Access of Enterprises to Venture Financing in Estonia:

Feasibility Study of Government Support Scheme

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Foreword

New technology-based firms play a central role in national and regional economic development and are of crucial importance for the emergence of knowledge-based economy. The business environment that is favourable to such firms is the cornerstone of a well-functioning national innovation system fuelling economic growth. Its vital element is access to capital at various stages of company evolution. Ideally, all venture capital provision should be executed from private sources. However, since markets are imperfect and there are commercial constraints on the viability of private capital focusing on early stage technology and smaller deal sizes, gaps and under-provision are likely to arise.

Therefore, availability of private equity capital is often promoted by government policy measures that allow risk sharing of private equity investments. Both direct and indirect policy measures are lucrative for activating venture capital financing and for the development of national financial markets. Ensuring the existence and functioning of well-developed venture capital markets should receive a priority by national economic policy that is targeted to securing sustained economic growth.

Related to the creation of new technology-based firms, there has been widespread recognition of the so-called "equity gap" – the limited supply of seed and early stage risk capital which young companies require but in quantities that are generally insufficient to raise investing interest by the conventional venture capital industry. Despite elevated levels of private equity financing in Estonia, relatively little funding reaches small, technology-based companies while institutional investors, both domestic and foreign, remain focused on later-stage deals.

With an objective to increase the availability of early-stage capital in Estonia for new-technology based firms and with a view to enhancing business R&D intensity, the Ministry of Economic Affairs and Communications commenced this study, which brings forward a comprehensive survey and analysis of the possibilities of venture capital financing in Estonia. The primary aim of the study is to aid policy decision-makers in Estonia in deciding on the rationale for public intervention supporting the access to venture capital and on the most effective form of doing it. There are various suggestions presented below on how the public sector should respond to the market failure identified in Estonian capital markets.

The Ministry would like to thank Zernike Group for their thorough contribution in the form of this research. The recommendations constitute a solid basis for the development of public venture capital scheme, but also for improving other parts of the national innovation system of Estonia. The Ministry would like to express thanks to the members of the Venture Capital Steering Group for their valuable and active participation in the study process. The Ministry also thanks all the related/interviewed persons as well as their organisations for collaboration.

Ministry of Economic Affairs and Communications
July 2004

Table of Contents

1 Executive Summary

1.1 Introduction

Estonia is striving to **become an innovation-driven economy** by making leverage on available resources such as: a highly educated population, good research institutions in advanced sectors, well prepared and motivated public administration, good economic and logistic links with neighbouring countries (especially with the Scandinavian region).

Aware of existing shortcomings, the public administration has designed and put in place a **system** aimed at speeding up and supporting the process of **knowledge and technology development and valorisation** in the view of transforming these resources into commercially exploitable assets.

Such a system has already been **operational** and has produced appealing results. However, it **needs some adjustments** and additional integration in a few areas.

At first instance, there is a **need for specific financial measures** capable of providing resources to new companies in the innovative sectors.

New businesses in innovative sectors are in fact characterized by **peculiar** aspects such as: the central relevance of immaterial elements (knowledge for example), a high risk of failure in initial phases, a substantial dependence from the academic / research environment, the long "incubation" period, and the need for substantial investment in research and development – to name a few.

Considering the typical characteristics of company creation in innovative sectors, it is **widely accepted that a traditional banking system** finds it difficult to respond with a suitable offer to cover the initial investments due to intrinsic constraints and a lack of appropriate knowledge. The same applies to other *bank-like* instruments such as public loans.

On the other hand, the existing financial instruments based on **grants are mostly too modest** to match the needs for investments in innovative sectors.

To complete the picture, the **private investors** active in the market are **not very keen to invest in this initial phase** either due to the high risks involved – they might be willing to invest at a later stage instead.

The sketched situation highlights **the existing gap of financial resources in the seed phase**.

Venture capitalists and policy makers both agree that the market does not properly function at the 'lower end', i.e. in seed capital/early stage levels of investment where the perceived risk of an investment is quite high relative to the expected return.[1]

Investors looking for financial return cannot be motivated to go into that segment of the market, unless government schemes try to bridge the gap between return and investments. Even so, in the initial stages of innovation development the support of the private sector should rarely be counted upon.

By ensuring the **availability of seed finance**, the potential technology development could be fully exploited. In this context, of the situation described above, it is clear that corporate companies will invest only when government schemes act as catalysts, promoting the flow of money to the early stage market.

In the specific sections of the present report **we have described possible options to fill in this 'gap'**, drawn from direct experience and from international best practices. The options are characterized by the **direct involvement of the public administration** in offering risk capital measures there-by playing the part of leading player and hopefully **encouraging private players** in joining in as co-investors.

[1] *T. Lawton; Missing the Target, in Venture Capital, 4 (2002).*

As we proceeded along the study, originally solely aimed at "improving the access of enterprises to venture capital in Estonia", we realized that it was necessary to consider a **broader range of topics** than the pure venture and risk capital issue. We therefore went on to **analyze the Estonian company creation support system as a whole**.

The present report provides **recommendations towards all the stages** relating to the growth of NTBFs[2] and to the **environment** in which the proposed financing measures could operate successfully.

Furthermore, in the light of the analysis carried out, we have come to understand that the original definition of the major expected output, the "**three policy options**" is probably not the most appropriate. As better shown in the tables below, we are rather describing **a set of "recommended measures"**, fine-tuned according to the development level of the new companies and to the actual characteristics of the market.

We therefore suggest that the **recommended measures** are regarded as **input** for the next step in the decision-making to be taken by the MoEAC rather than as policy options.

