

PAXIS

The Pilot Action of Excellence on Innovative Start-ups



RESULTS AND RECOMMENDATIONS

**INNOVDETECT Consortium,
Luxembourg, August 2002**

INNOVDETECT is an accompanying measure (Contract IPS029083AM) responsible for the Innovation Policy Interface of the Community action "PAXIS" (**P**ilot **A**ction of **E**xcellence for **I**nnovative **S**tart-ups) led by ZABALA (ES) in consortium with ICON (DE), ASCENT (BE), ENTERPRISE (UK), CIMATEC (IT) and TECHNOFI (FR).

The contract has one **major goal**: to link the results obtained through the 24 projects and 4 thematic networks funded by the EC under the PAXIS 1 action (which deals with the creation of innovative start-ups) with enterprise-related policies at EU, national or regional level.

The ambitious goal for this accompanying measure has been achieved through the construction and testing of a coherent methodology. This has enabled a series of 5 **operational objectives** to be met:

1. To identify good practice from the work performed in the projects and networks.
2. To define and test a set of performance indicators, which can be used to pinpoint good start-up support mechanisms amongst a known set of mechanisms. Such mechanisms may have been specifically developed and then transferred between regions in a simultaneous fashion or may simply be transferred from one region to one or more other regions.
3. To propose improved processes to support start-ups on the basis of comparative studies of the networks and projects supported by the EC and referred to above.
4. To identify policy priorities which can be inferred from the studies mentioned above which would further support the implementation and impacts of the good practices recognised.
5. To propose to the EC a set of policy recommendations based on an appraisal of the INNOVDETECT consortium proposals made jointly with a panel of European experts.

INNOVDETECT has focused its activities on the 24 projects and 4 networks of PAXIS by **collecting their data, assessing their results and shaping policy lessons**. Therefore, the analysis conducted was strongly dependent on the quality of results generated by the networks and projects themselves during the 18 month duration of PAXIS.

Finally, it should be made clear that the project officer from the Innovation Policy Unit of the European Commission, Mr. Tomás Botella, has been strongly involved in the monitoring of INNOVDETECT activities.

NB. All the statements made in this report reflect **exclusively** the findings of the INNOVDETECT consortium, based on the assessment of the activities carried out in the framework of PAXIS contracts.

SUMMARY	3
I. PAXIS BACKGROUND.....	4
I.1 ORIGIN.....	4
I.2 OBJECTIVES	5
I.3 RATIONALE.....	5
I.3.1 TARGET PARTICIPANTS.....	5
I.3.2 APPROACH	6
I.3.3 INSTRUMENTS AND ACTIVITIES	7
I.4 RESULTS.....	9
II. ASSESSMENT METHODOLOGY.....	12
II.1 MODELS USED FOR PR AND NTS ANALYSIS.....	12
II.1.1 GENERAL APPROACH TO BUSINESS MODEL.....	12
II.1.2 ELEMENTARY PROCESSES	15
II.2 METHODOLOGICAL TOOLS APPLIED BY INNOVDETECT-AM	16
II.2.1 ENCOMPASSING ACTIVITIES AND QUESTIONNAIRE SURVEY.....	16
II.2.2 INDICATORS FOR ASSESSING PROJECTS	17
II.2.3 EUROPEAN ADDED VALUE APPROACH FOR NETWORKS.....	19
II.2.4 EXPERT PANEL.....	20
III. RESULTS.....	21
III.1 PROJECTS	21
III.1.1 MAIN THEMES	21
III.1.1.1 STIMULATING ENTREPRENEURSHIP FOR ACADEMIC SPIN-OFFS	21
III.1.1.2 CONNECTING THE RIGHT PEOPLE WITH INVESTORS.....	26
III.1.1.3 IMPROVING THE UNIQUENESS AND ATTRACTIVENESS OF THE BUSINESS IDEAS TOWARDS INVESTORS.....	27
III.1.1.4 MISCELLANEOUS TARGETED BENEFICIARIES	29
III.1.2 MOST SUCCESSFUL INDIVIDUAL RESULTS.....	32
III.1.2.1 QUASI-E PROJECT	33
III.1.2.2 EMBRYO PROJECT	35
III.1.2.3 USINE PROJECT	37
III.1.2.4 PRIACES PROJECT	39
III.1.2.5 SPINOVA PROJECT	41
III.1.2.6 SUSE PROJECT	43
III.1.2.7 PRO-BACK PROJECT	45
III.1.2.8 SMART-TULIP PROJECT.....	47
III.1.2.9 INNOTENDER PROJECT	49
III.1.2.10 KREO FMD (BAN) PROJECT	51

III.2 NETWORKS.....	53
III.2.1 THE SPRING NETWORK	53
III.2.2 THE KREO NETWORK	56
III.2.3 THE PANEL NETWORK.....	58
III.2.4 THE HIGHEST NETWORK.....	60
IV. CONCLUSIONS.....	62
IV.1 PROJECTS	62
IV.1.1 ANALYTICAL ISSUES	62
IV.1.2 GRAPHIC COMPARISON OF PROJECTS ACCORDING TO THEIR AVERAGE ASSESSMENT	63
IV.1.3 MOST SUCCESSFUL PROJECTS.....	66
IV.1.4 OVERALL CONCLUSIONS.....	67
IV.2 NETWORKS.....	69
IV.2.1 EUROPEAN ADDED VALUE OF NETWORKING.....	69
IV.2.2 OVERALL CONCLUSIONS.....	70
IV.3 EXPERT PANEL ISSUES	72
V. RECOMMENDATIONS.....	76
V.1 DEVELOPMENT OF THE ACTION.....	76
V.2 POLICY LESSONS.....	80
V.2.1 KEY TRENDS	80
V.2.2 POLICY LESSONS.....	81

ANNEX I: Summary of objectives and results from projects (PRs) and networks (NTs) in PAXIS

ANNEX II: INNOVDETECT-AM methodological tools

ANNEX III: Members of the experts panel

ANNEX IV: Results of projects assessment

ANNEX V: Results of networks assessment

SUMMARY

The Pilot Action of Excellence for Innovative Start-ups (PAXIS) was launched in June 1999 as part of the planned activities in the Innovation and SMEs specific programme of the 5th Framework Programme. PAXIS activities were completed in the first half of 2002.

OBJECTIVE

- The specific objective of PAXIS was to contribute through a practical approach to the identification, analysis, validation and dissemination of local conditions of excellence for the creation of innovative firms.

OUTPUTS

- Launching and implementing the scheduled pilot activities (call for proposals, evaluation and signature of 30 contracts), from June 1999 to September 2000.
- Running, monitoring and completing 30 contracts (average duration: 18 months), from the second half 2000 to the first half 2002.

MAIN RESULTS

- Setting-up a dissemination and communication platform as a European showcase and awareness raising tool concerning local models of excellence in support services for innovation.
- Implementation of a learning process about successful local models and practices where European regional champions acted as "hot spots".
- Integration of local resources and schemes for supporting start-ups by fostering joint activities between regions, such as the European Day of the Entrepreneur introduced by the larger European cities.

OUTCOMES

- Support for the creation of innovative business start-ups through local stakeholders.
- Enhancement of the knowledge concerning regional and local mechanisms of excellence in facilitating the setting-up and development of innovative firms.
- Demonstration of PAXIS as a valid instrument in support of the definition of the Community innovation policy.

I. PAXIS BACKGROUND

I.1 ORIGIN

The creation of new business based on innovation is important for the development of high quality, lasting employment and thus, sustainable economic growth. **Europe needs more business start-ups**, not only in high-technology activities, but also in more traditional sectors since these contribute to the dissemination of new technologies and the emergence of new economic activities.

There is considerable 'tacit' knowledge in Europe concerning the many different approaches and means of supporting the creation of innovative start-up businesses. This is due in part to the cultural diversity of the actors involved in the innovation field. The knowledge they have is very specialised and not available in written form, since it is built on the daily experience and interactions of many actors and organisations, with strong links to local cultural habits and circumstances.

Making the appropriate knowledge available does not necessarily entail conceiving new ideas, since many forms of good practice may be acquired by copying and adapting someone else's approaches. However, the process does involve identifying existing 'tacit' knowledge and converting it into **knowledge that is 'explicit' and transferable**.

However, the acquisition or transfer of knowledge between the various stakeholders is neither easy nor automatic and this, in turn, impairs **comparison and benchmarking**. An appropriate dissemination of an innovative entrepreneurial culture across Europe is a long-term issue, but at the same time, it is a recurrent problem and requires a solution.

Public intervention may be necessary to speed up the process of identifying and learning about the mechanisms that have been employed in geographical or economic areas that have demonstrated excellence in innovative start-up firm creation. Public intervention could also support focused activities that bridge specific gaps in innovative entrepreneurship promotion.

The **First European Forum for Innovative Firms (Vienna 1998)** acknowledged this necessity, stating as main priorities, among others:

- Support for the creation and development of innovating enterprises as one of the major themes of innovation policy, because of the contribution that these enterprises make to economic growth and employment.
- Creation of an approach for the identification, calibration and dissemination of good practice at the Community level, as well as the testing and promotion of new approaches, by means of pilot actions.

Early in 1999, following the issues of the Forum of Vienna, the Innovation and SMEs Programme of the 5th Community Framework Programme launched the **action-line 'Mechanisms to facilitate the setting-up and development of innovative firms'**, which is at the heart of the PAXIS pilot action.

I.2 OBJECTIVES

Considering the pilot nature of PAXIS the **formal aim** was to demonstrate its feasibility at a larger scale as a tool for the support of the Community innovation policy.

Building on European diversity and local successes, the **specific objective** of PAXIS was to contribute through a practical approach to the identification, analysis, validation and dissemination of local conditions of excellence for the creation of innovative firms.

The **expected outcomes** of PAXIS were:

- To give indirect support for the creation of innovative start-ups.
- To enhance existing knowledge about mechanisms that facilitate the setting-up and development of innovative firms at the European level.
- To provide a sound basis for the definition of the Community innovation policy.

I.3 RATIONALE

I.3.1 Target participants

Efficient public strategies to encourage the creation of innovative start-ups may be different depending on the level of governance.

Direct support is usually more efficient at the **local or regional level** since it depends very much upon the strengths and weaknesses of the innovation structure existing in the geographic area.

National governments can influence business creation by fostering an environment with administrative, fiscal and legal measures more favourable for start-ups and more conducive to an entrepreneurial culture.

At the **European level**, in addition to the relevant regulatory policies, there are some EU funding policies that support players in the innovation process. The Commission acknowledged the important role played by regional and local **public or semi-public organisations** (such as public sector management organisations, universities, research organisations, etc.) participating in the process of creating innovative firms at the local and regional level. They are the target participants in the pilot action PAXIS as a vehicle to promote learning about the mechanisms which facilitate business creation and start-up.

I32 Approach

There are two main factors driving the process of creation of innovative firms:

- **Knowledge** as the most important resource;
- **Learning** as the most important process.

The flow of knowledge among different innovative entrepreneurial cultures contributes to the definition of stronger and more efficient mechanisms for start-up creation, and at the same time, it also helps obviate 'reinventing the wheel'.

In fact, one of the main concerns of PAXIS was to mobilise and foster effective participation by local support organisations (target participants of PAXIS) in a **learning process** about successful schemes for the creation of innovative firms. This was done either by **sharing knowledge** with other local organisations or by **validating specific cases of good practice**. Such organisations must be open to the learning process.

Therefore, the learning process took place at two complementary levels:

- General 'tacit' knowledge about the creation of innovative business issuing from existing approaches in excellent **European economic areas** (hot spots), addressed by representative organisations involved in the definition of local innovation policy. This knowledge, generally shared as a pool among local organisations, is useful for extracting **policy lessons**.
- Specific 'tacit' knowledge dealing with elementary processes of start-up creation addressed by related **stakeholders** (universities, regional innovation agencies, business angels, etc.). This knowledge, generally transferred and acquired, is useful for identifying and validating **good practice**.

Both of these learning processes constituted practical and 'in vivo' approaches and 'learning by doing' methodologies that went beyond other, more theoretical ones (based on external experiences).

This approach is in line with the issues of the **later Lisbon Council in 2000**, which decided to launch the Open Method of Co-ordination, including benchmarking based on quantitative and qualitative indicators. It brings together processes and work-programmes of different European policy-making institutions to support the defined objectives of becoming the most competitive knowledge-based economy.

The Commission's role was to monitor the process and to facilitate benchmarking and the exchange of best practice, as emphasised in the **Communication 'Innovation in a knowledge-driven economy'**, adopted by the European Commission in September 2000.

L33 *Instruments and activities*

PAXIS has different learning tools and working approaches:

- **Networks of areas of excellence**, as a vehicle for sharing and acquiring knowledge about successful local and regional approaches supporting the creation of innovative start-ups.

These **learning networks** are 'real life' laboratories where the sharing of existing good measures is performed on a voluntary basis by some of the networked **champion regions** of Europe. It is of paramount importance that **local excellent practices are compared** at the European level, before policy recommendations can be made to extend their impacts beyond the regions that have been implementing them.

Through the implementation of **joint activities**, networks tend to concentrate and integrate both local resources and local innovation policies. The networks also raise awareness about the European dimension of business start-up creation.

- **Cross border projects**, as a tool for validating and transferring specific cases of good practice in supporting the creation of innovative start-ups.

Projects are also 'real life' laboratories where new measures are developed and tested: here, start-up service providers combine their efforts to **validate new concepts**, part of the complex process that leads to the creation of innovative firms. Since the consortia co-operate on new processes but within different socio-economic and cultural backgrounds, **process transferability** is tested in real time from

the start, thus maximising the probability of successful implementation of good practice, initially within the involved regions.

- **Large events**, as a way of ensuring **high level local participation** and commitment through public recognition of the excellence of selected economic areas. This is also an instrument for **raising awareness** about the European dimension of start-up creation.

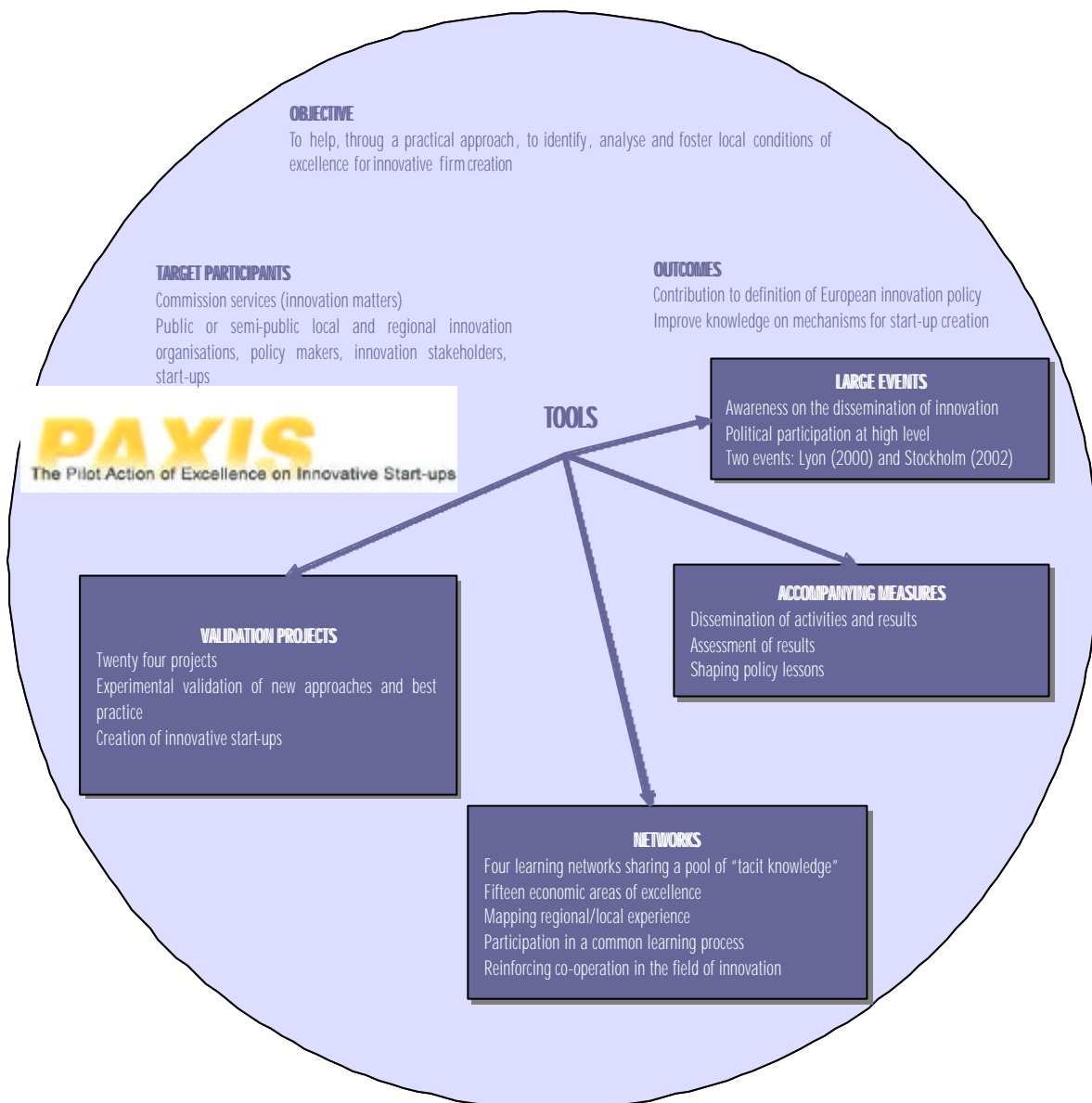
- **Accompanying measures**, with two major aims:
 - To provide a tool for the communication and dissemination of PAXIS activities and results;
 - To enable the assessment of results and shaping of policy lessons.

Due to the novelty of the subject and the lack of experience in some instruments (mainly thematic networks), **activities** were designed upon the premise of a 'pilot action' in order to gain experience about the subject and tools as well as to demonstrate its subsequent feasibility as a larger, more focused action. Thus, the duration was short (18 months).

Moreover, due to the nature of a **pilot**, the terms of reference of the call for proposals of PAXIS were rather flexible, which led to relatively open priorities and so to a broader range of activities. The activities have been narrowly monitored by Commission staff and encompassed by the INNOVDETECT consortium. As an exploratory instrument, the number of selected projects was relatively high (24 out of 72 received proposals) in order to have a broader variety of themes to be addressed and tested.

Comparative exercises were generally included and performed in work programmes of networks. On the other hand structured benchmarking approaches were not generally included in the work packages during this pilot phase. In the forthcoming larger action, **regional benchmarking activities and studies** on specific matters should be performed. These should follow an open methodology based mainly on the "tacit" knowledge of regional players. This approach would be complementary to similar activities supporting Community Innovation policy definition which are based exclusively on statistical data assessed by external consultants.

PAXIS GLOBAL APPROACH



I.4 RESULTS

From mid 2000 to the first half 2002 all planned activities (30 contracts) were carried out and completed.

A summary of the major objectives and the main results of individual cross-border projects and networks of regions of excellence is given in Annex I.

