



Jenaer Schriftenreihe zur Unternehmensgründung

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Nr. 4 / 2005

**Arbeits- und Diskussionspapiere
des COE Centers of Entrepreneurship
in der FH Jena**

ISSN 1860-9147

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Das diesem Artikel zugrunde liegende Vorhaben wurde mit Mitteln des Bundesministeriums für Bildung und Forschung (Förderkennzeichen 03EX120B) und des Thüringer Ministeriums für Wissenschaft, Forschung und Kunst (Förderkennzeichen B607-01010) gefördert. Die Verantwortung für den Inhalt dieser Veröffentlichung liegt beim Autor.



The Thuringian Model of Business Incubation: The GET UP – initiative and its quest for internationalization

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Paper presented at the Third Biennial McGill Conference on
INTERNATIONAL ENTREPRENEURSHIP, Montreal
September 13 – 16, 2002

Abstract

The paper provides an insight into the efforts of Germany to create a culture of entrepreneurship at higher-education institutions and to promote university-based start-ups. The focus is on one particular network initiative - GET UP - which is part of the federal program "EXIST – University-based start-ups". Goals, activities and measures of GET UP are presented. The objective of the paper is to draw a conclusion from the previous work of GET UP and to share knowledge and experience in supporting start-up companies from universities and in encouraging entrepreneurship among students and staff.

The authors present the results of a survey on international entrepreneurship among firms that started with the help of the GET UP - initiative. They conclude that GET UP needs to go cross borders with its network structure in order to provide effective support for the internationalization process of its start-up companies.

Key words

university-based start-ups, new technology-based firms, international entrepreneurship, regional development

1. UNIVERSITY-BASED START-UPS IN GERMANY

Universities are sources of new knowledge, ideas and professional competence. Through the creation, application and diffusion of new knowledge they can contribute to economic development. Especially the creation and “growing up” of companies started by university founders play a positive role in promoting rapid structural change in the national economy. (Kirchhoff, 1994; Etzkowitz, Webster and Healey, 1998)

Universities are often characterised as institutions of “learning”. The traditional university is based on two concepts: research and teaching. However, the experience of success stories like the Silicon Valley area and the Boston region in the US or Oxford and Cambridge in the UK teaches several issues: In each of these regions one or more universities are situated which have become directly involved in establishing companies of their own, staffed with researchers for marketing scientific insights. Additionally, they have encouraged entrepreneurship among students and staff in various ways. Hence, these regions have increased employment and have become internationally competitive.

Universities of the future will be based on an additional concept: entrepreneurship. The application of new knowledge produced in science and the implementation of research and development results into commercial products demand the mutation of the traditional research and teaching university into an entrepreneurial university.

To apply the knowledge developed in research and teaching organisations requires the knowledge worker. To make the university entrepreneurial successful, needs to create within its members, especially students, the will and the ability to start their own business. The university has to act as a builder of entrepreneurial competence among its students and scientific staff.

In Germany the importance of innovative start-ups by university researchers had also been recognized and in 1997 the “EXIST – University-based start-ups” program was launched in order to induce and support innovative business start-ups from higher education institutions.

The “EXIST – University-based start-ups” program is one brick in the public support of innovative start-ups by the federal Government of Germany. This program seeks to improve the entrepreneurial climate at higher-education institutions and to increase the number of companies started up from academic establishments.

Efforts are concentrated on five core regions: the Stuttgart region, the Bergisch-Märkische region in North-Rhine Westphalia, the Dresden region, the Thuringia Technology Triangle and the region of Karlsruhe.

Networking is central in each case. Models for the motivation, training and support of founders, of new enterprises and of entrepreneurship are being set up in regional networks. In these networks universities collaborate with external partners from science, industry and politics, providing students, graduates and higher-education workers with all the services and stimuli needed for the start-up process. Education focused on entrepreneurial matters should provide the necessary special knowledge as well as the personal maturity, reducing the uncertainty which accompanies the step into self-employment. Concurrently, it is EXIST which strengthens regional innovation systems and speeds up the transfer of knowledge to industry. (BMBF 2000)

