

Gründungsradar 2012

How higher education institutes
support company start-ups

Andrea Frank • Barbara Grave
Pascal Hetze • Annett Kanig

SUMMARY

Supported by:



on the basis of a decision
by the German Bundestag

1

Findings in brief

Promoting the transfer of knowledge from higher education institutions (HEIs) to industry and society is being perceived more and more as a central function of HEIs, including by the institutions themselves. The launch of the EXIST initiative at the end of the 1990s was instrumental in integrating company start-ups as a key transfer channel. Since then, many HEIs have endeavoured to establish an active entrepreneurial culture in their institutions and to familiarise their students and academic staff with the question of start-ups. Structures were created and strategies developed with a view to identifying and assisting potential start-up founders at HEIs. The *Gründungsradar* measures how successful HEIs are in creating an active entrepreneurial culture. In 2012, the HEIs included in the *Gründungsradar*, which make up 54 percent of all HEIs in Germany, reported the following:

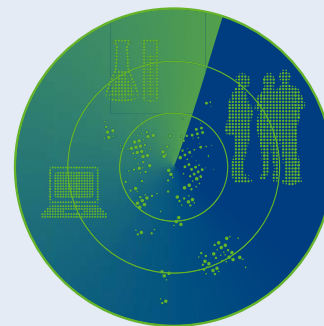
- €49 million channelled into start-up support
- 1,123 curricular and 2,089 extracurricular events relating to start-ups
- 101 entrepreneurship professorships
- 4,284 supervised start-up projects
- 1,145 start-ups

The core of the *Gründungsradar* is a comparison of activities undertaken by HEIs in supporting start-ups. This is based on four areas:

- (1) Establishing a start-up culture
- (2) Raising awareness about start-ups
- (3) Supporting start-ups
- (4) Start-up activities

An overview of the most important findings:

- The winners of the *Gründungsradar* in the various categories are the Munich University of Applied Sciences (large institutions: 15,000+ students), Leuphana University in Lüneburg (medium-sized institutions: 5,001 to 15,000 students) and HHL Leipzig Graduate School of Management (small institutions: maximum of 5,000 students). All three HEIs performed extremely well in all four of the areas listed above and set an example for other HEIs.
- An exemplary approach to start-up support can be found in both large and small HEIs, at both universities and universities of applied sciences and at both private and public HEIs. An active entrepreneurial culture can develop anywhere where committed, motivated individuals meet with structures that are conducive to nurturing start-ups. The size and profile of the institutions have a clear influence on start-up activities – both in terms of absolute figures and in the type of start-up, i.e. the technology and innovation involved.
- The start-ups from an HEI and the local economic environment have an influence on one another. More start-ups are recorded by HEIs in strong economic regions with high research and development budgets and many patent applications. However, even regions with weak structures can be said to have potential



and incentives for fostering academic start-ups. This is because it is especially in these areas that HEIs can help to transfer new knowledge to the region.

- In the comparison of HEIs, those that have received financial support from the EXIST programme fare better than those that have not yet received such assistance. In particular, it is evident that EXIST-supported HEIs have made greater progress in establishing an institutional start-up culture and in raising awareness about start-ups – for instance in academic circles – than is the case in the comparison group. Even greater differences can be seen with those HEIs that were successful in the EXIST IV support stage. With the exception of start-up activities, these perform better in all categories than the HEIs that did not receive EXIST IV support.

2

Recommendations for providing start-up support

In spite of significant progress, the question of knowledge and technology transfer – and, in particular, of supporting start-ups – has not yet penetrated the core activities of many HEIs. According to a Stifterverband survey of HEI rectors and presidents, the priority in 82 percent of cases is on research and academia, with a mere ten percent focusing primarily on transferring knowledge to industry and six percent in transferring knowledge to the civil society (*Hochschul-Barometer*, 2012). Fewer than half of all HEIs surveyed (40 percent) set up one or more entrepreneurship professorships. Only one in four HEIs has established start-up support elements (with concrete strategies and measures) in its target agreements; similarly, start-up support is only explicitly specified in the scope of functions for a member of the HEI administration in 13 percent of cases. This means that start-up assistance in HEIs is still faced with challenges and requires input from political representatives, industry and from the HEIs themselves. The following recommendations for further developing this topic are derived from the findings of the HEI comparison, from research into effective hands-on approaches and from discussions with experts.