The **global results of PAXIS** can be classified as follows:

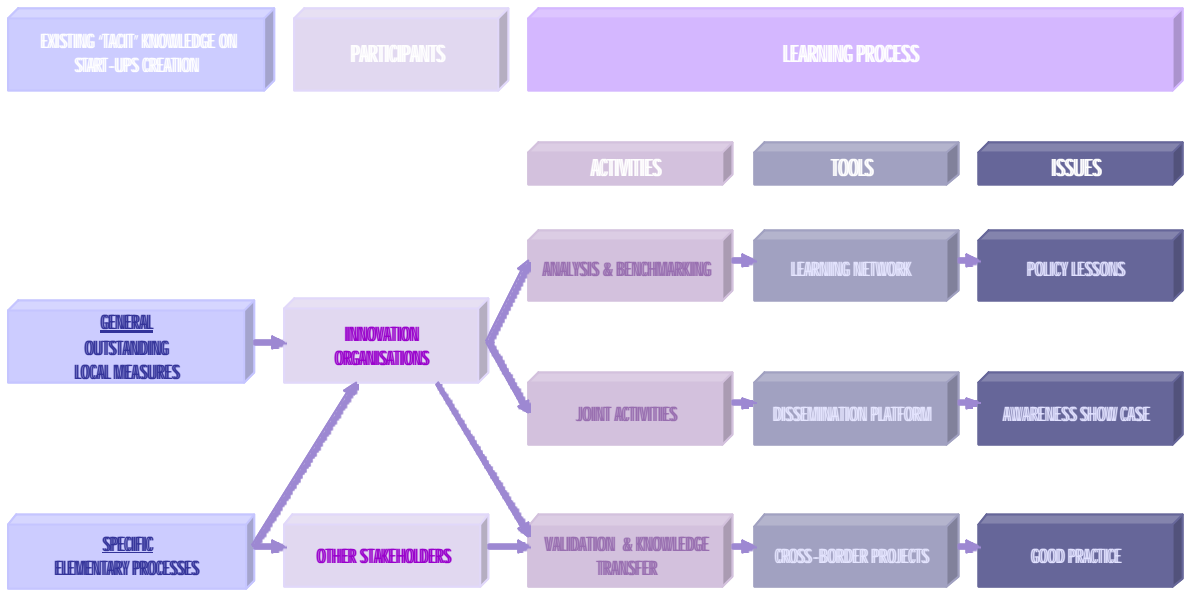
1. Setting up a **communication platform** to foster awareness, concerning excellence at a European level, of local support for innovation. Arising from this process was a “European showcase” on innovation, which had a positive impact and knock-on effect for other regions of the Union, encouraging economic areas to implement initiatives adapted to their local environment.
2. Implementation of a learning exercise by **mapping local successful models and practice**. Principally, this entailed the identification and comparison of successful models and practices as stepping stones to support local innovation policies. European regional champions act as “hot spots” in the process.

These first two results are classical issues of network activities.

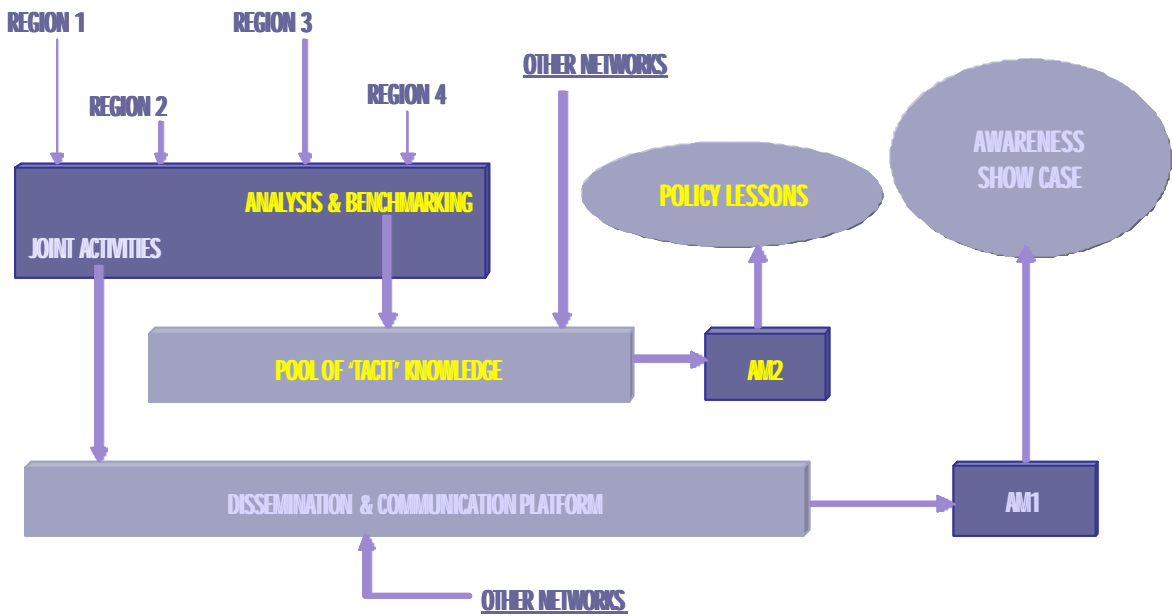
3. Improvement of the **integration of local resources and schemes for start-up creation**, by means of awareness-raising activities, training and dissemination. Typical examples could be found in the joint activities of the networks of regions of excellence (entrepreneur days, summer entrepreneurship courses) or projects (business angel networks, co-ordination of support organisations by a virtual incubator, etc).
4. **Identification and transfer of knowledge** about particular examples of good practice - including the testing and validation of specific examples. Most recurrent examples stem from academic spin-offs and pre-incubation models. Despite the short timescale, these activities had already contributed in some cases to the creation of new innovative businesses.
5. Recognition of the **‘Award of excellence’ as a prestigious label** that improves the image of the relevant economic areas. The target audience was reached through the large events and communication activities. Two large scheduled conferences in Lyon (2000) and Stockholm (2002) were held, as was a workshop in Barcelona (2001).
6. Improvement of knowledge about mechanisms of start-up creation, including the shaping of policy lessons at Community level. This was achieved by the assessment activities carried out by the INNOVDETECT consortium.

Despite the short duration of PAXIS, all the above results show that this pilot action has enabled enough experience to be gained to recommend continuing the action on a larger scale. The results also demonstrate **its feasibility as a practical innovation policy instrument**.

LEARNING PROCESS SCHEME



LEARNING NETWORK



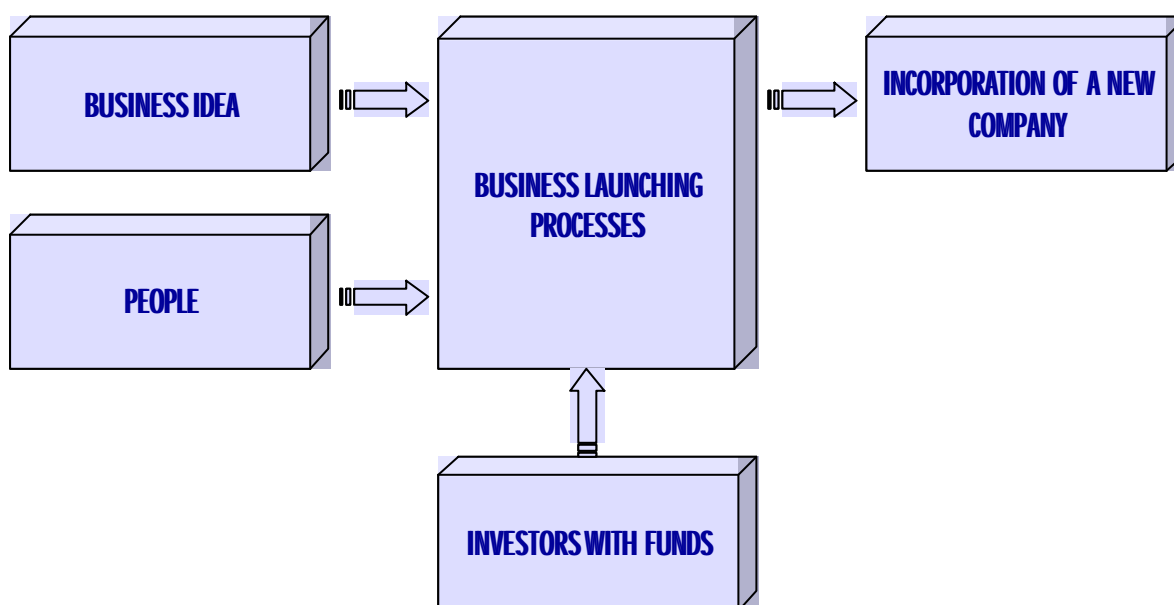
II. ASSESSMENT METHODOLOGY

II.1 MODELS USED FOR PR AND NTS ANALYSIS

III1 General approach to business model

New business launching is the result of many intertwined processes which, hopefully, should converge quickly enough towards the incorporation decision, and its legal counterpart: the incorporation agreement of the company. Once incorporation has been registered, a company can start operations, i.e. make business proposals, receive orders and ultimately make profits from the added value brought to its customers.

Regional intermediaries, the ones which are supposed to support this business launching process, must therefore have their own business approach. They, themselves, can be seen as managers of several business launching processes, the output of which is business incorporation, as depicted in the diagram below:



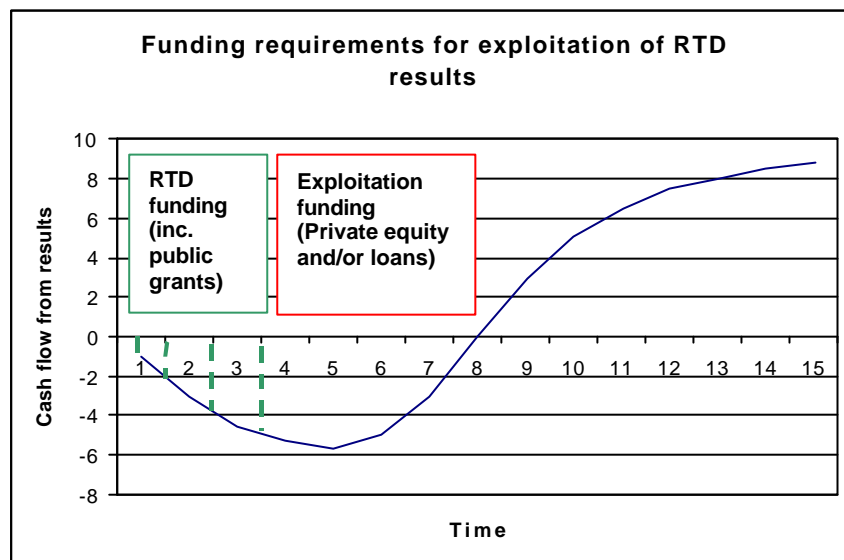
People (a single entrepreneur or a team) come to the support organisation with a **business idea**. They usually look for investors willing to bring **funds** in order to have the business launched under the most appropriate financing conditions. Funds are:

- equity, which may cover, for instance, expenses related to supplementary RTD, sales force construction or product tests

- loans which may cover, for instance, the cost of manufacturing floor space or equipment needed to perform a service
- public support subsidies which often cover RTD expenses, for innovative projects

or a combination of each of them, depending upon which business model looks the most promising to the parties involved (the entrepreneurs and the investors).

The **role of support organisations** is therefore to help catalyse this matching process, either as a single process, or with respect to some of the key sub-processes involved. In a single process approach, ideas, people, profits out of the business operations and funds needed to launch the business are optimised all together. Everyone is then focused on the cash flow versus time curve as depicted below.



Source: Own elaboration with arbitrary cash-flow units, and quarters as time units.

The investor and the entrepreneur decide upon the most profitable option and sign the incorporation agreement on the basis of the option agreed between the parties.

Most often, however, support organisations **detect** the weak points of the incoming business models and focus their efforts to improve on them. These **weak points** may be:

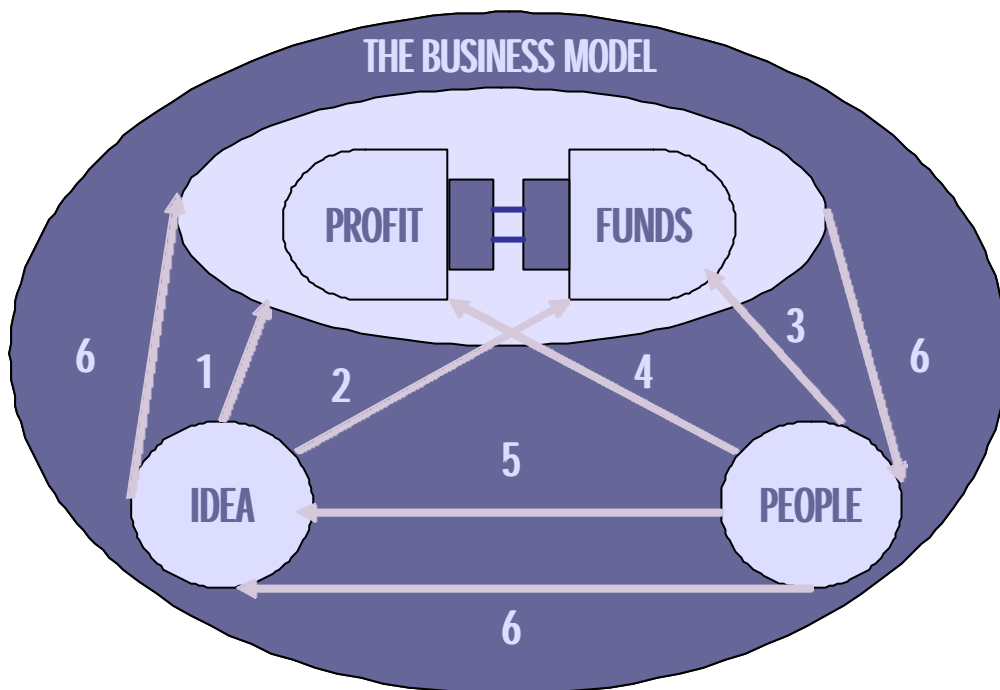
- **The uniqueness of the idea** (with the design of pre-incubation schemes or business plan competitions): the support is used to pinpoint the uniqueness of the added value brought to the customers. Differentiating from direct or indirect competitors is key in the early phase of the new business to maximise the probability of reaching the sales figures. This will help make the first profits and allow the optimistic curve presented above to be achieved.

- **The attractiveness of the business model towards investors:** investors judge a new business plan according to criteria which, very often, are not the same as those perceived by the entrepreneurs. At first they rarely perceive the same business risks. The negotiation process involves a joint risk appraisal of the business model (whether technical, commercial, financial or human risks): it leads to an optimisation of the fund allocation between equity, loan and possible subsidies. Thus, when investors decide to join the incorporation agreement, the attractiveness of the business model will have been optimised.
- **The connection with the right investors:** each investor will have specific criteria to value projects based upon the business sector they are in (bio-technology, information technologies etc.) and the funds they have to manage on behalf of upstream investment organisations (e.g. banks, insurance companies, large industrial groups). One of the key forms of support provided by the intermediary is the facility to find the right investor (or group of investors) willing to enter a “due diligence” process. It should be noted that regional intermediaries often face a paradox: on one side, the regional investment funds, the goal of which is to improve regional economies; on the other side, national or European investment funds, the goal of which is to enable emerging business to reach a European scale relatively quickly.
- **The adequacy of the management / entrepreneurial team and the business model:** a business model involves team work since the one-man band approach is no longer applicable when one deals with emerging technologies or services. Sales forces, manufacturing experts or project managers are key people who must be found in order to meet the business plan option chosen by entrepreneurs and investors. Support intermediaries often help the entrepreneur face the more stringent business constraints with key new competencies, whereas investors can suggest the recruitment of top managers capable of facing the most relevant business risks.
- **The match between the entrepreneurial team and the idea:** The issue is of relevance for researchers whose desires are to become entrepreneurs. Researchers are interested “in being right”, i.e. to give explanations of new phenomena or to bring answers to questions coming from industry. They have to prove that they have the right answers to the issues they face. Entrepreneurs are motivated “to be the first,” i.e. to obtain orders as a result of their venture. Sometimes they lose: their proposition was not the best suited to customer demand. Sometimes, hopefully, they win: their proposition brought the right added value to the client. Clearly, different motivations lead to different decision processes. Some researchers may switch from one model to the other. Some may not. Support intermediaries are then key to help researchers understand the new decision-making processes of a private venture: this, in turn, may lead to a very new management team (where the researcher is not necessarily the

team leader any more) in order to make sure that the unique idea will lead to a successful business model.

II.12 Elementary processes

Improvement of the weak points identified above generates a set of sub-processes or, **support mechanisms** which are described in the following figure, where the 5 improvement support schemes are depicted together with support scheme 6 which encompasses the whole incorporation process.



Source: Own elaboration

1. Improving the uniqueness of the idea (for instance, pre-incubation support, business plans competitions, ...).
2. Improving the attractiveness of the project towards investors (for instance, presentational training, better reciprocal understanding between investors and entrepreneurs, ...).
3. Connecting the right people with investors (mediation/guidance towards investors)
4. Connecting the right people to reinforce profitability management (networking with external specialised start-ups support, building up an optimal promoters team connecting with potential clients, suppliers, allies etc.).
5. Helping the right people have a more unique idea (provision of business training, business consultancy and scientific mentoring).
6. Improving management of the start-up once launched.

The above diagram depicts the six key processes which should be optimised in order to converge towards a new business: measures are either one of the **5 elementary steps** linking the idea, the funds and the people. The **sixth measure** deals with the whole management process.

This business model is not a merely theoretical approach. As it is shown in chapter 4, this model has proven to be extremely **useful and realistic in classifying the 24 “real life” projects** of PAXIS 1. However this business model was not considered to be fully applicable to the 4 thematic networks due to their different and more generic working approaches.

The **model used for assessing the networks** is a more theoretical one, and it is based on the three main axes that have guided and inspired the activities of the networks:

- The involvement and commitment of policy makers and the showcase effect obtained through large events like the Lyon and Stockholm European Forums of Innovative Enterprises.
- The methodological knowledge about the phenomenon of start-up creation which has been improved, shared and exchanged among the economic areas.
- The practical co-ordination of the networked areas through co-operation and joint activities, contributing to a European Innovation Area.

II.2 METHODOLOGICAL TOOLS APPLIED BY INNOVDETECT-AM

II21 Encompassing activities and questionnaire survey

All the knowledge gained about the tools and mechanisms validated in the pilot projects and/or exchanged at the thematic networks during the 18 month period has been documented in a systematic way.

Progress and results from each of the 24 projects and the 4 networks funded under the first call of PAXIS are reflected in separate and individual reports in a contractual document (Deliverable no.1), following a similar and homogeneous structure of contents:

- Description of the mechanisms (content and objectives, beneficiaries, challenges to be met, expected benefits).
- Management of the mechanisms (organisation, decision process for support allocation, the support process, promotion of the mechanism, evaluation of the mechanism).

- Coherence, complementarity and co-ordination with other mechanisms applied within the same region(s).
- Critical factors for the successful implementation of the mechanisms.
- Cultural or economic particularities of the region(s) affecting the mechanisms and the transferability potential to other regions.
- Impact of the mechanisms, bringing evidence of their success (number of start-ups launched, budget devoted, etc.)

