the scenarios to remain permanently in the company (*average rating = 4.9*) or to sell the company within the first ten years (*average rating = 4.0*) are the most likely ones. Founders from southern ESM countries, such as Israel (*average rating = 5.1*) and Spain (*average rating = 5.0*), but also from the Czech Republic (*average rating = 5.1*), believe that remaining permanently in their companies is the most probable scenario. Selling the company seems likely especially for founders from northern ESM countries (*Israel: average rating = 4.3; Netherlands: average rating = 4.3; United Kingdom: average rating = 4.5*) and Israel (*average rating = 4.3*). An IPO sounds like a realistic option especially for founders from eastern ESM countries (*Romania: average rating = 3.2; Poland: average rating = 3.0*). Closing down the current business is an option that especially founders from northwestern ESM countries (*Netherlands: average rating =*

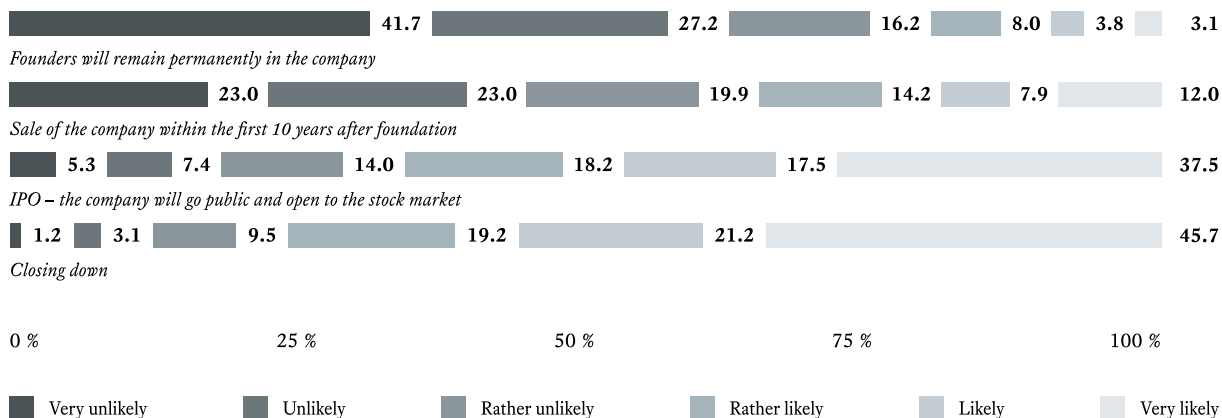


FIGURE 37. Likelihood of future scenarios for startups (ESM overall)

Sales/customer acquisition, raising capital and product development are *the biggest challenges* for European Startups

