



**Thematic Working Group
“Services and Support to Start-ups and Spin-offs”**

**Thematic Network ERIK -
European Regions Knowledge based Innovation
Network**

**Final TWG Report with Set of Indicators and Re-
view of the Methodology, Activities and Results**

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1 Definition of our target group

The Thematic Network ERIK - European Regions Knowledge based Innovation Network and its member regions are mainly interested in the impact of knowledge on regional innovation and regional economic growth. Thus the Thematic Working Group "Services and Support to Start-ups and Spin-offs" focus on

- knowledge based start-ups (KBSU) which develop and commercialize new products, engineering processes or services based upon a proprietary technology or skill. Start-ups in high and medium tech sectors without own R&D activities and no intentions to commercialize a proprietary new technology, product or service don't belong to our target group; most of those firms are engaged in activities such as distribution, software vending, building of web sites, specialized advice, etc.. This definition is similar to the definition of "Research-based start-ups (RBSUs)" according [Heirman Clarysse 2004],
- start-ups with potential for global competition.

[Heirman et al 2003]: "Research-based start-ups (RBSUs) have received a great deal of attention from academics in the last two decades. These studies revealed that RBSUs, or New Technology-Based Firms (NTBFs) in more general, contribute significantly to an economy in terms of exports, employment, taxes paid, research and development, and innovations and play an important role in bringing new technologies to the market." Rare and valuable firm-specific resources and knowledge determine the competitive advantage of the firm because such resources and knowledge are simultaneously not imitable (i.e. they cannot easily be replicated by competitors), not substitutable (i.e. other resources cannot fulfil the same function), and not transferable (i.e. they cannot be purchased in resource markets. Regional services and the support activities to start-ups and spin-offs have to take these determinants into consideration in order to gain not only long lived competitive advantage of the regional start-ups but also to achieve a sustainable regional economy. Therefore the regional start-up services have to be innovative itself providing a framework of entrepreneurial spirit with incentives for the invention und realisation of new unique business ideas.

2 “Services and Support to Start-ups and Spin-offs” – the process model

The start-up process is characterized by overlapping and recurring steps and iterative activities. Nevertheless the TWG has decided to draw a simplified linear process model and to put more emphasis on the start-up services and their related indicators.

The defined straightforward step-by-step process of supporting and providing services to Start-ups and Spin-offs comprises 5 consecutive steps and a sixth accompanying step of coordination and monitoring. In order to keep the model as simple as possible it is decided to assign every support activity only to one step even. In cases of possible assignment of single activities/services to more than one step the respective activity/service is listed under the most appropriate step.



Figure 1: The model of the start-up process

The first step “Awareness raising and entrepreneurial education” includes the general education of pupils in schools and students in universities as well as researchers in universities and RTOs (Research and Technology Organisations) with respect to entrepreneurship. Information events and promotion campaigns complete the activities of awareness raising. These activities address the whole target group of possible new entrepreneurs but not individual persons.

In the second step “Feasibility of start-up” the business idea is in a very early and conceptual stage. The identification and first description of the individual business idea is the main focus of this stage ending up with a validation of the business idea and a first assessment of individual persons regarding their ability as an entrepreneur.

The third step “Preparation of the foundation” of the start-up is the pre-seed stage and takes care of the individual strength and gaps of the potential starters in combination with their business idea. During this stage future entrepreneurs also get the opportunity to “test” and “try out” their business ideas by development of prototypes or temporary entrepreneurship on probation. Further important foundation stones that are put during this stage are the elaboration of the business plan including market and competitor analyses as well as clarification of property rights and patenting.

Step 4 “Foundation of the company” covers the start-up of the KBSU and includes services like providing infrastructure with basis services (incubators) or venture capital.

Step 5 “Support of start-ups” is oriented towards support of the established KBSU and its initial growth during the first 5 years of the new company. Services may be provided in form continuous coaching of the KBSU, advanced training and qualification of the young entrepreneur and his employees as well as access to growth capital.

The accompanying step “Coordination & monitoring of services according regional start-up strategy” accompanies all above mentioned steps and takes care for the consistency of all offered support activities and services with the regional start-up and spin-off strategy and thus ensure the effectiveness and efficiency of public money spent on fostering KBSUs.

3 Support services and indicators

This chapter gives an overview of possible support activities for the respective step of the process model. The sum of the single support activities describe the content of the respective step and draw the whole picture of possible support activities. Qualitative and quantitative as well as input and output indicators are considered.

For every service/support activity a metric is proposed in order to allow the measurement of the quality and of the performance of the respective activity. All integers are allowed between 0 and 10. For every metric the rating for 0, 5 and 10 is explained as a common basis for the self assessments of the partner regions. This metric allows a comparison between regions for quantitative as well as for qualitative indicators. For several indicators no data are available at the moment. In these cases the proposed metric is a “first guess” and the figures have to be validated at a later stage after the respective data have been gathered.

Some performance indicators cannot be allocated to only one but to two or more support activities. These indicators are listed additionally under the respective step.

3.1 Awareness raising and entrepreneurial education

[Reynolds 2000, page 9]: “The promotion of entrepreneurship, its role in society and the opportunities it presents for personal gain, appears to be critical for facilitating economic growth. Policies geared toward enhancing the entrepreneurial capacity of a society (i.e., the skills and motivation to pursue opportunities) will have the greatest impact on the level of entrepreneurial activity.”

3.1.1 Information events/days

- for researches and students of universities/research organisations
- for pupils at schools
- presentation of successful show cases with involvement of young entrepreneurs

Source: documentation of awareness raising events and follow ups;
Surveys at universities/RTOs/schools about the degree of awareness of students/researchers/pupils for opportunities to start-up the own business

Measurement: quantitative/qualitative indicator

Information penetration: Number of participants in awareness raising activities per year in relation to average number of target group (e.g. researcher and (post graduate) students at regional RTOs and universities in case of academic spin-offs).

If no quantitative data are available, estimation is also practicable.

Metric: 0:= no information events/days
5:= some information activities are offered with positive feedback from the participants;
information penetration of more than 20 % at universities/RTOs
10:= own dedicated budget for information events/days,
systematic planning of information events at RTOs, universities and schools,
information penetration of more than 40 % at universities/RTOs;
documented follow ups: participants decides to start own business, continue to mobilisation and pre-seed stage;

3.1.2 Promotion campaigns

- articles in regional press and trade journals
- reportages in TV
- Marketing of Good Practice cases of knowledge based start-ups and entrepreneurship in general

Source: own regional surveys

Measurement: qualitative indicator

Metric: 0:= no promotion campaigns

- 5:= promotion campaigns are carried out with some impact on entrepreneurial culture in the region
- 10:= own regional budget for promotion campaigns, systematic planning of campaigns,

3.1.3 Integration of entrepreneurship in education

General skills in entrepreneurship and economics are crucial success factors for successful start-ups. Furthermore gaps in economic and entrepreneurial skills are serious barriers for generating the own business. Thus teaching the basic entrepreneurial skills is evident to recognize and exploit an entrepreneurial opportunity at all levels of the educational system [Reynolds 2000].

Educational activities comprise

- Integration of courses in existing technical studies
- Corporate strategic planning simulations and practical case studies at universities and research institutions for students, employees and external people
- Education in entrepreneurship at schools with internship for pupils

Source: surveys in regional universities, information material and university calendar of regional universities

Measurement: qualitative indicator

Metric: 0:= no integration of entrepreneurship in education

5:= some education activities in entrepreneurship at single universities/RTOs/schools, but not integrated in the educational system

10:= education in entrepreneurship is inherent part of the regional education system, which means: every university/RTO/school is providing education in entrepreneurship

3.1.4 Establishment of new entrepreneurial research and studies

- Existence of professorship at regional universities in combination with start-up friendly and fostering regulations
- Specific post graduate studies on entrepreneurship
- Specific summer schools on entrepreneurship

Related indicator: Existence of individual spin-off strategies at regional RTOs and universities

Measurement: qualitative indicator

- Metric:** 0:= regional educational organisations put no emphasis on entrepreneurship and have no strategy to foster spin-offs from universities and RTOs
curriculum contents only theory
- 5:= commitment for the commercialisation of research results, some regional RTOs, universities and other educational organisations have good relationships with industry in order to involve practical issues in the curriculum, some resources for awareness raising paid by RTOs and universities, establishment of own agencies in order to exploit commercially the research results
- 10:= strong exchange and collaboration between industry and educational organisations, Universities/RTOs encourage consultancy/contract research activity, permanent professorships for entrepreneurs and specific lectures by experienced practitioners, own study courses for entrepreneurship established in the region, strong proactive activities on idea and technology scouting to identify research results and business ideas within research institutions and universities with own resources; network of regional exploitation agencies covering all universities and RTOs; opportunities for part-time employment for new entrepreneurs

3.1.5 Regional climate of entrepreneurial culture

Further Indicator

[Reynolds 2000, page 9]: "The perceived social legitimacy of entrepreneurship makes a difference. GEM 2000 used a variety of measures to determine the level of respect in the community for those starting new firms. Two such indicators were (a) the extent to which fear of failure acts as a deterrent to starting a new firm and (b) respect for those starting new firms. These and other measures indicate a fundamental difference in social and cultural values between countries with high levels of entrepreneurial activity and countries where entrepreneurship is not an integral feature of everyday life."