In order to draw up these individual reports, the INNOVDETECT consortium gained an exhaustive knowledge of each project and network, basically through:

- Visits and individual interviews with the project and network co-ordinators, as well as attendance at some of their most relevant seminars or meetings over the one and a half year period. At least two interviews were held with each project and network co-ordinator. These interviews were at the beginning and end of the contracts.
- Rounds of questionnaires which were duly filled in by every project and network co-ordinator. The project co-ordinators progressively filled in a specific questionnaire by providing preliminary answers at the mid-term of their project life and by adjusting their answers at the end of the project life. The network co-ordinators filled in one preliminary questionnaire at the mid-term of their network contracts. In addition, two final questionnaires dealing with the results obtained and European Added Value generated were answered by all the economic areas networked.

All these questionnaires are attached as annexes to this final report (see annex 2.a).

Finally, the insight on project and networks was completed by an **in-depth analysis of all the technical deliverables** regularly submitted over one and a half years by the project and network co-ordinators to the European Commission, who provided a copy to the INNOVDETECT consortium for such analysis.

The individual reports drawn up by INNOVDETECT on each project and network became the basis for the subsequent analysis and assessment exercise.

II.22 Indicators for assessing projects

A comprehensive or global evaluation of the PAXIS Pilot Action as a whole, at least in relation to the 24 projects, required the use of a similar set of indicators or evaluation criteria in order to compare all the

projects. The assessment indicators proposed were based both on the knowledge obtained about the 24 projects and on an international and European literature review of start-up support schemes.

The indicators are simple, straightforward, limited in number, and applicable to all the 24 projects. In practical terms, the assessment of these indicators in each single project enables a global ranking and comparison of the 24 projects.

The indicators were grouped in **five different subsets**.

The first subset of indicators focuses on the **interactivity of the measures with the local factors** which facilitate the creation and development of innovative firms: research facilities, skilled labour force, specialised business services, financial investors, concentration of technology enterprises that may act as the core for the start-up market development, etc.

A second subset of indicators is used to assess and compare the measures developed by projects according to the **scope and quality/intensity of the measure** (e.g. basic background, detailed information, adapted real solutions) and regarding the areas of a start-up activity (e.g. team building, management know-how, business plan, marketing, access to markets, access to finance) which are targeted for improvement.

A third subset of indicators focuses on some **management aspects of the measures** developed by projects (e.g. procedures for selecting business ideas and would-be entrepreneurs).

A fourth subset of indicators deals with the **outputs** of the measures during the pilot project's life (e.g. number of beneficiaries, start-ups created, significant results) and the **self-sustainability** of measures after EC funding ceases.

Finally, a fifth subset of indicators focuses on **the transferability criteria** as another relevant factor directly influencing the evaluation of projects.

The complete and detailed template of indicators is attached in annex 2.b of this report.

For each single indicator and each subset of indicators a maximum score of 5 points was given. Each of the single indicators assessed was accompanied by explanatory remarks. In addition assessments in each and all the 24 projects were subject to a thorough review in order to ensure a consistent application of the indicators used in the assessment process.

The indicators described were not applied to networks.

II23 European Added Value approach for networks.

In initiating networks of regional intermediaries, the PAXIS pilot action searched for added value at a European level. EC funds then catalysed common tasks which ranged from the in-depth description of regional innovation models related to start up creation, to future joint projects (such as sharing good practices on a continuous basis).

Such actions generated added value which could have not occurred with only regional or national support. This is European Added Value and is made of many components.

INNOVDETECT kept six of the most important components of European Added Value which were introduced in the questionnaire regarding networks:

- **“Improved methodological capability”**: Clearly, networks helped to transform tacit knowledge into more explicit knowledge about start up creation. This was one of the main goals of the EC when the PAXIS Pilot action was launched
- **Improved policy and regulatory environment**: Networking has helped to pinpoint common barriers which may prevent more start-ups being launched. Recommendations to regional, national or European authorities, on the basis of arguments and solutions, originated from a wider analysis than the ones which can be made at regional or national levels
- **Improved social and cultural environment**: Network members are able to appreciate the role of cultural diversity in gauging emerging ventures and are then able to help regional entrepreneurs pinpoint the role of Europe as a wider market for their business
- **Improved position and status of the regional organisation**: Beyond the prestige component which is often mentioned by the EC funded project partners, network members are able to design improved support services and to receive increased backing from regional authorities thanks to the analytic work performed at European level
- **Improvements in the way participants conduct their affairs**: Learning from good practice has an impact on managerial capabilities, since new practices can be documented and implemented faster and cheaper than previously, i.e. by improvement processes usually made more in isolation.
- **Improved ability to tackle problems of a trans-national nature**: Emerging ventures have to assess their business model perspectives over the European market as a whole, rather than a regional or national market. People are then faced with trans-national issues (IPR, regulations, purchasing cultures etc.). A European network allows participants to get acquainted with such issues, again faster and cheaper than through an isolated understanding of the same problems.

A “European Added Value” Questionnaire, addressing the six components above, was introduced to all the economic areas networked at the end of PAXIS. The purpose was to check to what extent the networks have perceived a European Added Value and on which aspects.

II.2.4 Expert panel

Upon the agreement of the Commission, and in order to accomplish better its role of innovation policy interface, the INNOVDETECT Accompanying Measure set up a European expert panel which advised on the definition of recommendations concerning policy issues in the field of support to innovative start-ups.

This panel was formed by a complementary and multi-disciplinary European team of experts coming from universities, venture capital firms, innovation policy makers and start-up supporting services such as business incubators (see a brief introduction of the members of the Experts Panel in annex 3).

The panel of experts held a first meeting in Luxembourg in April 2001, that is to say, eight months after the beginning of the PAXIS Pilot Action. The purpose of this first meeting was to improve the methodological approach designed by INNOVDETECT-AM, in order to extract policy lessons from this Pilot Action, and to give some orientation to the Commission about the future continuation of the Pilot Action.

The second meeting of the Expert Panel was held in Luxembourg one year later. i.e. in April 2002. The experts received a first draft of the final report in advance which was prepared by INNOVDETECT as a working document for the meeting.

During this second meeting, the experts basically reviewed and confirmed the most relevant issues faced at the final report, and they also suggested some clarifications and missing points worth noting with regard to the policy recommendations proposed by INNOVDETECT.

III. RESULTS

III.1 PROJECTS

Global results of the assessment carried out for the 24 projects included in PAXIS are indicated in the following documents:

- **Annex IV.A.** shows a categorisation of the start-up supporting schemes/measures developed by the projects, with a classifying grid mainly based on two criteria: the six elementary processes of launching a business, already mentioned (cf. chapter II.1), and the type of beneficiary/end user targeted by the measure. Nevertheless, there are a few projects that “escape” from the first criteria, since they focus on the production of rather theoretical manuals or users guides for managing the whole process of business launching, and so they have been placed in an additional column of the grid. Exceptionally, some projects may fit simultaneously in more than one box.
- **Annex IV.B.** is a set of bar charts which allow a comprehensive and clear view of the indicators assessed in each of the 24 projects (KREO project included 2 measures to be evaluated), ranked in descending order according to a weighted average. The results are summarised in **Annex IV.C** which shows the ranking of projects based on average values of each subset of indicators, including also the analysis of the variance (single factor ANOVA) by columns and rows.

Here below the **most successful subjects and results** are described under two different approaches: firstly, on the basis of main tackled themes clustered following the issues of Annex IV.A, and secondly by describing the most successful 10 individual results according to Annex IV.C .

III.1.1 Main themes

Instead of conducting an exhaustive review of all the results for each one of the 24 projects, this section focuses on main themes identified, which are classified hereafter, according to the lay-out established in the table of Annex IV.A.

III.1.1.1 Stimulating entrepreneurship for academic spin-offs

Projects under this category correspond to the measures indicated in the table of Annex IV.A under:

- Columns C4&C5&C6, and
- Rows R1&R4.

Academic spin-off mechanisms (Embryo and Smart-Tulip projects)

Organisations similar to “University-Industry liaison offices” are in a privileged position to provide support for the creation of innovative start-ups, and to identify would-be entrepreneurs. Because they have the information on available R&D results generated by the university (i.e. they are at the source of potential new business ideas), they have access to the widest and most suitable sample of potential entrepreneurs for knowledge-based start-ups. At the same time, they have an experience and understanding of the business environment and business needs, thanks to their continuous collaboration and technology transfer to companies.

In order to provide efficient support to start-ups, it is crucial that university spin-off mechanisms establish a network of strategic partnerships, (including consolidated companies as potential clients of the start-ups, business consultants on legal, marketing, patenting, managerial, financial and recruitment issues, banks, VC firms, business angels, chambers of commerce, business associations, incubators, public authorities responsible for SME´s Policy, etc), who will provide a comprehensive range of specialised supporting services and financing for the new companies.

At the very first stage, the would-be entrepreneur only needs basic background information on the fundamentals and strategic lines of business creation. Such advice is usually provided by the incubator staff. Some time later, say from three months to one year at most, the entrepreneur begins to need specialised support services which are beyond the expertise of an incubator or ILO staff. Entrepreneurs need to be guided by the incubator or ILO staff towards such a network of specialised external services (provided that such a network has been previously built up).

To build up networks of specialised external service providers only with public partners is an incomplete approach: entrepreneurs need to be confronted with/advised by people from the real business world where it is supposed that they will earn their money. Nevertheless, private service providers (e.g. business, market, legal, patent, recruitment or financial consultants) will only join such networks if they are remunerated (i.e. co-funded by public authorities). Regional and local authorities should foster (i.e. finance) the networking of local external and specialised service providers, including the private ones.

Support organisations inside the University do not require large numbers of management staff. Small units, flexible and agile in their operations are proving to be very efficient provided that they include experienced and skilled dedicated full-time personnel, and they are well networked with external supporting actors. People with both engineering/scientific and business backgrounds, and with in-depth knowledge of the local institutional and technical environment, are particularly suitable for providing the fundamentals of business advice to would-be entrepreneurs and for managing the whole mechanism.

In the promotion of spin-offs from university research results, it is important clearly to define and apply a set of practical evaluation criteria in order to select those research results with the highest market potential (like novelty, patentability, acceptance tests among potential end users, etc.), but also those results developed by researchers motivated and interested in commercialising them. Less strict selection procedures, which are open to business ideas that do not come from the Research Departments results, may fail to motivate and to obtain scientific mentoring and commitment from researchers of those very departments.

When selecting the research results, as important as their market potential is the motivation (i.e. market orientation or awareness) of the researchers who have developed them. This is because they must either get involved as entrepreneurs or play a crucial and active coaching role for the entrepreneurs by advising them on possible market applications of the technology and on potential clients, technical partners, etc.

Poor selection of a candidate for entrepreneurship may spoil the industrialisation phase of even the best university research result. A systemised selection procedure for choosing the appropriate would-be entrepreneur is essential. Academic spin-off mechanisms should also reinforce their approaches to building up a team rather than relying on a single entrepreneur coming from a University background.

Support and commitment at the highest level of university policy-making is vital, both for the internal feasibility of the mechanism and for building up the external network of specialised service providers.

University spin-off mechanisms need to apply regularly for additional funds from national and regional administrations in order to finance specific support services or a whole range of entrepreneurship promotion. Promotion of entrepreneurship is a long-term initiative where immediate results should not be expected. Therefore public funds are crucial.

Several universities are setting-up their own incubators and seed capital funds (in co-operation with other investors), but they are still a minority and this type of initiative should be supported by public administrations. It is very helpful to set up incubators close to universities since they benefit from this proximity for scientific and technical mentoring. Universities' participation in seed capital funds may facilitate the medium-long term sustainability of academic spin-off mechanisms.

Rather than keep reflecting on potential new and more efficient mechanisms, what is really needed is to create a new culture among academic researchers that is one more open and favourable to commercialisation of results, and not only interested in academic reputation and publications. Patents should be introduced in the curricula of researchers. This cultural change could be fostered by a favourable regulatory environment, i.e. through improvements in national IPR and Compatibility

legislation, which would facilitate economic incentives for the researchers in order to encourage their involvement either as scientific mentors or even as partners in the new companies.

A new culture is also needed among the students: an entrepreneurial culture. These desirable new attitudes of researchers and students are strongly linked; many students will emulate researchers just according to the example they perceive (either "market oriented" or "publications oriented").

Some specific measures may help to foster such an entrepreneurial culture among students; for instance:

- Granting educational credits to last year's students in exchange for attending entrepreneurship training and counselling sessions, or in exchange for creating a new company.
- Inserting entrepreneurship courses as a compulsory subject of any university degree.
- Disseminating success stories of start-ups created with the help of the support mechanisms.

Stimulating and training entrepreneurship (USINE, Quasi-e, Spinnova and SUSE projects)

The USINE pre-incubator scheme is an innovative and most convincing approach to stimulating entrepreneurship. The objective of the pre-incubator is to promote the creation of technology-based spin-offs from universities by creating a new facility as a link between universities and incubators/science parks, and to encourage academics with technology-based business ideas to establish their own companies.

The main advantage of the USINE concept in the life cycle of new start-up companies is the capability to perform market tests by selling pilot products prior to the creation of an own company, under the protection and insurance cover of the pre-incubator legal form. Thus, the pre-incubator reduces financial risks in the seed and pre-seed phase.

Based on the experience of implementing the scheme in Paris and Valencia, the pre-incubator scheme is readily transferable to other regions. Especially if the university incubator is already in existence, the pre-incubator scheme can be implemented and operated at relatively low cost. Applicability is limited to start-ups with a more or less 'ready' product or service; i.e. probably those start-ups with less growth potential but which are the majority of university spin-offs.

A pre-incubation model of this description, which facilitates market testing and access by researchers, has been successfully validated at QUASI-E by selecting and funding professional sales persons to commercialise the laboratories' research results. These sales persons are coached by experienced

business people and trained by the QUASI-E management structure (UIL office), thus emphasising the team building aspects (i.e. technical and sales people) of the future start-up.

Entrepreneurship training courses aimed at researchers are needed in order to foster academic spin-off companies. In order to make Entrepreneurship training courses compatible with entrepreneurs' daily work, very short courses (about a couple of days' duration) need to be offered in a number of fields, i.e. in a modular way. The perception among start-ups is that entrepreneurship training courses are useful as a first contact, helping them to become aware of key issues that need to be addressed when creating a business. Nevertheless, entrepreneurs usually consider such courses as too generic if they are not specially tailored and finished off with individual technical and business coaching by experienced people. The SPINNOVA training mechanism has succeeded in this modular and tailored approach, as well as in combining training and tailored guidance. Another key factor is the selection of trainers from among experienced business people rather than those with a purely academic background.

'Start-Up Support for Entrepreneurs' has developed new European entrepreneurship training with the specific objectives of setting-up investor-winning business plans and thus to reduce the time required to deploy seed/venture capital. Success factors include an innovative training approach, group dynamics effects such as a culture of open-mindedness and a commitment to succeed, experienced trainers and coaches, a follow-up and selection of 'Top-of-crop', presentational training and early contact with venture capitalists.

The SUSE training scheme is readily transferable to European incubators, technology centres, business schools, and the like. It could be a strategic tool for regional incubators wishing to become more attractive to technology-based entrepreneurs by offering excellent support for setting up an enterprise.

[Innovation Management Tool kits \(KREO project\)](#)

The tool kits contain information about a range of generic techniques that can help to provide answers to problems that are encountered by businesses. The techniques, however, do not provide companies with answers directly. They are designed to highlight the range of issues that must be addressed for effective progress and to explain how to find solutions. In this way, the users are left in overall control. Many of the techniques that form the contents of the tool kits have been adapted from techniques used by larger companies. Oxford Innovation has made them especially relevant to small technology-based businesses with limited management resources. The content can then be delivered as courses, consultancy, support schemes or can be given in whole or in part to the client for self help.

The transferability potential is good, notwithstanding the concerns expressed that other regional actors will have their own way of doing things which they believe to be effective. Apart from this issue, the Tool Kit should transfer well with local modifications. The reputation of Oxford is good across Europe so this does stand a good chance.

A specific module has been developed under the KREO FMD project: a “Technology Exploitation Guide” which is aimed at universities and research centres. It sets out a methodology to characterise some of the options available for commercial exploitation of innovative technology. It explores and provides checklists for licensing, forming spin-out businesses, joint ventures, opportunity evaluation and decision-making guides.

This is a useful and tangible output for the KREO project.

III.1.1.2 Connecting the right people with investors

Projects under this category correspond to column C3 of the table of Annex IV.A.

[Business Angels Networks \(Kreo and Pro-back projects\)](#)

The Business Angels Network is well developed and successful, and has already been transferred successfully from Oxford to other countries. Consequently, there should be no difficulty, given the support of the project, in transferring this measure.

The purpose of Business Angel Networks is well understood, so this measure is based on rather more than conjecture; it is solid in its context and reputation. The improvements and expansion being made should enhance its strength and effectiveness. The project partners intend to work together after the project ends. There should be every reason to expect that this measure will be a lasting benefit to businesses, investors and regional economies

BANs are local in outlook due to the nature of their administration, so seed capital funds may be better where there is a good national scheme supported by government. Business Angels are “secret people” since they do not want people to know too much about their wealth. There should be encouragement to incorporate locally administered BANs, using a common approach, into nationally administered seed capital funds.

A similar region-free and robust methodology to network local seed founders (including Business Angels) has been successfully transferred from one region (Wallonia) to another (Brittany) within the PRO-BACK project.

The main success factors identified from both projects (with regard to creating a stable network of local investors and developing an effective process that enables them to meet and close deals with entrepreneurs), are as follows:

- The support of regional authorities, who encourage start-up creation based on BA funding together with public investment.
- The regional co-ordination of the activities required: basically, identification of investment opportunities and of potential investors, training the would-be entrepreneurs to convince regional seed investors of the suitability of the business plan, and organisation of periodic seminars where investors and entrepreneurs can meet to get acquainted with future projects.
- The support of some banks who consider Business Angels as complementary actors, capable of bringing funds (between 50K-500K €), coaching and business expertise.

III.1.1.3 Improving the uniqueness and attractiveness of the business ideas towards investors

Projects under this category correspond to columns C1&C2 of the table of Annex IV.A.

[Business Plan Competition schemes \(Inno-tender project\)](#)

In economic areas with a critical mass in terms of universities, research centres and financial aids, but where there have been no previous start-up support mechanisms, the launching of a business plan competition generates a positive coalescing effect among sources of innovative business ideas and potential services providers, who begin to work together although in an informal and uncoordinated way.

Even if a business plan competition is not an innovative scheme, it means for the first time an organised attempt in the partnering regions to collect and evaluate innovative ideas at a regional level, to explain the benefits and risks of doing business with venture capitalists, business angels and similar organisations, and to provide mentoring to possible entrepreneurs with various educational backgrounds and business expertise in order to prepare their first business plan.

What moves the would-be entrepreneur to participate is not only the prize, but the support and the involvement of the public authorities and the service providers, before and after granting the award, as

well as the reputation obtained thanks to the dissemination of the award event which facilitates contact with both investors and potential clients.