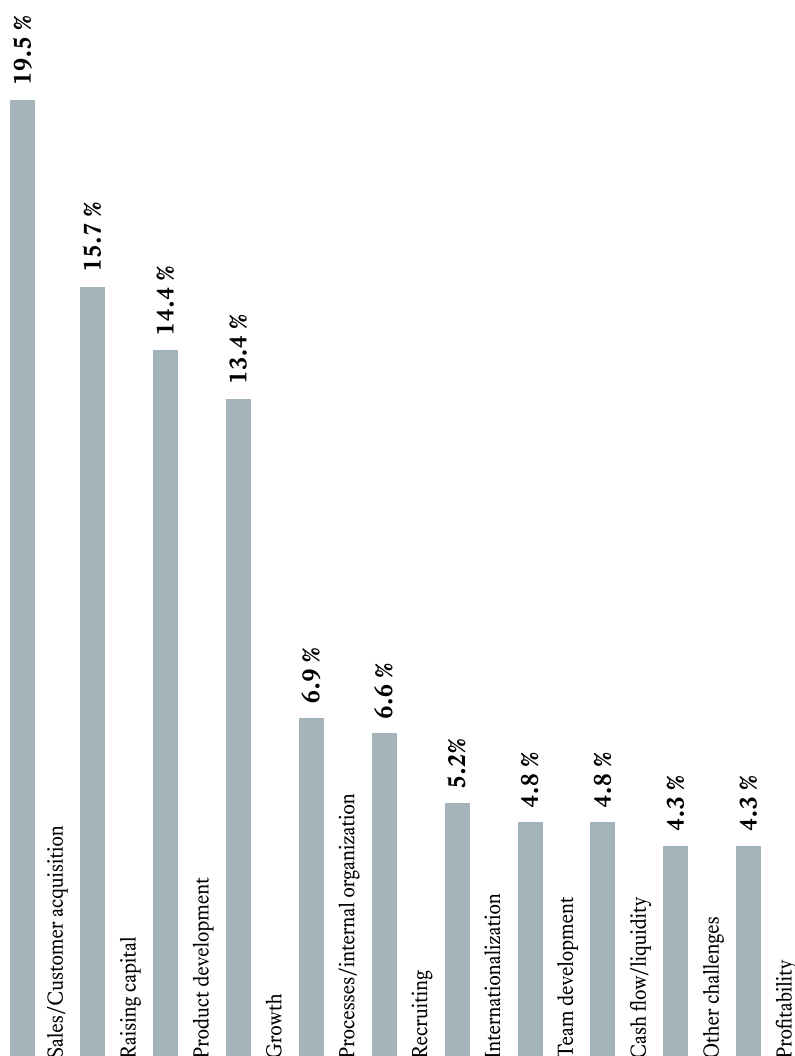


FIGURE 38. Current challenges facing European startups (ESM overall)

2.4; Belgium: average rating = 2.2; Germany: average rating = 2.1) consider.

Participants were asked about the major challenges currently facing their startups (FIGURE 38). The most frequently cited category was sales and customer acquisition (19.5 %), followed by raising capital (15.7 %) and product development (14.4 %). Startups, particularly from northwestern ESM countries, see the acquisition of new customers and the further increase in sales as a key challenge (TABLE 5). Eastern ESM countries such as the Czech Republic primarily deal with product development as an important current challenge. For raising capital and growth, there are no obvious north/south or west/east differences. Instead, these challenges are important for southern, northern as well as eastern ESM countries. With regard to raising capital and growth, Spanish startups see these categories as particularly challenging.

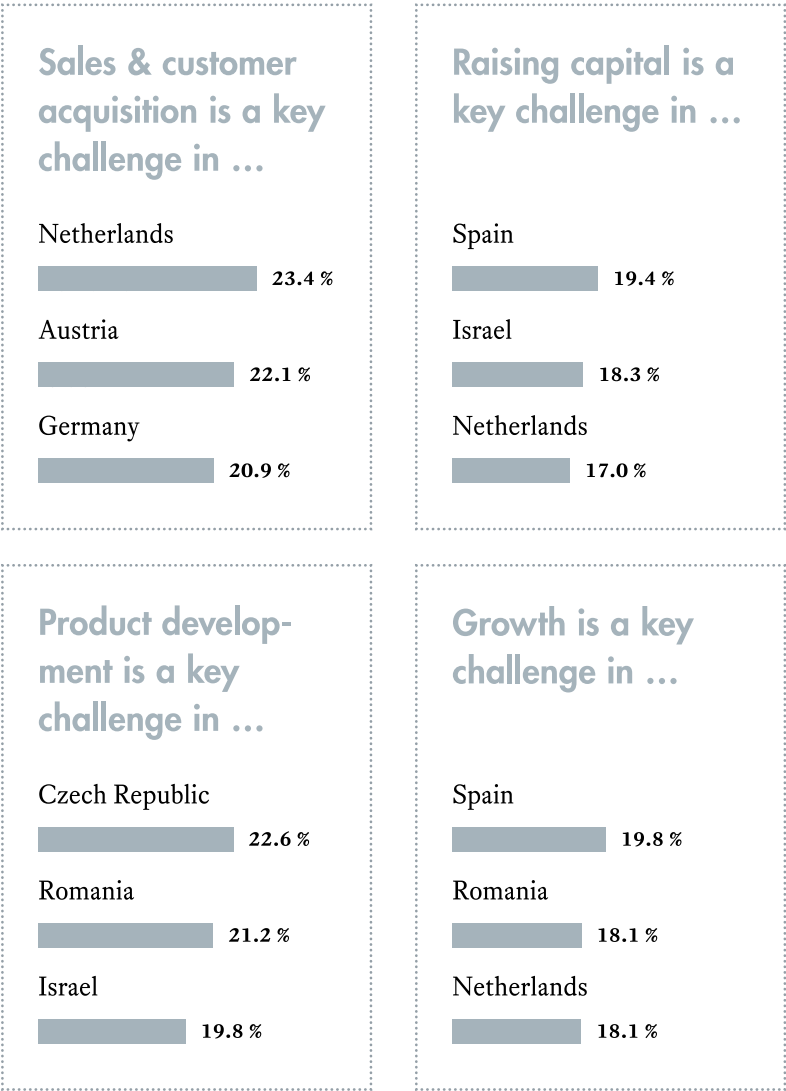


TABLE 5. Current challenges – Top 3 countries

European founders *hope for more financial support* and improvements in political regulations and bureaucracy