Source: own regional surveys; available investigations of the regional climate

Measurement: quantitative/qualitative indicator

- Metric:** 0:= very high fear of failure and no respect for those starting new firms
- 5:= unsuccessful entrepreneurs are not treated as "losers", basic social net in case of failure

- 10:= high respect for new entrepreneurs,
very low of failure due to social and financial backing, e.g.
RTOs and universities provide for employees the opportunity of
a come back (a leave of absence scheme as a 'safety net' for
potential spin-out founders) or government converts a loan into
a nonrepayable subsidy in case of a failure of the spin-off, sup-
port for young mothers (full day of children etc))

3.1.6 Regional legislative, administrative and tax framework

Regulated by degree of federal or centralised political structures the legislative, administrative and tax framework does not depend always on the Regional Government level.

Source: own regional surveys; available investigations of regional framework

Measurement: quantitative/qualitative indicator

The minimum duration for the foundation of a KBSU (registration of business, fulfilment of legislative, administrative and tax requirements, etc.) can be taken as a quantitative measurement.

In most cases this indicators can be measured by actors being involved in the regional start-up infrastructure and having an overview of the framework in other European regions.

- Metric:**
- 0:= legislative, administrative and tax framework doesn't take care about start-up issues
 - 5:= legislative, administrative and tax framework is not considered by new entrepreneurs as strong barrier to create the own start-up
 - 10:= regional legislative, administrative and tax framework is widely acknowledged as start-up friendly environment (by expert, surveys etc.)

3.1.7 Degree of awareness about creating the own start-up as opportunity and realistic alternative to employment

Source: surveys in regional RTOs and universities

Measurement: quantitative / Qualitative indicator
if no quantitative data are available, an assessment by estimation might be done.

- Metric:**
- 0:= 0% of target group is aware about creating the own start-up as opportunity and realistic alternative to employment
 - 5:= 20% of target group is aware about creating the own start-up as opportunity and realistic alternative to employment

10:= 40% of target group is aware about creating the own start-up as opportunity and realistic alternative to employment

3.2 Feasibility of start-up

3.2.1 Business idea competition

Awarded participants can get subsidies and advanced access to necessary support, further promotion of the business idea.

Source: own regional surveys

Measurement: qualitative indicator

Metric: 0:= no regional idea competition
5:= sporadic regional business idea competition
10:= annually business idea competition with high regional interest, follow up of awarded business ideas is assured

3.2.2 Technology & business idea scout

Proactive approach at universities and research institutions: scouts visiting researchers in order to identify research results and business ideas for future economic exploitation.

Source: own regional surveys; information from regional universities and RTOs

Measurement: qualitative indicator

Metric: 0:= no proactive approach of technology & business idea scouting; no identified business ideas per year in the region
5:= some proactive activities at single universities/RTOs; 50 identified business ideas per year in the region
10:= systematic, region wide proactive technology & business idea scouting (at least visiting every researcher every 3 years) with first rough evaluation of identified business ideas and feed back for researchers/students including list of measures for further proceeding; 200 identified business ideas per year in the region

3.2.3 Initial consultation

Capability audits for researcher/students/other persons with interest in foundation of own company

- Consultation hours
- Check your opportunities

Success factors of successful starters

- A high need for achievement of business success [Prize 2004]
- Experience in technology, application and/or transfer as well as in “purer” research [Prize 2004]
- Small business experience, or experience of employment outside the university sector [Prize 2004], e.g. employees from the parent company [Heirman Clarysse 2004]
- “Hungry to grow” [Ylöstalo 2004]
- Team tenure and more specifically the number of years founders have previously worked together speeds the launch of the first product in all technologies [Heirman Clarysse 2004]

Source: own surveys; information from actors of the start-up supporting infrastructure

Measurement: qualitative indicator

Metric: 0:= no initial consultations in the region
5:= 25 initial consultations in the field of KBSU per year in the region
10:= systematic, region wide initial consultation in the region, 100 initial consultations in the field of KBSU per year in the region

3.2.4 Start-up hunting

A proactive approach, not in the own region, but in external regions (e.g. in the county of the region or neighbour counties). Idea hunters are searching for people who are willing to start their own business. These idea hunters try to attract these people to leave their own region and to settle their new business in region which employs the idea hunter.

Several partner regions recommend merging this activity with “3.2.2 Technology & business idea scout” because start-up hunting is considered as sub activity of idea scouting.

Source: own regional surveys

Measurement: qualitative indicator

Metric: 0:= no start-up hunting by the region
5:= some start-up hunting activities initiated by the region, settlement of 3 start-ups / year from external
10:= systematic start-up hunting activities by the region, settlement of 10 start-ups / year from external

3.2.5 “First proof” of business ideas

A first rough evaluation of the gathered ideas assure the target oriented commercialization of research results and business ideas as a milestone (go – no go decision) to enter the next start-up process step.

Source: own regional surveys, information from actors of the regional start-up supporting infrastructure

Measurement: qualitative indicator

Metric: 0:= no “first proof”

5:= “first proof” is applied, but not according a common guideline

10:= “first proof” is applied on all gathered ideas according a common guideline

3.3 Preparation of a foundation

3.3.1 Profiling

Developing the capability profile of the future entrepreneur. Identification of remaining entrepreneurial and knowledge gaps → derivation of the necessary training and consultation measures, recommendation for partner ships.

Source: own regional surveys, information from actors of the regional start-up supporting infrastructure

Measurement: qualitative indicator

Metric: 0:= no profiling services offered

5:= some profiling services offered, but no common guide for all advisors involved in profiling activities;
profiling on request, but no proactive approach

10:= systematic profiling services with common guide for all advisors involved in profiling activities;
proactive profiling approach

3.3.2 Idea and Partner matching

The literature often identifies cross-functional start-up teams and team tenure as success factors which lead to faster product launch. Thus idea and partner matching are crucial support services during the pre-seed stage.

There are different instruments for idea and partner matching like

- Events for partner search and identification of complementary ideas
- Matching via data based software tools
- Business Angels & networking

- Management buy in (MBI)
- Management by out
- Take over requests

Idea and partner matching may also be accomplished informally, e.g. as part of incubator schemes, funding schemes, etc.

Source: own regional surveys

Measurement: qualitative indicator

Metric: 0:= no regional idea and partner matching services offered,
no matched ideas/year

5:= some idea and partner matching services offered, but not on a
regular basis, no complete overview over existing business
ideas and partner profiles
10 matched ideas/year

10:= regular idea and partner matching services offered,
complete overview over existing business ideas and partner
profiles in the region and cross-regional (e.g. in case of lack of
critical mass in the own region;
40 matched ideas/year

3.3.3 Training & individual consulting

[Reynolds 2000, page 9]: "If the level of participation in post-secondary education were the only factor used to predict entrepreneurial activity, it would account for 40 percent of the difference between GEM countries. Providing individuals with quality entrepreneurship education (i.e., training in the requisite skills for converting a market opportunity into a commercial enterprise) was consistently one of the top priorities identified by the experts interviewed in each of the 21 countries."