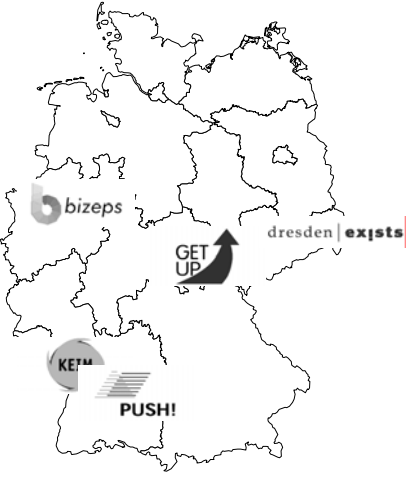
Figure 1: The “EXIST – University-based start-up” programme

EXIST is a building block in the public support of innovative entrepreneurs by the Federal Government.

It seeks to improve the entrepreneurial climate at higher-education institutions and to increase the number of companies started up from academic establishments.

Regional initiatives

Efforts are concentrated on five core regions. Networking is central in each case. Universities work together with external partners from the world of science, industry and politics. Models for the motivation, training and support of founders of new enterprises are being set up.



The figure shows a map of Germany with five regional initiatives highlighted: bizeps in the northwest, KE14 in the southwest, PUSH! in the south, GET UP in the east, and dresden|exists in the northeast. The GET UP logo features an upward-pointing arrow.

2. THE GET UP – INITIATIVE: PROMOTION OF TECHNOLOGY-BASED START-UPS WITH HIGH POTENTIAL

2.1 Partners, structures and objectives

The Thuringian start-up initiative GET-UP is part of the federal program EXIST. This initiative is based on the idea of bringing together the higher-education institutions at the four locations Jena, Weimar, Ilmenau and Schmalkalden for achieving common objectives within the context of wide collaboration on content and infrastructure. The locations altogether are equipped with one technical university, two universities and two Fachhochschulen (Universities of Applied Sciences). The economic situation of Thuringia is characterised by fundamental restructuring of the earlier industrial base. New industrial core areas emerge primarily by activating local potential. Jena has the profile of a high-tech region especially in biotechnology, microelectronics, optics and lasers.