In order to derive recommendations for the development of favourable business environments for startups in Europe, participants were asked what they expect from politics regarding their entrepreneurial activities (FIGURE 39). Expectations were grouped into four categories.

Financial support (*including tax reductions/relief; support with raising capital and venture capital*) was the most frequently named expectation across all ESM countries (34.4 %).

28.8 % of all ESM founders expressed expectations regarding **political regulations and bureaucracy** (*including reduction of bureaucracy/regulations; easier recruitment of non-EU citizens*).

25.9 % of all ESM founders expressed a need for **social and advisory support** (*including better support for founders; better understanding of the special needs of startups; improved exchange between politics, startups and the established economy*).

11.0 % of all ESM founders hoped for more **societal support** (including raising the cultural acceptance for entrepreneurship; establishing entrepreneurship education).

Social or advisory support is an important expectation in northwestern ESM countries (e.g., Sweden and the United Kingdom), whereas it is less important in southern ESM countries (e.g., Spain and Italy). Financial support is an important expectation in southern ESM countries (e.g., Spain and Israel), whereas it is less important for participants from

eastern ESM countries (e.g., Poland and the Czech Republic). Societal support is an important expectation in eastern ESM countries (e.g., Poland and the Czech Republic), while it is less important for participants from northwestern ESM countries (e.g., Germany and the Netherlands). Political regulations and bureaucracy were important issues for most participating countries. Only founders from northern ESM countries (e.g., the United Kingdom and Sweden) are relatively satisfied with the regulations and bureaucratic processes in their countries.