In synthesis, Zernike Group identified the following elements as **possible shortcomings** in the business development support system in Estonia:

- several elements of the system are in place and are functioning with varying degrees of success, however, **the system** as such would benefit from substantial improvements;
- some of the **existing elements** of the system should be **reviewed;**
- some **elements** are missing and **should be therefore added** to the existing ones, and properly integrated.

It must be recalled that the Estonian innovation system that is currently in place is very young and therefore highly dynamic. It is therefore important to mention that a number of weak elements perceived at the present moment are probably the results of the normal adjustment process of the starting phases.

The **financial means** required to fund the chosen scheme will most likely be drawn from the European Commission **Structural Funds**, considering that the Single Programming Document for Estonia (draft, version November 2003) contains clear references to measures aimed at stimulating the creation of new firms, therefore perfectly coinciding with the aims of such financial measures.

Additionally, the **European Investment Fund** offers interesting and suitable facilities: a) the ETF Start-up, designed to provide co-investment funding to SMEs focused seed capital funds, b) the Seed Capital Action that allows to cover a large past of the costs for specialized fund managers and c) specific facilities concerning guarantee schemes.

It must be recalled that hardly any effort put into financial support instruments on a stand-alone basis will be paired with success without **appropriate environmental conditions**.

As seen in the research, Estonia should devote analogous **efforts to overcome the highlighted bottlenecks** and tackle environmental issues such as:

- promoting the **spirit of enterprise**, meant as bringing entrepreneurial values up high in the scale of social and personal values;
- promoting the transfer of **entrepreneurial competences** to the present and potential entrepreneurs;
- promoting the transfer of **business experience** and competences into the broad range of support services to companies in the start-up and development phases;
- promoting institutional **collaboration between public and private** players in order to assure appropriate mutual understanding;
- promoting the establishment of close **international relations** at all levels, to absorb and benefit from current international business culture, to develop networking as a tool to gain access to the global market, to attract complementary competences missing at national level, and to access the venture capital market at global level;
- promoting the further **professionalisation of the civil servant body** in order to enhance experience and competence of business needs and peculiarities;
- increasing the capacity of starters and potential starters to **generate good projects**;

2 *New Technology-Based Firms.*

- increasing the **competence of operators** (public as well as private) involved in company (financial) support schemes about topics such as **IP, risk assessment and management, international marketing, due diligence,** etc.

Regardless of the type of financial instruments that will be chosen to sustain the establishment of new ventures, **all the mentioned topics should be regarded as an integral and necessary part of the policy** striving to achieve a more dynamic Estonian innovative environment.

1.2 Activities record

The study has been carried out along three major lines: the analysis of existing documents on Estonia, the direct contact with major market players and the comparative analysis of financial schemes to support company creation amongst the international best practises.

Available documents,[3] covering topics such as the characteristics and trends of the Estonian market; the programmes and initiatives related to the "innovation system"; the programs and activities put in place in view of joining the EU; R&D and technology; enterprise development etc; have been providing the researchers with the appropriate reference framework necessary to pin-point the key issues to be further investigated with direct action. They also have served the purpose of validating the findings gathered in the field.

The **direct interaction with the market** has been pursued in two major ways: by meeting and interviewing and by holding a round table (on the scope and proceeding of the project) with representative personalities from both private and public sectors.

Mr. L. de Lange, Mr. G. de Bruin, Mr. B. Kleyn and Mr. A. Favalli have held ad hoc meetings with a number of people during their first three missions on site during 2003:
- Tallinn: 18–19 August,
- Tallinn: 17–19 September,
- Tartu: 23–24 September,
- Tallinn: 25–26 September.

56 personal interviews were held, which included interviews with representatives of the MoEAC, public development agencies, universities and research institutions, private innovative companies, incubation centres and science parks, banks, financial institutions, private informal investors. A complete list of interviews is attached at the end of the present document.[4]

As described in the proposal, the experts where aiming at the gathering of valuable information on the demand and supply side of the market for seed capital, and the Estonian innovative environment.

A few important general remarks:
- all meetings took place in Tallinn and Tartu, considering that these towns would sufficiently represent the market of innovation sectors;
- in most cases the meetings were organized by the appointed project manager of the MoEAC, who also attended most meetings;
- the general level of interaction was high, to testify a strong interest about the issue.

In parallel, a **round table on "Seed capital for company creation support in Estonia: needs and opportunities**", was held on November 18, 2003.[5]

In order to obtain validated information, the findings that resulted from the interviews have been discussed at the round table and were compared to the existing literature. Originally, this activity should also have been supported by a **pilot scouting action,** but due to difficulties met in obtaining business plans necessary to carry out the work, this action has remained in stand-by.

As a matter of fact the discussion raised during the RT fully confirmed the indications gathered during the interviews, which are summarised here below.

3 *See list of major information sources in Appendix 5.*
4 *See list of interviews in Appendix 4.*
5 *See the "Acts of the Round Table" in Appendix 1.*

2 Outcome of the On-site Research

The following sections will report the indications provided by the market players[6] during a series of **interviews,** regarding the supply and demand conditions of the (potential) market of seed capital in Estonia.
Based on these indications we have attempted to further highlight the existing **bottlenecks**.