Development potential for HEIs

HEIs should use the transfer function, which has since been included in all federal state university laws, to develop a sustainable transfer and start-up culture and, in turn, to make use of this to establish a suitable profile for themselves in the HEI landscape. An active and successful transfer and start-up culture makes an HEI an interesting proposition for industry and for private fund providers as well.

Active entrepreneurial cultures can be found in universities and universities of applied sciences, at state and private institutions, at both large and small HEIs and at those in regions with both strong and weak structures. Owing to the differentiated HEI landscape and the diversity of the institutions with successful start-ups, there is no magic formula for establishing an active entrepreneurial culture. However, the findings of the *Gründungsradar* have yielded valuable information with regard to the strategies, structures and measures required for supporting start-ups effectively. The following courses of action can be recommended for HEIs:

Recommendations at HEI strategy level:

1. Start-up support should be anchored institutionally in a way that fits with the HEI's existing culture of research, academia and administration and that makes use of established channels of interaction

There are many ways in which start-up support can be anchored institutionally. The start-up support institutions can be based in the faculty, in administration or even across faculties. The anchoring model depends on the objectives of the start-up support, on the institutional culture in academia, research and administration,



on the finance bases in the start-up support and on the focus in terms of awareness, support and start-up activities. A high start-up success rate – measured in terms of start-up figures – cannot be attributed to any special anchoring model. Rather, it is more important that the type of anchoring should not create any barriers and that communication and coordination should take place across all areas. The type of institutional anchoring must allow all relevant players to work together and this work to be coordinated centrally.

2. Start-up support should be pursued as a holistic concept, including academia, research and consulting

Start-up support at HEIs includes elements of awareness-raising – for instance in the form of instructional courses – and concrete support for start-up projects. These input factors should have a positive effect on the output of start-ups. The *Gründungsradar* does indeed confirm that a healthy degree of institutional anchoring, awareness-raising and support at HEIs is correlated with a higher level of start-up activity. A central factor here is also the coordination of activities in the individual areas in order to provide start-up support efficiently and effectively in its various dimensions and to be able to make use of synergy effects. This means that a successful strategy for HEIs must include academia, research and consulting in their start-up support.

3. A comprehensive transfer strategy should be developed, taking into account all knowledge transfer channels – start-ups, cooperations with industry, patents and personnel transfer

The various transfer activities undertaken by HEIs interact to a great extent and have the potential to “cross-pollinate”. A research cooperation with companies can lead to an idea for a company start-up or for a patent. The idea should ultimately determine which transfer approach is taken. HEI staff who are active in start-up support should bear this in mind and think in different directions when approaching the commercialisation of an idea. However, it is not uncommon for there to be separate organisational units for different transfer channels. An HEI with an active transfer culture develops cooperative structures in order to shape the transfer process holistically. It implements incentive models and defines clear guidelines for scientists and administration, sets up effective service structures, anchors responsibility in the institution management as well, creates “role models” and high-profile success stories and establishes this culture independent of changing managerial personnel and institutional priorities. Such a cultural shift can only be brought about in the long term.

4. Incentives should be set for transfer activities, for example in the context of performance-based pay or appointment procedures

Research reputation is generally the central criterion in appointment procedures. A strong academic basis plays a certain role in personnel development at HEIs. By

contrast, there are only minor incentives for HEI staff to get involved in activities relating to the transfer of knowledge. Because of this, HEIs would need to take into account individual transfer performances to a greater extent. For instance, they can create scope for transfer activities, e.g. start-up sabbaticals – along the same lines as research sabbaticals – or acknowledge transfer activities by reducing teaching load or including them in performance-based pay structures. Incentive schemes such as this have only been used on rare occasions to date. Only in the case of 37 percent of HEIs does start-up support play a role in performance-based pay (*Hochschul-Barometer*, 2012). Transfer activities should also be a key criterion when it comes to individual appointment procedures. An appointment policy designed to increase the HEI staff's commitment to start-up support makes it easier to establish a suitable climate at the HEI and to mobilise and encourage HEI members to get actively involved in start-up support or to develop start-ups of their own.

5. Cooperation between HEIs should be actively encouraged in order to attain critical mass

Supporting and raising awareness about start-ups is only of interest for part of an HEI's students and staff. Particularly in smaller institutions, the demand is often too small to create sustainable and differentiated courses and consulting. Because of this, HEIs should create long-term (regional) networks and communication platforms in order to improve the quality and diversity of start-up support by means of complementary structures. One example of such a network and communication platform is the start-up initiative "Dresden exists", whereby HEIs and non-university research institutions in Dresden joined forces to support start-ups. Another is Potsdam University's PEARLS network with institutions from the Leibniz Association, the Helmholtz Association, the Fraunhofer-Gesellschaft and the Hasso Plattner Institute for Software Systems Engineering.