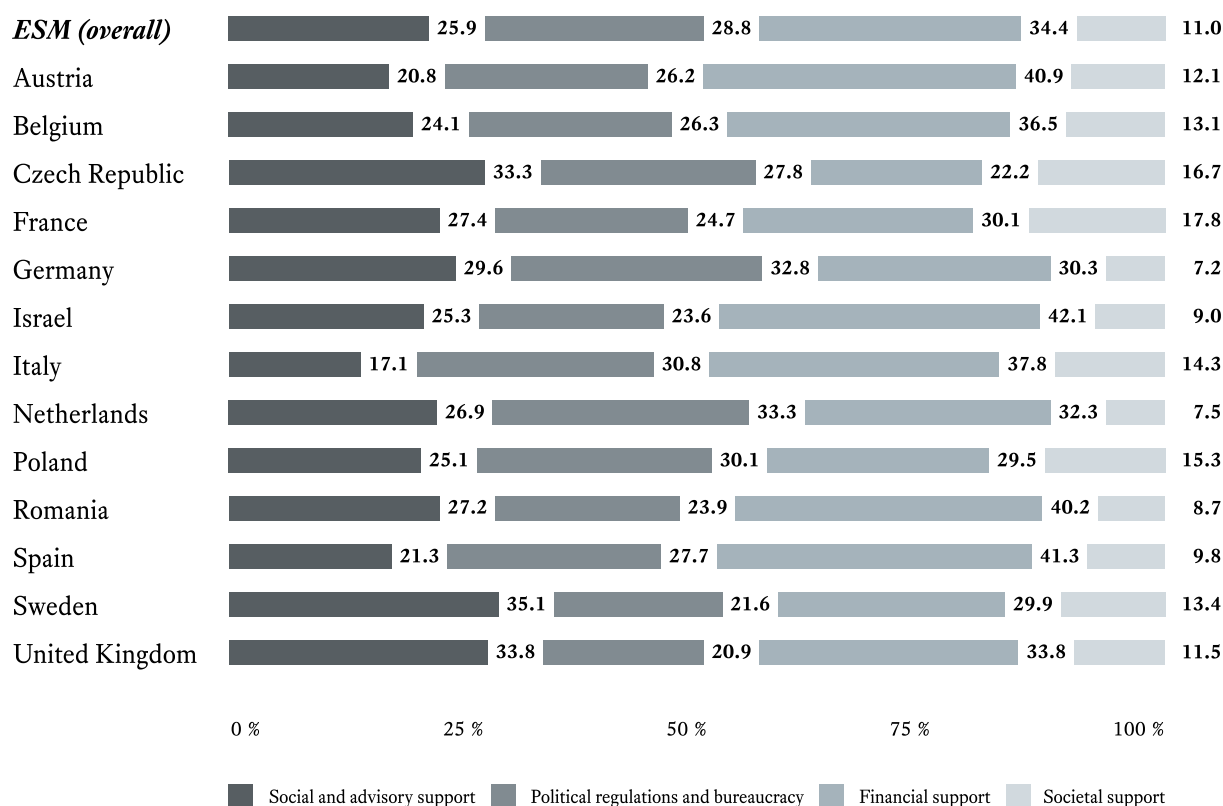


FIGURE 39. Expectations of founders regarding politics (ESM countries)

The European startup environment is rated as satisfying — but there is *room for improvement*

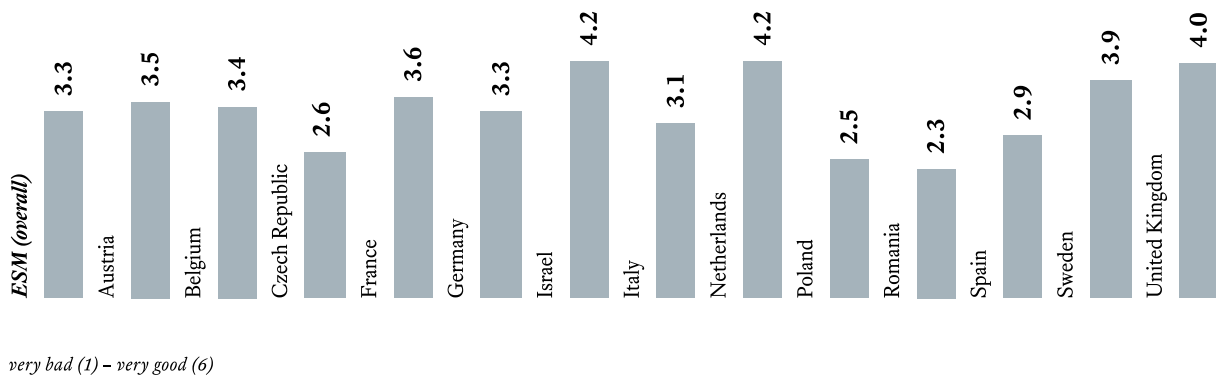


FIGURE 40. Average evaluation of the national government: Support of the startup ecosystem (ESM countries)

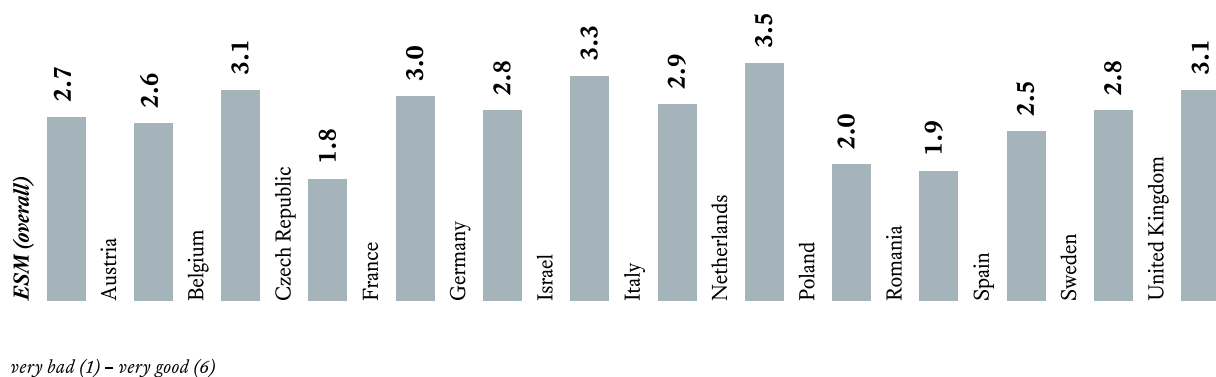


FIGURE 41. Average evaluation of national politicians: Understanding the concerns of startups (ESM countries)