In the following section the source of reported findings is indicated by the following symbols:

C - ompanies, incubation centres, starters	**U** - niversities, research centres, science parks
P - ublic administration, istitutional development agencies	**F** - inancial institutions, banks, investors

2.1 About existing schemes – supply

Concerning the effectiveness and efficacy of funding schemes currently available, some doubts arise on the following issues:

- the market players appear to have incomplete and partly inaccurate information on existing schemes, underlining the need of more widespread specific communication – **U** – **C**;
- loan schemes appear inappropriate to support the start-up of innovative companies, as they immediately create a financial burden on the still unstable company organisation – **U** – **C**;
- grant schemes appear insufficient in “calibre” to meet the financial needs of high tech companies to invest in their start-up – **U** – **C**;
- personnel in institutional development bodies are not sufficiently prepared to evaluate properly the demand coming from innovative companies. In general, the personnel is considered as collaborative but without business experience or sufficient technical knowledge – **U** – **C** – **F**;
- private investors (institutional and private) tend to focus only on the postseed period of new business, considering the high risk in the previous development phases and scarcity of the personnel with the technical knowledge necessary to properly assess business plans – **C**;
- several interlocutors find that the procedures to apply to grant schemes are long and complicated – **C** – **U**;
- national investors (institutional and private) have a reduced network, both national and international, which limits their capacity to integrate their own competences and to find co-investors – **C** – **P** – **F**;
- knowledge about IPR protection and exploitation is very rare amongst fund managers; this limits their capacity to identify certain types of interesting high tech projects and to protect their own investments – **C** – **P** – **F**.

2.2 About the market represented by innovative/high growth potential companies – demand

- Any estimate of the existing market represented by innovative companies is most likely underevaluated, as it reflects the general awareness of the scarce suitable financial sources (many interesting business plans remain in the drawer simply because their “fathers” would not know where to direct their search for financial sources). It is reasonable to expect that the market will show its real potential only at the moment when a) new suitable schemes are put in place and b) sufficient information reaches the interested actors – **F**;
- executive staff in innovative companies are very focused on the technological aspects of their plan but underestimate the marketing elements (priority goes to production, marketing comes in second place). In general they show a clear need of business experience – **F** – **U**;
- a major opportunity for the growth of innovative technology and knowledge- based companies is represented by the high presence of highly educated professionals; major threats must be pinpointed in the scarce business experience and entrepreneurial culture and a low presence of professional engineers – **F** – **U**;

[6] *Please refer to Appendix 4 for the full list of interviews.*

- companies / starters / researchers lack a broad international network – **C** – **U**;
- the reduced involvement in the international economy is highly constraining for the following reasons: a) perception of the market as being only local (thus very small), b) lack of distribution and commercialisation channels, c) reduced perception of existing financial sources outside the national scenario, potentially suitable to their needs – **F** – **P**;
- starters have little experience and/or knowledge of how to transfer a business idea into a sound business plan; their approaches towards institutional and private investors are often turned down for this reason – **P** – **F** – **C**;
- knowledge about IPR protection and exploitation is very rare in academic, research and company environment. Furthermore, it appears that this type of competence is almost absent in Estonia. This is a heavy constraint on potential spin-offs, on the sustainable utilisation of research results and on the capacity to interact with the international market – **F** – **P**;

The largest majority of the interlocutors have provided useful and convergent indications about two topics: a) the expected deal flow of a hypothetical seed capital fund and b) the average typical investment size.
According to these suggestions, a realistic **deal flow** for the first one or two years could be represented by 10 to 15 technology-based projects, divided as follows:

- 3 to 5 in biotechnology,
- 3 to 5 in ICT,
- 3 to 5 in other sectors.

However, in our experience we have seen that, after the first period of existence of a seed capital fund, the deal flow tends to increase considerably as a consequence of a wider spread of knowledge about the new instrument, which encourages potential entrepreneurs.

According to these indications, **investments** would range from 50.000 € to 400.000 € with possible average around 200.000 €.

Considering the actual state of the Estonian economic development, these indications appear very realistic indeed.

An interesting indication came from several participants at the **Round Table**, suggesting that **public spending** for the support system of new company creation should be **more concentrated** on larger size projects with higher growth potential.

The general perception is in fact that too many resources are spent for many small sized projects. Furthermore, there was a widespread agreement about the need to promote business culture and entrepreneurship in the Estonian market, as well as to further professionalize the public personnel involved in the management of the programmes supporting new company creation.

2.3 Identified bottlenecks

In the following section we will schematically review the bottlenecks (**in bold**) that were derived from the interviews and the Round Table. These bottlenecks provide the basis for our recommended actions indeed. Below, it is possible to see a summary of the identified bottlenecks (per tier) and the recommendations included in the present report (*in italic*) to deal with these problems.

2.3.1 Tier 0

- **Awareness of possibilities to commercialise ideas, especially amongst scientists and researchers**: *Awareness creation* is one of our main recommendations as it will have a massive influence in the number and flow of projects put forward as potential business.
- **Limited tradition towards entrepreneurship.** This problem can once again be tackled by *awareness raising programs* and more directly by C*oaching and mentoring.*
- **Availability of initial capital to be able to start a company – with no or very limited own resources.** We have proposed to target this issue via a mix of providing Tier 0 *Incubation* as a way of reducing capital demands on the potential entrepreneur and provision of *Zero stage grants and services.*
- **Knowledge and experience on how to protect and commercially exploit IP (intellectual property) is very scarce.** Although we have stated that Spinno already covers a large part of this problem, we have added some potential issues to *IPR and Spin-off creation.*

2.3.2 Tier 1

- **Knowledge to assess a product's commercial potential and competition issues:** *Training* and the use of experienced business players in the *Coaching and mentoring*.
- **Knowledge to write a business plan:** Once again *Training* mixed with *Coaching and mentoring* play an important role.[7]
- **Availability of risk capital for the testing of new ideas/concepts (€ 10–100K):** In this aspect we have proposed to integrate either fully or partially some of the existing Estonian programs into a single one with a clear application procedure. We believe that the *Pre-seed grant* can be an important tool in developing projects at this stage.
- **Availability of business communities / networks:** These bottlenecks have been seen as not only applicable to the present Tier but rather to the whole. They have been covered via the *Innovation Estonia Platform* and *Mentoring.*
- **Availability of facilities:** Please see Tier 1 *Incubation* (under Recommended measures, paragraph 3.2).