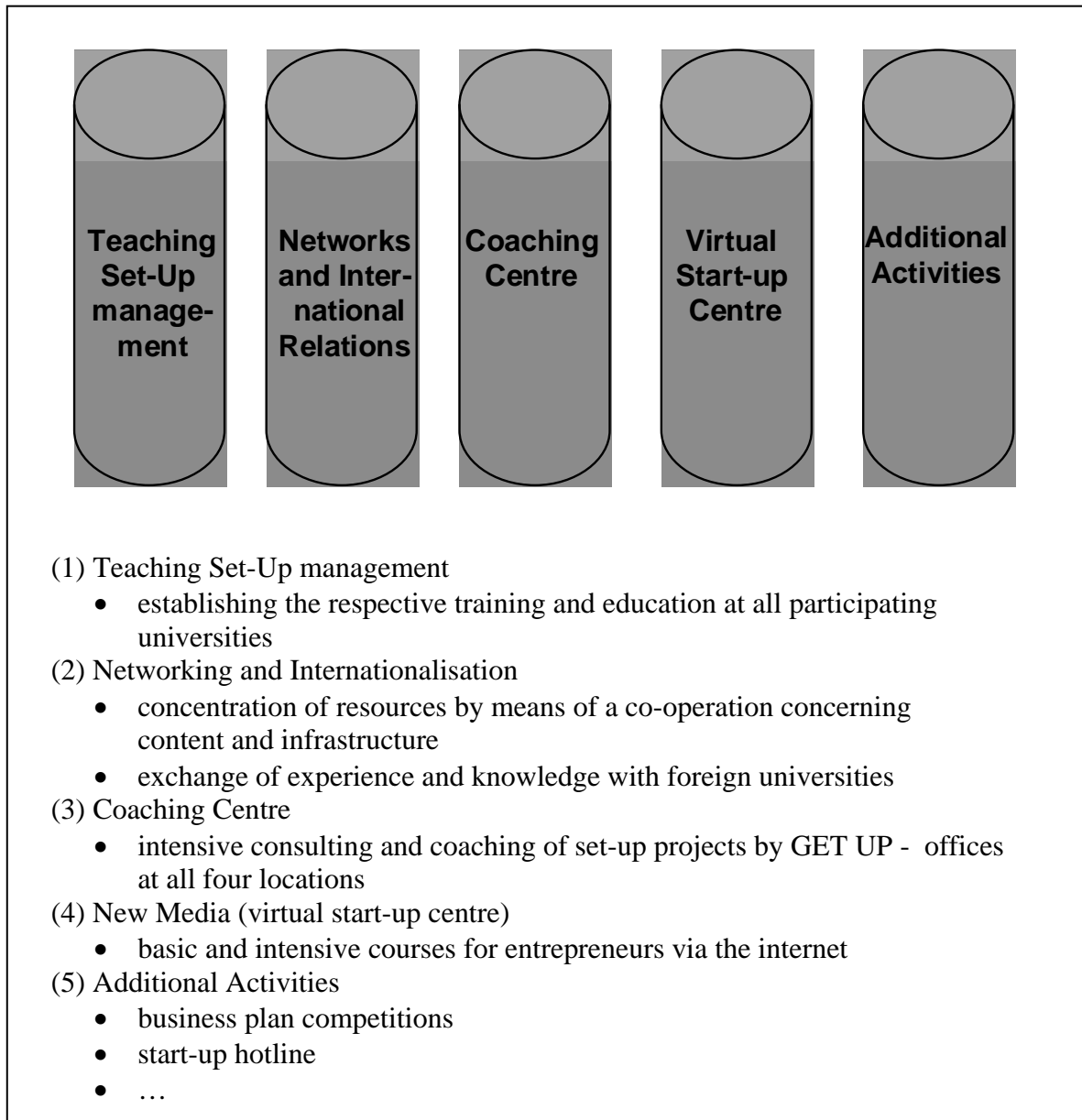
The objectives of GET UP are: (1) improvement in the start-up atmosphere at the higher institutions in Thuringia; (2) design, testing and establishment of mechanism to generate start-up ideas and support start-ups in and around the higher-education sector; (3) encouragement, motivation and qualification of participating individuals and institutions in a support network for new entrepreneurs; (4) acceleration and stabilization of business start-ups through intensive support. (GNT e.V., 2001)

To bring the network to life, efficient organizational structures and technical facilities were established. They include offices at all locations, a “start-up hotline“ for the constant availability of contacts for potential entrepreneurs, a virtual start-up centre for Thuringia using the broadband network, project teams for the business plan competition and for the coaching centre. The platform of this initiative is an extramural organization – GNT Gesellschaft zur Förderung neuer Technologien Thüringen e.V. This body coordinates and monitors the implementation of various partial projects and at the same time acts as an effective central contact point for those interested in business start-ups in the higher-education institutions.

In its overall service package GET UP actively deals with the problems faced by business start-ups in all phases – from the idea through the drawing up of a business plan, the formation of the business right through to its consolidation – and it endeavors to keep the risk for the founders at a minimum, to provide the necessary support and in particular to motivate the stated target groups to start new businesses.

GET UP activities base on the five fundamental concepts shown in figure 2.

Figure 2: Co-operation between the partners in the GET UP - network



The planning of the activities is the responsibility of a core team of the initiative. The implementation is realized by research associates at all five universities and the GNT staff at the four locations. Additional support is provided by an extensive network with over 60 partners from trade and industry, research and support institutions as well as by the Free State of Thuringia.

Although GET UP is based on cooperation and network structures, this initiative can be characterized as an incubator which actively deals with start-ups from the respective universities. From 1998 to June 2002 the number of start-up projects that had been advised

by GET UP amounts to 247. From these projects 106 firms started their business with the help of GET UP. In total 570 new jobs had been created.

