





Imprint

Publisher

Federal Ministry for Economic Affairs and Energy (BMWi) Public Relations 11019 Berlin, Germany www.bmwi.de

Text and editing

Loesch*Hund*Liepold Kommunikation GmbH alongside VDI/VDE Innovation + Technik GmbH

Design and production

PRpetuum GmbH, Munich

Status

June 2017

Illustrations

Jacob Ammentorp Lund – iStockphoto (title), BLEND3 Frank Grätz (p. 4), EYEVIDO (p. 4), .shock – Fotolia (p. 6), Rawpixel.com – Fotolia (p. 7), Romy Schnelle (p. 10), Henn (p. 10)

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Federal Ministry for Economic Affairs and Energy (BMWi) Public Relations publikationen@bundesregierung.de www.bmwi.de

Central procurement service:

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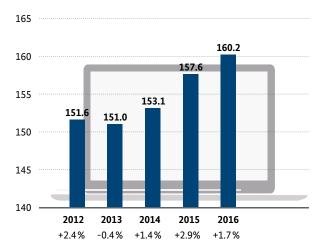
ICT start-ups – catalysts of innovation for the German economy

In the past years, the number of businesses being established in Germany has steadily decreased. According to data from the Centre for European Economic Research (ZEW), the number of start-ups established in 2004 was 270,000. In comparison, in the year 2014 just 160,000 (approx.) businesses were established. In the past two years, the number of start-ups has remained almost constant. The downward slide seems to have come to an end. According to data in the "Monitoring Report - DIGITAL Economy 2015" by the Federal Ministry for Economic Affairs and Energy, this also applies to the high-tech start-up sector. In 2014, approx. 6,700 start-ups were founded in the ICT sector. Based on the total number of companies in the sector, this is equivalent to a business start-up rate of 6.9%. This figure is higher than in nearly all comparable sectors. Within the ICT sector, ICT service providers proved to be particularly keen entrepreneurs. They had a business start-up rate of 7.1%- nearly 3% higher than in the ICT hardware sub-sector. This means that notably more businesses are being founded in ICT services than in the other comparable sectors in the services industry.

ICT start-ups also take pressure off the labour market. After already 23,000 new jobs were created in ICT businesses in 2015, digital association Bitkom assumes that in 2016 a further 20,000 jobs will be created. This growth is particu-

Growth German ICT-Market 2016

Turnover ICT-Production and -services in Germany (EUR billion)



Source: Bitkom, EiTO, IOC, GfK

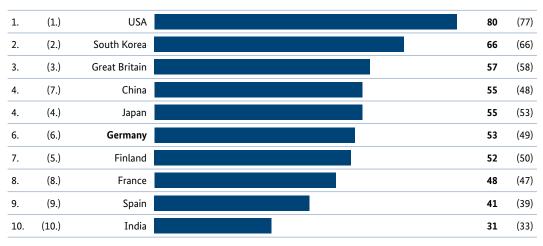
larly prevalent in the software segment where software providers are benefiting from the entire economy moving over to digital business models. At the moment, there are over one million people employed in ICT companies, which makes the sector the second-largest industrial employer after the engineering sector.¹

Challenges in the young ICT sector

Today entrepreneurs still face many obstacles. As in previous years finding funding is still one of the greatest challenges for entrepreneurs in Germany. Particularly in the early stages, entrepreneurs experience significantly greater difficulties than established companies in securing funding for their business models. The fact that the company is new and the risk involved makes it hard for entrepreneurs to gain the trust of creditors. Another obstacle is still the skilled labour shortage, which presents a great challenge for young companies with regard to their growth prospects. Fortunately, according to the "Trend barometer for the young ICT sector 2015", the situation has improved. To obtain the trend barometer results, start-up competition winners were regularly surveyed and the results summarised. In 2012, 57% of respondent entrepreneurs stated that they had difficulties finding suitable employees for their start-up. By comparison, in 2015 just 47% said the same. Though this shows that around half of all ICT entrepreneurs still find it difficult to find suitable candidates, this figure sunk to below 50% for the first time since 2012, and considering the boom in business activity, it can be assumed that a positive trend will emerge.