2.3.3 Tier 2

- **Negotiating know-how to close deals:** Throughout practical *Training*, *Coaching and mentoring*.
- **Availability of market knowledge, especially with regard to the international scenario:** These bottlenecks have been seen applicable not only to the present Tier but rather to the whole. Hence, they have been covered via the *Innovation Estonia Platform* and to some degree via *Mentoring.* However, there is no substitute for real experience.
- **Availability of risk capital for company start-up (€50-500K) is very limited:** Regarding this issue we have provided 3 potential options that cover the *Capital funds.*
- **Availability of facilities:** Please see Tier 2 *Incubation* (under Recommended measures, paragraph 3.3).

2.3.4 Tier 3

- **Acquisition of new customers and maintaining focus / Building on an efficient organisation:** These issues are not covered by one single measure. Yet, if suitable support is given during the initial tiers, the potential entrepreneur should encounter less difficulties in this respect.
- **Availability of risk capital for surviving initial phase until first profit (€ 250-1000K€) – not existing:** Please see *Growth funds* and *Investor incentives* (paragraphs 3.3 and 3.4).

2.3.5 Tiers 4/5

- **Availability of market knowledge / access to export markets:** These issues are not covered by one single measure. Yet, if suitable support is given during the initial tiers, the potential entrepreneur should encounter less difficulties.
- **Availability of (risk) capital for growth and innovation (>€ 1000K):** Please see *Expansion funds* and *Investor incentives* (paragraphs 3.3 and 3.4).

2.4 General recommendations

In this section we intend to underline some important elements that are not directly linked to specific stages in business development cycle (which is the approach followed in the following sections) but are rather applicable across the cycle itself.

2.4.1 The system

Support to technology and knowledge intensive businesses is a **continuum of actions**, starting from the moment that the first business idea is conceived to when the young company reaches maturity and faces strategic options, such as merging with other larger groups or even entering the stock market.

[7] *Please see Tier 1 Coaching and Mentoring for additional details on business planning and product development.*

As the company develops in time from one phase to the next, it is essential to have the opportunity to take advantage of all existing instruments and tools; and to perceive that the system represents a favourable environment to help the development of a sustainable enterprise.

In practical terms the support measures should be centrally **coordinated** and **managed**, effectively **promoted** to the public of potential users, managed according to a hands-on approach aimed at **facilitating** and **supporting** innovative ventures.

In our opinion, the members of the **Innovation Estonia Platform** (as will be described more extensively later in the report) will cover a large part of the mentioned activities.

2.4.2 Timing

The recommended measures are **not meant to be put in place simultaneously** as the results of the first efforts will only be felt after a few years. For example, whereas the Seed Capital Fund has a clear demand at the present moment and therefore should be implemented as soon as possible, it would be premature to establish the Growth Capital Fund at the same time. The bulk of potential applicant projects are most likely insufficient to justify the overall operation for the time being.

It is more appropriate to wait two to three years until the first successful results from companies in the previous stage become visible.

2.4.3 Management principles

Independently from the type and number of elements that compose the innovation system, the **management** has a key importance.

Whether we regard the Managing Board, the platform or the individual program management, the **public administration** will play a central part.

It has been observed that present involvement in the innovation system management by representatives of public administration (either central administration or other government agencies) does not effectively match the present needs of Estonian developing entrepreneurship. Therefore, there exists space for improvements.

The collected evidence points out elements that need improvement, such as:
- the civil servants need to gather business management experience in order to respond to the needs of companies (e.g. it might take several months before applications receive an answer; and the evaluation process appears not transparent). This results in gradual discouragement and negative expectation in approaching specific government tools on behalf of potential users;
- the public sector is not fully experienced in topics such as: entrepreneurship, business, market, international scenario. This results in a lack of understanding of relevant parts of applications / business plans they receive and in a lack of guidance capacity in helping the young entrepreneurs with their first important choices;
- procedures are applied without flexibility and applications are regarded more in the form than in the content, resulting in an excessive monitoring and control activity and insufficient support;
- the application forms and procedures often appear to be not transparent, causing potential users to have little confidence and take distance.

Despite the fact that we advise to appoint some management activities to private/professional organizations, **civil servants will maintain a relevant role** in the overall picture (as facilitators, coordinators, promoters, the monitoring body). It is therefore of prior importance to intervene in this matter and update the professional competence of the public staff involved in innovation system.