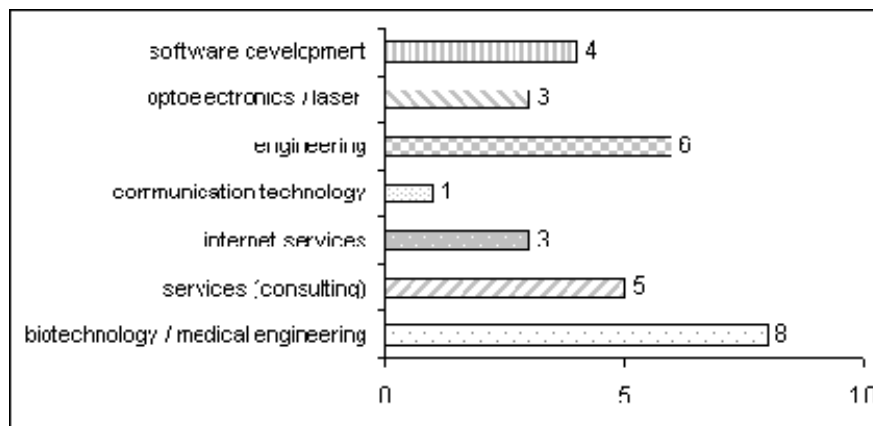
2.2 Experiences on International Entrepreneurship

The international orientation of technologically oriented corporations represents an important issue from the previous work of GET UP. The firms that started with the help of GET UP are based on knowledge and are characterised by a high level of innovation activities. They market new products and services in technology branches. Usually such firms are global players. According to Oviatt / McDougall and other researchers technology-based corporations often act across national borders and perceive the world market as their relevant market. (Bürgel 2000; Oviatt and McDougall 1994)

As several studies state the importance of international business activities for the success of new technology-based firms, we started a survey to learn more about the international behaviour of the start-ups in the GET UP – region. In June 2002 we questioned 127 start-up companies from three locations of higher-education institutions in Thuringia – Jena, Ilmenau and Schmalkalden. This survey had been designed to obtain the information whether these firms already own international business contacts and if they wish to receive help in establishing contacts abroad. In total we received 30 responses which corresponds to a relative return of 23.6%.

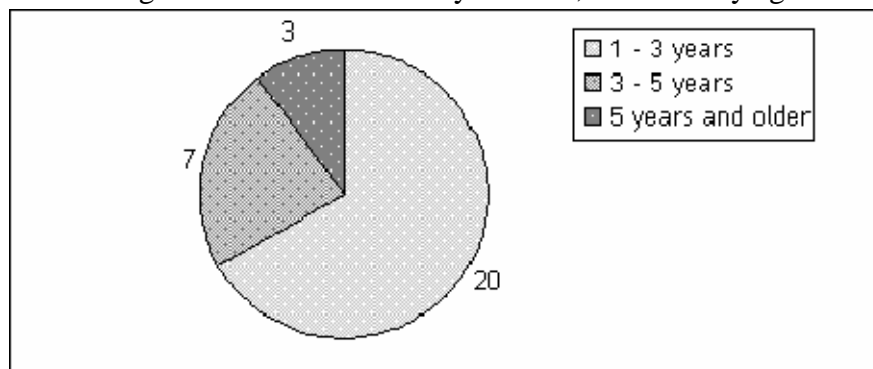
Figure 3 and 4 show the structure of the sample.

Figure 3: Number of surveyed firms, clustered by industry



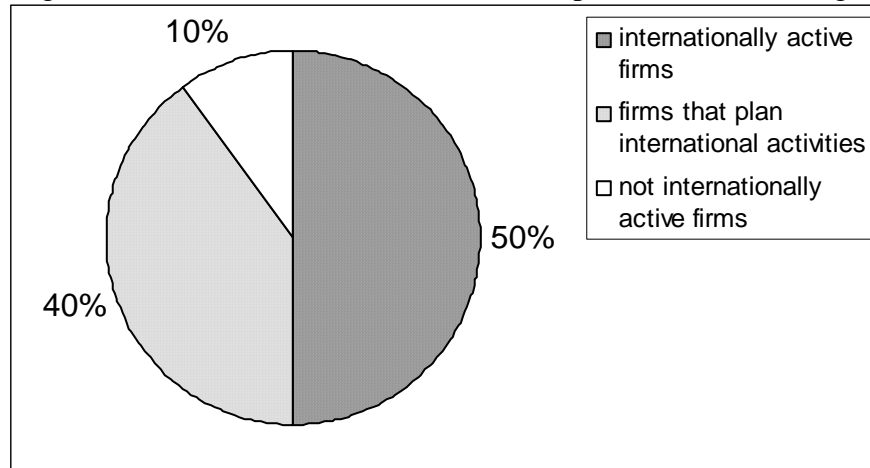
All surveyed firms operate in a technological field ranging from biotechnology, engineering, optoelectronics, communication technology and software development to technology-based services. The majority of the firms is younger than 3 years. Only three firms have been in business for 5 or more years.