A business plan competition is an efficient and transferable tool provided that it is backed (i.e. financially supported) by public institutions or by large and renowned companies, in order to cover not only the prize costs but the operational costs (management of the competition, advertising, hiring experts both for the jury and for coaching the business plan preparation, etc). Such public backing is also crucial in order to generate credibility and confidence among would-be entrepreneurs, as well as to ensure active involvement by business service providers and potential investors.

A second evaluation round by a European jury on the business plans which have received a regional award increases the reputation and credibility of those subsequently receiving any such European award. This can facilitate the further involvement of service providers and investors. A European scale Business Plan Competition can be especially suitable for start-ups which have trans-national marketing needs.

The terms of reference of the Paxis calls for tenders do not allow projects to include in their budgets the cost of prizes for business plan competitions. Nevertheless, an attractive prize is a relevant incentive to encourage young graduates to become would-be entrepreneurs. The Commission should explore the possibilities of partially funding such prizes, of course with well defined and strict monitoring criteria, perhaps through the Community Initiatives of the European Structural Funds (DG Regio).

[Entrepreneur/Investor Website \(KNIFE project\)](#)

Investors have shown growing interest in the new knowledge developed by researchers at Trinity College. This has led to a sharp increase in the development of knowledge-based businesses at the College's Innovation centre and at the Dublin BIC. Similar experience has been encountered at Turku, while in Navarre, there is still a transition in progress from a manufacturing economy towards one which is more knowledge-oriented.

The overall objective of this measure is to capture these experiences, to identify relevant good practice elsewhere and to build a European portal on the Internet for university-located knowledge-based SMEs and the investment community.

It is critical that the website is attractive and useable by the target audience across the three regions concerned and acceptable also to people outside those regions. It will be difficult enough to encourage usage throughout the target regions beyond the direct clients of the partner organisations, but to have this website and process stand out among the many support mechanisms generally available will require

a high order of achievement. This will only be realised with careful analysis of content requirements and of the material incorporated, together with good design and ease of use.

There is a potential for wide acceptance of this measure but only if it can be made sufficiently attractive to a wide audience. Other projects in the PAXIS programme may be linked to this website to provide material more pertinent to individuals' needs, thus broadening the appeal of the measure. Apart from linkages of this kind, it may be reasonable to expect that material from this and other sources may be incorporated directly. It is also clear that as the website is used, the experience will feed back to the project partners and the design of the measure will be improved.

As noted in the previous section, there may well be reluctance on the part of many potential users of the website and its associated courses and material to become involved in something which they believe they can handle alone, do not recognise or are unconvinced of the value of, or do not have time for. There will also be a risk of a 'not invented here' syndrome with those needing to know something of the issues preferring to learn through their own resources or ways.

There is a clear danger that the material and support available through the website will offer nothing more than is readily available in other forms or that it may be less easy to use. There will, of course, always be those who will prefer to work in this way, but unless the number of users is significant and the growth of company starts increases, the project will have proved little.

III.1.1.4 Miscellaneous targeted beneficiaries

Projects under this category correspond to row R5 of the table of Annex IV.A.

[Co-ordination of support schemes among regional stakeholders \(Priaces project\)](#)

In economic areas where there is a high concentration of universities and research centres that run start-up support programmes, the creation of a virtual incubator website managed by a local authority, apart from providing additional online services like counselling, training or networking, has proved to be a useful tool for the identification of would-be entrepreneurs at the regional level, as well as for the co-ordination of the physical start-up support service providers located in the region. Such co-ordination helps to avoid unnecessary overlaps or duplication of the provision of support services, and therefore optimises resources and reduces costs.

Cross-border initiatives (STE and ISTER projects)

Even in European regions, border situations present difficulties to potential entrepreneurs, especially in the services sectors. An approach developed by the STE project intends to transform such disadvantages into a location focused advantage by reducing the barriers to market entry beyond the frontier.

Positive impact can be expected - especially in the start-up and business development phase - for regional service companies or companies producing high-tech products for niche markets with an international orientation. Those companies can benefit from an expansion of their marketing activities. Benefits for the creation of a new firm seem to be limited at present, but the usefulness of cross-border matching of business ideas and people (and more generally of the impact on the quality of start-ups) cannot yet be exactly evaluated because the observation was too short for such evaluation.

A key issue for entrepreneurs is the adoption of a very pragmatic approach in the provision of the cross-border support services.

Critical issues of cross-border initiatives are that the measure may develop a rather broad focus which could hamper a real impact as demonstrated by the ISTER project. The key success factor of ISTER was a 'virtual incubator' which, in practice, was the overall tri-lateral collaboration on business support of the three regional BICs involved. The impact and effectiveness of this 'virtual incubator' approach is therefore difficult to assess. Visibility to the outside world, and especially to potential clients, seemed to be limited to the relevant website and occasional events.

Virtual incubator approach (TEMA project)

An interesting approach had been outlined by the TEMA project. It consisted ideally of a virtual market for digital object handling (DOH) services with additional virtual incubator functions which could actively stimulate the creation of new business in this field. In implementing the project, the functionality of the 'virtual incubator' has been limited to information supply for business planning and a useful support tool for performing a market assessment in the DOH field. Therefore the impact of the measure will be quite limited at the present stage, since the actual market access cannot yet be provided to support business creation. A transfer at this stage is not appropriate; any internet links on suitable websites would be sufficient to utilise the market database.

Describing "Best practices Manual" for University Industry Liaison (UIL) offices (Bestcoin project)

The project objective was to describe the support services and resources needed for successful University Industry Liaison and to represent this in a simple graphical form using a Function Graph technique.

The project partners were flexible enough to change direction when it was realised that the Function graphs would not work. However they had no real fall-back position and nothing in-depth which could substitute. The matrix resulting from the partners' further deliberations when faced with this problem carries useful information but is an unremarkable form of presentation.

According to the partners, the project provided a starting point for what the partners see as a larger scale study. Institutions operate UIL with some common themes but then there is considerable variation according to local circumstances. In a larger study there should be wider contributions from different countries and organisations. Empirical work is needed but then will come the difficulty of evaluating and classifying.

The project offers the basis for providing material to link together the already good material which supports business starts and financial mechanisms. According to the partners, this would take a 3 year research study.

This appears to be a reasonable point of view and estimate, but it is then questionable what and how much the project set out to achieve. Was it realistic in the given time-scale?

The fact that there is already a large body of material defining the practice of University Industry Liaison and Technology Transfer activities meant that the project partners had to devise something very distinctive and simple to use. The Function Graph was intended to meet this objective but it was realised that it poorly represented a complex activity and was abandoned.

Research of supply side, demand side and intermediary organisations conducted by Bremen University was analysed and used to define a range of skill requirements for UIL. This has provided some useful background material but does not contribute much to the overall presentation.

Useful material is offered concerning the commercialisation process. This includes information about the triggers for commercially viable research and the associated incentives. It includes an analysis of weaknesses and inhibitors to the process and some solutions based on the experiences drawn from the partner regions.

As with other PAXIS developed measures where the measures address activities which are well established, there may well be reluctance on the part of target personnel to become involved in something which they believe they can handle alone, do not recognise or are unconvinced of the value of, or simply do not have time for. There will also be a risk of a ‘not invented here’ syndrome with those needing to know something of the issues preferring to learn through their own resources or working practices. UIL professionals are always ready to improve their practices, but their response will only be positive if the material produced is good and the relevance easily understood. It will be all too easy for this measure to be completely ignored. At best, the target UIL professionals and their institutions may adopt only “snippets” of good practice.

III.1.2 Most successful individual results

By applying the assessment indicators developed by INNOVDETECT (cf. chapter II.2.2) a set of 10 most successful individual results can be pinpointed. They are briefly introduced hereafter according to the descending ranking set up in the table of Annex IV.C.

III.1.2.1 Quasi-E project

Major objectives:

To introduce professional sales methodologies in public research laboratories in order to increase the transfer of such work towards industry.

To emphasise the need for team work (i.e. technical and sales people) which will better support the continual creation of start-ups based on public funded research.

Main results:

The selection of sales persons to work with public researchers (the promoter).

The funding of such people within a scheme agreed by the laboratory directors.

The coaching for the sales person, by someone involved in industrial activities and by the QUASI-E management structure.

More contracts between the public laboratory and its industrial environment.

Start up projects based on the business plan of appropriate teams, where technical and commercial people are involved in business ideas which have already been tested through contracts between the University laboratory and private actors.

<p>1st subset of indicators assessed: Interactivity with local factors which facilitate the creation and development of innovative firms.</p>	<p>Average score given: 4,2</p>
<ul style="list-style-type: none"> ◆ This mechanism is fully dedicated to the commercialisation of research and technology results from universities. ◆ It addresses the main issue of technology transfer: the coupling of market and technology competence. ◆ It couples University / Industry interface with industrial mentors to provide business support. 	
<p>2nd subset of indicators assessed: Scope and quality / intensity of the measure regarding the areas of a start-up activity which are targeted for improvement.</p>	<p>Average score given: 4,1</p>
<ul style="list-style-type: none"> ◆ Team building is supported by a dedicated methodology to couple market and technology competences at the pre-incubator. ◆ The mechanism provides management support for implementing the marketing of research results, by assigning a dedicated person to search for orders amongst industrial clients. ◆ A business plan is developed for future start-ups based on the sales of technology (academic research results) in a transfer mode. ◆ The mechanism facilitates access to finance since projects carried out by public research institutions are financed by private actors from the market, before becoming a possible start-up. 	

3rd subset of indicators assessed: The existence of systemised procedures to select the business ideas and the would-be entrepreneurs.	Average score given: 4,5
<ul style="list-style-type: none"> ♦ The measure provides a systemised process for selecting the business ideas or technologies which are going to be supported for the start-up creation, since there is one person fully dedicated to select and fine-tune the business idea. ♦ This mechanism is itself a systemised process for selecting the would-be entrepreneurs among promoters of research laboratories who finally become managers of the resulting start-ups. 	
4th subset of indicators assessed: outputs of the measure during the pilot project's life and self-sustainability after EC funding.	Average score given: 4,7
<ul style="list-style-type: none"> ♦ The results obtained are significant when compared to the situation before the measure was implemented, especially in terms of turn over and spin-off creation. ♦ Approximate number of would-be entrepreneurs who have benefited from the measure during the pilot project period: 16 (Beyond the initial target). ♦ Approximate number of start-ups that have been created thanks to the measure during the pilot project period: 9 (Beyond the initial target). ♦ Financial viability of the mechanism requires specific regional support (funding). 	
5th subset of indicators assessed: The transferability criteria.	Average score given: 3,8
<ul style="list-style-type: none"> ♦ Transferability is influenced or depends on the availability of regional funding to initiate the payment of the salary for the business people (technology promoter) in the laboratory. 	

III.1.2.2 Embryo project

Major objectives:

To create a solid start-up programme that lowers the present barriers to entrepreneurship, nurtures a regional innovation support infrastructure that understands the needs of young technology-based firms, and gives entrepreneurs access to a network of investors and expert advisers. A specific objective is to develop the role of the University Miguel Hernández (UMH) as a resource for innovation and as an intermediary institution in the development of business innovation

Main results:

A validated mechanism for detecting and selecting technology-based business ideas and entrepreneurs at the university, providing technical and business coaching, and consulting a strategic network of specialised business support providers.

1st subset of indicators assessed: Interactivity with local factors which facilitate the creation and development of innovative firms	Average score given: 4
<ul style="list-style-type: none"> ◆ The mechanism facilitates access to research and technology results as a source of innovative business ideas, since the co-ordination unit of the scheme is fully backed by the political power of UMH and operationally supported by the ILO and the Observatory for Employment of UMH. ◆ The co-ordination unit for the scheme has sought to set up an external network or strategic partnership with local entities which provide specialised business support services (entrepreneurship training, business consultancy, patent advice and physical location for the entrepreneurs). ◆ Promising contacts have been initiated with local businessmen interested in funding the scheme as well as in acting as business angels. Moreover, UMH is studying the feasibility of setting up a seed capital fund together with other investors. ◆ Scientific mentors from the research departments of UMH are actually providing advice and useful information about possible market exploitation of the technology and about potential clients. 	
2nd subset of indicators assessed: Scope and quality / intensity of the measure regarding the areas of a start-up activity which are targeted for improvement.	Average score given: 4,5
<ul style="list-style-type: none"> ◆ The co-ordination unit is a small one but headed by a full time dedicated person with both an engineering and business background who has in-depth knowledge of the local institutional and technical environment (the local innovation system). He provides tailored business and managerial advice to would-be entrepreneurs, and he facilitates the external networking of the scheme. ◆ Customised technology coaching is directly provided by the Research Departments to the entrepreneurs, focused on the research results transferred to new firms. Under agreement, some start-ups regularly use very expensive technology equipment which belongs to the University. 	
3rd subset of indicators assessed: The existence of systemised procedures to select the business ideas and the would-be entrepreneurs.	Average score given: 5
<ul style="list-style-type: none"> ◆ The scheme has set up a very systematic and rigorous procedure for selecting both the research results (as the technology basis for the start-ups) and the entrepreneur candidates. 	

4th subset of indicators assessed: outputs of the measure during the pilot project's life and self-sustainability after EC funding.	Average score given: 3,5
<ul style="list-style-type: none"> ♦ The scheme is a transfer of the TOP (Temporary Entrepreneurial Position) model which has been delivered by the University of Twente since 1984. It is not an innovative approach, but before launching it, there were no local academic spin-offs. ♦ It is important to remember that the University applied a strict selection procedure of entrepreneur candidates: only 11 out of 58 pre-selected candidates were finally retained to develop new firms. ♦ There are four start-ups that have been created thanks to the measure during the pilot project period. ♦ This mechanism is fully aligned with the statutory roles of both the Industry Liaison Office for Technology Transfer and the Employment Observatory Office of the University. 	
5th subset of indicators assessed: The transferability criteria.	Average score given: 4,2
<ul style="list-style-type: none"> ♦ This project shows the transferability of the Twente model across Europe. Nevertheless some key external local services on which the scheme relies (e.g. physical location for start-ups, patenting advice, entrepreneurship training, team recruitment) are funded by regional public authorities, and this is not a common scenario that can be extrapolated, or assumed, for all regions 	

III.1.2.3 Usine project

Major objectives:

The main objective of the pre-incubation model is the proof of market viability of products based on university research results, including access to European markets. This reduces financial risks prior to the foundation of an own company.

In addition, a bundle of accompanying tools aims at

- Providing potential entrepreneurs with training and support for innovative start-ups, as well as with good practices in the preparation of business development plans.
- Facilitation of contacts between entrepreneurs, investors, regional bodies at a very early stage of the spin-off process.
- Supporting the development of and access to international markets for new technology based firms.

Main results:

Under the protection and insurance cover of the pre-incubator, potential entrepreneurs with a technology-based business idea can test the market potential of their scientific development by selling it through the legal form of the pre-incubator prior to the creation of an own company. The USINE network of pre-incubators in different regions offers the opportunity to perform market test and sales on a European level, which can be seen as a first step towards internationalisation. Furthermore, the pre-incubator facility provides assistance and key knowledge on how to run a company and helps academics to formulate business development plans (“dual system” of qualification and sale).

1st subset of indicators assessed: Interactivity with local factors which facilitate the creation and development of innovative firms.	Average score given: 3,8
<ul style="list-style-type: none"> ◆ The aim of the measure is to promote technology -based spin-offs from universities and to support academics with technology-based business ideas before they establish their own companies. ◆ The provision of access to specialised business support services is part of the direct support given by the pre-incubator to the spin-offs in addition to the market testing. The pre-incubator staff (in Bielefeld and Valencia) have a good overview of relevant services in the region. ◆ In addition to market testing, direct assistance with access to financial resources is also provided to the spin-offs by the pre-incubator. . The pre-incubator staff (in Bielefeld and Valencia) have a good overview of - and a network of contacts with - financial services in the region. Ecole Polytechn. Paris can even provide seed money from its own resources. ◆ Market access is the main focus of the pre-incubator model. A well established network of contacts with market actors supports the coaching and the on-the job training. 	

2nd subset of indicators assessed: Scope and quality / intensity of the measure regarding the areas of a start-up activity which are targeted for improvement	Average score given: 3
<ul style="list-style-type: none"> ◆ No advice or training is provided with regard to team building except at the Valencia pre-incubator. Valencia employs a specific module on team training. ◆ Coaching on specific management know-how about the business creation process is provided by expert staff of the pre-incubator. ◆ Specific coaching for developing the business plan is provided by expert staff of the pre-incubator. ◆ Support with marketing includes the development of corporate design, on-the-job training for performing a market analysis, provision of addresses of potential customers, mailings and coaching on the follow-up of contacts. ◆ The provision of access to markets is the main focus of the pre-incubator approach. The measure is highly effective in this respect (ca. 15 start-ups created as a result of these activities during the project). 	
3rd subset of indicators assessed: The existence of systemised procedures to select the business ideas and the would-be entrepreneurs	Average score given: 4
<ul style="list-style-type: none"> ◆ A business idea which is to be tested in the pre-incubator is discussed and evaluated by the pre-incubator staff before it will be supported by the pre-incubator. ◆ The market test then performed within the pre-incubator is a kind of self-assessment for would-be entrepreneurs. If the test fails, they will not normally pursue their proposal for setting up a business. ◆ There is no real focus on the management potential of the would-be entrepreneurs. It is not taken into account as a selection criterion for participating in the pre-incubator. Nevertheless, successful performance of the market test through actual sales is an implicit selection criterion related to management capabilities and will be most relevant for the actual start-up development. 	
4th subset of indicators assessed: outputs of the measure during the pilot project's life and self-sustainability after EC funding.	Average score given: 4,3
<ul style="list-style-type: none"> ◆ Although key elements of the approach have of course been available before, it is altogether a unique measure shaped especially for university spin-offs from basic science which, have not yet developed a spin-off infrastructure and culture. ◆ The measure is highly effective in creating spin-offs. Before the measure, there was only a very limited start-up or spin-off culture established (especially with regard to Bielefeld). ◆ Approximate number of would-be entrepreneurs who have benefited from the measure during the pilot project period: 50. As there were often teams involved, the number of business ideas was altogether about 30. ◆ During the USINE project, about 15 start-ups were created as a result of the market tests. ◆ The pre-incubators are established within the university transfer centres, and thus fit well into the structure. A drawback is that the usual staff of a university transfer centre do not have the expertise for start-up support. Additional specialised personnel or extensive training is needed. ◆ The measure always needs public funds. Without EC support, it can be continued at a reduced level, funded by regional funds. 	
5th subset of indicators assessed: The transferability criteria	Average score given: 4
<ul style="list-style-type: none"> ◆ In principle, the pre-incubator is a stand-alone approach. However, in the three universities involved in USINE, it benefited from additional funds available for direct financial support of would-be entrepreneurs (Bielefeld), from an existing incubator infrastructure (Valencia), or from both (Paris). ◆ In principle, the approach is independent of culture. Nevertheless, it needs to be adapted to the regional environments and existing infrastructures which may be influenced by culture. ◆ The pre-incubator has a specific legal framework which needs adaptation. Yet, within USINE this proved perfectly feasible. 	