6. Sustainable financing should be provided for start-up support in order to safeguard points of contact for start-ups in the long term

The *Gründungsradar* shows that half of the start-up funding comes from external sources. This is especially the case when it comes to financing staff who work in start-up support. According to information provided by HEIs, 72 percent of staff have positions that are financed by third parties. Given that these employment contracts tend to be limited, this leads to high employee fluctuation but also makes it difficult to find qualified staff. In order to recruit and retain suitable staff and to offer potential start-ups an ongoing point of contact, an HEI should create a core of long-term positions, for instance by working together with partners from industry.

Recommendations for designing start-up support:

7. Pragmatic regulations should be put in place when it comes to dealing with intellectual property and usage rights

One success factor for HEI-based start-ups is how intellectual property and usage rights are dealt with, i.e. how they are transferred from the scientific institution to the newly established company. With start-up projects that use intellectual property rights owned by their university, this can lead to conflicts between the commercialisation interests of the HEI in question and the financial possibilities of the projects. In some cases, the institutions do not know the conditions at which they should transfer the rights. As regards intellectual property rights, HEIs should generally take an open approach towards start-up projects and, if in doubt, opt for a pragmatic approach that would not obstruct the aims of the start-up project. Possible solutions include exclusive licence agreements or patent acquisition agreements

with initial deferment of licence fees or acquisition price. However, another possible option would be to involve the HEI in the newly founded company in exchange for usage rights.

8. Transfer funds should be set up as a low-threshold initial form of support

Applying for start-up support from the state sets certain requirements, e.g. regarding type of start-up and rate of progress. This leads to a high level of success both as regards applications and as regards the ultimate survival of start-ups. In order to give unorthodox ideas a better chance of coming to fruition, HEIs should assist idea development by providing support early on – for instance through an HEI-owned transfer fund for financing above all access to infrastructure, start-up networks and equipment.

9. Start-ups should be documented and tracked systematically

To date, start-ups have only been documented in the case of 54 percent of all participating HEIs. However, documenting and tracking successful start-ups is not only for the purposes of legitimisation and measuring performance. Rather, it also makes it possible to examine internal HEI support mechanisms on an ongoing basis and to forge a long-term bond between the start-up founders and the HEI. By systematically tracking start-ups, it is ultimately possible to identify and record difficulties that only arise after the start-up has been established. The HEI can then channel this information back into the start-up support process, thus helping to offer high-quality support and advice. In addition, systematised documentation structures make it possible also to record start-ups that come to pass some time after their founders leave the HEI. The findings of the research project GUESSS indicate that this is by no means a rare phenomenon: only seven percent of students state that they intend to set up a company directly after completing their studies, while one in three intend to do so five years after graduating (Bergmann et al., 2012).

10. Start-up alumni should be included as role models in academic programmes and as mentors and start-up advisors

Start-up founders offer a wealth of practical experience that has the potential to generate interest in the topic among students. Particularly in subjects that are traditionally associated with start-ups, this can arouse initial interest. They can also provide specific assistance above and beyond the consulting offered by the HEI itself. Actively including start-up alumni and illustrating start-up stories helps to establish role models and to generate an active start-up culture.

11. More academic and training courses should be offered on entrepreneurship

Although there is no shortage of entrepreneurship professorships, there are only a small number of academic courses geared explicitly towards company start-ups and entrepreneurship. Here, HEIs should create above all new postgraduate courses (both with and without a professional experience requirement). As well as the possibility of providing students with broader training on entrepreneurship, this can help to establish entrepreneurship more effectively as an academic and research field in its own right in the HEI landscape. Courses in start-up support, for instance in the form of academic training, can help to raise the professional profile both at HEIs and elsewhere.

12. Start-up support should be seen as part of imparting entrepreneurial know-how

Entrepreneurial know-how is essential for a successful start-up. Because of this, imparting knowledge and experience about start-ups always includes entrepreneur-

ial skills. This can also refer to entrepreneurial know-how in an intrapreneurship (i.e. acting like an entrepreneur while working within a large organisation) or a company succession. Effective start-up support also imparts expertise for this kind of entrepreneurship.