FIGURE 42. Average evaluation of university: Promoting and communicating entrepreneurial thinking/acting (ESM countries)

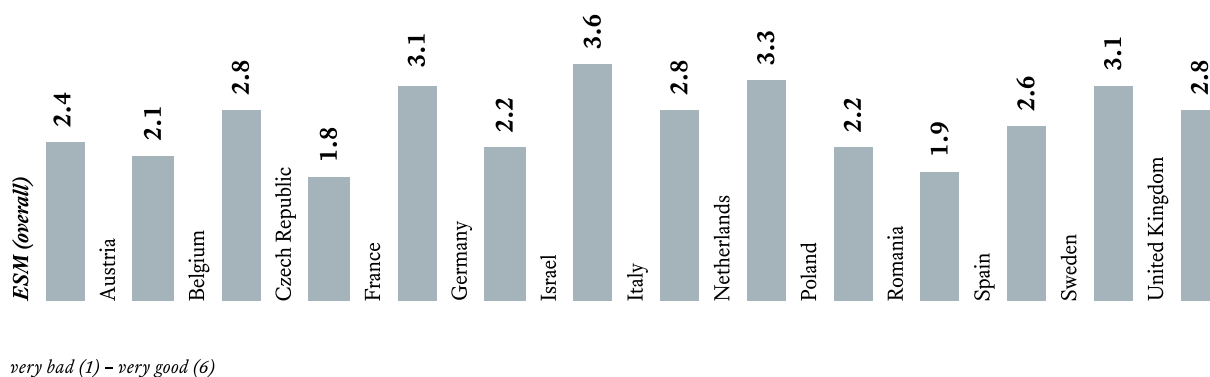


FIGURE 43. Average evaluation of the school system: Promoting and communicating entrepreneurial thinking/acting (ESM countries)

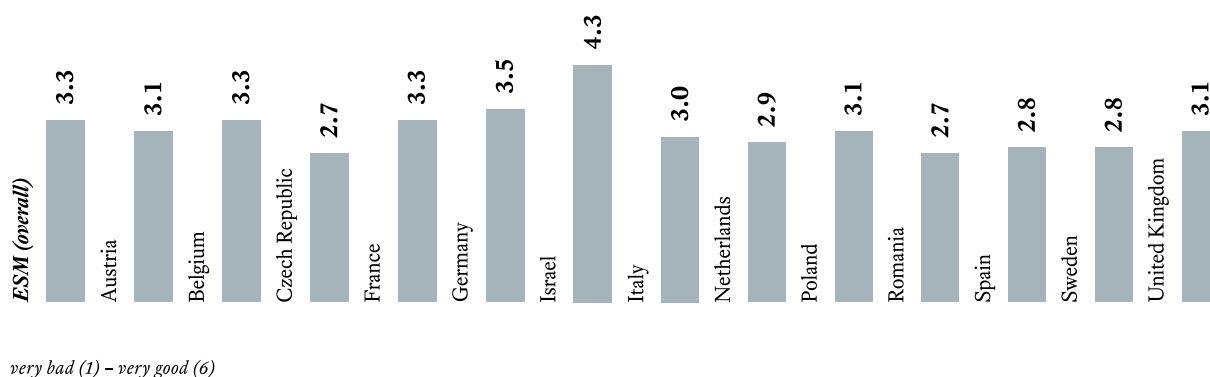


FIGURE 44. Average evaluation of traditional companies: Collaboration with startups (ESM countries)

Founders from Israel and the Netherlands give their countries the *best overall rating* for a favourable startup environment

The ESM founders were asked to rate the startup environment in their respective countries on a scale from 1 (*very bad*) to 6 (*very good*) (FIGURES 40 TO 44). Overall, the evaluations were in the medium range, indicating satisfaction but room for improvement.

ESM-wide, the category receiving the highest average evaluation was that of the traditional companies' collaboration with startups (*average rating* = 3.3). On the other hand, the school system's promotion and communication of entrepreneurial thinking and acting can be improved (*average rating* = 2.4).