III.1.2.4 Priaces project

Major objectives:

To validate and demonstrate the possibility of implementing an integral regional policy to support the creation of innovative spin off companies.

To improve efficiency, co-ordination and control of the regional actors involved in new company creation activity.

To provide studies and tools regarding elements and indicators to inform the regional innovation policy about the creation of new firms.

Main results:

The majority of the services are delivered by external members of the Virtual Incubator staff who are hired to deliver specific modules.

Co-ordination of the regional services for innovative start-ups and therefore a better exploitation of the services.

One website with services for the entrepreneur and co-ordination of the regional actors involved in creation of start-ups.

Theoretical studies in subjects related to the creation of innovative firms.

Different visiting and training trips for regional actors and start-up entrepreneurs.

<p>1st subset of indicators assessed: Interactivity with local factors which facilitate the creation and development of innovative firms.</p>	<p>Average score given: 3,4</p>
<ul style="list-style-type: none"> ♦ The measure tries to co-ordinate many regional actors (universities, technological centres, associations) that encourage the creation of innovative firms. This network provides easy access to technology resources, experts etc. ♦ The mechanism is creating a network between regional actors: it seeks to join efforts through the website, thus offering a wide range of services as a result of this union. ♦ Most of the networked institutions are universities, research centres etc., so they are sources of innovative ideas. Few of the partners are involved with business associations or market-oriented structures. 	

2nd subset of indicators assessed: Scope and quality / intensity of the measure regarding the areas of a start-up activity which are targeted for improvement	Average score given: 3,6
<ul style="list-style-type: none"> ♦ Team building is offered through the website “madridmasd” and provides a general service, publishing the human resource needs of new companies and looking for job opportunities for potential entrepreneurs or researchers. ♦ There are studies and general information on the website related to management know-how, which is one of the aspects that the tutor/mentor support emphasises. ♦ To build a good business plan is the main objective of the tutor/mentor support services. Steps, timetable and evaluation of the mentoring are defined in detail. ♦ There are studies and general information on the website related to marketing, market access and finance access, and these are aspects that the tutor/mentor support emphasises. 	
3rd subset of indicators assessed: The existence of systemised procedures to select the business ideas and the would-be entrepreneurs	Average score given: 5
<ul style="list-style-type: none"> ♦ The virtual system has clear rules and procedures on how to select and support new entrepreneurs and business ideas through the participation of the would-be entrepreneur in several awareness and training activities, and through the evaluation of the tutor/mentor that will assist in the creation process. 	
4th subset of indicators assessed: outputs of the measure during the pilot project's life and self-sustainability after EC funding.	Average score given: 4
<ul style="list-style-type: none"> ♦ There is no specific information available about the improvements that the beneficiaries obtained with respect to the previous situation, but it is obvious that there is an improvement in terms of co-ordination and optimisation of expertise and resources. ♦ Approximate number of would-be entrepreneurs who have benefited from the measure during the pilot project period: 52. Nevertheless this figure should be increased if the objective is to co-ordinate almost ALL the innovative start-up support activities implemented within the Madrid area. ♦ Approximate number of start-ups that have been created thanks to the measure during the pilot project period: 4. (Information extracted from the web page). ♦ Even if the involvement of regional actors is not yet complete, the Regional Research Directorate has been totally convinced and intends to support and finance the system after the PRIACES project comes to an end. 	
5th subset of indicators assessed: The transferability criteria	Average score given: 2,8
<ul style="list-style-type: none"> ♦ The measure has a strong link with, and financial backing from the Madrid Regional Plan for the Scientific Research and Technological Innovation. ♦ The measure is affected by regional characteristics - i.e. a high concentration of Universities, technological centres, associations etc. Only in similar economic regions can the mechanism be applied. 	

III.1.2.5 Spinova project

Major objectives:

Setting up of a best practice methodology in the form of a training, guidance and advice tool, specifically designed and fine-tuned for researchers at universities and research centres. The purpose is to accelerate and increase the exploitation of know-how at these institutes, through the creation of spin-off companies using incubators/science parks and the transfer of know-how to existing companies.

Main results:

The project accomplished all its tasks. The different training packages (Protection of Intellectual Property, Marketing & Communication, Doing Business with Companies, Spin-off creation & entrepreneurship, Exploitation & business plan development) have been set up and pilot training has been given to 17 researchers from different universities. Participants came from Spain, Belgium, Germany and The Netherlands. The training was given at 3 locations: Leuven (B), Münster (D) and Nijmegen (NI).

<p>1st subset of indicators assessed: Interactivity with local factors which facilitate the creation and development of innovative firms.</p>	<p>Average score given: 2,8</p>
<ul style="list-style-type: none"> ◆ The measure strongly helps to identify the commercial and economic value of research going on and realised in universities. It will ensure that valuable ideas are made visible to start-up initiatives. ◆ However, it does not in itself provide access to specialised support, although this can subsequently be provided by the Liaison office. 	
<p>2nd subset of indicators assessed: Scope and quality / intensity of the measure regarding the areas of a start-up activity which are targeted for improvement</p>	<p>Average score given: 3,4</p>
<ul style="list-style-type: none"> ◆ SPINNOVA developed a training course in the domains of management and business planning. It is based on expert information but is not specific. Researchers have to write their own business plan which is discussed afterwards. ◆ The SPINNOVA training course does not provide solutions to the IPR problems but gives adapted information which allows participants to go to the next step. ◆ The SPINNOVA training course offers expert information together with cases studies, in the areas of marketing, market access and finance access. 	
<p>3rd subset of indicators assessed: The existence of systemised procedures to select the business ideas and the would-be entrepreneurs</p>	<p>Average score given: 2,5</p>
<ul style="list-style-type: none"> ◆ The measure is a step in the chain of decisions to be taken before a final decision for a start-up can be taken. But it helps the originator to evaluate the situation in a more objective way. The outcome of the training session is mostly a business plan which is challenged by the other participants. The plan may be strongly criticised and this process will therefore help the originator to reach a decision about whether to continue or abandon the plan. ◆ The plan does not select the would-be entrepreneur, but it will help the researcher to evaluate better the situation and the needs. He may prove not to be the right entrepreneur. 	

4th subset of indicators assessed: outputs of the measure during the pilot project's life and self-sustainability after EC funding.	Average score given: 4,2
<ul style="list-style-type: none"> ♦ It is not highly innovative: the novel aspects lie in the fact that it addresses directly the researcher interested in starting up a company and that it combines in one integrated training programme many of the useful aspects of start-up commencement. ♦ The beneficiaries will be in a better position to judge and master their start up. So it can be considered as a more than reasonable step and an improvement on current practice. ♦ Approximate number of would-be entrepreneurs who have benefited from the measure during the pilot project period: 17 ♦ Approximate number of start-ups that have been created thanks to the measure during the pilot project period: 2 ♦ The implementation of the measure does not need much financial input. The additional cost of a session involving about 20 researchers can be estimated at about €10.000 (essentially for hiring expert trainers). 	
5th subset of indicators assessed: The transferability criteria	Average score given: 5
<ul style="list-style-type: none"> ♦ The measure comprises a number of training courses covering different topics of interest for the would-be entrepreneur. It is normally organised once or twice a year in a specific university. Six universities had implemented it at the end of the project. It is an independent, self-supporting and transferable measure. ♦ It is foreseen that the initiators will train intermediaries from other universities and research institutes in order to disseminate the results and install the measure in other locations. 	

III.1.2.6 Suse project

Major objectives:

To train technologists in writing an investor-winning business plan.

To identify founders / entrepreneurs with superior business ideas, strong and growing market potential and excellent personality and management teams.

To generate new innovative growth companies financed by investors - in particular, venture capitalists and corporate investors.

Main results:

The measure is a European entrepreneurship training programme to be applied by incubators in order to turn researchers and technologists into successful entrepreneurs. It comprises an intensive training course, a follow up and selection of 'top-of-crop', some presentational training and an investor's forum.

<p>1st subset of indicators assessed: Interactivity with local factors which facilitate the creation and development of innovative firms.</p>	<p>Average score given: 2,8</p>
<ul style="list-style-type: none"> ◆ The provision of access to specialised business support services is part of the direct support given during the training course and the follow-up coaching. ◆ Direct support in access to financial resources is a key part of the measure. The focus is on training and learning by doing, not so much on actual networking with financial resources. ◆ Market access is not in the scope of the SUSE project but may occasionally happen through the supporting consultancy work. 	
<p>2nd subset of indicators assessed: Scope and quality / intensity of the measure regarding the areas of a start-up activity which are targeted for improvement</p>	<p>Average score given: 3,5</p>
<ul style="list-style-type: none"> ◆ Team building is a relevant but not key issue of the SUSE training course. ◆ Coaching on specific management know-how regarding the business creation process is provided by experts during the training course. ◆ Writing a competitive business plan is the key issue of the SUSE training and of the follow-up coaching. The training and support is excellent on this subject. ◆ IPR management is a relevant issue in the SUSE training as far as it influences the business plan. Individual support is not provided. ◆ Marketing and market access are relevant issues in the SUSE training as far as they influence the business plan. Individual support is not provided. ◆ Faster access to finance is the overall objective of SUSE. In addition to help with the development of an "investor winning" business plan, excellent support is also provided with presentational training and through a match making facility, 	
<p>3rd subset of indicators assessed: The existence of systemised procedures to select the business ideas and the would-be entrepreneurs</p>	<p>Average score given: 3,5</p>
<ul style="list-style-type: none"> ◆ A first version of the business plan is to be submitted as the basis for selection. The selection process is an evaluation of the overall feasibility of the business idea. ◆ There is no real focus on the management potential of the would-be entrepreneurs in selecting the start-ups. Nevertheless, during the training course the management capabilities become more visible and will be a criterion for access to the 'investor forum'. 	

III. RESULTS

4th subset of indicators assessed: outputs of the measure during the pilot project's life and self-sustainability after EC funding.	Average score given: 3,5
<ul style="list-style-type: none">♦ The training course is efficient in providing key know-how about starting up a business and writing a competitive business plan. Nevertheless, success in improving access to finance is less clear, and the results are not convincing enough to have the beneficiaries fully pay for it.♦ Approximate number of would-be entrepreneurs who have benefited from the measure during the pilot project period: 40♦ Approximate number of start-ups that have been created thanks to the measure during the pilot project period: 2♦ The measure is provided by regional technology incubators with professional staff. The training course has been developed specifically for these institutions to improve their service profile and fits well with the existing infrastructure.♦ The efficiency of the course is not sufficient to be self-sustainable. Support through regional funds will be necessary.	
5th subset of indicators assessed: The transferability criteria	Average score given: 4,6
<ul style="list-style-type: none">♦ The training course is completely independent of other actions (except of course the existing organisation which is offering it.)♦ To a minor extent, success could be influenced by the cultural background; thus some adaptation could be necessary.♦ Transferability has been proven by the actual transfer performed within SUSE.	

III.1.2.7 Pro-Back project

Major objectives:

To validate a common approach towards creating and managing a regional network of private investors including Business Angels (BA).

To prepare the connection of an entrepreneurial team with local SEED investors (BA and others).

To organise the connection in a systematic way so that procedures are developed at the regional level to construct a market of initiatives.

To finalise the business plan funding, thus leading to new enterprises, whatever the field of business, provided that priority is given to creating jobs at a regional level.

Main results:

Training of the would-be entrepreneurs to meet regional SEED investors to convince them of the suitability of the business plan.

Organisation of periodic seminars where investors and entrepreneurs can meet to become acquainted with future projects.

Funding agreements to launch the start-ups with shares held by local private investors.

A region-independent, robust methodology for creating a stable network of local investors and an effective system for enabling them to meet and close deals with entrepreneurs in order to create new businesses in a given region.

<p>1st subset of indicators assessed: Interactivity with local factors which facilitate the creation and development of innovative firms.</p>	<p>Average score given: 3,4</p>
<ul style="list-style-type: none"> ◆ The mechanism is fully dedicated to connect a project with regional funding. ◆ The business angels facilitate relationships and access to markets targeted by the start-ups, contacts with potential business clients, suppliers or strategic allies. ◆ The business angels also facilitate connection and access to local specialised business support services. ◆ The combined use of business angels and regional support brings expertise to build adequate teams for the start-ups. 	
<p>2nd subset of indicators assessed: Scope and quality / intensity of the measure regarding the areas of a start-up activity which are targeted for improvement</p>	<p>Average score given: 3,3</p>
<ul style="list-style-type: none"> ◆ The links with Business Angels bring an important added value to team building, management know-how acquisition, business plan construction, marketing and market access. These features go beyond the deal closing and access to finance more usually associated with Business Angels involvement. 	

III. RESULTS

3rd subset of indicators assessed: The existence of systemised procedures to select the business ideas and the would-be entrepreneurs	Average score given: 3
<ul style="list-style-type: none">♦ The mechanism sets up an interactive process between the Regional Intermediary, the would-be entrepreneurs and the interested business angels.	
4th subset of indicators assessed: outputs of the measure during the pilot project's life and self-sustainability after EC funding.	Average score given: 4,3
<ul style="list-style-type: none">♦ The mechanism is quite innovative, even though the measure has already been implemented in Belgium.♦ The results obtained are definitely significant when compared to the situation before the measure was implemented.♦ Approximate number of would-be entrepreneurs who have benefited from the measure during the pilot project period: 37. (Much beyond expectations).♦ Approximate number of start-ups that have been created thanks to the measure during the pilot project period: 7. (Much beyond expectations).♦ There is a need for future regional support to sustain the seminar sessions with the Business Angels.	
5th subset of indicators assessed: The transferability criteria	Average score given: 3,8
<ul style="list-style-type: none">♦ This measure is not typical of a given culture or economy, since transfer has occurred twice, with some minor adaptations. Nevertheless, it can be influenced by the existence of regional support to organise the get-together seminars.♦ The support for the get-together meetings has to come from regional authorities (there is no prospect of self sustainability).	

III.1.2.8 Smart-Tulip project

Major objectives:

The objective of the measure is to transfer a successful and mature model - the TOP programme (Temporary Entrepreneurial Positions) from the University of Twente - for supporting and launching university spin-off companies. Since it appears that no similar scheme has been organised either in Galicia or North Portugal, 10 university spin-off new high technology companies are expected to be generated per region (i.e. in Portugal and Spain) during the project period.

To consolidate a scheme which will help applicants in the process of creating companies in such a way that they can ensure these companies will be able to survive in the future, and to set-up a large strategic partnership of external support composed of diverse local and regional institutions, such as HEI'S, company incubators, RTD institutions, venture capital companies, technological parks, public authorities supporting SMEs, etc.

Main results:

An extensive network of strategic partnership has already been built, which is supporting the creation of new companies and collaborating in all phases or some of them: identification of projects, consultancy, training, incubator, financing, networking etc. In Galicia, they had their own programmes for supporting start-ups before joining the Smart Tulip project (for instance University of Santiago has its own incubator and capital risk society, there is a BIC Galicia, etc.) and Smart Tulip mainly represents a deeper co-ordination of activities in the future.

1 st subset of indicators assessed: Interactivity with local factors which facilitate the creation and development of innovative firms.	Average score given: 3,2
<ul style="list-style-type: none"> ◆ The mechanism is focused on academic spin-offs, and it is managed by organisations equivalent to ILO's which are in a privileged position for disseminating the mechanism among young graduates and researchers from university research departments, and for accessing university research results. ◆ In some cases, especially in North Portugal, it has been difficult to obtain scientific mentoring for entrepreneurs, because not all the selected business ideas came from the university research departments. ◆ The Galician universities already had their start-up support services, such as technical and business coaching, training courses, etc, as well as their own incubators and seed capital funds. Moreover, there is a wider Galician network of start-up programmes and services managed by entities like the Regional Development Agency-IGAPE (business consultancy, training, and financial grants), the Regional Technology Park (with its own incubating programme), the local BIC, regional public VC funds, etc. ◆ In this framework, the Galician co-ordinating unit of the mechanism has reached collaboration agreements with all these entities in order to co-ordinate and optimise their efforts on start-up support, following the TOP methodology of Twente University. ◆ The North Portuguese co-ordinating unit of the mechanism has hired two senior marketing and financial consultants for coaching the entrepreneurs; it is also offering one-day training courses for entrepreneurs in a number of fields; it has reached an agreement with BIC-Minho to host entrepreneurs, and it actively encourages and facilitates individual meetings between entrepreneurs and venture capitalists. ◆ In Galicia, the project has linked public start-up supporting programmes (which provide financial grants) together with regional public VC funds and university seed funds. In North Portugal, local financial resources for start-ups seem less available. ◆ Facilitation of contacts with potential clients or strategic business allies has been made sporadically in a few cases, without a systemised approach for it. 	

III. RESULTS

2nd subset of indicators assessed: Scope and quality / intensity of the measure regarding the areas of a start-up activity which are targeted for improvement	Average score given: 3,6
<ul style="list-style-type: none"> ◆ Especially in North Portugal, the co-ordinating unit is very close to the entrepreneur, and it intensively guides him/her in the design and validation of the business plan, through regular coaching. ◆ Scientific mentoring services are provided by the Galician university departments. As noted earlier, in North Portugal, it has been difficult to obtain scientific mentoring for the entrepreneurs, because not all the selected business ideas came from the University Research Departments. ◆ Access to finance seems better in Galicia than in North Portugal. 	
3rd subset of indicators assessed: The existence of systemised procedures to select the business ideas and the would-be entrepreneurs	Average score given: 3
<ul style="list-style-type: none"> ◆ Two different approaches have been followed for selecting the business ideas: The North Portuguese co-ordinating unit of the mechanism has pursued all 15 business proposals received. It has been less strict in the selection procedure since it was looking for the widest possible outputs in order to raise awareness and enthusiasm for the project before both the University Board of Direction and the national SME's policy authorities (IAPMEI). In future selections, it will apply more strict criteria. The Galician selection procedure was stricter, with 9 pre-selected candidates out of 27 business proposals submitted. 18 proposals were rejected because they did not have either the innovation level or the technological basis required. The 9 pre-selected candidates were individually interviewed and evaluated (in hearings) by an experienced local jury set up for the purpose, and ultimately, only 5 proposals were retained for the SMART TULIP support. 	
4th subset of indicators assessed: outputs of the measure during the pilot project's life and self-sustainability after EC funding.	Average score given: 3
<ul style="list-style-type: none"> ◆ Once again, the mechanism is a transfer of the TOP programme which has been delivered by the University of Twente since 1984. This is not an innovative approach in itself, but in Tecminho at least, there have been few previous results in terms of local academic spin-offs. It is not the same situation in Galicia, where there have been several start-up support mechanisms. In fact, one of the main project results for Galician partners has probably been the consolidation of a network of strategic partnership among all the start-up support services already operating in the region. This was done in order to co-ordinate and optimise their efforts. ◆ Approximate number of would-be entrepreneurs who have benefited from the measure during the pilot project period: 15 North Portugal + 5 Galicia. ◆ Approximate number of start-ups that have been created thanks to the measure during the pilot project period: 1 ◆ Financial viability of the mechanism is ensured by the Galician universities and public authorities who are already running and financing start-up support programmes, and for which Smart Tulip mainly represents a stronger co-ordination of activities in the future. In North Portugal, the co-ordinating unit has secured complementary financing from IAPMEI (Portuguese SME's Institute), in order to fund further improved editions of Smart Tulip which will better cover the costs of business and scientific mentoring. Therefore, short-medium term financial viability is also guaranteed to continue and to replicate the mechanism in other Portuguese universities. 	
5th subset of indicators assessed: The transferability criteria	Average score given: 4,2
<ul style="list-style-type: none"> ◆ This project shows once again the transferability of the Twente model across Europe. Nevertheless, some key external local services on which the mechanism relies especially in the Galicia region (e.g. incubators, seed capital funds, public VC firm, public grants, training and counselling services, etc) are funded by the regional public authorities; this is not a common scenario that can be extrapolated, or assumed, for all regions. ◆ The measure would not be feasible without the present public support of regional (Galician Government) and national authorities (IAPMEI in Portugal). 	