Need for direct public intervention/risk of failure

<table>
<tr><th>TIERS</th><th>NEEDS</th><th>Existing tools / analysis</th><th>Recommended measures</th><th></th><th></th><th></th></tr>
<tr><td rowspan="6">Tier 0 Zero stage
■ Idea creation (product)
■ R&D
■ Entrepreneurial</td><td rowspan="6">■ Promote demand side
■ Awareness creation
■ Growth of IPR
■ General interest in technology
■ Entrepreneurialism promotion
■ Link to Tier 1</td><td rowspan="6">P&L
■ SPINNO*
Scholarships/ Grants
■ Feasibility Study Grant*
Technology centres
■ Competence centres*
■ TTU
■ Tartu Science Park
University facilities
■ Entrepreneurial University (concept)*</td><td>Awareness raising</td><td rowspan="14">Innovation Estonia Platform</td><td rowspan="14">Implementation mentoring</td><td rowspan="14">Innovation managers' training</td></tr>
<tr><td>Orientation / information services</td></tr>
<tr><td>Zero stage grant</td></tr>
<tr><td>IPR/Patents</td></tr>
<tr><td>Spin-off creation</td></tr>
<tr><td>Coaching and mentoring</td></tr>
<tr><td rowspan="3">Tier 1 Early/ Pre-seed stage
■ Market definition
■ Prototype
■ IDEA & Business plan</td><td rowspan="3">■ Clarity funding procedure
■ Support organisations
■ Incubation
■ Spin-off promotion
■ Promote demand side
■ Subsidies, grants and pre-seed capital
■ Central information point
■ Network support
■ Training entrepreneurialism & management
■ Link to Tier 2</td><td rowspan="3">Financial Support
■ Start-up aid programme
■ Applied research loan and grant
■ Feasibility Study Grant
Training/Competence
■ Business Training Programme
Network support
■ Business consultancy
■ G2B Aktiva
Business centers/ Incubators
■ Competence centres
■ TTU/Tartu Science Park</td><td>Early/Pre-seed grant (from research to pre-industrial prototype and business plan)</td></tr>
<tr><td>Coaching and mentoring</td></tr>
<tr><td>Incubation</td></tr>
<tr><td rowspan="5">Tier 2 Start-up/Seed stage
■ Sales & marketing
■ First customers
■ Product enhancement</td><td rowspan="5">■ Focused incubation
■ Seed and start-up capital (PPP)
■ Promotion of supply side (Seed/Risk/VCI capital)
■ Soft loans
■ Network support
■ Simplified procedures
■ External services and mentoring
■ Link to Tier 3</td><td rowspan="5">Start-up support
■ Programme for the business advisory
Financing
■ Kredex-applied research loan and grant
■ Programme for the Construction of Technical Infrastructure
Networks (Nat./Int.)
■ G2B Aktiva</td><td>Coaching and mentoring</td></tr>
<tr><td>Starters' incentives (e.g. a tax discount for start-ups, tax deductions for innovative technology development)</td></tr>
<tr><td>Seed capital funds (€50–500k)</td></tr>
<tr><td>Investors' incentives (e.g. reduced capital gain taxes tax credits for investment, free transfer of capital)</td></tr>
<tr><td>Incubation</td></tr>
</table>

TIERS	*NEEDS*	*Existing tools / analysis*	*Recommended measures*
Tier 3 Growth/ Development ▪ Market penetration ▪ Sales & Profit ▪ Internationalisation	▪ Increased private participation ▪ Bank related funds ▪ Promotion of exits ▪ 2nd & 3rd round financing ▪ VC and BA Associations ▪ Internationalisation support ▪ Top expert services	**Support** ▪ *Export planning programme* **Financing** ▪ *Kredex* ▪ *Programme for the Construction of Technical Infrastructure* **Networks (Nat./Int.)**	Growth capital funds (2nd and 3rd round financing) Reduced capital gain taxes / tax credits for investment / free transfer of capital Incubation
Tiers 4/5 Maturity & expansion ▪ consolidation ▪ Alliances, mergers, sell-offs ▪ Rapid expansion	▪ Positive environment for VC ▪ Promotion agencies ▪ Tax and legislation	▪ *Programme for the Construction of Technical Infrastructure*	Reduced capital gain taxes / tax credits for investment / free transfer of capital Expansion funds

3 Recommended Measures, by Development Stage

3.1 Tier 0 (Zero stage)

3.1.1 Recommended activities to be developed

3.1.1.1 Awareness raising & information services

Description
At this early stage, awareness raising on topics such as entrepreneurship, start-up creation, existing policies, innovation-related programmes, etc may be one of the most important factors aimed at increasing the number of potential entrepreneurs.

The "seed" of business creation must be planted. In the internal market this will be achieved by means of specific communication campaigns, seminars, etc. In the international environment this could be aimed at by organising specific events: For example, it would be interesting to organise a large conference on innovation in Estonia, attracting leading figures from business and scientific communities. It could become a yearly event for leading entrepreneurs, investors and researchers to promote and reinforce the establishment of a strong and innovative business community.

Information services – integrated service covering:
- the development of well-staffed information points gathering all relevant data on the innovation system and measures;
- added-value advice meant to help the developer with personal and direct guidance.

Existing Measures and Instruments
Although we have not found an activity that directly targets general awareness, programmes such as SPINNO or the existing Technology hubs (e.g. Tallinn Business Incubation Centre, Tartu Science Park, Tartu Biotechnology Park) act as promoters of the "innovation system" i.e. as measures aimed at the research community to promote entrepreneurship.

The same can be said of the proposed information services that are now delivered via support agencies such as Enterprise Estonia, and eventually by the Competence and Technology centres. However, the feedback gathered during the interviews in Estonia showed that information is often fragmented rather than integrated, thus creating additional difficulties.

A more active approach towards awareness creation and information delivery to the research communities and to private sector will yield an increase in the number of people considering to take the entrepreneurial path in the mid-term. In other words, it will eventually increase the *demand side* for financial measures.

3.1.1.2 Zero stage grants and services

Description
We advise to include grants for educational programmes, experience-building and training under the following headings:
- scholarships & study visits of researchers, students (national/international)
  Promote participation in the sciences, business development and entrepreneurial experience. Instituting professional placements should also be considered as a method of providing hands-on experience of the business environment and improving the mobility between science institutions/centres and companies.
- focused training programmes:
  - innovation management;
  - marketing sales analysis;
  - innovation and technology exploitation;
  - pilot entrepreneurial development programmes.

3.1.1.3 IPR, Patents issues, Spin-off creation

Existing measures and instruments
The SPINNO programme has already demonstrated its initial success (previous evaluations and discussion trough the interviews) in promoting IPR and spin-off creation.

Hence, it should definitely remain in place and be further implemented. We would however recommend:
- additional training for management staff involved in the innovation process, specifically in the issues regarding the commercial exploitation of Intellectual Property (IP).
- active scouting for existing technologies and promotion of marketable IP.
- training for the managers, more specifically about the issues regarding the commercial exploitation and business aspects.
- active scouting for existing technologies with commercial spin-off potential.