Training and individual consulting tackle full entrepreneurial band width of topics:

- Marketing and advertising
- Business strategy
- Finance and accounting issues
- Business management
- Internationalisation
- Legal and tax issues
- Patenting

Source:	own regional surveys
Measurement:	qualitative/quantitative indicator
Metric:	0:= no training and consulting services offered
	5:= most of the training and consulting services offered in the region; majority (> 60%) of participants are satisfied with the demanded services ; 50 participants (from prospective KBSUs)
	10:= all start-up topics tackled in training courses and individual consultation hours, no complaints of the target group about missing services, most (>80%) participants are satisfied with the service quality 200 participants (from prospective KBSUs)

3.3.4 Prototyping Clinics

Prototyping Clinics (also named Technology Clinics) support potential entrepreneurs in converting their first product idea (proof of concept) into a prototype. In case of KBSU this assistance is often rendered by the RTO or university for own employees where the researchers/students have the opportunity by using the laboratories and the equipment. These offered services are not always explicitly known under the name Prototyping Clinics or Technology Clinics, but more as informal support for researchers to realise their own business ideas.

In case of external individuals such prototyping clinics have to be established or have to be unclosed for external demand also.

Source:	own regional surveys
Measurement:	qualitative indicator
Metric:	0:= no regional prototyping clinics
	5:= in some technology fields prototyping clinics offer their services in the region
	10:= nearly for every invention there a prototyping clinics in the region, providing services also for external inventors

3.3.5 Business plan development

The business plan is the document that summarizes the operational and financial objectives of a business and contains the detailed plans and budgets showing how the objectives are to be realized. The business plan contains detailed financial projections, forecasts about your business's performance as well as a marketing plan, and is thus indispensable tool for structuring and establishing the new business and for attracting external financial resources.

Source:	own regional surveys
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Measurement: quantitative indicator

Metric: 0:= 0 business plan / year with support from public actors (incl. grants) in the field of Knowledge based start-ups (KBSU)

5:= 10 business plans / year with support from public actors (incl. grants) in the field of Knowledge based start-ups (KBSU)

10:= 40 business plans / year with support from public actors (incl. grants) in the field of Knowledge based start-ups (KBSU)

3.3.6 Market & competitor analyses

Before starting a new business or launching a new product, conducting a marketing analysis is necessary for determining if there is a need or audience for the new business idea at all. Knowing the market's needs, market's size and how it is currently serviced provides the future entrepreneur with key information that is essential in developing his/her own products and the whole start-up.

Market and competitor analyses belong also to the development of a business plan. Thus these activities may also be considered as part of the development of the business plan.

Source: own regional surveys

Measurement: quantitative indicator

Metric: 0:= 0 market & competitor analyses / year with support from public actors (incl. grants) in relation with planned start-up of Knowledge based firm

5:= 10 market & competitor analyses / year with support from public actors (incl. grants) in relation with planned start-up of Knowledge based firm

10:= 40 market & competitor analyses / year with support from public actors (incl. grants) in relation with planned start-up of Knowledge based firm

3.3.7 Patenting & licensing

A clear legal framework for determining intellectual property rights is required. Patenting & licensing comprise several services:

- Technology monitoring
- Patent research
- Patent application
- Search for licensees

- Source:** questionnaire surveys about degree of satisfaction with range and quality of offered services
- Measurement:** qualitative/quantitative indicator
- Metric:**
- 0:= no patenting & licensing services (incl. financial support) offered
 - 5:= most of the patenting & licensing services (incl. financial support) offered in the region; majority (> 60%) of participants are satisfied with the demanded services
 - 10:= all patenting & licensing services (incl. financial support) offered; most of participants (>80%) all satisfied with the services.

3.3.8 Entrepreneurship on probation

Providing the infrastructure (temporary office or laboratory space, secretary services, reception and telephone services) for a probation time in order to give the potential entrepreneur the opportunity to test his/her business idea in the market

- direct at research organisations and universities or
- in incubators/science parks

- Source:** own regional services
- Measurement:** qualitative indicator
- Metric:**
- 0:= no services for entrepreneurship on probation
 - 5:= services for entrepreneurship on probation offered in the region, but capacities have to be enlarged; majority (> 60%) of service user are satisfied with the demanded services
 - 10:= services for entrepreneurship on probation offered in the region with sufficient capacities. Most of the users (>80%) are satisfied with the services.

3.3.9 Investment Opportunity Forum

The investment Opportunity Forum is a regional-based communication and meeting platform giving future entrepreneurs the opportunity to find private venture capitalists for their start-up by

- Presentations of business ideas
- Bilateral face-to-face discussions between starter und Venture Capitalists

- Source:** own regional surveys, information from Venture Capitalists
- Measurement:** qualitative indicator
- Metric:** 0:= no investment opportunity forum or similar events in the region
5:= sporadic investment opportunity forum in the region
10:= regular investment opportunity forum in the region with high attractive frame program

3.3.10 Cultivation of industrial and financial relationships

Well developed relationships with local businesses are of high benefit for new entrepreneurs [Prize 2004].

Possible support for the cultivation of industrial (collaboration within a vertical supply chain, horizontal technological collaboration) and financial relationships can be given by

- Business Angels
- Informal meetings e.g. in form of "business brunch", "after work meeting" organised by regional actors or regional government

- Source:** own regional surveys, information from business angels
- Measurement:** qualitative indicator
- Metric:** 0:= no industrial and financial relationships exist; no culture of industrial and financial networking
5:= some industrial and financial relationships exist
10:= strong industrial and financial relationships exist

3.3.11 Ratio of public and self financed money to total budget for the mobilisation step

Further indicator

The focus during the pre-seed stage should be given to pre seed preliminary funding on a non-profit basis [Clarysse 2004], [Brooksbank 2001] in order to give the new entrepreneur more flexibility during this early stage.

The degree of own money from the future entrepreneur spent for the mobilisation stage can be interpreted as willingness of the future entrepreneur to set up his/her own business.

The total budget for the mobilisation step includes regional and national money from public as well as private sources

- Source:** own regional surveys, publications of Venture capitalists

Measurement: quantitative indicator

Metric: 0:= 0% public money
5:= 30% public money
10:= 60% public money

3.4 Foundation of the company

The literature defines the following success factors for start-ups:

- Hard business skills" are required to manage the spin-out (not necessarily from the starter) [Prize 2004]
- Marketing, technical and negotiating skills are needed to make the spin-out a success [Prize 2004]
- Successful spin-outs tend to develop the following capabilities 'in-house': technical, financial, production, and marketing expertise [Prize 2004]

3.4.1 Mentoring of foundation

Mentoring the foundation by giving advice for specific topics (e.g. administrative issues) or acting as door opener for necessary contacts. The mentor may have a very important psychological support function for the new KBSUs.

Source: own regional services

Measurement: qualitative/quantitative indicator

Metric: 0:= no mentoring support in the region
5:= mentoring support in the region;
majority (> 60%) of KBSUs are satisfied with the demanded services
10:= mentoring support can be offered to all new KBSUs in the region who are interested in,
Most start-ups (>80%) are satisfied with the services.

3.4.2 Providing infrastructure with basic services for new companies

The basic services can include expandable space for offices and laboratories with flexible leases, shared office services (secretary, reception), access to office or specific laboratory equipment (e.g. sharing of external equipment), IT-support, security services or facility management. These services are offered by

- single incubators,
- virtual incubators for micro landing,

- science parks for emerging start-ups/spin-offs.

Success Factors:

- **Geographic proximity between incubators and universities/RTOs for academic spin-outs:**

The success of academic spin-outs highly demands the proximity of their facilities to the RTOs. This has to be taken into consideration for the site of incubators and science parks.

[Heirman Clarysse 2004]: There is a strong correlation between being an academic spinout and collaborations with universities after start-up. Academic spinouts are based on knowledge and technologies developed within the university and the collaborations evolve naturally. Hite & Hesterly's (1999) analysis also suggests that the prior social and work-related ties of the entrepreneurs determine the alliances they create at founding. In many cases, the continued collaborations with the departments from which they spun out are necessary because at time of spinning-out, the technology is in such an embryonic state that further development requires faculty participation."

Other Interviews with researchers from universities and research organisations within feasibility studies for incubators and science parks [Jaeger et al 2001], [Jaeger 1999] and the experience of science park managers [Rowe 2004] underline these findings.

Source: own regional services

Measurement: qualitative/quantitative indicator

Metric: 0:= no infrastructure with basic services for new KBSUs in the region

5:= existing infrastructure with basic services for new companies in the region;
majority (> 60%) of KBSUs are satisfied with the demanded services and the infrastructure.

10:= full band width of infrastructure with basic services for new companies the region with sufficient capacity,
most of users (>80%) are satisfied with the services and the infrastructure.

3.4.3 High technology venture capital investment (% of GDP)

High technology venture capital investment comprises

- Equity capital from public investment company, venture capital, business angels,
- Bank loans,

- Public subsidised credits.