III.1.2.9 Innotender project

Major objectives:

To validate and implement in each region a common mechanism for stimulating the sources of innovative business ideas and fostering the establishment of new innovative firms. The core of such a mechanism is basically the launching of a Business Plan Competition (BPC).

Main results:

The project has acted as a very positive catalyst or stimulator in the partnering regions where there is little or no practical experience of start-up support mechanisms.

This has led to a positive coalescing effect among sources of innovative business ideas and potential services providers, who begin to work together although in an informal and unco-ordinated way.

A tangible result is the design of a common methodology (i.e. terms of reference of the Call for tenders, evaluation criteria for the business plan proposals, etc.) validated at European level. Also, a second evaluation round by a European jury on the business plans receiving regional awards increases the reputation and credibility of those finally receiving a European award, and facilitates further involvement of service providers and investors.

<p>1st subset of indicators assessed: Interactivity with local factors which facilitate the creation and development of innovative firms.</p>	<p>Average score given: 2,2</p>
<ul style="list-style-type: none"> ◆ The awareness campaigns launched by the scheme managers are particularly addressed to university research departments and technology centres, as the main source for identifying innovative and knowledge-based business ideas. Nevertheless, the mechanism does not provide any scientific mentoring in a structured way for the new companies. ◆ The promoters of the scheme have in-depth knowledge of their local providers of specialised business support services. However, excepting one partnering region which has secured the support of an international consulting society in order to help the awarded entrepreneurs in further developing their business plans, and another partnering region which enables the entrepreneurs to present their business plans simultaneously to the awarding jury and to a panel of potential investors, there is no formal or informal network set-up which may mediate with the rest of the service providers. 	
<p>2nd subset of indicators assessed: Scope and quality / intensity of the measure regarding the areas of a start-up activity which are targeted for improvement</p>	<p>Average score given: 2,3</p>
<ul style="list-style-type: none"> ◆ The would-be entrepreneurs of pre-selected business ideas receive just one day's training which includes basic background on marketing, IPR, finance, and management issues. ◆ Nevertheless, over the period of some three months, the would-be entrepreneurs benefited from individual and tailored coaching, provided by the managers of the scheme in order to help them to prepare the business plans before their definite submission to the jury. 	

3rd subset of indicators assessed: The existence of systemised procedures to select the business ideas and the would-be entrepreneurs	Average score given: 4
<ul style="list-style-type: none"> ◆ The scheme is basically a business plan competition which has defined and validated a set of systemised evaluation modules, parameters and criteria for selecting both the business ideas and the would-be entrepreneurs, according to the credibility and quality of each business plan submitted to the competition. 	
4th subset of indicators assessed: outputs of the measure during the pilot project's life and self-sustainability after EC funding.	Average score given: 3,8
<ul style="list-style-type: none"> ◆ Even if a business plan competition is not an innovative scheme, in economic areas with a critical mass in terms of universities, research centres and financial aids, but where there have been no previous start-up support mechanisms, the launching of a business plan competition generates a positive coalescing effect among sources of innovative business ideas and potential service providers, who begin to work together in an informal but not necessarily co-ordinated way. ◆ The approximate number of would-be entrepreneurs who have benefited from the measure during the pilot project period is 55 (average: 14 would-be entrepreneurs per region). ◆ The number of start-ups that have been created thanks to the measure during the pilot project period reaches 4. ◆ The partners are either public authorities or closely linked to public authorities. Their main mission is to promote economic growth and technological development in their regions, which is aligned with innovative start-up support. ◆ The partners are quite satisfied with the validated mechanism and the results obtained. They have already indicated their willingness to continue with the scheme after PAXIS funding. The future financial viability of the scheme will be backed and ensured by local public funds. 	
5th subset of indicators assessed: The transferability criteria	Average score given: 4
<ul style="list-style-type: none"> ◆ Business plan competitions are spread all across Europe. ◆ A business plan competition is an efficient and transferable tool provided that it is backed (i.e. financially supported) by public institutions or by large and renowned companies, in order to cover not only the prize costs but the operational costs (management of the competition, advertising, hiring experts both for the jury and for coaching the business plan preparation, etc). Such public backing is also crucial in order to generate credibility and confidence among would-be entrepreneurs, as well as to ensure the active involvement of business service providers and potential investors. 	

III.1.2.10 Kreo Fmd (Ban) Project

Major objectives:

The purpose of the measure was to provide information, document templates and examples to allow the setting up and management of a Business Angel Network (BAN). The main aim of creating such a network is to improve the flow of investment capital and management expertise into start-up and fast-growth companies.

Main results:

A template or model for a BAN was designed with the involvement of all partners and this was transferred to the partner regions where there is still the need for further localised development.

1st subset of indicators assessed: Interactivity with local factors which facilitate the creation and development of innovative firms.	Average score given: 3,2
<ul style="list-style-type: none"> ◆ The mechanism facilitates access to qualified human resources needed by the would-be entrepreneurs in order to build a multidisciplinary management team. ◆ Business Angels, unlike Venture Capitalists, often work directly in the management team of a new company to ensure the safety and progress of any financial investment they have made. So their investment may take the form of both time and money. Their involvement is complementary and their guidance can significantly enhance the business. ◆ The measure is the design of a template for setting-up and managing a Business Angel Network which obviously facilitates access to local financial resources for start-ups. 	
2nd subset of indicators assessed: Scope and quality / intensity of the measure regarding the areas of a start-up activity which are targeted for improvement	Average score given: 3,3
<ul style="list-style-type: none"> ◆ The Business Angel, when working within the management team, (some do not work in the team) will be able to provide guidance and signposting in a targeted way to meet the individual business needs. Management development will take place as the Business Angel works with the management team. ◆ Before the Business Angel becomes involved, he must be attracted and should approve the Business Plan. For interesting ideas with a poor plan, this may mean that the Business Angel works alongside the management team to improve the business proposition and make it work. 	
3rd subset of indicators assessed: The existence of systemised procedures to select the business ideas and the would-be entrepreneurs	Average score given: 2
<ul style="list-style-type: none"> ◆ The network does not set out to provide a systemised process for analysing ideas or technologies, but it does provide a framework in which these may be presented by entrepreneurs for assessment, by people ready to become involved in "interesting" i.e. viable projects. 	
4th subset of indicators assessed: outputs of the measure during the pilot project's life and self-sustainability after EC funding.	Average score given: 3,3
<ul style="list-style-type: none"> ◆ There are Business Angels networks in many countries and they have existed for many years. They could be seen as innovative for areas which do not have them yet but they are not in themselves novel. ◆ Approximate number of would-be entrepreneurs who have benefited from the measure during the pilot project period: 100. This was not in fact a requirement of the KREO project, it is therefore a good achievement. ◆ Approximate number of start-ups that have been created thanks to the measure during the pilot project period: 20. This was not in fact a requirement of the KREO project so this is also a good achievement. ◆ All partners involved in the project have a responsibility to work directly with/support entrepreneurial starts so this measure is strongly relevant, and it will continue. 	

5 th subset of indicators assessed: The transferability criteria	Average score given: 3,6
<ul style="list-style-type: none">♦ Business Angel networks can function almost anywhere, either formally as in this case, or informally (people with money and time become involved in businesses all the time and may have informal networks for the purpose). However, in some places, there may be poor economic circumstances or cultural conditions which legislate against the success of such a formal network.♦ It is transferable but there may be fiscal regulations which could legislate against the introduction of such a formal network.	

III.2 NETWORKS

As in the case of projects, detailed results from each separate network have been presented in previous documents. The remarks introduced hereafter present only a summary for the purpose of better understanding the subsequent recommendations.

In addition to the results of each network, there are common or similar benefits on specific aspects which are expected by the economic areas as a result of their participation in the networks. In other words, this is the European Added Value obtained from networking.

As noted previously (cf. chapter II.2.3), a questionnaire was sent to all the economic areas networked in order to understand their own perceptions about the European Added Value expected by them from the network activities.

The table in Annex V summarises those strong benefits expected and the economic areas which are expecting to have these benefits.

III.2.1 The *SPRING* network

The *SPRING* network has generated a complex set of results in two categories: tangible results and intangible results (knowledge) and at two levels: on the one hand, practical tools for start-up support and on the other hand, methodological approaches with regard to networking, analysis of regional systems, etc.

In this way, the *SPRING* network has given priority to the generation of improved knowledge about support mechanisms of excellence.

Tangible results on practical tools and measures

Early stage finance

Two principal fund models for early stage financing have been identified / developed. Transfer and adaptation to many regional and legal frameworks seem to be possible.

Entrepreneurship and Spreading Innovation Culture

A database of explicit knowledge relating to the different types of support schemes in operation within the different SPRING partner regions has been created.

Intangible results (Knowledge and experience) on practical tools and measures

Early-stage finance:

- The exchange of ideas and experience of early-stage financing schemes has helped all regions to develop, improve or better structure the access to their early stage finance support or fund schemes.
- A joint SPRING-KREO workshop on seed financing models was most useful, enabling detailed discussion about different approaches and models for bridging the early-stage finance gap. Conclusions from the workshop identified, in particular, the common need in Europe for public funding of the early stages of business creation for new technology-based firms.

Critical issues for implementing early-stage finance schemes are

- Availability or lack of management capacity necessary to provide the 'intelligent capital' required at early stages.
- Availability of public or private capital for fund raising.

Entrepreneurship and Innovation Culture

- The exchange of experiences from regions in building 'virtual arenas' for better transparency of their innovation system is most useful for other regions in developing a similar infrastructure.
- The European knowledge-base regarding successful start-up support schemes and the better understanding of the contextual factors that have influenced the schemes' success is a very useful input to the decision-making process when planning new initiatives.
- The improved visibility and reputation of regional start-up support infrastructure is considered to be a relevant intangible result.

Tangible results on methodological issues regarding assessment of measures, infrastructures and networking

Early stage finance:

A questionnaire has been used as a simple tool to identify existing schemes' respective finance gaps in a structured way.

IC rating of regions:

The development of a tool for rating regional innovation systems is a new and promising approach to benchmarking and improving a region's start-up support schemes. Critical issues are the complexity of the assessment task and the appropriateness of indicators. Once the applicability to regional systems has been fully proven, the concept will have a high potential for transfer to other regions. This could significantly contribute to making knowledge more tangible and transferable.

Entrepreneurship / Spreading Innovation Culture:

- A common structure has been developed to describe a regional system and to gather in a database the relevant data concerning entrepreneurial/innovation culture, entrepreneurship and financing.
- The Stuttgart PUSH! Initiative, together with the local centres of competence and innovation in the Stuttgart Region, is an interesting concept for which a transfer is already being initiated through a PAXIS "Visiting Scheme" to four interested regions in Bulgaria, Czech Republic, Lithuania and Poland.
- A major obstacle in networking such mechanisms would be inappropriate localisation. Such measures have been developed over a period of time with great efforts made to understand the specific local requirements. To learn about the conditions, prerequisites or adaptations needed to enable local start-up support systems to reach a successful transfer of such knowledge would probably take a much more extensive exchange of persons over a longer period. Trainee periods, internship etc. would be useful to try out ideas in a new setting.
- The comparison of different approaches for spreading the innovation culture from local hot spots and their impact needs to be further developed under PAXIS II.

Intangible results (Knowledge and experience) on methodological issues regarding assessment of measures, infrastructures and networking

- Start-up support schemes and measures can be identified, but in many cases cannot readily be 'packaged and transferred'. Equally, it is difficult to identify the specific competencies required to implement these measures as they depend upon the nature of the region concerned, what they are

seeking to achieve and how they plan to implement the measure. It is therefore suggested that partner regions will look at such 'measures', reflect upon their own regional situation, and draw influence where appropriate from the measures for the development of new local schemes.

- Analysis and dissemination of good practice is a more demanding task than expected.
- To measure the impact of the networking action is also rather difficult:
 - One has to distinguish between direct impact (such as improvement of measures, networks, etc.) and indirect impact (on improvement of start-up quality, increase in number of start-ups, benefit for single start-ups etc.).
 - The SPRING activities are embedded in a complex system of (regional) programmes and projects. It is difficult to identify impacts from SPRING or from other sources linked to the activities.
- From lessons learnt on PAXIS visiting schemes, a more detailed structured and extended course is suggested.
- Success factors for networking regions include:
 - networking based on joint thematic priorities which share links and interests with local authorities;
 - commitment of concerned policy makers in the regions;
 - good integration into the network of the key stakeholders within the regions; (active involvement and networking of local actors in each region to work with them on the thematic priorities identified)
 - a stable core group working in an open and personal atmosphere;
 - good interest in understanding and learning from partnering regions;
 - distributed project management (technical co-ordination) enforcing motivation; they have shared responsibility for each thematic priority among the network partners (working groups with one leading region and the rest contributing).

Overall, the added value generated by the SPRING thematic network is related to four fields:

- The knowledge base
- The policy formulation
- The political backing and commitment
- The ability to innovate.

III.22 The KREO network

The KREO Network and the KREO Project had some common objectives with many of the same actors involved and with some of the same projects being targeted. It took some time to have a clear idea

between the partners when considering their joint actions concerning the support services being analysed, developed and/or transferred. It was not until late in the project that more clear distinctions were evident between the approaches to learning required by the network, and the approaches to analysis and transfer required by the FMD project. The partners clearly had strong respect for each others' expertise and all had a strong commitment to share their experiences and learn from the others.

The KREO Network has basically obtained two types of results:

- The generation of an improved knowledge of support mechanisms of excellence.
- The mapping of the innovation start-up support models existing in each networked economic area.

Improved Knowledge of support mechanisms.

The assessment methodology is a significant measure, designed and developed by the network for the definition and selection of good practice in innovation support.

There is good potential for transferability of the methodology developed for assessing the value of a given support service; it is quite exciting as a coherent method. The partners have gone some way to devising a simple, easily understood tool.

The development of the measure to the point where the KREO network was coming to the end, is sound as far as it goes; i.e. the basis is good but then appears to fall short at the final analysis. The required "yardsticks" or benchmarks were more clearly defined. However, the methodology is still short of an explanation concerning how the quality of one service may be compared with another. While being an aid to understanding, the selection process is still not clear.

The methodology for the assessment of the value of a given support service and its comparison with other measures should itself be the subject of further development. It is rigorous and comprehensive and reasonably easy to understand, but is incomplete. It is also uncertain how well it would be received outside the partners' organisations.

Those responsible for innovation policy have many *ad hoc* and intuitive means of assessing good products for innovation support: but only a few have the potential to be developed to the extent of the KREO methodology.

Mapping the innovation and start-up support models of each economic area.

It should be recognised that KREO TN has generated in depth knowledge of successful structures and the tools used to support entrepreneurial actions. Because of this, knowledge among the partners and the organisations with which they are associated has increased and informed new activities. It is recommended that the network should continue to be used to exchange and share knowledge for adapting to local conditions.

The PAXIS funding has enabled additional mobility and time for closer study, and the networked economic areas have improved their Methodological Capability: this was the one area where all partners were in agreement that they had gained strong benefits from the KREO Network. This should be recognised as beneficial to the regions concerned but it should also be recognised that it leaves less favoured regions further behind.

The network was most effective where similar problems were identified, against which the partners were able to look together for solutions and to adopt a mix of different approaches. It is recommended that network partners should work not “in general” (e.g. on the “innovation model”) but around very precise fundamental actions.

III23 The PANEL network

PANEL aims at fostering trans-regional co-operation in the field of innovative start-ups by giving new firms that seek trans-national business collaboration shared access to support organisation and assistance at a European level.

Priority has been given within the PANEL network to reinforcing co-operation and joint-activities, and to raising awareness in the field of innovation support among start-up service providers and support organisations from the economic areas networked. Therefore, less emphasis has been put on other types of networking results (i.e. like the generation of improved knowledge of support mechanisms, or the mapping of the innovation models in each region).

However, trans-regional day-to-day co-operation between service providers from one region and start-ups from another region seems too ambitious, especially if they are not bordering regions (proximity of support is essential).

The added value that partners have obtained from networking is an improved knowledge of start-up support mechanisms (similar problems and support strategies, but with solutions adapted to each local context), which should consequently improve:

- The local support services.
- The local entrepreneurial culture.
- The local networking of service providers and start-ups.

The methodological approach of the "Entrepreneurs Days", implemented by PANEL network, has been a very efficient way of getting an integrated and sector-targeted exchange of experiences and tacit knowledge among all the key actors involved in start-up support (policy makers, incubators managers, VC investors, start-up firms, etc.).

In fact, PAXIS has helped to validate the methodological approach of the "European Day of the Entrepreneur" launched in Barcelona with the assistance and support of the other PANEL members (Munich and Milan). In the last "European Day of the Entrepreneur", held in Barcelona, over 2000 would-be entrepreneurs came to the event to be trained, learn, meet up and obtain business guidance about how to start and grow a new company, by means of workshops and face-to-face meetings. The aim of the "European Days of the Entrepreneur" is to spread the entrepreneurial spirit among big companies, SMEs, local and regional policy makers, and especially among university students with a business idea.

Interesting lessons have been learned from the Munich Bio-Tech start-ups cluster: The first start-up was created in 1992, the second one in 1994, now there are 57 Bio-Tech start-ups operating in the Munich area. The key factors for building such a start-up cluster have been:

- A critical mass and proximity of universities and research centres, who are providers of research results and qualified human resources.
- Local political will, which means significant amounts of funds co-invested in suitable premises for incubators and in seed capital funds.
- A VC network for subsequent rounds of investment in the start-ups.
- Environment and quality of life.
- Dissemination of start-up success stories to convince and motivate present and additional stakeholders (i.e. to show the efficiency of the cluster).

Nevertheless, the Munich partner has the impression that the network will completely stop after EU funding if it does not get local funds, for which it needs tangible results for local authorities (i.e.

arguments to win local elections) beyond the learning process. Otherwise, local politicians will not consider European networking as a relevant issue.

III.24 The HIGHEST network

The HIGHEST network has given priority to obtaining a detailed mapping of the innovation start-up support models and the systems existing in each of the networked economic areas; this has spontaneously generated an improved knowledge of their own support mechanisms. Less emphasis has been put on the other types of networking results (e.g. reinforcement of co-operation and joint activities).

Mapping the innovation and start-up support models of each economic area

Although not pinpointed in the majority of cases, the process of constructing regional innovation models is clearly a lesson learnt by all the partners: this is a prerequisite for talking to each other.