When comparing the ESM countries, many northern ESM countries (*e.g., the Netherlands, Sweden and the United Kingdom*) are comparably satisfied with their governments' support of the startup ecosystem.

Israel and the Netherlands stand out as “best practice examples” with very favourable overall evaluations in several categories. Founders from Israel as well as the Netherlands are especially satisfied with their national governments in supporting the startup ecosystem. Israeli entrepreneurs positively emphasised the education system (*universities and schools*) in terms of promoting and communicating entrepreneurial thinking and acting. Founders from the Netherlands appreciated national traditional companies' collaboration with startups.

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This study would have been impossible without the support of all international partners showing the open entrepreneurial mindset and international orientation of the startup sector. Travelling across Europe and Israel for the European Startup Monitor, the call for more research on European startups was clear. Many initiatives are mapping and monitoring the individual startup-ecosystems on a national level and often in the national language only. These initiatives must be brought together to be able to compare and benchmark. The European Startup Monitor is purposely using only data generated with one multilingual online survey of European founders and the same methodology throughout.

We would like to thank Google, KPMG and Telefónica Germany GmbH for sponsoring us and supporting the European Startup Monitor. A special thanks to everyone who was involved in promoting the study, open to share ideas and networks and overall supportive of working together on a voluntary basis. All international partners and universities supported the study pro bono, which would not have been possible in many other sectors. We hope to be able to develop the study further in cooperation with the European ecosystems, making the European Startup Monitor an holistic initiative created by and for founders out of pure enthusiasm for startups and innovation.

Lisa Schreier – Head of Research & International Strategy, German Startups Association





As one result of the positive partnership with many European representatives of startups for the European Startup Monitor, the German Startups Association has jointly with Startup.be (*the Belgian Startup Association*) initiated the European Startup Network.

Believing, that in order to make rapid legislative adaption possible, startups have to be understood and the relevant areas of improvement need to be clearly identified. This can be done by combining scientific research with practical knowledge and best practice examples of all European startup ecosystems. The national startup associations have as part of the European Startup Monitor proven that they are more than willing to work together, share best practices and leverage their national networks at a European level to coordinate actions and communicate together for the benefit of their national startups.

With the intent to connect the national startup ecosystems across Europe to form a platform for best practice exchange and European policy suggestions made by and for founders, many startup associations commit to creating this European Startup Network.

This network will work on three areas:

- 1. Scientific research to create transparency and hard facts as basis for policy making**
- 2. Policy formation and campaigning**
- 3. Further development of the European entrepreneurs' network setting up cross-market soft landing programs for scaleups; implementing Startup Manifesto insights and proposals;**

For more information visit www.europeanstartups.org
or follow the European Startup Network on Twitter
[@StartupEurope](https://twitter.com/StartupEurope)



Dr. Rudolf Dömötör – Director of the Entrepreneurship Center Network (*ECN*) at the Institute for Entrepreneurship & Innovation at Vienna University of Economics and Business. ECN is a joint initiative of six Viennese universities.



Prof. Håkan Boter – Professor at Umeå School of Business and Economics (*USBE*), Sweden. His areas of expertise include Entrepreneurial Economics, Organizational Studies, Business Administration.



Umeå School of Business and Economics
Umeå University

Javier Capapé – Javier Capapé is a Spanish economist, Research Associate at IE - Sovereign Wealth Lab at IE Business School and PhD Candidate at ESADE Business School (*exp. January 2016*), expert on Sovereign Wealth Funds and SovereignNET Research Affiliate at the Fletcher School (*Tufts University*) since 2012.



Andrew Atherton – Andrew Atherton is a Professor of Enterprise at Lancaster University. His current research interests and areas of activity include innovation and entrepreneurship, local and regional development and social dynamics and aspects of entrepreneurship, as well as entrepreneurship in China and business startup.



The German Startups Association has been a representative and voice of startups in Germany since 2012 and is committed to establishing a founder-friendly environment. This is done by engaging decision-makers in politics, developing proposals that encourage a culture of self-employment and reducing the barriers to starting a business. The association promotes innovative entrepreneurship and wants to establish an entrepreneurship mentality in society. The association is initiating events and startups exchanges between different ecosystems, such as Silicon Valley, New York or Tel Aviv to connect founders, startups and their friends with each other as a broad network. The association has more than 500 members, including 400 startups. The association performs research on the startup ecosystems, in Germany (*German Startup Monitor*) as well as the broader Europe (*European Startup Monitor*). It is an initiative founded by and for founders.