13. The environment relevant to start-ups should be actively integrated in awareness-raising and support activities at an early stage

Start-up support extends beyond the scope of the HEI in question. Potential start-up founders benefit greatly from contacts to market partners and venture capital investors. Establishing such contact early on makes it possible for students to build up a network while studying, which will already be in place when they establish their new company later on. In addition, start-up founders can use the network for other purposes, e.g. for testing their product idea. Having a good network allows HEIs to offer consulting and support via network partners above and beyond their own immediate expertise.

14. Visibility should be created

The *Gründungsradar* shows that start-up support is provided at different HEI levels, in different faculties and in both centralised and decentralised forms. This diversity should be seen in a positive light. However, the decentralised and centralised individual activities should be viewed as part of an overriding start-up support. It is a question not only of recording the individual activities and the contact persons systematically but of presenting them transparently and identifiably both internally and externally, for example on the HEI's website.

Development potential for political representatives

As representatives of society, politicians have a genuine interest in supporting transfer and start-up activities. Particularly in the case of academic start-ups, which tend to have a technology and science orientation, this creates an important impetus for (regional) innovation and industry. However, 54 percent of HEIs state that start-up activities would not be supported by HEIs if there were no public support programmes (*Hochschul-Barometer*, 2012). This being the case, suitable incentives and support must be provided by political representatives in future as well in order to establish self-supporting structures in HEIs in the medium term.

State support for entrepreneurial culture, particularly through the EXIST programme, has already had a positive impact on start-up activities in the HEIs. This has been confirmed by direct interaction with HEIs. The findings of the *Gründungsradar* also show that HEIs receiving assistance perform better than average when it comes to raising awareness and supporting start-ups. Any efforts to further develop support programmes should take into account above all the diversity of HEI activities, the further establishment of sustainable structures and suitable monitoring systems and the integration within the transfer system as a whole.

15. Start-ups should be seen as part of the transfer and assistance should be given to raise the profile of the HEIs

HEIs define themselves primarily through the success of their research and the quality of their academic programmes. Because of this, the *Gründerhochschule* (founders' university) competition initiated by the Federal Ministry of Economics and Technology (BMWi) has been instrumental in advancing the strategic anchoring of an

entrepreneurial culture at HEIs. A further step should be to see start-ups more as one of many transfer channels and the aim should be to anchor a holistic exchange of knowledge successfully at an institutional level. Such a comprehensive transfer culture includes start-ups, cooperations with industry, patents and personnel transfer. National and regional policies should assist HEIs who wish to develop these transfer ideas as a central element of their profile. This results in a marriage of scientific and economic policy from which structurally weak regions can also benefit.

16. “Hidden champions” should be identified and assisted, particularly at universities of applied sciences and private HEIs

Despite their importance for their respective regions, small and medium-sized HEIs tend to have a lower profile as regards their start-up activities. However, it is often easier for them to establish know-how transfer (including start-up support and cooperations with industry) as part of their institutional profile and, in turn, to occupy a specific niche of the market. Because of this, individual small and medium-sized HEIs are very successful in supporting start-ups, surpassing the activities of many larger institutions in relation to the respective number of students. Private HEIs, which are frequently financed by company funds, often have fewer initial qualms about teaming up with companies and about the general idea of start-ups. In addition, universities of applied sciences have closer ties to industry owing to the hands-on nature of their research and training. Because of this, more attention should be given to these institutions and their transfer activities.

17. Business model innovations should be taken into account to a greater extent

State start-up support, for instance as part of the EXIST programme, provides assistance to technical product or process innovations and to innovative services. There is a third variant, which has received hardly any support so far: innovations that aim to change competition rules and to create a new market environment. These business model innovations are frequently knowledge-intensive without being linked to technology. Formats for supporting this specific kind of start-up project (or for similar projects in the creative industry) are only to be found at regional level, for example in Berlin and Bremen. However, innovations in these areas also have a high growth potential and should be taken into consideration to a greater extent in support programmes.

18. Support should be more open to taking risks and should widen its acceptance parameters

To date, start-up support at HEIs has reached a small group of potential start-up founders who are very successful in seeking out financial support and in their start-up activities. Most of the supported projects survive the initial years after the start-up phase. As start-ups generally entail a high risk of failure, this success can only be achieved by subjecting the supported projects to a strict selection process. However, given that the macroeconomic benefits of successful start-ups are large in relation to the support costs, an effort should be made to support a higher number of projects, even if the proportion of successful projects is smaller as a result. In this way, a culture of “learning from failure” can ultimately also be established, putting paid to the entrepreneurial fear factor that is still widespread in Germany.