Figure 4: Number of surveyed firms, clustered by age



The firms in our sample were asked if they operated internationally or if they planned to establish business contacts abroad. As it can be seen in figure 5 the majority maintain international contacts or intends to establish such contacts. Although almost all firms are very young they are internationally oriented, often right from the beginning. 11 firms of the sample are engaged in international markets despite their short business time operating (3 years or less).

Figure 5: International orientation of start-ups in the GET UP region

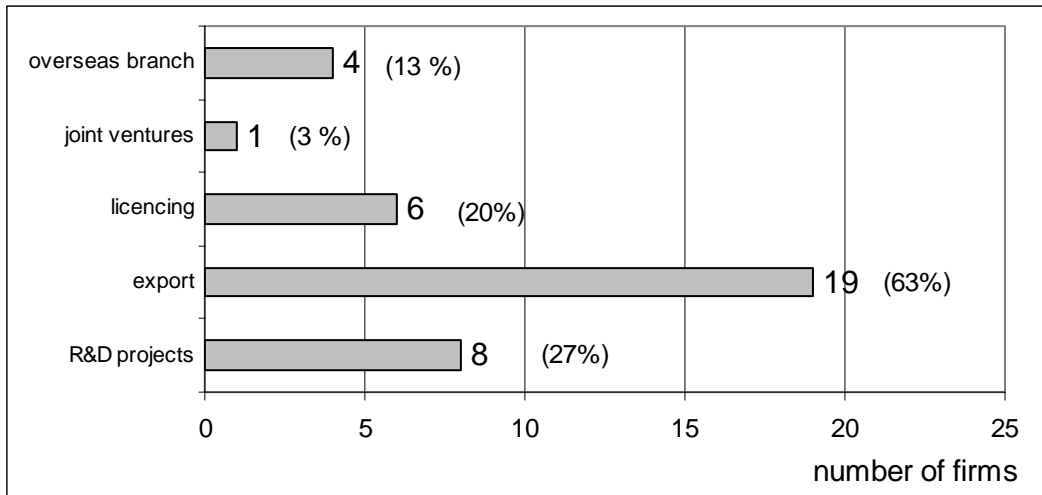


The internationalization behaviour of these firms is largely influenced by industry-specific factors. (McDougall, 1989; Bell, 1995; Boter and Holquist, 1998) It is especially important for newly founded technology corporations to establish international contacts in order to achieve competitive advantages and to gain long term benefits and growth for their business. Three categories of reasons why new knowledge-based firms go abroad or collaborate with foreign partners have become obvious:

- (1) The internationalization process theory predicts that technology-based start-ups are oriented towards the domestic market until a certain degree of market penetration is reached. After a certain time, when the growth potential in the home market has been realised, the firm might turn its attention towards expanding into foreign markets. (Bürgel 2000, pp. 35 – 39)
- (2) The transaction costs approach predicts high transaction costs in high-technology industries because of asset specificity and information asymmetries. Thus, special efforts are necessary to make customers familiar with the benefits of the new technical solution offered. To a certain extent a special training, education or instruction is necessary, e.g. for technical plants. Substantial costs in training and monitoring sales intermediaries may arise when exporting products. A more permanent presence abroad could lower transaction costs and likewise improve legitimacy among customers. (Bürgel 2000, pp. 40 – 47)
- (3) The theory of firm specific advantages focuses on the special resource requirements for new technology-based firms. Inter-firm collaboration helps gaining access to complementary resources and assets in order to achieve growth. (Bürgel 2000, p. 47)

Figure 6 shows the sampled firms' kind of international affairs.