The assessment of the order situation in young ICT businesses is also positive. According to the trend barometer survey it is clear that the majority of respondents believe that there is a healthy market environment. This optimistic assessment was shared consistently in the last four years by over half of those surveyed.

Location index DIGITAL: Index on performance of digital economy



Source: TMS Infratest, 2015; 2014 figures, previous year in brackets

Germany as a competitive site for the digital economy

Germany is ranked sixth in the international index on the performance of the digital economy, the "Location index DIGITAL", with a total number of 52 points. With 80 points the USA is top of the list ahead of South Korea and the United Kingdom. Thanks to significant enhancement, the Chinese digital economy (55 points) was able to move up from seventh to fourth place. According to international experts surveyed, the strengths of Germany as a location for ICT enterprise lie in its innovative potential, market access and the connections between the ICT sector and other branches of the economy. Its weaknesses include the skilled labour shortage, a poor network infrastructure and the low export rate in the ICT sector as a proportion of total German exports.²

Most of the entrepreneurs in Germany are German citizens (90.9%). The remaining 9.1% originate for the most part from other EU countries. Non-German entrepreneurs who set up their businesses in Germany often explain this choice by saying that they have lived in Germany for a long while and find it an attractive business location. There are more foreign female entrepreneurs than foreign male entrepreneurs.³

With programmes like the "Digital Innovations Start-up Competition", financial support, coaching and consultation services, Germany offers ICT entrepreneurs a particularly promising starting point for realising their dream of setting up a business. These programmes have indeed proved successful: According to the "Trend barometer for the young ICT sector 2015", approximately half of competition participants establish their own company within a year of submitting their application. Figures show that over 1,300 business ideas have been brought to life since the first year of the competition in 2010 - which was called the "ICT Innovative Start-up Competition" back then. The aim is to continue this success story with the new "Digital Innovations Start-up Competition". The new competition places emphasis on addressing women and employed people in order to diversify the image of the typical entrepreneur in future.

² Monitoring Report - Wirtschaft DIGITAL 2015.



Tip for Entrepreneurs from Jörg Kaienburg, Founder and Director of SIListra Systems and winner of the "ICT Innovative Start-up Competition" 02/2011

Specific focus instead of the hawker's tray approach

Start-ups and small businesses are valued by large businesses for their focus and in-depth knowledge on a new technology, a new method as well as many other reasons. Keep your focus, expand your knowledge on it, extend your lead in that particular area- and be honest with the customer. Tell the customer what you can do and also tell the customer clearly what you can't do.

A hawker's tray full of skills, knowledge and expertise will end up being called into question based on objective factors such as the business size, age etc.

If the customer doubts you, his/her door will remain closed for a long time.



Tip for Entrepreneurs from Dr. Tina Walber, Co-founder of EYEVIDO and winner of the "ICT Innovative Start-up Competition" 01/2014

Have the courage to review your business idea

It is well known that feedback from outsiders who are not yet familiar with the start-up project can be particularly helpful. During the start-up competition process, your idea undergoes an objective review - most of the time by recognised experts- on the basis of your written application. Here entrepreneurs have the opportunity to receive valuable and completely unbiased feedback whilst developing their idea. Even though it can sometimes be difficult to accept criticism or to start the application again, the application documents and the idea itself can be optimised from time to time. An application will only become truly good if the entrepreneur has the courage to review the idea and to delete or rewrite whole text passages if necessary, even if it sometimes hurts to do so.

Who is setting up a business and why?

Women as entrepreneurs: many freelancers, hardly any start-ups

Women are still in the minority when it comes to setting up a business. Though the "German start-up monitor" reported a slight increase in the number of female entrepreneurs from 2014 to 2015 - from 10.7% of all German start-ups to 13% - this can barely be regarded as a growing trend. The "National Agency for Women Start-up Activities and Services" also only recorded 16% of new businesses in the ICT sector as being founded by women. The reasons for this are currently being explored. One study carried out by the Institute für Mittelstandsforschung Bonn shows that the desire to have children or interrupting the career path by taking parental leave do not have a negative impact on the entrepreneurial behaviour of women.

More female STEM students increase possibility of more female ICT-FOUNDERS.