**Florian Noell**

Florian is the chairman of the board at the German Startups Association and a true entrepreneur. He has founded multiple startups and advises on digital economy issues. He is the deputy chairman at the Young Digital Economy Advisory Board giving the Federal Minister of Economic Affairs and Energy firsthand advice on current issues, particularly on the development and potential of the young digital economy and on how to provide startups with a better environment in which to grow. Furthermore, he initiated and co-authored the German Startup Monitor in 2013. Florian has been acknowledged for his extraordinary achievements multiple times, including being named as one of the 40 talents under 40 by Capital Magazine.

Lisa Schreier

Lisa is Head of Research & International Strategy at the German Startups Association. She has graduated from ESCP-Europe with a Masters of Science in European Management. She has

lived, worked and studied in Berlin, Cambridge and New York and has long-term experience in the consulting and governmental sectors. Her areas of expertise are international relations, intercultural competence and business strategy. For the German Startups Association, Lisa is working on European relations, creating a network for European startups to share experiences. Lisa is in charge of both the European Startup Monitor and the European Startup Network. As a network manager, she regularly visits other European startup representatives, startup related events and the European Commission in Brussels.



The chair of business studies and business informatics, in particular e-business and e-entrepreneurship (*net-CAMPUS – We start your e-entrepreneurship*), is located at the University of Duisburg-Essen and led by Prof. Dr. Tobias Kollmann. The research group develops quality solutions for theoretical and practical issues in the scope of the digital economy. The chair occupies itself with current topics associated with electronic business processes, but also fosters interdisciplinary research in the classic research fields of business studies and business informatics. In the field of teaching, the chair follows a special link between economic and technical areas with a special focus on qualification and startups in e-business. There are two main aims: to contribute and intensify the usage of digital business processes (*e-business*) and to foster the foundation of startups in the digital economy (*e-entrepreneurship*).



Under the flag “netSTART – We start your e-business”, Prof. Dr. Tobias Kollmann offers a variety of key-note presentations, speeches, seminars and workshops for individuals and companies that consider the digital transformation as their personal chance or necessity in business. The topics cover economic, societal, technological and political aspects regarding the digital economy, digital innovation and digital transformation. More than 200 companies — from small and medium-sized firms to large corporations — have used this opportunity in the last ten years. Renowned clients include large banks, media and publishing companies, educational institutions or political parties.



**Prof. Dr. Tobias Kollmann**

Prof. Dr. Tobias Kollmann holds the chair of e-business and e-entrepreneurship at the University of Duisburg-Essen in Germany. Since 1996, he has addressed research questions in the fields of the internet, e-business and e-commerce. As a co-founder of AutoScout24, he is among the pioneers of the German internet economy and electronic marketplaces. He is the author of numerous books and practice-based and expert articles in the areas of e-entrepreneurship, e-business and acceptance/marketing in new media. For his research and funding concept in this area, Prof. Dr. Kollmann has received a special award at the UNESCO Entrepreneurship Awards (*Entrepreneurial Thinking and Acting*) in 2007. As a business angel, he has supported and financed several startups over the past 15 years and was recognised as Business Angel of the Year by the Business Angels Network Germany e. V. in 2012. Since 2013, Prof. Dr. Kollmann has been the chairman of the Young Digital Economy Advisory Board for the German Federal Ministry

of Economic Affairs and Energy. In 2014, Germany's largest federal state, North Rhine-Westphalia, appointed him as its representative on issues of the digital economy. Against this background, Prof. Dr. Kollmann has become a popular speaker on topics with regard to the digital economy, digital transformation and digital change. According to the Business Punk journal (*2nd edition, 2014*), he ranks among the 50 most important leaders of the startup scene in Germany.