Actors have contributed to a common process which produced descriptive information about their regional innovation model.

It is worth noting that none of the HIGHEST regions expect strong benefits related to “expanded and consolidated know-how and knowledge bases”. The co-ordinator argued that they did not learn any *totally new* support scheme *in sufficient detail* for considering implementation in his area, and that the duration of PAXIS was too short.

The knowledge exchange should not remain at a generic level because it risks becoming an information exchange rather than a knowledge exchange.

Reinforcing co-operation and joint activities among the economic areas networked.

The above innovation model construction process is a common and co-ordinated action.

Preliminary joint activities (out of the scope of the network tasks) were launched by CICOM and OTAMIEMI (Euro-Office-Net), which is meant for internationalising companies targeting foreign markets. However, all claim that it is too early to see the results of common actions.

Nevertheless, the consortium members claim that exchanging experience about key generic matters should be conducted by all the networks together (like seed funding, team building etc.). This claim has to be checked with the other networks.

Results obtained so far from networking have generated a better image and given greater authority to networked actors, in the context of providing regional policy makers with recommendations based on networking actions.

The increased capability to build bridges between regional issues and European issues has reinforced their legitimacy in suggesting policy improvements both at the European and regional levels.

IV. CONCLUSIONS

IV.1 PROJECTS

IV.1.1 Analytical issues

Quantitative assessment

On the basis of the assessment of results as indicated in Tables of Annexes IV.A and IV.C, some analytical issues may be drawn:

- A measure on the **global average quality of projects** may be obtained through the overall average value obtained for the 5 subsets of indicators regarding the 24 projects (in the case of KREO FMD project, two different measures validated under the same project have been separately evaluated). This value was 2,85 out of 5, which means about 57% as percentage. This figure may be considered as satisfactory, more so when taking into account the relatively large number of selected projects for the reasons previously indicated.
- Considering the Table of Annex IV.A, **most successful projects** refer to the subject of 'connecting the right people'
 - with investors (Column C3), or/and
 - to reinforce the profitability management (Column C 4)

Beneficiaries of such projects belong to the academic environment, including students and young graduates (Row R1) and university laboratories willing to perform better technology transfer (Row R4).

Examples are Quasi-E, Embryo, Usine, Spinnova, Smart-Tulip.

- **Good results** have also been obtained for projects dealing with investors (Suse, Kreo, Pro-back) and with regional direct support to start-ups (Innotender, Priaces).
- Some **quantitative issues** of the indicators assessment are the following:
 - Projects provided the best answer as regards aspects dealing with the subset S5 (**Transferability criteria**) which had the highest average score (3,39) and the lowest variance (0,60). This result

seems coherent with the local organisations having skills related to transfer of knowledge. It was the intention that projects' consortia should have these qualities.

- The second most important subset was S4 that dealt with **output aspects** such as the originality of the approach, the self-sustainability of the measure or the created new business. This fact shows that the terms and implementation of the call for proposals were in accordance with the objectives declared above.
- Partial rankings for each subset of indicators reflect and match rather approximately the **global ranking**, especially as regards the less successful projects.

Support organisations

- Support organisations are focused on the improvement of the uniqueness of business ideas: this is a key issue in the still fragmented European economy. A new venture has to be appraised at least at a European scale, in order to reinforce its uniqueness and therefore the probability of it achieving the expected profits.
- Support organisations are also focused on management of new businesses. However, this is not yet enough in view of the difficulties which many start-ups face with regard to recruiting the right people and having a competent team making appropriate business decisions (taking into account many diverse dimensions such as sales, technical manufacturing, marketing etc.).
- Support organisations are now initiating dedicated work to raise seed funds; however this issue still remains a key one in Europe, due to the culture of the investor community and its reluctance to take more risks with young companies.

IV.12 Graphic comparison of projects according to their average assessment

In Annex IV.B there is a set of bar charts which allow not only a comprehensive and clear view of the indicators assessed in each of the 24 projects, but also to compare the projects according to these assessments.

The charts presenting the assessed indicators for the 24 projects are divided according to the above (cf. chapter II.2.2) five subsets of indicators, i.e.:

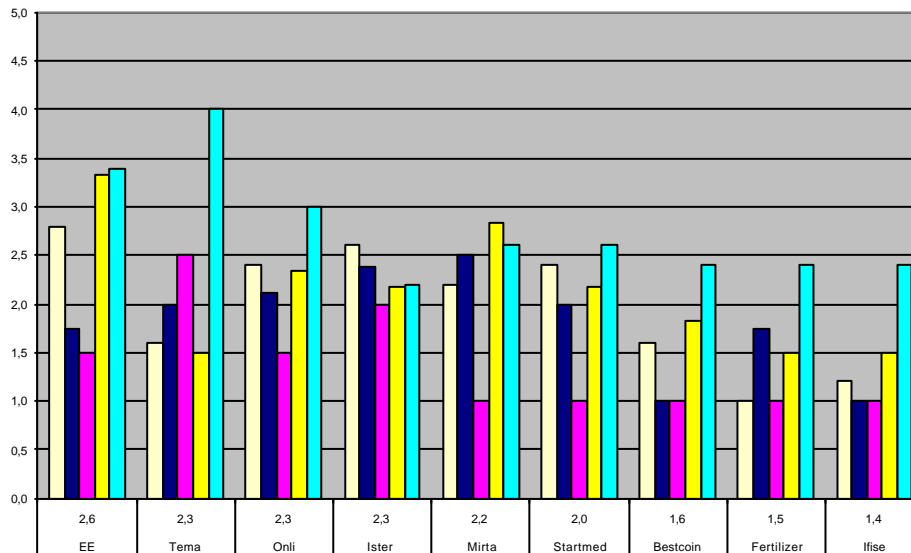
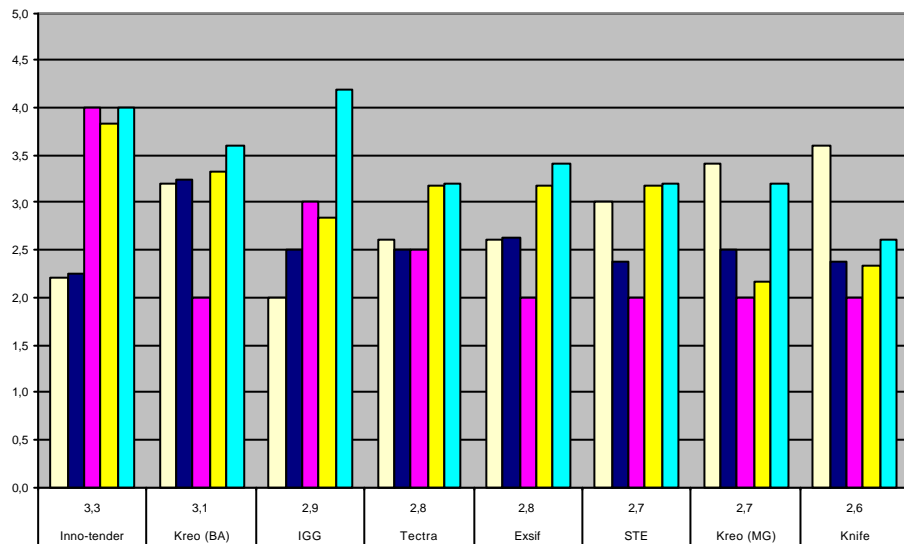
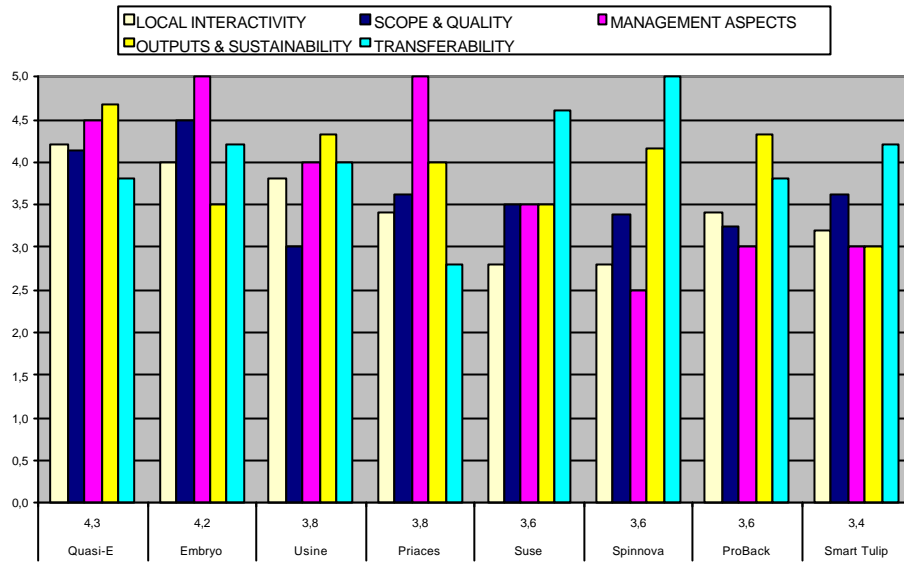
- 1st subset of indicators. Interactivity of the measures (developed by projects) with local factors which facilitate the creation and development of innovative firms.
- 2nd subset of indicators. Scope and quality/intensity of the measure regarding the areas of a start-up activity which are targeted for improvement.

- 3rd subset of indicators. Some management aspects of the measures developed by projects(i.e. the existence of systemised procedures for selecting business ideas and would-be entrepreneurs).
- 4th subset of indicators. Outputs of the measure during the pilot project's life and self-sustainability after EC funding.
- 5th subset of indicators. The transferability criteria.

The graphics on the next page are a global and definitive comparison extracted from Annex IV.B, since it contains bar charts of the 24 projects ranked in descending order according to a weighted average, which, in turn, has been estimated by combining the average assessments of the five subsets of indicators for each project.

It has to be noted that there are actually 25 evaluations, because in the case of KREO FMD project, two different measures validated under the same project have been separately evaluated.

SCORE OF PROJECTS ACCORDING TO ASSESSED INDICATORS: SUBSETS AVERAGE



IV.13 Most successful projects

The process of launching innovative new companies comprises several **elementary sub-processes**, like improving the business idea and business plan, testing its market and commercial viability, accessing finance, or building the management team.

Considering the short time foreseen, those PAXIS cross-border projects that **focused on few of these sub-elementary processes** have shown more tangible and transferable results than other projects with broader approaches or ambitions.

In particular, the most successful projects appear to be those dealing with the **early stages of start-up creation** (like, for instance, pre-incubation, academic spin-off, Entrepreneurship training and promotion, or early stage financing), as well as those projects undertaken or **supported by those university Industry Liaison Offices and/or units from Research Organisations** that are professionally evolving and incorporating incubating activities.

Regarding the practical transfer of mechanisms performed by these projects, it is worth noting some **good examples of models or mechanisms** which have been successfully transferred and validated:

A first good example is the ***Pre-Incubation model***, jointly validated by a large number of universities located in different member States of the European Union and also in Eastern and Central Europe (projects QUASI-E and USINE). The Pre-Incubation model helps academic researchers with technology-based business ideas to test market demand and acceptance by selling pilot products before they establish their own companies. This is possible thanks to:

- a special legal framework and insurance cover provided by the universities;
- the recruitment of a promoter who performs the market test and access, on behalf of the researchers (at QUASI-E, but not at USINE where the would-be entrepreneurs have to do this by themselves);
- and the provision of experienced coaching and training for innovative start-up creation.

These approaches are of special importance in the case of academics, where not only the typical business obstacles arise, but where there is also a huge cultural barrier towards becoming an entrepreneur.

Other models worth noting are those jointly validated by local innovation agencies and public spin-off incubators of several European countries, which aim at **identifying and locally networking business angels**

and seed funds together with innovative entrepreneurs, in order to facilitate access to finance by entrepreneurs (projects KREO FMD, PROBACK and SUSE). These models include mechanisms such as:

- Presentational training of entrepreneurs for an audience of investors.
- Mechanisms for identifying and selecting investment opportunities.
- Mechanisms for setting-up local business angel networks.
- Mechanisms for organising investor seminars.

These models help to set up excellent business plans and to reduce the time-to-investment for high potential and innovative start-up firms.

Other relevant and successful models are those fostering academic spin-offs, again jointly validated by a large number of universities' Industry-Liaison-Offices all across Europe (projects EMBRYO and SPINNOVA), which include mechanisms for:

- detecting academic research results with strong market potential.
- selecting the would-be entrepreneurs among young graduates.
- providing both scientific and business coaching to the would-be entrepreneurs.
- setting-up Entrepreneurship training-guidance and advice tools specially designed for researchers.
- facilitating access to external expertise and advice.
- facilitating access to business incubators or other premises under preferential conditions.
- guiding and assisting in the first contact with potential clients.
- mediating with local financial entities and investors.
- or even taking equities in seed funds by the university, which facilitates the financial sustainability of the whole academic spin-off model.

These models are succeeding in counterbalancing the weak entrepreneurial culture among academic researchers and young graduates, as well as in lowering the barriers to academic spin-off firms.

IV.14 Overall conclusions

- **Areas** for start-up support which are well covered by the most of the projects include the interactivity between business support services and market actors; provision of business planning tools and know-how / tools regarding marketing and market access.
- **Team building** - and to some extent managerial capabilities - seem to be issues that are particularly neglected in the measures provided.

- Equally, selection criteria for support measures **focus on business ideas** and tend to neglect the people / team issue.
- The **measures** are usually highly consistent with the business mission of the service providers. However, their impact with regard to stimulating actual start-ups seems to be much more dependent on the innovativeness and effectiveness of the approaches.
- To achieve **self-sustainability** is very difficult for almost all start-up support schemes. Public funding is required by most organisations in order to maintain the services.
- **Transfer of measures** seems to be feasible in most cases but is not always appropriate with regard to their actual quality, innovativeness and effectiveness.
- **Transferability and sustainability** of good projects depend to a very large extent on the intentions and capabilities of the initiators. The scope of the projects often did not bring sufficient evidence of such qualities.
- A very wide **range of projects themes** was selected. Some projects are very specific and others are very broad in scope; some projects include validations, others remain on the conceptual level. Projects covering many aspects of start-up creation mostly lack sufficient depth to become useable.
- The **more specific** the projects, the more concrete the results. Conceptual projects seldom led to verifiable and measurable results. Their potential benefits are difficult to measure in the context of INNOVDETECT.
- There is a strong overall impression that wherever complex business support services, management team building, knowledge management, technology transfer, financial involvement and all the other related and **complex activities are broken down to basic and fundamental measures**, there is better understanding, more consensus and more take-up.
- Better results in delivery and transferability are achieved from simple and highly **focused actions**.

IV.2 NETWORKS

IV/21 European added value of networking

The most expected benefits from networking are (in descending order):

- Expanded and consolidated know-how and knowledge bases (11 economic areas out of 15).
- Improved local political backing and commitment for start-up support schemes (10 out of 15).
- Better identification and specification of problems with an EU or global dimension (9 out of 15).
- Improved ability to network (9 out of 15).
- Inputs into policy formulation processes at regional, national or European levels (9 out of 15).
- Improved reputation (9 out of 15).
- Improved service range geared towards innovative start-ups (8 out of 15).

From the above benefit analysis performed with each of the networks, five major conclusions can be extracted:

- the knowledge base of the participants about start-up work has been extended for 11 out of 15 participants. The **construction of a more explicit knowledge** base has begun, which was one of the main expected outputs of the PAXIS pilot action
- the feedback to political authorities has been positive, which means that **policy decisions concerning increased support for start-up incubation schemes can be expected**, at least in 10 of the 15 regions supported by PAXIS.
- There is a **better understanding of EU issues in the start up creation business, together with the improved capabilities of networking**: it has been experienced by 9 out of 15 network members. This resulting ability to network and the corresponding benefits have therefore been experienced by 2/3 of the partners in about 18 months of work together.
- 2/3 of the network members have already **fed back results towards their regional economies** which means a better understanding of the European dimension of start-up creation by regional actors.
- If there is a weak point to be noted, it is the fact that after 18 months, only one half of the network members (8 out of 15) expect to **improve their support service range for innovative start-ups as a result of networking**. This European Added Value component should be more widely shared and perceived in the future if networked economic areas do really implement what they have learnt from each other.

IV22 Overall conclusions

Regarding the achievements obtained so far by the networks of economic areas of excellence, it is worth noting the following issues:

- Several networked areas of excellence, like Alpes Maritimes, South Sweden, Helsinki, Torino, Kalsruhe, Oxford, Rhone-Alpes and Emilia-Romagna, (HIGHEST and KREO networks) have developed and implemented methods for obtaining a detailed **'mapping of the innovation and start-up support models and systems'** existing in each of the networked economic areas. This constitutes a first step in identifying good practices, undertaking a comparison exercise, and initiating a reciprocal learning process from successful schemes applied by other areas of the network.

- Other networked areas, since the beginning of their activities, have selected and identified a **common range of problems and subjects which have been jointly addressed** in the framework of the network, thereby generating an improved knowledge of mechanisms of excellence. This has particularly been the case in areas like Stockholm, Stuttgart, Madrid and Cambridge (SPRING network), which among their activities:
 - have designed a tool for rating the **Intellectual Capital (IC)** within their economic areas of excellence by adapting the business Intellectual Capital approach and scaling it up to the economic area dimension.

This Intellectual Capital tool will allow regular assessment of the strengths and weakness of the intangible innovation assets in different areas, and can subsequently be used for benchmarking among economic areas of excellence.

- have also jointly validated **two seed fund models for early stage financing**, in order to address and bridge the equity gap existing at academic spin-off between (public) research funding and (private) risk capital.

These seed fund models have successfully secured the participation of universities, institutional or public investors, financial entities and pools of business angels.

By doing so, these seed fund models benefit from combined expertise, reduce risks, improve the identification and selection of investment opportunities in high potential innovative start-up firms, and facilitate the matchmaking process with business angels.

In addition to participation in a common learning process and the improvement of knowledge about mechanisms of excellence, another result from the PAXIS networks that is worth mentioning is the fact that these networks have helped **to reinforce trans-national co-operation in the field of innovation support** among the start-up service providers and support organisations of the economic areas networked. This has been the case, for instance, in Munich, Barcelona and Milan (PANEL network), where these networked economic areas share access to their support organisations and provide, at a European scale, joint and co-ordinated assistance to local innovative start-up firms that want to set-up European trans-national business collaborations.

Through all these types of activities, all the economic areas networked through PAXIS have initiated a **learning process** which is enabling them:

- To expand and consolidate their know-how about start-up creation.
- To better identify and address problems, with a European dimension, that hinder the start-up creation process.
- And, also thanks to PAXIS, most of the economic areas networked have improved their ability to co-ordinate their own local innovation actors and start-up service providers.

In the **next** round of PAXIS, the economic areas of the extended networks will have two main challenges:

- One challenge is to find ways of implementing and putting into practice the lessons already learnt.
- The other challenge will be to build-up a 'networking of networks' around key common problems and mechanisms of start-up creation, so that they will be able to enlarge and enrich their learning processes.

Finally, there is a common challenge for all the PAXIS actors which is probably beyond its present scope and resources: this will be to develop a **long-term strategy of transferability towards lagging economic areas**, in order to show them the way and provide them with the huge amount of excellent knowledge learnt on innovative start-up business creation.