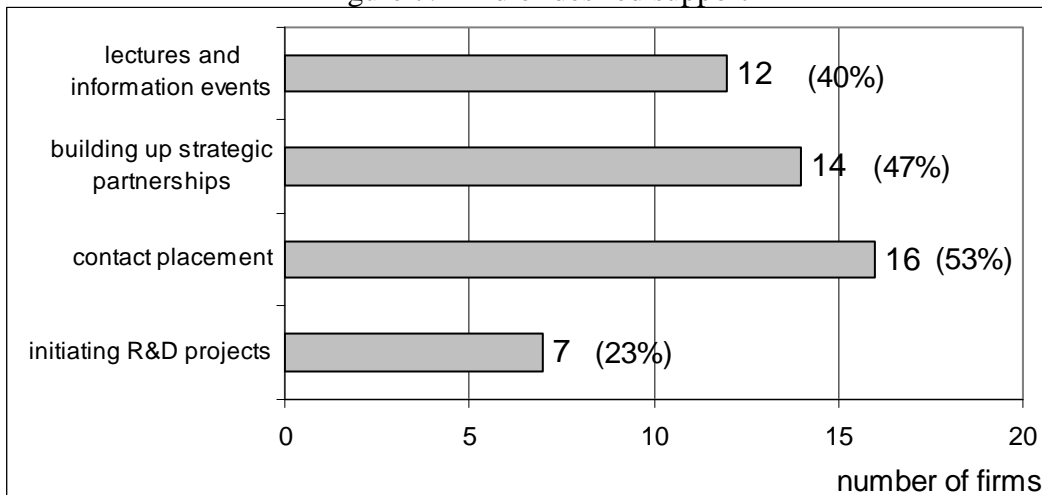
Figure 6: Kind of international contacts



The export of goods and services is the most important activity, followed by the implementation of joint research & development projects with foreign partners. One firm that works with satellite data has formed a joint venture with an foreign partner. Four firms have overseas branches, but they are all from different industries.

Learning more about the intention to go across borders was another essential issue of the survey. The results are fairly obvious. 80% of the firms surveyed seek the support of the GET UP – initiative when going across borders. Figure 7 shows what kind of support is desired.

Figure 7: Kind of desired support



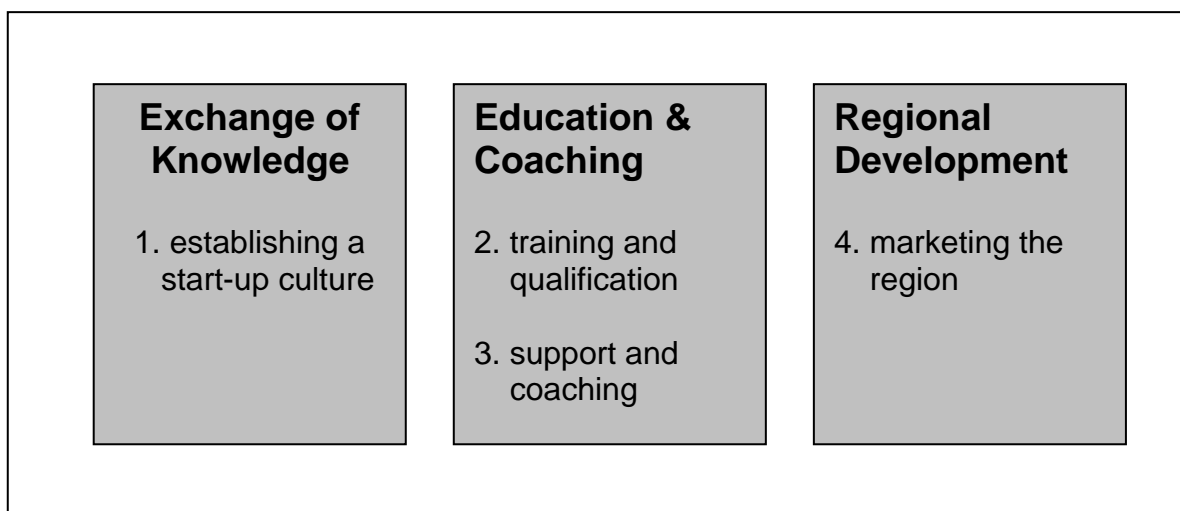
Consequently, the GET UP – initiative needs to open its network structure. An integration of GET UP into foreign entrepreneurs' networking is targeted as it is vital to innovative start-ups to become international. Their call for support even enhances this demand. The generation of university-based start-ups aiming at developing new industrial centers requires growth and success of the new corporations. This process must be facilitated by creating suitable conditions for an exchange of ideas and knowledge with partners abroad and by supporting the establishment of international contacts.