The situation is completely different if we look at the number of women setting themselves up in freelance, "liberal" professions. For instance, the KfW start-up monitor showed that for the year 2014, 56% of start-ups in this field were established by women. Liberal professions include journalistic activities, consultancy and assessment professions, medical assistance and medical health occupations - most of which require an academic education. This figure shows: Women do not shy away from being self-employed. The gender difference appears to lie rather in the form of selfemployment - women are more likely to work freelance as journalists, men are more likely to set up a business in technology. The growing number of female STEM students gives reason to hope that this trend may soon be reversed. The "Digital Innovations Start-up Competition" therefore aims to motivate women with a modern ICT-based start-up to apply so that they may also benefit from individual support, coaching, mentoring and professional networking.

The typical entrepreneur



The majority of entrepreneurs in the ICT sector in Germany are men. Men also set up their businesses earlier than women. Currently the average age of male entrepreneurs in Germany is 34.9 years; female entrepreneurs are on average 35.1 years old. Just 15% of entrepreneurs are 45 years of age and above. 45.5% of German entrepreneurs have already set up more than one company, often this company is still running whilst the new one is being established. Only a fraction of first businesses are abandoned due to insolvency. There is a growing number of serial entrepreneurs.

Entrepreneurs in employment: considerable experience, great potential

Many entrepreneurs begin with their business idea straight after university, others were active in a research institute prior to establishing their business. A small, yet also very interesting group is the entrepreneurs in employment: They develop their business whilst puzzling over and refining their new ideas after work or come across these ideas as a "by-product" of their daily work. Often employed people first establish a business as a secondary occupation in order to test out and promote their idea, and only take the plunge into full-time self-employment after some time. Others receive support from their employer and have the possibility to establish a spin-off.

Often entrepreneurs in employment are people with industry experience who have solid expertise in development, production, marketing and sales. In addition, they have had the opportunity to build a wide network of valuable contacts. All these factors combined with the right idea mean that this is a very promising group of entrepreneurs which

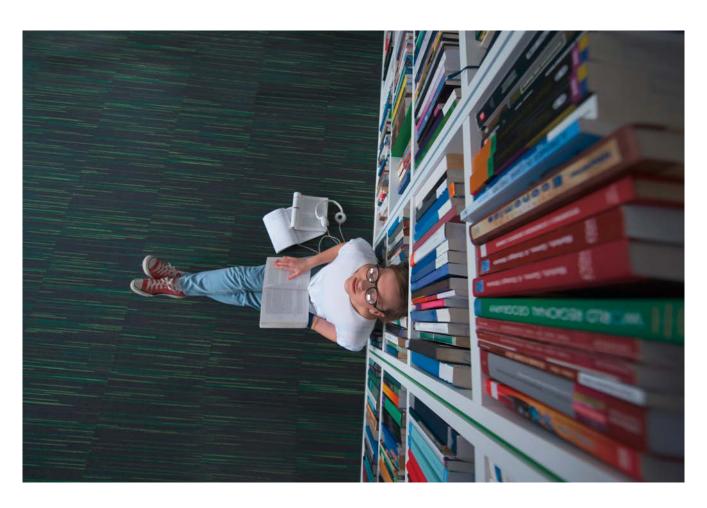
has so far been unfairly overlooked amongst the other young start-ups. Product ideas and business concepts developed by people or teams with this kind of background and wealth of experience often have good prospects of implementation in reality- especially if the employer has a recognisable interest in using these developments. Some large companies have already recognised this potential and have established their own tools to stimulate and support employees in building their start-ups. The "Digital Innovations Start-up Competition" also aims to support entrepreneurs who make the move from employment to self-employment.

Graduates: the bedrock of the creative entrepreneur scene

According to the KfW start-up monitor, just under one third of entrepreneurs are in the 25-34-year-old age category. Many of these entrepreneurs come straight out of university: Whilst studying they have worked on an idea and gained skills during internships and first jobs or they may have worked post university in an academic environ-

ment. In fact, 19.5% of entrepreneurs hold a university degree. Bearing in mind that the proportion of graduates of the whole population is 11.3%, academics seem to be very strongly represented amongst entrepreneurs. They mainly set up businesses in the field of ICT or life sciences such as medicine and biotechnology and often work in liberal professions.