3.1.1.4 Incubation

Description
Tier 0 incubators can be described as "workshops" where the costs are covered directly by public sources. In these workshops the technological/scientific knowledge is channelled towards becoming a business idea. This type of "workshop-incubators" should be established within the main scientific/technical poles (academic, industrial). In optimal situations, the "exit" of a project from this phase coincides with the early conception of a marketable product/service and the first definition of an enterprise structure. This fully subsidized stage may eventually be included into already existing programmes such as SPINNO if additional funding is made available.

3.1.1.5 Coaching and mentoring

Description
During Tier 0 a large part of the coaching and mentoring can be covered by the orientation and informations services. Of course, the success of this initiative will also be affected by the influence of the Innovation Estonia Platform, innovation management training and implementation management mentoring.[9]

On an "angel" or contractual basis the prominent members of business community should be invited to give guidance even at these very early stages. The management bodies of the different incubation centres should also provide additional coaching. This activity may eventually be included into already existing programmes if additional suitable funding is made available.

3.2 Tier 1 (Early/Pre-seed stage)

3.2.1 Recommended activities to be developed

3.2.1.1 Pre-seed grants

Description
The Pre-seed grants should cover the activities previously covered by grouping smaller programs and additionally provide for:
- the finalisation of a business plan;
- the development and realisation of an industrial prototype.

Early/Pre-seed stage grants promote the shift between idea and an independent enterprise. A maximum period per project should be marked in order to prevent the use of this facility as a research support tool. This subsidy may be intended for salary costs, materials, courses and the engaging of external experts, such as coaches or patent experts (see previous sections on coaching/mentoring and incubation).

The project should result in a clear business plan that can progress toward the tools available in Tier 2 stage or otherwise support may be discontinued.

[9] *See Chapter 4 on Vertical Measures.*

Existing measures and instruments
The existing grant instruments, such as: Start-up aid programme, applied research loan and grant, Feasibility Study Grant, the Product Development Programme appear to be too modest in terms of the financing and excessively fragmented. For example, the Start-up aid programme (outside Tallinn) probably provides inadequate financial support to any start-up in the innovative sectors, since it operates with very small capital amounts (100,000 EEK).

Furthermore, similar procedures are equally applied to very small as well as to very large sized projects. For example, the Programme for the Construction of Technical Infrastructure is theoretically applicable to 100.000 EEK projects as well as to 10 million EEK projects, therefore generating an unnecessary level of bureaucracy and monitoring in the lower scale projects.

Recommendations
With the above in mind, we recommend that programmes be grouped into a new instrument, *Pre-seed grants*, only providing grants up to a maximum of €100.000. We suggest that the following programmes should be visibly grouped:

- **Applied research loan and grant** – 100% grouped
- **Start-up aid programme** – 100% grouped
- **Product Development Programme** – 100% grouped
- **Programme for the Construction of Technical Infrastructure** – projects up to 1 Mil. EEK are grouped.

The reduction and simplification of procedures should liberate some of the costs allowing for an overall increase in the number of grants provided as well as a reduction in the time and effort taken to evaluate the aforementioned applications. The principle behind the grouping of the existing programmes and the simplification of procedures is to focus efforts towards generating evaluation procedures that are coherent with the amount of money being requested. Simply put, small applications (e.g. 100.000 EEK) should have relatively simple application and evaluation procedures whilst larger applications (e.g. 500.000 EEK) should follow a more intensive procedure. One simple solution to this would be to establish specific evaluation criteria thresholds that respond to the amount of money being requested by the different applications.

3.2.1.2 Incubation

Description
Tier 1 Incubation is aimed at supporting the implementation of business plans (identification of the market, creation of the business, production, etc). In this incubation phase, technical equipment has considerable importance for product development; and therefore the facility should include suitable laboratories. At the end of this incubation phase the company prototypes are manufactured. The stage should be partially subsidised.

Existing Measures and Instruments
We have witnessed good cases of Tier 2 and Tier 1 incubation in Estonia (Tartu: Biotechnology Park & Science Park; Tallinn Business Incubation Center, Technical University Innovation Centre), whereas according to our initial observations Tier 0 and Tier 3 (in part) appear not to be covered.

Incubation in Tiers 0 and 1 can physically be located within one single facility, but it is important that the incubation tutoring / mentoring are properly organized in order to answer the specific needs of users.

3.2.1.3 Coaching and mentoring

Description
Whenever possible, coaching and mentoring should be integrated within the already existing and planned programmes. The efforts of coaching and mentoring should focus on the following issues in this early stage:

- **IDEA to Business Plan:** The original idea or technological development must be transformed into a business plan. It is at this stage that many projects fail to progress towards a viable business model. Therefore we strongly recommend that coaching and mentoring should support the potential entrepreneur in these critical first steps.
- **IDEA to Product/Prototype:** The original idea or technological development must be transformed into a working pre-industrial prototype or even a viable product/service. At this stage, many projects experience difficulties in transforming the original laboratory results or the idea into a manufacturable product; thus support from an experienced mentor could be invaluable.
- **Financing and facilities:** It is positive, even during these early stages, when the developer starts to consider the avenues available for expansion.

- **Innovation network:** The coach or mentor can act as a bridge giving access to information, other businesses, potential partners or even customers.

3.3 Tier 2 Start-up/Seed stage

3.3.1 Recommended activities to be developed

3.3.1.1 Capital funds (3 options)

Description
Although in this report we have highlighted both financial and non-financial measures (that will help to generate a suitable environment) to support the growth of technology-based enterprises, the creation of funds is without doubt at the heart of our recommendations.