This transferability process towards lagging areas should be adapted to their local environment by bridging step-by-step the existing gaps in innovative start-up business support mechanisms. It is also important to bear in mind that it will be necessary to foster a minimum critical mass in the recipient areas in terms of research infrastructure, business activity and specialised business services, if we want to achieve an efficient transfer of mechanisms for innovative start-up business creation.

In view of this final challenge, the results of these first 18 months of PAXIS activities have effectively helped to initiate a process of disseminating an Innovative Entrepreneurial Culture all over Europe.

IV.3 EXPERT PANEL ISSUES

This point introduces additional conclusions suggested by the Experts Panel from the observations on the sample of Projects and Networks funded under PAXIS 1.

Such additional conclusions refer to:

- The framework conditions which allow the implementation of good practices and their transferability.
- How to improve the connection between private and public support for start-ups.
- Training in Entrepreneurship: goals and expectations.

Framework conditions which support good practices and their transferability

From the above field work, it appears that there are prerequisites (i.e. the framework conditions) which, once fulfilled, allow both the implementation of good practices and their transfer to other interested actors.

These framework conditions can be classified into three basic categories:

- the stakeholder's ability to describe practices in simple terms, which means a clear view of the processes involved: the present work has identified a few such key processes which link the business ideas, the people and the funding opportunities.
- the ability of the management team of intermediaries to make things change, i.e. their commitment to reach an ambitious goal, whatever the environmental conditions: the projects and networks observed during PAXIS show that teams with a multicultural background, involving actors from the industry side, prove to be quite efficient and effective, when compared, say, to teams made of people with only a University background.
- the existence of an initiative culture at local (public/private) level, where the financing schemes are reinvented to favour initiatives rather than inhibiting them: here, the relationship between political actors and field actors is key, since there must be a long term commitment to support new financial measures before any major impact on the economy will be seen.

- It must be emphasised that another framework condition for transfer has been known for years: the best transfer process is ensured when people in charge of “inventing” a new support process are also in charge of applying it in other non-native environments.

Specific issues related to the connection between private and public support

The present work has pinpointed a key challenge for Europe in years ahead when it comes to raising more start-ups: how to improve the connection between private and public support for the start-ups?

- The first public-private interference concerns the financing of research results to be exploited by business ventures. Unfortunately, there appears to be evidence of unfair competition between private and public researchers: public researchers do not charge the actual costs of background experience when they set a price for work produced more quickly than expected by virtue of this background experience. Hence, in these circumstances they charge rates for which the RTD expenses are not fully taken into account. As a result of these unrealistic charges, the public researchers are taking market share from private researchers. One way out of this pernicious system is to make public research more attractive to private actors.
- The second public vs private interference relates to the availability of seed money for new ventures. Early stage engagement cannot be covered by private actors alone; it needs public support. Many experts in the panel have referred to a comparison with what is being done in the USA to cope with the same problem: the Federal State and private investors have agreed that public money should cover risks that private investors cannot withstand by any means. Consequently, also several European countries offer public programmes to support start-ups at very early stages. Such programmes should be designed in a way which allows for public-private partnerships with business angel networks and seed funds. Regional seed funds, in particular, appear to reinforce an initiative culture whenever they have been tested.

However, there are not enough professional seed fund managers to address the thousands of interesting projects that apply for seed money. The profile of the fund management in seed financing differs strongly from VC requirements. Whereas a VC manager can be younger, highly skilled in a particular technological field and work alone, seed fund management needs a team with stronger experience, with complementary skills (technological marketing, (RTD-) project management, business experience etc.) and with probably a weaker specialisation in particular fields, since it has to be open to very new concepts. Nevertheless, in order to involve private actors, any such initiative has to meet commercial interests. Therefore, in order to be successful, seed funds as well as business angel networks need to be run by professionals.

- The third public vs private interference relates to the provision of business support services (training and coaching) to promote entrepreneurship. Promotion of entrepreneurship is a long-term initiative where immediate results should not be expected. Therefore public funds are crucial. Nevertheless, new entrepreneurs need to be challenged/advised by people from the real business world where it is supposed that they will earn their money. Entrepreneurs do not always know of the existence of such support services and cannot afford these private services anyway. Therefore, public money must finance, at least partially, the networking and provision of specialised business support services by private actors.

Training at entrepreneurship: goals and expectations

The specific framework condition related to “a local initiative culture” leads to the following questions: How to train people in entrepreneurship? What can be expected from such training which would favour the birth of more start-ups, especially the ones coming from basic science and technology research work?

The present study emphasises a few trends:

- Entrepreneurship must be presented as a team exercise: thus training in entrepreneurship should emphasise knowledge about team dynamics, which is mainly dependent upon the team knowledge, a few key procedures for sustaining a change process, and key attitudes (including motivation).
- When dealing with would-be entrepreneurs, the basic motivation of a researcher (“being right”) must change to the motivation of the entrepreneur (i.e. “being the first” to take orders for a new product). Clearly, there will be people who will remain “would be entrepreneurs” since they are not able to move away from the “being right” decision-making mode. Here, training will not do any good.
- Entrepreneurship training should increase awareness about firms (including start-ups) and should improve the general image of the entrepreneur in Europe. In most European countries, the apparent freedom of the entrepreneur is still interpreted as a way of cheating rules, which means that the failing entrepreneur is forever seen as a loser. The entrepreneur must become a hero for the whole community, creating economic wealth from innovative concepts.

Training for entrepreneurship is a route to fostering an entrepreneurial culture. Such training should start at an early stage in the education system, even before the university. It should foster a cultural change by encouraging teamwork amongst students, by teaching students to face challenges and solve problems within learning projects (and not just to take notes from courses) and by teaching students how to find knowledge instead of just acquiring information. Ultimately, this will enable students to become

entrepreneurs. Such training in entrepreneurship culture is different from technical teaching at the end of a student's studies about how to build a business plan, although both approaches must be combined.

V. RECOMMENDATIONS

V.1 DEVELOPMENT OF THE ACTION

In the medium-long term, and particularly during the 6th Framework Program, it is assumed that PAXIS will face three challenges:

- How to increase the efficiency, efficacy and effectiveness of a complex, human-based process, that is to say; raising start-ups based on promising innovations, over a period of time long enough to make the resulting companies strong enough to grow? Effectiveness goals should be set forth at political level, whereas efficacy and efficiency should be dealt with by the EC
- How to help transfer what appear to be the most promising methodologies from one experienced region to others? Answering this question improves process efficiency.
- How to adjust policies in order to reinforce the impacts of such methodologies as part of a continuous “European Innovation Policy”?

The following sets of recommendations are intended to bring answers to the above questions.

Recommendation N°1

It must be recognised that the start-up raising process is catalysed by an initiative culture. This process:

- can be described using a few elementary intertwined sub-processes which link ideas, people and funding sources;
- remains a human process where tangible and intangible results are mixed;
- should be tracked over a sufficient period of time to show such results to be reliable.

Therefore, the start-up raising process has to be supported by the EC ONLY through focused and long term projects, the only ones capable of improving the initiative culture.

In future calls, clear distinctions should be made between sufficiently targeted, and conceptual projects. Too broadly targeted projects should be selected with much care. Selected projects should preferably be sufficiently specific and should include a minimum of verification and validation aspects. Selected projects should have a critical mass and partners with the exploitation potential to assure transferability when successful.

Since innovative start-ups are targeted, projects should, first and foremost, focus on and involve the Research-Enterprise interface.

Regarding past projects, it is important to keep on working in order to evaluate the efficiency and impact of the good examples cited, beyond the present two years.

Recommendation N°2

The EC should increase "in vivo" (i.e. real life) experiments aimed at raising more start-ups while ensuring and combining the following elements:

Networking champion regions pursuing a 'bottom-up' approach based on specific thematic priorities, with detailed work-programmes.

- Networks of excellence built around a group of "champion regions" in Europe: the NETWORKS must originate from a EUREKA-like approach, where consortia are built bottom-up (i.e. they join because they foresee tangible benefits from their collaborative approach) and are funded to develop ways of exchanging past experience which will help each champion to improve on its own¹: this learning process should be speeded up through more stringent contractual relationship between the EC and the networks (today's conditions, with very open work-packages, favour slow learning processes). Networks should avoid generic objectives which make it difficult to define specific work programmes with clear deliverables. Networks built up around specific thematic priorities have performed better during the first stage of PAXIS.

Providing opportunities for learning vs. transfer of "packaged" measures.

- In view of the problems related to the take-up of good practice measures as identified within the networks, PAXIS should also offer schemes providing "Opportunities for Learning" instead of schemes just for the transfer of "packaged" measures. Even if "packaged" measures may exist to tackle specific gaps, the majority of good practices will depend strongly on local environments. "Transfer" is then much more a process of learning in detail about a specific approach of one region and applying this knowledge to shape a similar but unique scheme for another regional environment.

Provision of learning opportunities also supports the development of professionalism among the start-up service suppliers. The problem of this approach, of course, lies in implementing what has

¹ it is in some sense de-fragmenting the European landscape of regions in pinpointing what supposedly works best through benchmarking their past experience and then by implementing adjusted processes based on someone else's experience

been learnt. Learning therefore needs to be oriented towards objectives in line with a regional strategy of the receiving region, and must involve local policy makers in order to secure implementation.

Projects linked to networks of areas of excellence

- While 'knowledge learnt' is a necessary input for the development of new schemes or the improvement of existing ones, it nevertheless remains 'knowledge' rather than 'experience.' Consequently, one could envisage setting up pilot projects designed to enable participants to gain experience - in other words, to set up projects within the networks of the next stage of PAXIS.

These projects inside the networks should deal both with innovative ways of improving just one of the above elementary processes and transferring the results to other regions in either parallel or serial mode (i.e. during the development of a new stage in the process or after a prototype process has been tested in one region).

Recommendation N°3

Support specific actions dealing with the transfer and extension of good practice in the field of innovative start-up creation and support.

- The transfer of processes should be funded as such, since no one region has a clear economic advantage in exporting start-up support models: process acquisition could borrow methodologies from process improvement techniques (EFQM, ISO, etc) of current use in industry.
- A new initiative should allow a selected number of existing promising projects to demonstrate their transferability and sustainability through the enlargement of the actual consortium to include a critical number of partners, geographically spread over Europe, and the subsequent transfer of the best practice to these partners.
- Attention needs to be paid to the role of mentoring as a way of transferring good practice in business support methodologies from one region to another (transfer needs people).
- Wherever there are widely available resources and materials for the support of innovative entrepreneurial activity (minimum critical mass of the recipient area in terms of research infrastructure, business activity and specialised business services), but where there is no previous relevant experience of supporting innovative start-ups, new developments from good practices

should be designed in an integrated and complementary way in regional or national contexts rather than simply being added on for the benefit of a few actors in a given locality.

For this purpose, the PAXIS programme from the perspective of the EC, should strongly engage with Regional or Local Development Agencies, or equivalent entities, in order to promote further the initiatives being delivered in the programme. This will support not only the “context” for reproducibility but also the “consensus” which is seen to be the greater issue.

Recommendation N°4

Encourage measures which provide specific support to the human aspects of start-up launching.

Future projects should pay more attention to the human aspects of start-up launching, starting from school curricula: formal links between Engineering and Business schools have to be encouraged to construct dedicated entrepreneurship training curricula. Such training should lean on real life projects in a quasi-enterprise mode, in order to make young would-be entrepreneurs understand the team dynamic issues of start-up creation and growth.

Recommendation N°5

Future EC funding has to focus on issues which none of the regions or nations would take on their own nor pretend to solve (pure additionality coming directly from the European subsidiarity principle).

Let us mention four of them:

- Benchmarking actions between regions (i.e. beyond “mapping” their support models) to understand better and implement good practices observed over a long period of time (maximum impacts instead of maximum outputs or outcomes)
- Developing new higher risk solutions to help improve well-known failing elementary processes, (such as seed funding mechanisms, team building support for new companies, more reliable market assessment of breakthrough innovative business ideas, etc.)
- Helping to implement standards of excellence in services supporting start-ups. In the same way that networks of excellence in the RTD arena will be developed under FP6, relevant links could be made with DG Research, DG Enterprise acting as a sort of European provider of accreditations for excellent services supporting innovative start-ups.
- For the above purpose, it might help to identify simple measures (i.e. break down complex issues into simple components) and try to obtain consensus across a broad group of organisations about

how to describe these measures. This is strongly related to the previous issue about standards. The aim would be to gradually introduce common perspectives which may eventually gain European-wide acceptance and could then act as a platform on which to build further blocks of common understanding and ownership.

V.2 POLICY LESSONS

The real time observation of 24 projects and 4 networks has helped to outline some key trends and policy recommendations to DG Enterprise, in an effort to reinforce such trends and to further support start-up raising processes, which are probably applicable beyond the scope of PAXIS.

V21 Key trends

From the work performed so far, three key trends appear to be of paramount importance for the future of start-ups in Europe:

The birth of “European good practices” at raising start-ups: a European good practice is an elementary process which has been developed and tested by a local actor, and then transferred and assimilated with success by a few other local actors, somewhere else in Europe, to be used in their day-to-day business. The outputs of that process can be increased speed in raising start-ups, easier access to seed funds or a recruitment technique for building an adequate management team. The more “European good practices” can be validated in Europe, the stronger Europe will be at raising start-ups and disseminating the results.

The extraction of tacit knowledge about raising start-ups: there is clearly an urgent need to exchange experience about past practices in order to avoid “reinventing the wheel”, but rather “to change the wheel”. Networking between local actors appears to work well to speed up tacit knowledge extraction and the dissemination of results which are consequently more explicit.

The key role of “local initiative cultures” around urban agglomerations, to catalyse start-up creation processes. A local culture evolving towards a local “initiative” culture means:

- Students and researchers are not afraid of launching private activities based on their most promising outputs;
- Support intermediaries are given the freedom to invent measures which can best support the start-up creation;

- Political authorities implement process environments where any business initiative is encouraged, for instance, through regional development funds.

Such cultures, at least twenty years old in most of the regions involved in PAXIS, have to be promoted further throughout Europe in regions where a strong research background exists.

The following policy recommendations aim at reinforcing such trends in Europe, with a focus on cities in which local economic development is now tied to the transfer of public research outputs to give economic added value.

V22 Policy lessons

Five policy lessons can be made so far:

Policy lesson 1:

Learning from European diversity can be a relevant advantage in improving the European entrepreneurial culture.

The high cultural diversity of Europe helps to strengthen novel measures concerned with raising start-ups, resulting in robust processes which can be disseminated towards European local actors. *The development of such “European good practices” has to be backed-up by focused projects which aim at developing innovative processes for raising start-ups.*

Such projects should involve a critical mass of local actors from different countries dedicated to bridging one specific gap (for instance: seed funding, team building, market assessment of new business ideas) and validating the resulting solutions in their day-to-day support activities through an efficient transfer process between them all.

European good practice is also key to improving and further developing start-up support measures and the related knowledge base. Methodologies for the identification, description and benchmarking of good practice need to be developed and demonstrated as a pre-requisite for developing a common understanding and standards of European support services.

Policy lesson 2:

Tacit knowledge on business support and innovation systems should be made more explicit and transferable.

Many European nations and regions have already developed a strong history of raising start-ups. However, the resulting knowledge is tacit, i.e. not described in terms of successful processes and key success factors for implementing them with sufficient effectiveness, efficacy and efficiency. *It is urgent for Europe to make this tacit knowledge explicit, in order to disseminate it towards more local actors, thus preventing them from “reinventing the wheel”. Funding networks to co-operate in making this tacit knowledge more exploitable appears to be a suitable solution for accelerating tacit knowledge extraction, exploitation and dissemination.*

Policy lesson 3:

The urgency of the dissemination of an Entrepreneurial Culture across Europe favours approaches of more short term impact, and support to European local innovation hot spots and champions, in order to speed up both learning and dissemination processes.

The importance of supporting innovation and business creation ‘hot spots’ - as a source of further development of concepts and measures, as a stimulus to ‘less favoured regions’ (cool spots) and for spreading the innovative culture to these lagging areas - has been particularly emphasised in the thematic networks. Championship among such hot spot areas strongly improves overall performance as long as the issue of spreading and disseminating the good results towards lagging areas is appropriately considered and addressed.

The reinforcement of the European local champions (hot spots) approach as a learning tool regarding start-up raising processes is essential for bridging the gap between the US and Europe when it comes to raising start-ups from public research work. The existence of champions will introduce fair competition when it comes to proposing optimal support schemes.

Policy lesson 4:

Entrepreneurship in Europe should be based on an initiative culture and on a “European Entrepreneur” concept.

Changing local cultures about start-up support will take a long time. *Europe must help strengthen an initiative culture, by favouring Entrepreneurship through a few key policy implementation tactics:*

- Foster the support processes which pay due attention to people's motivation and team building as key success factors for smooth start-up development.
- Reinforce any awareness action which will motivate new talent to take risks in launching start-ups based on public research (for instance, financing long term co-operation between Business schools and Engineering schools to work jointly on entrepreneurship training).
- Promote the "European Days of Entrepreneurship" introduced by the larger European cities, and jointly validated by PAXIS and Eurocities Association, as a valuable tool for spreading a European Entrepreneurial culture.

Despite the importance which investors give to the issue of entrepreneurial personality and a capable management team, this issue still seems to be neglected in most support schemes at the European level. *Within PAXIS and other EC programmes, more relevance should be given to all issues related to management capabilities and the attitudes of individual entrepreneurs, management teams and staff, favouring an initiative culture.*

Policy lesson 5:

Early stage risk finance needs continuing public support as private finance has proved insufficient in this field.

PAXIS 1 has confirmed the existence of a critical gap in the funding mechanism of start-ups to be identified - namely, seed and pre-seed fund availability. In addition to the availability of the funds themselves, bridging this gap requires the existence of fund managers who are ready to invest money in small amounts, with the clear intention of allowing the founding members to retain the power of a shareholder majority.

With regard to the well-known and possibly growing gap in early stage finance, public finance for early business development should be encouraged and provided at all levels. This is especially relevant for two reasons:

- Private fund schemes will always prefer to avoid the risks involved in early stage development and therefore will remain scarce.
- Private fund schemes will always select only the "high- flyers" (i.e. those start-ups which promise exponential growth). The majority of business ventures with a stable but moderate growth have

difficulties in being financed. But economically the latter category of start-ups is more relevant and together create many more jobs than the comparably few high-flyers.

Earlier policy assumptions at Member State level, that the provision of seed and pre-seed capital needed only an initial stimulation, have clearly proved to be wrong. *A more co-ordinated public and private intervention to bridge the gap in early stage finance is needed. Models for seed funds in co-operation with universities and business angel networks, and including public and private funds, could provide a basis for improvement in this field.*

The need for public finance to bridge the gap in early stage finance is a task which should be addressed at European level. This issue is actually confirmed by all actors involved in the start-up support process. Yet at present, public seed funds hardly comply, for instance, with the investment criteria of the European Investment Bank / European Investment Fund (which requires at least 50% of seed co-investment from private funds). It would therefore be worth thinking about reappraising European Investment Fund conditions (as well as the EC State Aid rules) for public co-financing of seed funds.