The percentage of GDP due to venture capital in high technology firms active in the following sectors: computer related fields, electronics, biotechnology, medical/health, industrial automation, financial services. Venture capital is the sum of early stage capital (seed and start-up) plus expansion capital.

One of the main barriers to innovation is the ability of new technology-based firms to raise adequate funding. This indicator measures the supply of private venture capital to these firms. The total supply of capital will be higher because of bank and private-placement financing. The main disadvantage is that there are many alternative methods of financing new technology-based start-up firms that are not covered by this indicator. Firms can also go abroad to raise venture capital. An additional concern is lack of information on the accuracy of the venture capital data.

Sources: European Private Equity & Venture Capital Association (EVCA); GSO survey for HU, LT, LV and TR; years used: 2001 for all countries, except 2000 for D, and 1999 for CZ, PL and SI.

Measurement: quantitative data;

Examples from European Innovation Scoreboard 2002:
LT: 0,900 ‰ of GDP (highest value of all EC counties;
FIN: 0,567 ‰ of GDP
average: 0,242 ‰ of GDP
D: 0,068 ‰ of GDP
HU: 0,021 ‰ of GDP

Metric: 0:= 0,000 ‰ of GDP
5:= 0,242 ‰ of GDP
10:= 1,000 ‰ of GDP

3.4.4 Activity index 1 : Number of KBSUs per 100.000 inhabitants

Further indicator

Source: trade register, chamber of commerce, list of academic spin outs, portfolios of Venture Capitalists (VCs) investing in early stage technology firms, database of SMEs requesting government support.

Measurement: quantitative indicator

Examples for data:

Definition according Heirman Clarysse 2004: Estimation of 300 RBSU (research-based start-ups) founded in Flanders between

1991 and 1997 → approx. 43 RBSU / year by 6 millions inhabitants → approx. 0,7 RBSU per 100.000 inhabitants and year

Metric: 0:= 0 new KBSUs per 100.000 inhabitants
5:= 0,5 new KBSUs per 100.000 inhabitants
10:= 2 new KBSUs per 100.000 inhabitants

3.4.5 Activity index 2 :

Number of new start-ups in innovation relevant areas per 100.000 inhabitants

Further indicator

The considered sectors include the medium-high and high technology sectors including chemicals (NACE 24), machinery (NACE 29) office equipment (NACE 30), electrical equipment (NACE 31), telecom equipment (NACE 32), precision instruments (NACE 33), automobiles (NACE 34), and aerospace and other transport (NACE 35) as well as the high-tech service sectors post and telecommunications (NACE 64); information technology including software development (NACE 72); and R&D services (NACE 73).

Source: trade register, chamber of commerce

Measurement: quantitative indicator

Examples for data:

[Kulicke et al 2002]: between 4,5 and 11,5 new start-ups in german regions with specific EXIST initiatives for academic start-up support

Data from [Heirman 2003, p. 12]: "the entire population of companies that were founded in Flanders between 1991 and 1997 and have a NACE-code that is classified in high-tech and medium-high-tech industries according to the OECD classification (DSTI 1997/2). This population comprises 7775 companies in total, of which 1861 are classified in manufacturing industries and 5914 in service sectors." → 1.111 start-ups per year in Flanders → 10,2 new start-ups per 100.000 inhabitants and per year

[Wirtschaftswoche 2004/24]:
Hamburg (1,73 million inhabitants, town with highest start-up ratio in Germany): from 1998 to 2002 there are 115 start-ups (not only innovation oriented) per 10.000 wage earner → 230 start-ups per 100.000 wage earners and year;
Duesseldorf (571.000 inhabitants, town with third highest start-up ratio in Germany): from 1998 to 2002 there are 75

	start-ups (not only innovation oriented) per 10.000 wage earner → 150 start-ups per 100.000 wage earners and year;
Metric: 0:=	0 new start-ups in innovation relevant areas per 100.000 inhabitants
5:=	5 new start-ups in innovation relevant areas per 100.000 inhabitants
10:=	20 new start-ups in innovation relevant areas per 100.000 inhabitants

3.5 Support of KBSUs during their first 5 years

3.5.1 Continuous coaching

Continuous coaching can be done by consultants, Business Angels or coaches of the (semi)public institutions. Another occurrence of coaching is hiring a fulltime “gun” (very experienced managers e.g. in financing, markets especially during the first years of a start-up) by the KBSUs.

- entrepreneurs help young entrepreneurs
- innovation consulting (strategy consulting, marketing etc.)
- hiring guns (professional managers with more than 10 years experience)

Source: own regional services

Measurement: qualitative indicator

Metric: 0:=	no coaching for new KBSUs in the region available
5:=	existing coaching activities for new KBSUs in the region available; majority (> 60%) KBSUs are satisfied with the demanded services and the infrastructure.
10:=	full band width of existing coaching activities for new KBSUs in the region available with sufficient capacity, most of users (>80%) are satisfied with the services and the infrastructure.

3.5.2 Advanced training and qualification

In-service training gives new entrepreneurs and their employees the opportunity to match the latest qualification demands to successfully continue with the own KBSU.

Source: own regional services

Measurement: qualitative indicator

- Metric:**
- 0:= no in-service advanced training and qualification customized to KBSUs' needs in the region available
 - 5:= in-service advanced training and qualification customized to KBSUs' needs in the region available; majority (> 60%) of KBSUs are satisfied with the demanded services and the infrastructure.
 - 10:= full band width of in-service advanced training and qualification customized to KBSUs' needs in the region available most users (>80%) all satisfied with the services and the infrastructure.

3.5.3 New products competition, innovation award

Successful product development by KBSUs should be acknowledged by the public hand not only as motivation for new entrepreneurs but also as support for the marketing of these new products and as awareness raising instrument to make these KBSUs attractive for venture capitalists. Venture capitalists also award innovative products in conjunction with provision of venture capital.

Source: own regional surveys

Measurement: qualitative indicator

- Metric:**
- 0:= no call for regional innovation award
 - 5:= annual innovation award in the region for regional companies.
 - 10:= annual innovation award in the region for regional companies; awarding is combined with others events like fairs or congresses in order to enhance the promotion of the awarded companies; further promotion activities of the winners by articles, publication in regional innovation portals etc.

3.5.4 Financial support (Growth capital)

Financing the accelerated and profitable growth/diversification of the NTBF with outside capital. Especially important if the NTBF is not able to finance the expected growth by its own cash flow.

Same indicator as High technology venture capital investment (‰ of GDP (3.4.3))

3.5.5 Sustainability index: survival rate after 5 years

[Heirman Clarysse 2004]: "Start-ups need time to mature and to overcome the liability of newness (Stinchcombe, 1965). Previous research indicates that the earliest this might occur would be 3 to 5 years after creation, and more usually, not until the venture is 8 to 12 years old." Thus the time frame to measure

growth should not be too short. A time row with 1...3...5...7 years for the monitoring seems to be appropriate.

Percentage of survived KBSUs (5 years after foundation). "Survived" is defined as maintaining an independent entity or being acquired by other firms.

Source: own regional surveys, trade register, Venture capitalists

Measurement: quantitative indicator

Examples for data from [Heirman et al 2003]:

Eighty-three (83) RBSUs participated in our study. At time of the data collection (2002), the surviving RBSUs are between 5 and 11 years old. On average the RBSUs in our sample are 7 years old. Most of the 83 firms, namely 86%, survived as independent entities. The other 12 RBSUs (14%) dissolved, i.e. failed to exist as independent entities, by 2002. Half of these, i.e. 7% of the total sample were acquired by other firms during their early growth path and the other 7% went bankrupt.

Metric: 0:= Survival rate of 0% after 5 years
5:= Survival rate of 50% after 5 years
10:= Survival rate of 100% after 5 years

3.5.6 Growth indicator 1: job creation after 5 years

Total number of new created (direct) jobs (in FTE full time equivalent) by start-ups and spin-offs (monitoring with row after 1...3...5...7 years since foundation). This allows a trend signal. The number of new created jobs can be compared to the general development of the regional job market.

The total number of created jobs after 5 years provides the argumentation for the costs spent for supporting the foundation of start-ups/spin-offs and their ROI (return of investment).

Source: own regional surveys, trade register, Venture capitalists

Measurement: quantitative indicator

Examples for data:

Data from [Heirman et al 2003]: "During the first year after founding the number of employees (in full time equivalents) ranged between 0 and 305, with an average of 8 employees during the first year."