2.3 International Collaboration

At the beginning of GET UP contacts to foreign partners had already existed. These contacts were mainly used by several network partners to exchange experience in creating a start-up culture. Nowadays GET UP strives for the transfer of knowledge into Thuringia as well as for the co-operation with foreign universities and for a management of relationships with foreign organizations and institutions from industry and politics aiming to support and promote young technologically oriented business ventures efficiently.

With an opening of the GET UP - network and an integration into international networks the following targets are to be reached: (1) transfer of successful approaches of mobilising and supporting entrepreneurs, (2) education of entrepreneurs, (3) effective support for innovative start-ups, (4) marketing the region. Figure 8 provides an overview of these targets.

Figure 8: Objectives of the internationalisation process of GET UP



1. Transfer of successful approaches of mobilising and supporting entrepreneurs

Pursuing this target will help GET UP to learn from the experience of technology and start-up regions abroad. The transfer of knowledge is particularly appropriate when setting up and running entrepreneurs' centres, setting up science and innovation centres, changing curricula and establishing education programs for training entrepreneurs, and running more activities that serve an establishment of a start-up culture at universities. Additionally, it occurs that finding business partners abroad is also essential for the implementation of the knowledge acquired, e.g. for common financing of projects.

2. Education of entrepreneurs

The collaboration with foreign institutions in the field of entrepreneurs' education aims at enabling potential entrepreneurs to become successful entrepreneurs and to act and think globally. Young entrepreneurs should become aware of the importance of international business for the growth and development of their businesses. Therefore, the range of specific lectures and seminars at universities was enlarged in the area of business start-ups. Guest speakers from abroad were invited to the respective network seminars and workshops providing an interesting insight into the peculiarities of foreign markets.

This view is based on several studies indicating that the founders' international experience facilitates internationalization processes and leads to a higher degree of internationalization of a firm. (Lindqvist, 1991; Bloodgood, Almeida and Sapienza, 1996; Reuber and Fischer,

1996) A case study on four high-technology start-up companies that grew extremely rapidly and built up international presence in several countries within few years reports that all founders had international backgrounds from education and previous work experience and a “vision” to turn their business into globally operating firms. (Jolly, Alahuhta and Jeannet, 1992)

3. Effective support for entrepreneurs and contact arrangement

Acting globally plays an important role for technology-based corporations. Therefore, it is vital to broaden network activities across borders in order to support start-ups and potential start-ups more effectively. First of all, entrepreneurs should be made familiar with international market chances and should gain easy access to foreign markets. Entrepreneurs get support finding international business partners and arranging contacts (research partners, financiers, skilled staff, etc...) and providing strategies to conquer foreign markets.

4. Marketing the region

Successful technology regions are usually innovative, interesting and international. With these characteristics they attract qualified employees and new businesses. (Matthes and Schwartz, 2000) Against this background, strategies in the field of marketing the region should aim at presenting the network region externally to attract foreign staff and potential entrepreneurs for the region.

Beyond these five targets it is imaginable to transfer own experiences to other regions and networks in the future, and thus, to serve as tutor for other start-up initiatives. Especially people from Latin America and Eastern Europe showed an interest in the work and experience of the GET UP initiative.

3. CONCLUSION AND RECOMMENDATIONS

The previous work of the Thuringian start-up initiative GET UP has shown the importance of international business activities for the success of new technology-based firms. Empirical evidence indicates that a large part of new technology-based firms operates internationally. Based on the study of several knowledge reports on international entrepreneurship as well as our own research, GET UP strives for an opening of its network structure. As several studies indicate that the founders’ international experience facilitates internationalisation processes and leads to a higher degree of internationalisation of a firm, GET UP is exerted to find world-wide partners, not only in industry and commerce but also in research and education. The objective is to establish co-operations with foreign universities and institutions and to build up international start-up networks or to become integrated into international networks.

We strongly recommend policymakers who are involved in establishing a culture of entrepreneurship at higher-education institutions and in creating a successful technology region to consider the importance of networking, not only nationally but also in an international scope.

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