There are many programmes on offer to help and support graduates in setting up their own businesses. These include start-up initiatives and programmes such as EXIST as well as seminars and lectures. In Germany, there are already over 70 professorships in entrepreneurship with further posts in planning. This means that, at least in theory, entrepreneurs with a degree are well prepared, and in many cases, they have sufficient financial resources so that 74% of them do not even need external financial support in setting up their business. They are therefore less worried about the financial risk they are taking than the bureaucratic obstacles they must overcome when becoming self-employed. The "Digital Innovations Start-up Competition" provides graduates with targeted coaching and consulting.



Guidelines for the "Digital Innovations Start-up Competition"



The Federal Ministry for Economic Affairs and Energy is supporting start-ups in the field of information and communication technology with the "Digital Innovations Start-up Competition". The aim is to tap the existing entrepreneurial potential in Germany and to further increase the number of ICT start-ups. The competition for business start-ups is one of the measures defined in the Federal Government's Digital Agenda for strengthening the entrepreneurial dynamic in the ICT sector.⁴ Competitions are run every six months. The competition is open to all innovative business ideas based on products and services in the ICT field.

What can I win?

Main prizes: In each competition round up to six start-up ideas are awarded a main prize of EUR 32,000 each. The aim is that winners will use this prize money as start-up capital for establishing their businesses. An instalment of EUR 7,000 is paid to the winners after the prizes have been

awarded. The remaining EUR 25,000 can be used within a period of twelve months after the prize has been awarded to establish a specific company in the form of a limited liability company (GmbH) or a public limited company (AG) with headquarters in Germany.

Prizes: In addition, in each competition round up to fifteen other business ideas are awarded prizes worth EUR 7,000 each, which are paid after the prize-giving.

Special prizes: The BMWi will also award special prizes worth up to EUR 10,000 on current topics of the Digital Agenda. The topics for the special prizes will be announced on the competition website in due time.

Feedback: Competition participants will receive a written assessment of their business idea regarding its strengths, weaknesses, opportunities and risks (SWOT analysis).

Coaching, mentoring, capacity building, networking:

All prize winners benefit from an individually tailored and comprehensive coaching and capacity building programme:

- The first step is the business model assessment in which the business idea is analysed in terms of its strengths, weaknesses, opportunities and risks and the next steps in setting up the business are identified.
- Experts from the national coaching network then assist
 the prize winners on site with specific issues they may
 have. Entrepreneurs should make use of this individual
 coaching for a period of up to twelve months after being
 awarded the prize.
- Seminars and workshops provide entrepreneurs with detailed knowledge on topics such as "communication", "online marketing", "legal aspects of running a business" and "obtaining financing".
- The start-up competition fosters tailored networking between entrepreneurs and important industry partners: Investors (banks, business angels, VCs), potential customers and cooperation partners.
- A network is established for prize winners comprising mentors who are all experienced entrepreneurs.

How can I apply?

The start-up competition is a competition of ideas. The business concept should be described over a maximum of 15 pages. It is not necessary to draw up a comprehensive business plan. In the idea sketch the participants describe what is innovative about their idea, mention their technical and business skills and describe their connections with potential customers and partners. The panel expects a clear description of the planned business model, a realistic assessment of the target market and competitors as well as initial sales and marketing ideas. The idea sketch should also include an initial rough time plan for setting up the company and the basic framework of a financial plan (pricing, turnover, costs, funding).

In order to present the business idea better, it is also possible to send in a video along with the idea sketch (maximum length - 60 seconds) introducing the product, service and possibly the team. However, the decisive criterion for awarding the prizes will remain the idea sketch.

Idea sketches (PDF) and the optional video are submitted online at www.gruenderwettbewerb.de The competition has two phases:

- Phase 1: The participants or teams register online and upload their idea sketches and their (optional) videos. After the deadline for Phase 1 all participants receive written feedback (ranking in competition and SWOT analysis.)
- Phase 2: The best sketches from Phase 1 are granted the opportunity as "nominees" to revise their documents after having received the feedback and to upload their application again. The judging panel selects the prize winners from the nominated participants. All Phase 2 participants receive written feedback once more (ranking in competition and SWOT analysis).

Team applications should list all team members. All correspondence will be conducted with the named contact person in the team. After the application deadlines in Phase 1 and Phase 2 have passed, receipt of competition applications will be confirmed.