In order to answer to the specific request specified in the terms of reference, three clear options/approaches are proposed. These three options with their corresponding variations clearly describe the avenues available to the creation of funds in Estonia (applicable to tiers 2 / 3 / 4 / 5).

In very broad terms these would include a **full government funding,** a **guarantee system** and a **co-financing** approach towards the funds**.** Each of these options presents its own advantages and disadvantages. Furthermore, a combination of the above may be possible as a way forward.

In this section an example drawn from international best practices is given for each described option. Further below a critical comparison among the different options is provided, based upon experience, which makes specific references to the Estonian market and institutional conditions.

Existing Measures and Instruments
Although a number of programmes already exist in Estonia under the title "start-up" there are currently no real funding programmes covering investments from € 50-500K. As stated in the introduction, funding alone will not cover the requirements of technology-based enterprises, or of investors for that matter. During the interviews there was clear feedback regarding the need for not only "more money," but more importantly the need to promote the birth and growth of promising technology-based companies with greater investment potential. It is for this reason that we have recommended in our report an integrated group of measures that cover all the Tiers and that we believe will strongly support the growth of innovation in Estonia.

3.3.1.1.1 Option 1: Full government funding

Full government funding puts forward a system by which the public sector directly promotes investments and directly invests in the funds (100% of the capital) within this tier. Two possible options concern the actual management of the fund, as described below.

Variation 1 (Subcontracted services)
The government agency selects management of the funds via open international tender. The management of the fund is carried out by an independent private organisation (against a fixed year management fee approximately 2%, plus costs), according to market-driven criteria.

Example: Invertec (Spain)
Option 1: Full government funding
Variation 1: Subcontracted services

Invertec makes equity investments, limited to 10 years, of up to € 300.000 representing between 5% and 49% of total equity, in technology-based, seed-stage companies. The intent is to help firms created by the Trampolines Technologicos programme to raise seed funding by taking a minority stake. Invertec has EUR 6 million under management by CIDEM together with six universities and business schools.
(See appendix 3).

Variation 2 (Direct control)
The fund is steered by a (public) management board, appointed by the Government. The governmental roles include facilitating, monitoring and promoting

Example: The Finnish National Fund for Research and Development (Finland)
Option 1: Full government funding
Variation 2: Direct control

The Finnish National Fund for Research and Development (Sitra) is an independent public foundation under the supervision of the Finnish Parliament. Its activities are designed to promote the economic prosperity of Finnish people. The public sector accounts for 50–80% of the venture capital funding of seed and start-up technology companies and Sitra is the most important investor for companies in this stage of development. Sitra invests in technology firms and venture capital funds both in Finland and abroad; Its operations are mainly financed through income from endowment and project finance. Sitra has invested more than FIM 600 million in early-stage technology companies and over FIM 500 million in domestic and international venture capital funds and technology transfer companies to date. Through its status as a minority shareholder, Sitra is able to develop companies from the inside and contribute to the work of their boards. In addition to Sitra's own investment activity, there are over a dozen regional funds under the management of six management companies owned by Sitra. Regional funds invest in seed stage companies as well as traditional manufacturing industries.
(See appendix 3).

3.3.1.1.2 Option 2: Guarantee fund

A guarantee fund is meant to cover the financial risks connected with the investment in a new venture. The applications are then evaluated by a government agency that decides if a guarantee is offered or not. Generally a guarantee fund will cover up to 50 % of the losses; for specific projects other thresholds can be negotiated. The management of a guarantee fund is arranged by accepting applications from the registered seed and venture capital industry.

Variation 1 (Investor's guaranteed portfolio)
Via public tender a Seed Capitalist gains a status of supported partner and becomes qualified to apply to the guarantee fund. The capitalist(s) is/are allowed to make investments (following of course specific guidelines put forward by the contracting authority) and in turn these investments will be guaranteed up to a specific volume by the contracting authority. In the case that the investment fails, investor(s) can claim that guarantee – the pre-agreed "safety net".

Example: Regional Venture Capital Fund Programme (UK)
Option 2: Guarantee fund
Variation 1: Investor's guaranteed portfolio

Regional Venture Capital Funds (RVCFs) is a nation-wide programme to provide risk capital finance in amounts up to £500,000 to small and medium size enterprises (SMEs) who demonstrate growth potential. The funds, managed by experienced venture capital professionals, are commercially focused, making commercial returns.

There is an acknowledged 'equity gap' at the lower end of the market. The Government's intervention is designed to be the minimum necessary to stimulate private sector investors for providing small-scale risk finance for SMEs with growth potential.

Small businesses in search of venture capital were given a further boost recently when the European Investment Fund committed up to €86 million (£53.5 million) of investment into UK's nine new Regional Venture Capital Funds.
(See appendix 3).

Variation 2 (Business venture guarantee)
In this case, a guarantee is offered by the public sector to the entrepreneur in the new venture and not to the capitalist, based upon the evaluation given to the project. This measure is normally aimed at supporting specific type of companies, typically SMEs, with lack or shortage of equity in order to encourage venture investments. The guarantee is paid out only in case of failure of the venture.

Example: Guarantee of Venture Capital Funds (VCFs) (France)
Option 2: Guarantee fund
Variation 2: Business venture guarantee

Since French SMEs suffer from a lack of equity, the role of Venture Capital Funds must be fostered. To help them accompany more SMEs, and specifically small ones and start-ups, the BDPME offers its guarantee.

It's a 50 % guarantee (up to 70 % for start-ups, when it is necessary to give additional support, due to higher risks).