19. Start-up support should be taken into account in performance-based fund allocation and in target agreements

Over half of start-up support at HEIs is financed by third-party funds. This means that most of the projects can only be planned for a limited time horizon. This also

leads to high personnel fluctuation, particularly when it comes to start-up advice, given that there is great demand for these skills outside HEIs as well. Political representatives are encouraged to take into account these transfer activities as well when determining basic financing for HEIs. It is possible – through performance-based fund allocation that includes transfer activities among its criteria and through concrete commitments in target agreements – to ensure that HEIs use the funds accordingly.

20. The support programmes of different fund providers should be harmonised

Relevant evaluations point to a wide range of support programmes at national, regional and EU level for all phases of start-ups (GIB, 2011; Kulicke et al., 2012). Public support programmes at different levels should complement one another in their aims and conditions. Coordinating these support programmes has a whole host of positive effects. It not only leads to a more efficient use of resources but the focus should also be on the target groups. This is because this coordination helps to avoid double structures, thereby increasing the stringency of communication and advisory structures. In this way, it also makes it easier for start-up founders and providers of start-up support to create networks.

21. Bureaucracy should be reduced and professional structures created

Many HEIs would like to be able to take a more simplified administrative approach to processing start-up support. For instance, the professorship holders that act as mentors to start-up founders are not prepared for the administration load that falls to them in connection with the support projects. They frequently lack the necessary time and administrative know-how which must then be acquired, costing time and money. Simplifying or outsourcing administration work can therefore help to create additional incentives for HEI professors to get involved in supporting start-ups.

Development potential for industry

Start-ups, and in particular HEI-based start-ups with a strong focus on technology and know-how, are of great importance for the hub of innovation that is Germany. They create regional added value and, by networking with other companies, can strengthen the competitiveness of the region. This means that industry – above all in HEI regions – benefits especially from HEI transfer activities. Companies, business promoters, chambers of commerce, associations and other start-up advisors can make a far greater contribution to successful start-up support and higher start-up activities at HEIs than has been the case to date. Because of this, they should actively approach HEIs and assist them in their start-up support activities. After all, start-up support is not a one-way street.

22. Active participation in (hands-on) academic courses should be increased

Given their first-hand experience, former start-up founders and entrepreneurs are ideally suited for conveying the opportunities and challenges of a start-up. Students value this hands-on approach both in curricular and extracurricular events. In addition, as active role models, they can communicate the notion of real-life entrepreneurial culture more effectively.

23. Insight into company workings should be given

Start-up founders from HEIs do not only need ideas for technical product or process innovations or new kinds of services to launch on the market, but also insight into

the right way to run a company. In addition to academic training, practical experience is of particular importance in this regard. As many start-up founders from HEIs have little or no experience as regards working processes in companies, they must acquire this insight some other way. Because of this, companies should offer suitable internships for start-up founders from HEIs. In addition, they can involve the founders, wherever possible, in company processes, for instance by providing work space or part-time employment.

24. Personnel exchanges should be facilitated, for instance through temporary start-up advisors

Smaller HEIs in particular cannot build up a comprehensive consulting infrastructure owing to the low number of start-up projects. Even large universities do not always succeed in finding suitable people for providing start-up advice within the public service pay structure. Here, companies or business promoters with their own staff can provide effective support, for instance by having their staff work part-time or temporarily as start-up advisors for HEIs.

25. Investor networks should be created

State start-up support is only provided for a very limited time. Only a small number of start-ups are able to support themselves after funding stops. Technology-oriented start-ups in particular have high investment requirements in the follow-up stage. Companies – and above all lenders of capital – should therefore actively approach HEIs with a view to getting involved in start-up projects early on and, in some cases, to participate in the financing.

26. A matching fund should be set up for start-up support

Companies, associations and business promoters are required to participate financially in start-up support at HEIs. One variant of such a public-private partnership approach is to set up a matching fund at HEIs with a view to financing start-up support. The funds from private investors are matched by public funds. This increases the incentive for private backers to provide financial support to HEIs. At the same time, the size of the private support can be a signal for the state indicating to what extent public support is justified. As an additional incentive for private investors, these can be given preferential insight into the various start-up projects. Partnership-based financing models are also possible in the case of individual start-up support. A prime example of this is the *Deutschlandstipendium* matching model, where scholarships are funded half by public money and half by private backers.

Contact

Dr. Barbara Grave

Telefon + 49 (0)2 01 84 01-4 24

barbara.grave@stifterverband.de

www.gruendungsradar.de