[KEIM]: 800 jobs (in total, not only KBSUs) created within KEIM initiative (Karlsruher Existenzgründungsimpuls) in the technology region Karlsruhe (approx. 1 million inhabitants) →

approx. 80 new jobs per 100.000 inhabitants within 5 years
(not only jobs in KBSUs!)

- Metric:**
- 0:= no new jobs created by KSBUs within 5 years after foundation
 - 5:= 50 new jobs per 100.000 inhabitants created by KSBUs within 5 years after foundation
 - 10:= 200 new jobs per 100.000 inhabitants created by KSBUs within 5 years after foundation

3.5.7 Public amount spent for every job of a start-up

The public amount spent for every job of a KBSU is an indicator for the effectiveness and efficiency of the regional start-up supporting infrastructure and services. A rolling time frame of 5 years is chosen to smooth unique events. For comparable data the amount has to be weighted by the national or better regional purchasing power.

Purchasing Power:

[<http://europe.tiscali.co.uk/index.jsp?section=euro&level=preview&content=148879>] (date: December 2004)

Purchasing power figures are created by fixing a basket of goods common in each country and measuring their cost in euros against what you can buy in Germany. The only EU country to come above **Germany** is Luxembourg where you can buy €1.02 worth of goods for what you can get for one euro in Germany. The difference with many other EU countries is only slight such as **Portugal** (€0.99), **Greece** and **Spain** (€0.98), **Belgium** (€0.96) and **Holland** (→0.95). However, people living in **Austria** and **Italy** (€0.91), **France** (€0.86), **Ireland** (€0.84), **Finland** (€0.83) and especially **Sweden** and the **UK** (→0.81) get considerably less value for money hinting at the relatively higher cost of living in these countries.

Perhaps unsurprisingly, the statistics show that you can buy a lot more with your euros in the accession countries than in any of the current member states. The **Czech Republic** at →1.36 represent the best value for money with **Poland** (€1.29), **Latvia** (€1.28) and **Lithuania** (€1.27) also well above the German benchmark.

<http://www.swr.de/ratgeber/finanzen/urlaubskasse/index2.html> (July 2004)

Poland	1,63
Czech Republic	1,33
Lithuania	1,26
Latvia	1,24
Malta	1,24
Slovakia	1,20
Estonia	1,19
Slovenia	1,13
Hungary	1,04

Cyprus	1,04
Luxembourg	1,01
Germany	1,00
Portugal	1,00
Spain	1,00
Belgium	0,99
Greece	0,99
Netherlands	0,95
Austria	0,95
Italy	0,91
France	0,87
Ireland	0,87
Finland	0,86
Sweden	0,84
Swiss	0,81
Denmark	0,79
UK	0,78
Norway	0,72

Measurement: quantitative indicator

Examples for data:

The Slovakian government is funding a new production facility of the automotive manufacturer KIA in Bratislava (no KBSU!). Every of the 2.400 new created jobs will cost the county of Slovakia approx. 40.000 Euro.

Metric: 0:= 200.000 Euro (weighted) for every job within a KBSU
 5:= 100.000 Euro (weighted) for every job within a KBSU
 10:= 10.000 Euro (weighted) for every job within a KBSU

3.5.8 Revenue from young start-ups for public funding (Degree of self financing)

The cash back flows from successful KBSUs in relation to the public money spend on fostering KBSU is an indicator for the sustainability effectiveness and efficiency of the regional start-up supporting infrastructure and services. A rolling time frame of 5 years is chosen to smooth unique events.

Source: own regional surveys, trade register, Venture capitalists

Measurement: quantitative indicator

Metric: 0:= 0% back flow from KBSU in relationship to spent money within the last 5 years.
 5:= 50% back flow from KBSU in relationship to spent money within the last 5 years.

10:= more than 100% back flow from KBSU in relationship to spent money within the last 5 years.

3.5.9 Leverage effect of public seed capital

The leverage effect of public seed capital indicates how much private venture capital is attracted by every public seed Euro over a time frame of 5 years starting with the foundation of the start-up.

Source: own regional surveys, trade register, Venture capitalists

Measurement: quantitative indicator

Metric: 0:= 0% leverage effect: no private venture capital attracted within five years after foundation of the public (co)financed KBSUs.

5:= 100% leverage effect: 1 Euro private venture capital attracted for every public Euro spent within five years after foundation of the public (co)financed KBSUs.

10:= 1.000% leverage effect: 10 Euros private venture capital attracted for every public Euro spent within five years after foundation of the public (co)financed KBSUs.

3.6 Coordination of regional services and regional start-up strategy

3.6.1 Existence of a regional start-up/spin-off strategy

"The strong association between entrepreneurship and economic growth suggests that governments at all levels should do all they can to introduce people to the opportunities afforded through entrepreneurship. To see the greatest number of people recognize and pursue entrepreneurial opportunities, aggressive efforts should be made to build the awareness of and ensure access to entrepreneurship among people of all demographic profiles. [...] Entrepreneurial capacity refers to the skills and motivation individuals need to take advantage of entrepreneurial opportunities. The development of entrepreneurial skills is identified as a fundamental policy priority. Education for entrepreneurship should be woven into the educational curriculum at all levels and the pursuit of entrepreneurial opportunity identified as a genuine, legitimate career option." [Reynolds 2000].

Entrepreneurial motivation by financial support and professional entrepreneurship education and training in combination with effective technology transfer create the framework conditions for prosperous knowledge-based start-ups. The regional policy has to integrate all these aspects into a holistic regional start-up strategy – including vision, turning into action, adoption and further development – as necessity for a target oriented innovation policy. This strategy should be embedded in the overall Regional Innovation Strategy.

- Source:** individual assessments, preferably of several responsible or involved persons (stakeholders, actors)
- Measurement:** qualitative indicator
- Metric:** 0:= no regional innovation strategy exists at all
- 5:= a regional start-up strategy exists; some of the pillars are implemented with the necessary backing. Cooperation of actors as the case arises
- 10:= Existence of a regional start-up strategy with political backing, based on the consensus building of the actors of the regional steering committee. Exact defined permanent tasks and temporary measures/projects with clear responsibilities exist. The regional start-up strategy is embedded in the regional innovation strategy and its measures (e.g. involvement of new entrepreneurs in existing regional clusters, start-up strategy as corner pillar of overall regional innovation strategy).

3.6.2 Coordination of the regional support services

In order to fine tune the effectiveness of single regional activities and to coordinate individual activities as efficient as possible an "increasing order" of coordination activities (communication platform of the regional actors), with a strategic committee on the top (regional steering committee with representatives of the actors of the regional start-up system) is necessary. Clear rules have to be defined and a "Code of Conduct" is necessary in order to assure the follow-up of the decisions. Involvement of stakeholders has to be ensured.

- Source:** individual assessments, preferably of several responsible or involved persons (stakeholders, actors)
- Measurement:** qualitative indicator
- Metric:** 0:= no communication and coordination platform exists at all
- 5:= some actors meet regularly (e.g. kind of advisory board of the key player/leading institutions) or non regular meetings of at least most of the actors
- 10:= regular meetings of all actors (e.g. every four months) with open discussions and the political backing in order to being able to implement also their decisions

3.6.3 Monitoring of services and support for KBSUs

The monitoring is necessary in order to assess the impact of the regional start-up support and for further adjustments of the current start-up policy and the adjustment of single programs/actions.

Therefore monitoring of the single steps of the start-up process is necessary means having clearly defined targets which are evaluated at defined mile stones. The monitoring activities have to be dedicated to responsible, professional institutions and persons, the monitoring methodology has to be defined clearly and has to be traceable for all involved persons.

Source: own surveys

Measurement: qualitative indicator

Metric: 0:= no monitoring activities

5:= some monitoring activities with clear responsibilities, e.g. impact of activities of single service providers like incubators or public seed capitalists, but no region-wide monitoring activities

10:= clearly defined and highly professional monitoring activities with follow-up of the results, detailed and structured information about needs of new entrepreneurs; recurring data gathering for the defined set of indicators
continuous improvement of the regional start-up system according to the findings of the monitoring activities

4 Review of methodology, activities and results

During the ERIK network the members of TWG "Services and Support to Start-ups and Spin-offs" and other interested ERIK partner regions have developed under the coordination of Lower Austria a simplified model for the start-up process and nominated the most important indicators out of the defined set of indicators. Furthermore some partner regions have run a pilot exercise on developing a first Regional Start-up Profile by gathering available information/data for the selected indicators and by performing a first self assessment. The results were discussed in a TWG session during the meeting in Gothenburg on 2nd of October 2004.