There will be no right of legal appeal against the judging panel's decision.

Application deadlines

Every year two competition rounds take place.

Dates:

Round 1

Phase 1: 1st January till 31st March Phase 2: 1st June till 30th June

Round 2

Phase 1: 1st July till 30th September Phase 2: 1st December till 31st December

The deadline for submitting applications is at 6:00pm on the closing date.

Should the deadline fall on a Saturday, Sunday or a public holiday, the deadline will be extended to the first working day of the following month at 6:00pm.

Participation requirements

The competition is open to all natural persons resident in Germany. The planned business must be founded in Germany.

As far as participants have already established a corporation in the form of a limited liability company (GmbH) or a public limited company (AG) on the basis of the business idea submitted in the competition application, this corporation may not have been established more than four months prior to online registration for a competition round. This deadline does not apply to limited liability entrepreneurial companies (UG).

Applications submitted in the "Digital Innovations Start-up Competition" may be re-submitted up to two times in the subsequent competition rounds taking into account the feedback provided in the first.

Exclusion from participation

VDI/VDE-IT employees and employees of the Federal Ministry for Economic Affairs and Energy as well as relatives of the aforementioned persons are excluded from participating in the competition. Winners from previous rounds of the "Digital Innovations Start-up Competition" are also excluded from participating.

Hotline

A hotline service (telephone/email) for competition participants and interested people is available on working days from 9:00am until 5:00pm:

Tel.: 030 310078-123

Email: info@gruenderwettbewerb.de

How will prize winners be selected?

The judging panel: The Federal Ministry for Economic Affairs and Energy decides on the award of prizes with the support of an independent panel comprising representatives from industry and science. Judging panel members will be listed on the competition website www.gruenderwettbewerb.de.

Assessment criteria: The following decisive criteria are to be applied in selecting the best business concepts:

- level of innovation in the business idea
- market potential and competitiveness of product or service
- feasibility of the envisaged business concept
- qualifications and experience of participants/team

How are confidentiality and data protection ensured?

Data processing and data protection

The VDI/VDE-IT saves participants' data in a database and these data are processed automatically. Participant data, idea sketches and videos will only be available to the Federal Ministry for Economic Affairs and Energy and the members of the judging panel appointed by the BMWi.

Confidentiality

The VDI/VDE-IT, the judges and the Federal Ministry for Economic Affairs and Energy undertake to use the data made available to them on participants and their competition entries exclusively for the purposes of the competition and to handle these data confidentially.

Publishing prize winner details

The names of the winners of the competition rounds will be publicly disclosed. Material on the content of the winning entries will be published with the agreement of the participants.

Impact analysis

Competition participants undertake to take part in surveys carried out by VDI/VDE-IT for the purpose of an impact analysis. The impact analysis aims to provide information on the success of the start-ups that received funding and of the competition in general as well as tips for how the

competition procedure can be enhanced. The information collated in the impact analysis will be used exclusively for the specified purposes by the VDI/VDE-IT and will not be passed on to third parties. Analysis findings based on the

information provided shall be published in anonymised form provided that no other explicit consent has been obtained from the relevant participants.



Romy Schnelle is Investment Director at High-Tech Gründerfonds Management GmbH (HTGF)

Team, Team, Team

Thorough preparation and poise form the basis for a successful first encounter with investors. These are not only investing in the innovation and business model but also in the start-up team itself. For this reason, they are looking for outstandingly committed and intelligent entrepreneurs, who complement each other in their expertise and capabilities and are also able to reflect on their own actions and want to learn something from this.



Thomas Henn is co-founder of Virtenio and winner of the main prize of the "ICT Innovative Start-up Competition" 2010

Keep your customers in mind

Focus all your actions, developments and activities from an early stage on potential customers. If these cannot yet be identified specifically, take a step back and view your work critically from the perspective of the target market. It is very important for start-ups in the ICT sector to bring together their own technology with specific market needs and in doing so to generate as much customer value added as possible using limited company resources.

Competition Organisers

Points of Contact

The "Digital Innovations Start-up Competition" is a competition established by the Federal Ministry for Economic Affairs and Energy Scharnhorststraße 34–37 10115 Berlin

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The following company has been commissioned with the organisation of the competition:

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