**Dr. Christoph Stöckmann**

Dr. Christoph Stöckmann is a post-doctoral researcher ("Akademischer Rat") at the University of Duisburg-Essen in Germany, where he is a member of the e-business and e-entrepreneurship research group at the Faculty of Economics and Business Administration. He holds a German diploma (*MSc equivalent*) in business administration and information systems and has received his doctoral degree with a thesis on entrepreneurial management in adolescent ICT companies from the University of

Duisburg-Essen in 2009. His professional experience includes project management as well as consulting in entrepreneurial and innovation management in young growth companies and established companies. His research on various aspects of entrepreneurship, innovation and the digital economy has been presented at numerous national and international conferences and in top-tier academic journals such as *Entrepreneurship Theory and Practice (ET&P)*.



Jana W. Linstaedt, Dipl.-Psych.

Jana W. Linstaedt is a research associate and doctoral candidate at the e-business and e-entrepreneurship research group located at the University of Duisburg-Essen. She studied psychology with a focus on industrial, organisational and media psychology as well as social cognition and interaction at the Saarland University. In her doctoral thesis, Ms Linstaedt examines psychological factors and mechanisms in entrepreneurial teams and organisational management dyads that affect entrepreneurial work processes and outcomes.



Julia Kensbock, M. Sc.

Julia Kensbock is a research associate and doctoral candidate at the e-business and e-entrepreneurship research group located at the University of Duisburg-Essen. She studied psychology with a focus on industrial and organisational psychology at the universities of Mannheim and Konstanz. Combining the fields of psychology and management in her doctoral thesis, she addresses various psychological factors that have an impact on the behaviour of individuals during entrepreneurial activities and in organisational contexts.



Google's mission is to organise the world's information and make it universally accessible and useful. Google is committed to empowering entrepreneurs around the world through programmes, partnerships and products. Google for Entrepreneurs partners with startup communities and builds campuses where entrepreneurs can learn, connect and create companies that will change the world. Since 2011, it has launched campuses and formed partnerships that support entrepreneurs in 125 countries.



KPMG is a network of professional firms with more than 162,000 employees in 155 countries. In Germany, KPMG is one of the leading auditing and advisory firms with around 9,600 employees at more than 20 locations. Its services are divided into the following functions: audit, tax and advisory. It has established teams of interdisciplinary specialists for key industries of the economy. These pool the experience of experts around the world and further enhance the quality of the advisory services. KPMG's Smart Start Team has set itself the task of supporting entrepreneurs in getting their businesses up and running. They know the typical challenges that arise in the lifecycle of a startup. Regardless of whether you are just getting a good idea off the ground, looking for investors or already enjoying your first sales, the KPMG team is there to assist you with any business or legal issues. *Legal services are provided by KPMG Rechtsanwaltsgeellschaft mbH.

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1 Responses from countries with a sample size of at least $N = 30$ were chosen for the analyses.

2 In the detailed comments regarding country comparisons, we sometimes summarise single countries into larger categories in order to give a better overview of the data. With regard to the countries' geographical location, we are talking about northern (*Sweden, United Kingdom, Netherlands*), southern (*Spain, Italy, Israel*), eastern (*Romania, Poland, Czech Republic*) and western (*Germany, Austria, Belgium, France*) ESM countries, following the recommendation of the United Nations. In terms of the size of the economies, we rely on the countries' gross domestic product (*cf., top three large economies: Germany, United Kingdom, France; smallest economies: Israel, Czech Republic, Romania*).

3 Figures in this report might include differences in totals that are due to rounding.

4 The numbers for the origin of employees in Berlin were taken from the DSM 2015 (*Ripsas & Tröger 2015*).

5 Received and planned amounts of external capital were assessed in categories. We referred to the value that lies midway between the lower and the upper value (*e.g., for the category "€ 25,000 and € 50,000", we used the value € 37,500*) to estimate the overall amount of

external capital received or planned.

6 The annual revenue of startups from Romania and the Czech Republic are not analysed due to an insufficient sample size for this question.

German Startups Association

Lisa Schreier – Head of Research and International Strategy

Schiffbauerdamm 40

10117 Berlin

Germany

+49 (0) 30 60 98 95 91 - 14

lisa.schreier@germanstartups.org

www.deutschestartups.org

University of Duisburg-Essen

Prof. Dr. Tobias Kollmann

Department of Economics and Business Administration

E-Business and E-Entrepreneurship Research Group

Universitätsstrasse 9

45141 Essen

Germany

+49 (0) 201 18 3 - 26 28

christoph.stoeckmann@icb.uni-due.de

www.netcampus.de