The exchange on information and experience in the context of "Services and Support to Start-ups and Spin-offs" between the ERIK-regions was fostered by workshops (West Midlands, June 2004) and study visits including internal TWG sessions (Lower Austria in December 2003, West Midlands in June 2004, Western Sweden in September/October 2004).

4.1 Benefits of the TWG approach and the pilot exercise

The Working Paper and the self-assessment tool constitutes in general a valuable instruments to measure regional performances in different areas of the start-up process and to define regional positioning in relation to the other regions participating in the exercise.

Any actor of the regional service and supporting infrastructure to start-ups and spin-offs (e.g. the regional government, service providers, intermediary organisations, etc.) can in principle be involved in the definition of the regional profile regarding the "Services and Support to Start-ups and spin-offs" thematic area as it was already done during the pilot exercises.

4.1.1 Better insight in regional strengths and weaknesses

The experiences of the regions have shown that the application of the elaborated set of indicators to monitor and measure the Regional Programme of Innovative Actions, but also other regional programmes in the context of support to Start-ups and Spin-offs, helps to gain a more precise insight in regional strengths and weaknesses of regional start-up performance and support services. The clearer pictures are also helping to formulate the main focal points for improvement of the regional start-up support in the future in the respective regions.

4.1.2 Facilitation of understanding of other views

The approach of the TWG facilitates the intra-regional and inter-regional discussion among actors because the mostly predominating vague feeling of what is "Services and Support to Start-ups and Spin-offs" about is replaced with a systematic approach including the description of the support process for start-ups with single measures and concrete indicators. The systematic approach has

also structured the exchange of existing information and experience among the actors in the participating regions.

4.1.3 Excel tool allows graphical depiction and facilitates regional benchmarking

The developed Excel tool is easy to apply according most of the participating regions and allows the visualisation of the Regional Start-up profile on indicator and step level in form of a spider diagram. This facilitates the self assessment and allows quick identification of regional gaps in the support of the start-up process. The tools also facilitates the inter-regional discussion but the reduction of the regional benchmarking to the sole comparison of scores and graphical spider diagrams is not applicable at this stage due to the restrictions explained in the chapter above.

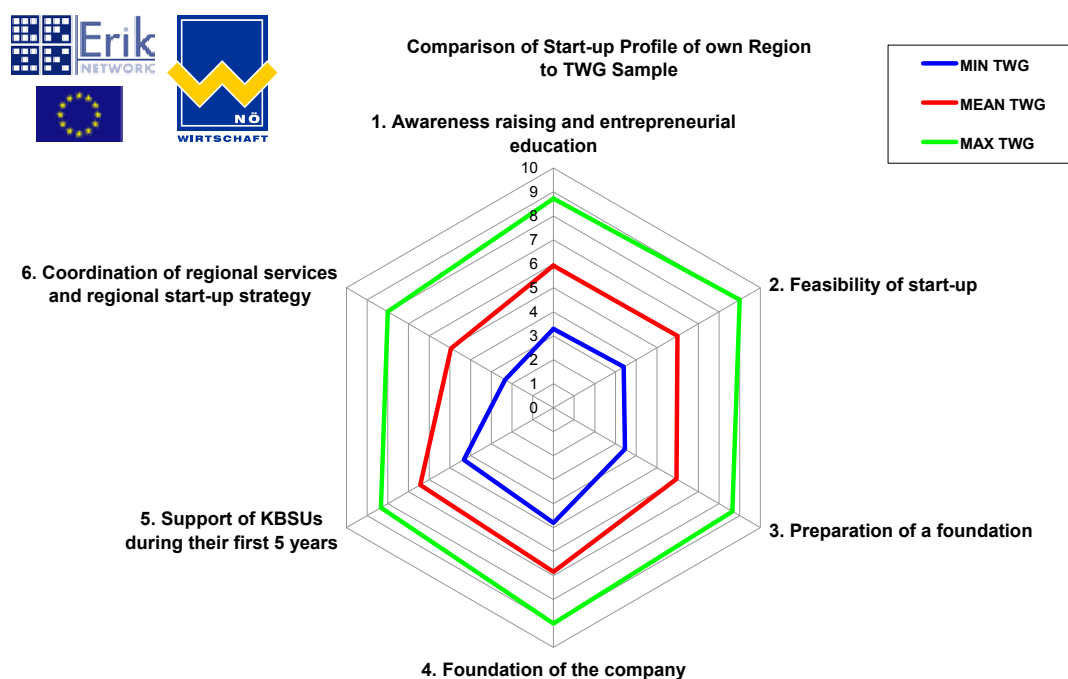


Figure 2: Example of a graphical depiction of the aggregated Regional Start-up Profiles MIN – MEAN - MAX

4.1.4 Approach as basis for monitoring tool

The pilot exercise has stressed the necessity of further development of significant and applicable tools to measure the impact of the measures of the regional innovation policy in the context of start-ups. So far most of the monitoring and evaluation methodologies are individual approaches of single organisations but

monitoring tools for region wide start-up support activities are underdeveloped as the low data availability for the relevant indicators shows.

The ERIK members consider the developed methodology with the set of quantitative and qualitative indicators as a possible future monitoring tool for regional support programmes for start-ups which may also be applied to follow-up the impact of the activities within the Regional Programme of Innovative Actions or within the mainstream programme.

4.2 Constraints of the approach

4.2.1 Common understanding of selected indicators

Due to the broad band width of the topic "Services and Support to Start-ups and Spin-offs" the list of possible indicators is enormous. The literature links listed under chapter 4 give an impression what effort on identification and definition is spend in Europe and beyond it. Although the ERIK partner regions are agreeing on the relevance of the selected indicators it became obvious that gaining a common understanding for all selected indicators needs more time for in-depth discussions in combination with more hands-on exercises as it was feasible within the given framework of the ERIK network. E.g. in some cases absolute figures were used for the scoring metric but it could be more meaningful to consider relative figures in order to be able to compare regions with different population size. In other cases the metric is a mix of ratings concerning the existence of particular services and the level of satisfaction with regard to the specific service. At the moment there is no unanimous statement of the TWG members whether this mix is helpful or should be avoided.

Furthermore the set of indicators includes input indicators as well as output indicators. There might be even dependencies between single input indicators. Single indicators are considered as sub indicators (e.g. 2.2.4 "Start-up hunting" as sub indicator of 2.2.2 "Idea scout", or 3.1 "Profiling" as sub indicator of 3.3 "Training & individual consulting"). This fact requires more effort in validation of dependency and further fine-tuning of indicators as well as in new structuring of the current set of indicators. Due to missing sufficient quantitative figures the metric may has to be adjusted later when sufficient data are available.

The process of getting a common understanding and an overall consensus on the set of indicators and their metric is an iterative process at best: first of all you need a description of the activities which have to be measured and a first definition of possible indicators which could be based on existing literature and surveys. This first description should be the basis for the investigation on the necessary data and information which is at the same time the evaluation of the current definition. Up-coming difficulties in data gathering, open questions or revealed circumstances which have not been considered so far are giving new input for the common understanding of the indicator and at the same time require a rework of the description of the activities and of the indicators. Parallel application of a Delphi technique in the regions of the TWG helps also to solve

this divergence and to create a well thought, structured and convergent framework. This proceeding would go beyond the condition of the current ERIK Thematic Network – but it could be part of an extension as ERIK II.

4.2.2 Availability of information and data regarding the indicators

The pilot exercise has revealed that necessary regional data for the selected indicators are often not available and that additional effort in carrying the necessary investigations on these figures are necessary in a future step beyond the current ERIK network activities. Thus for several quantitative indicators the participating regions have also estimated the scoring due to the experiences and the perception of the involved experts in the regions.

4.3 Most important indicators

One objective of the TWG “Services and Support to Start-ups and Spin-offs” was the definition of the most important indicators. Within the performed exercise 6 regions have listed 25 different indicators as most important indicators with weak correlations between most important and most frequently rated indicators, as you can see in the diagram below:

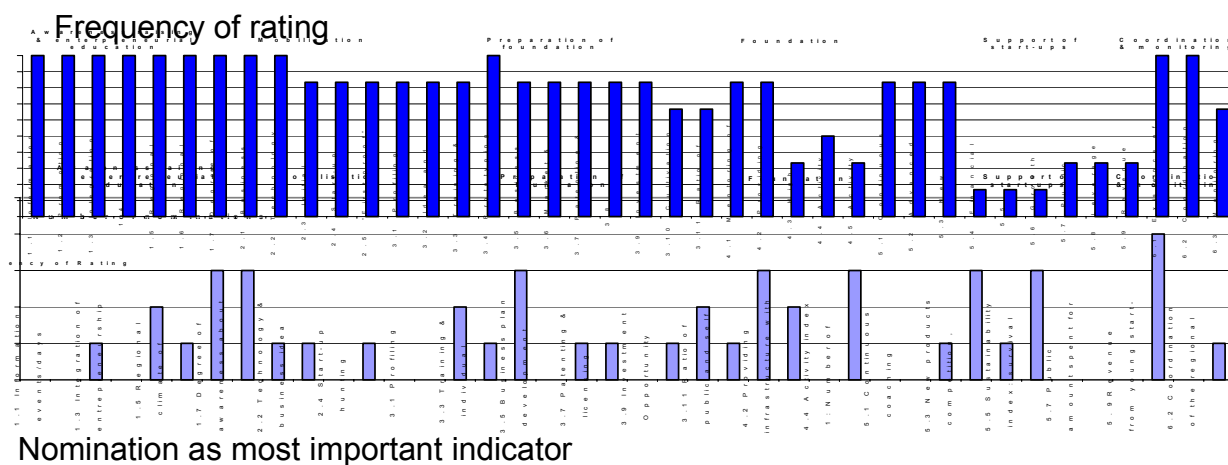


Figure 3: Frequency of rating and of nomination as most important indicator

The discussions about the “most important indicators” have shown that assessment depends on different factors like

- Broad bandwidth of tools and activities of the start-up process,
- Different tasks and views of the involved organisations/experts of the single regions,
- Different regional frameworks and point of departure of each region,
- Remaining different understanding of single indicators,

- Availability of regional data for indicators

On request of Tuscany Region to reduce the number of indicators for an easy-to-apply ERIK database the TWG has decided to define for every step one input and one output indicator as most important indicators according to the frequency of nominations within the performed exercise. For the step "Coordination and Monitoring" only one input-indicator is appointed. In case of equal number of nominations, the frequency of ratings and if necessary the appraisal of Lower Austria as TWG coordinator was considered. This is the resulting list with the most important indicators:

Input indicators:

- Integration of entrepreneurship in education
- Business idea competition
- Training & individual consulting
- Providing infrastructure with basic services for new companies
- Financial support (Growth capital)
- Existence of a regional start-up/spin-off strategy

Output indicators:

- Degree of awareness about creating the own start-up as opportunity and realistic alternative to employment
- "First proof" of business ideas
- Business plan development
- Activity index 2: Number of new start-ups in innovation relevant areas per 100.000 inhabitants
- Growth indicator 1: job creation after 5 years

The following depiction gives an overview over the most important indicators linked to the start-up process:

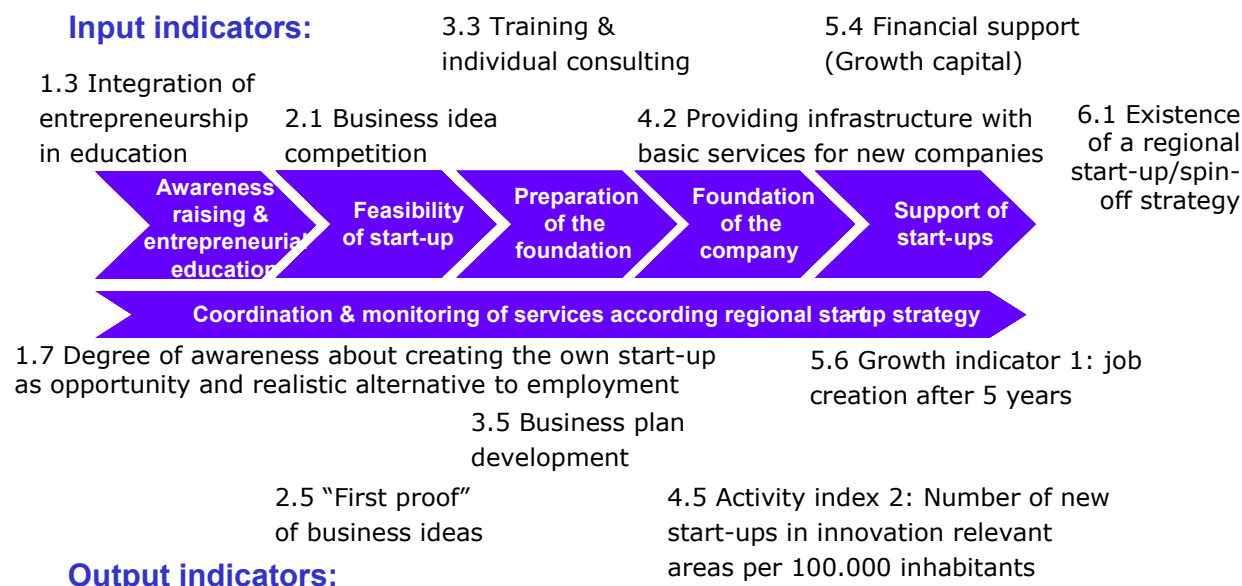


Figure 4: Most important input and output indicators

4.4 Scoring of single indicators

Here are some explanations for the general measurement:

- The metric allows integers between 0 and 10 as scores.
- The aggregated score for each step per region is calculated as follows: The sum of the single scores of all filled out indicators per step divided by the number of filled out indicators per step.
- MIN TWG per step is defined as sum of the minimum score for every indicator over the whole sample divided by the number of considered indicators for the respective step.
- MAX TWG per step is defined as sum of the maximums score for every indicator over the whole sample divided by the number of considered indicators for the respective step.
- MEAN TWG per step is defined as sum of mean for every indicator over the whole sample divided by the number of considered indicators for the respective step.

The following list gives an overview over the aggregated ratings (MIN – MEAN – MAX for every single indicator. Due to some changes of the metric of single indicators according the findings of the pilot exercise there may be some deviations between the listed rating and the respective metric listed in chapter 2.

Step / No	indicator	freq of rating	MEAN TWG	MIN TWG	MAX TWG
1.1	1.1 Information events/days	100%	5,8	4,0	8,0
1.2	1.2 Promotion campaigns	100%	6,5	4,0	10,0
1.3	1.3 Integration of entrepreneurship in education	100%	6,2	5,0	8,0
1.4	1.4 Establishment of new entrepreneurial research and studies	100%	5,2	3,0	8,0
1.5	1.5 Regional climate of entrepreneurial culture	100%	5,5	2,0	10,0
1.6	1.6 Regional legislative, administrative and tax framework	100%	7,0	3,0	10,0
1.7	1.7 Degree of awareness about creating the own start-up as opportunity and realistic alternative to employment	100%	5,3	2,0	7,0
2.1	2.1 Business idea competition	100%	8,5	7,0	10,0
2.2	2.2 Technology & business idea scout	100%	4,8	2,0	8,0
2.3	2.3 Initial consultation	83%	6,6	5,0	8,0
2.4	2.4 Start-up hunting	83%	3,6	0,0	9,0
2.5	2.5 "First proof" of business ideas	83%	6,4	3,0	10,0
3.1	3.1 Profiling	83%	5,4	3,0	10,0
3.2	3.2 Idea and Partner matching	83%	6,0	5,0	7,0
3.3	3.3 Training & individual consulting	83%	7,0	4,0	10,0
3.4	3.4 Prototyping Clinics	100%	2,7	0,0	6,0
3.5	3.5 Business plan development	83%	7,2	3,0	10,0
3.6	3.6 Market & competitor analyses	83%	5,8	3,0	8,0
3.7	3.7 Patenting & licensing	83%	7,0	5,0	9,0
3.8	3.8 Entrepreneurship on probation	83%	6,8	5,0	10,0
3.9	3.9 Investment Opportunity Forum	83%	6,2	2,0	10,0
3.10	3.10 Cultivation of industrial and financial relationships	67%	6,3	5,0	8,0
3.11	3.11 Ratio of public and self financed money to total budget for the preparation step	67%	5,0	3,0	7,0
4.1	4.1 Mentoring of foundation	83%	5,8	2,0	10,0
4.2	4.2 Providing infrastructure with basic services for new companies	83%	7,6	5,0	10,0
4.3	4.3 High technology venture capital investment (% of GDP)	33%	5,0	5,0	5,0
4.4	4.4 Activity index 1: Number of KSBUs per 100.000 inhabitants	50%	7,3	5,0	10,0
4.5	4.5 Activity index 2: Number of new start-ups in innovation relevant areas per 100.000 inhabitants	33%	8,5	7,0	10,0
5.1	5.1 Continuous coaching	83%	5,4	4,0	7,0
5.2	5.2 Advanced training and qualification	83%	4,4	0,0	8,0
5.3	5.3 New products competition, innovation award	83%	5,6	0,0	10,0
5.4	5.4 Financial support (Growth capital)	17%	8,0	8,0	8,0
5.5	5.5 Sustainability index: survival rate after 7 years	17%	10,0	10,0	10,0
5.6	5.6 Growth indicator 1: job creation after 5 years	17%	5,0	5,0	5,0
5.7	5.7 Public amount spent for every job of a start-up	33%	7,5	6,0	9,0
5.8	5.8 Leverage effect of public seed capital	33%	5,0	2,0	8,0
5.9	5.9 Revenue from young start-ups for public funding (Degree of self financing)	33%	7,0	4,0	10,0
6.1	6.1 Existence of a regional start-up/spin-off strategy	100%	5,5	2,0	10,0
6.2	6.2 Coordination of the regional support services	100%	6,3	4,0	9,0
6.3	6.3 Monitoring of services and support for KSBUs	67%	3,0	1,0	5,0

Figure 5: Aggregated ratings (MIN – MEAN – MAX for every single indicator

4.5 Regional Start-up Profiles

6 regions have developed their Regional Start-up Profile between July and September 2004. The results were discussed in TWG workshop during the meeting in Gothenburg on 2nd of October 2004.

The exercises were carried out in different ways in the single regions. Some regions have organised half day workshops with representatives of several organisations of the start-up supporting infrastructure, other ERIK partner organisations have carried out the self assessment internally, Lower Austria has organised a half day workshop with members of the regional steering committee RIS NÖ. At least two of the participating regions plan to establish the "self assessment group" as a permanent exchange and monitoring platform for regional start-up activities.

The TWG has decided not to publish these individual Regional Start-up Profiles due to the above mentioned constraints of the current status of the TWG approach and due to open questions in some regions about the responsibility for the assessment of such a Regional Start-up Profile. The publication of an individual Regional Start-up Profile is the decision of the respective partner region. The spider diagram bellows shows the Regional Start-up Profile of Lower Austria.

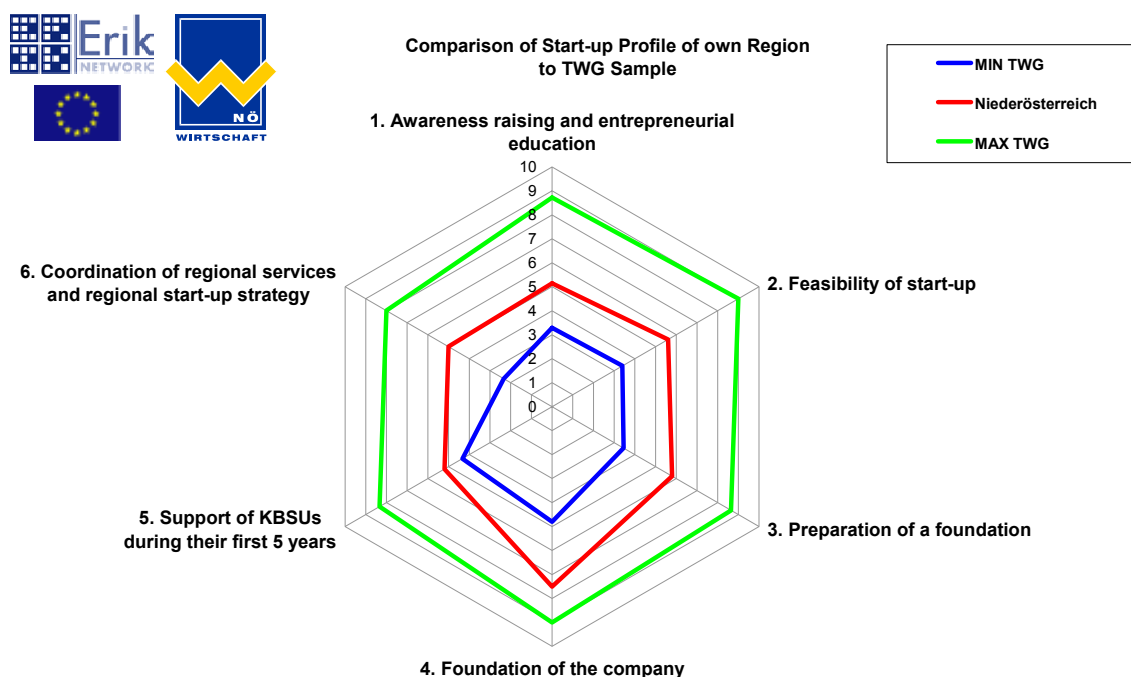


Figure 6: Regional Start-up Profile of Lower Austria in comparison with MIN and Max of whole sample.

4.6 Application of the indicators within the ERIK database

One task of the ERIK Network is to create a Database of European RPIAs and Related Good Practices. Building on former experiences the ERIK Database of European RPIAs is containing information on the topics and the content, good practice cases and the impact of programmes/projects performed under the Regional Programme of Innovative Actions.

The developed set of indicators is also applicable to measure projects or programmes within the RPIA. For this purpose the respective metric has to focus on the respective project/programme and not to measure the overall regional activities. Here is one example for the specification of the indicator 1.3 "Integration of entrepreneurship in education" (see page 7):

- 0 = No integration of entrepreneurship in education is brought into the regional innovation system through the Programme
- 5 = Some education activities in entrepreneurship at single universities/RTOs/schools are brought into the regional innovation system through the Programme but they are not integrated in the educational system
- 10 = The Programme supports education in entrepreneurship at every regional University/RTO/school

Although the majority of the regions has agreed on the 11 most important indicators (see chapter 4.3), the other indicators of the set are also useful and applicable for the description and measurement a RPIA or single projects within the RPIA. Thus the focus on the 11 most important indicators is considered as a too restrictive limitation by some partner regions. Due to the fact that the ERIK database will represent the indicators as string types and not as numerous types (according the statement of Tuscany region during the TWG workshop in Gothenburg) no quantitative analyses will be possible. Then the question has to be asked why a reduction of the indicators to the 11 assigned indicators is necessary.

In most instances the RPIAs do not cover the whole start-up process. Therefore only a subset of indicators is applicable and needs to be filled out within the ERIK database. If at the same time the number of indicators is restricted to the 11 most important indicators it may happen that none of these 11 remaining indicators is applicable for the individual RPIA.

5 Outlook

The TWG members appreciate the work that has been done within ERIK and the results of the TWG approach. They have exchanged information and experiences about RPIAs and other regional support programmes as well as elaborated a draft set of indicators for monitoring and impact assessment. The member regions acknowledge this set of indicators as an appropriate point of departure

for future systematic monitoring and impact assessment of RPIAs and other regional support activities and services for start-ups and spin-offs.

During the work of the TWG "Services and Support to Start-ups and Spin-offs" and the performed pilot exercise it became also obvious that the development and continuous monitoring of the Regional Start-up Profile including regional support measures for start-ups and spin-offs will take some more effort and time beyond the current ERIK network project for fine tuning and validation of the identified indicators, for establishing and performing the process of gathering the required data/information and for clarifying the responsibilities in the regions. The TWG regions have already declared their willingness in further elaboration and application of the set of indicators and of the Regional Start-up Profile.

Thus Lower Austria as lead of the TWG "Services and Support to Start-ups and Spin-offs" recommends continuing with the work in form of a follower project "ERIK II" with stronger emphasis on

- workshops for gaining further common understanding of indicators (validation, fine tuning) – workshops can be combined with further study visits –,
- gathering the required data for the defined indicators by the participating regions,
- developing resp. improvement of Regional Start-up Profiles and continuous monitoring over a period of at least 2 years. These Regional Start-up Profiles could be focussed on the RPIAs in a first step,
- in-depth, trans-regional comparison of regional support and services for start-ups and spin-offs

6 Literature

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