The BDPME guarantees for 10 years, but after the fifth year, the level of the guarantee is lower: 70 % of the previous level. It means that during the first five years, the BDPME guarantees for example 50 % of the equity financing and during the last five years only 35 %. The guarantees come into action when the enterprise in which the VCF has invested, is declared legally bankrupt. The BDPME receives two different kinds of income: a commission (0.3 % per year on the amount of the equity financing) and possibly a capital gains sharing (when the VCF divests with a capital gains, the BDPME shares them, not at the level assumed by the BDPME, but less: i.e. 10%).

The BDPME signed an agreement with the European Investment Bank in March 1998. This agreement gives to BDPME complementary means to guarantee the interventions of VCFs specialised in innovation.
(See appendix 3).

3.3.1.1.3 Option 3: Public–private co-financing

The government agency selects management of the funds via open international tender.

The management of the fund is carried out by an independent private organisation (against a fixed annual management fee approximately 2-5%, plus costs), according to market-driven criteria. The actual funding takes place under condition that a private matching funding is activated. It means that it is the responsibility of the private partner(s) to deliver a suitable amount of co-financing. The private co-financing acts both as a way of sharing risk with the private sector and as a validation of the commercial viability of the projects/investments selected. The option of co-financing can itself be divided in two variants. In one case, the private parties join in the fund as co-funders at the moment of its establishment, actually buying parts of the shares of the fund. The second one requires the matching on a project base, each time case by case.

Variation 1 (Lump co-financing)
As mentioned previously, through public tender one or more co-investors are selected. In this case, the potential co-financers match the investment with at least 50% of the share capital put forward by the public sector before the fund is established itself. Each investment will be given by the Fund as such.

Example: TIFAN B.V. (The Netherlands)
Option 3: Public-private co-financing
Variation 1: Lump co-financing

The Technology and Industry Fund for Amsterdam and North Holland (TIFAN) was founded to supply a financial need on behalf of young technologically innovative companies, the so-called techno-starters. TIFAN aims at accelerating new technological development. The TIFAN fund offers share capital and convertible subordinate loans as well as management support.
(See appendix 3).

Variation 2 (Per project co-financing)
Per project co financing requires that fund managers must private investment from private sources to at least match that offered from the public sector. This must be done for every single investment, at least for 50% of the investment.

In other words, before the management can invest a single public euro, at least an equal amount of private co-financing must be achieved.

Example: BioPartner Start-up Ventures (The Netherlands)
Option 3: Public-private co-financing
Variation 2: Per project co-financing

BioPartner Start-up Ventures is a start-up venture fund established at the end of 2000 by the Dutch Ministry of Economics Affairs, aimed at accelerating the life science industry in the Netherlands by improving the entrepreneurial climate for bio-starters and bio-business, it also aims at removing the obstacles identified for bio-entrepreneurs, such as: the lack of information, financing, laboratory equipment and lab space. The fund offers stimulation of life sciences in the Netherlands and risk capital fund for life science start-ups, investing in shares possibly combined with a subordinated loan. The fund has a total value of €10.5 million. The total investment is from minimum €50,000 to maximum €225,000 with an average contribution of €135,000. The investment is provided in exchange for shares in the start-up company. This initiative is expected to result in the creation of 45–75 new life science start-ups in the period 2000-2004. During the subsequent five-year period only the ongoing participations will be managed and sold. One important condition to be fulfilled is that private investors must invest an equally large amount in the company. BioPartner Start-up Ventures also makes management support available for the companies in its portfolio. This fund is managed by the Zernike Group and also has an advisory board that plays an important role in investment decision-making.
(See appendix 3).

3.3.1.2 Starters and R&D incentives

Description
A programme providing small tax rebates for starting companies (e.g. €10k for 5 years) can be a simple method of promoting the creation of new companies. Additional alternatives may include specific grants or subsidies to those businesses that are technological/innovative in nature, or to R&D programs. Possible fields of application for tax deduction-based incentives could regard a) land purchase, b) international money transfer, c) labour costs of specialised staff, d) income tax of expats moving to Estonia.

Recommendation
There is a trend throughout Europe to extend fiscal incentives for R&D activities to innovation. For instance, in Spain the law includes innovation expenditure among the deductible R&D expenditure (renamed R&D&I). Similar programmes can now be found throughout Europe – e.g. the Research and Development Tax Credit for SMEs (UK).[10]

This approach applied to the Estonian environment could involve technological innovation projects in collaboration with universities and public research bodies and technology centres.

3.3.1.3 Coaching and mentoring

Recommendations
The efforts of coaching and mentoring should focus in this later stage on the following issues:

- **Business Plan to Viable business**: Provision of help with the administrative and practical issues related to the creation and initial running of a business.
- **Product/Prototype to Saleable product:** Clear analysis of costs and marketability of the product/service.
- **Financing and facilities:** Support to the identification of suitable forms of finance, the acquisition of a physical location and of required materials.

10 *For additional international examples and detail please refer to:* Tax incentives – a way to stimulate R&D and innovation, **Adrian Gregory, Anne-Maré Botha** PricewaterhouseCoopers, London.

However, taking into account that the entrepreneur is supposed to have already acquired some knowledge and experience by this stage, it is important not to *"over-support"*. It is up to the entrepreneur to work for the survival of his/her own business and excessive support may in time become a disadvantage when operating in real market conditions (*"killing with kindness"*).

3.3.1.4 Incubation

Description
Tier 2 Incubation consists of accompanying the new entrepreneur in the actual start of operations; the fine-tuning of the product-marketing mix; the definition of the commercial strategy; entering the market and closing the first contracts with clients; generating the first turnover; further enhancement of the product. The entrepreneur's efforts will mostly be absorbed by marketing and the implementation of the business model. The entrepreneur will need support in finalising agreements with investors or/and banks. Incubation at this stage is expected to be self-sustainable.

Recommendation
When referring to Tier 2 within the Estonian environment, the incubators' aim is to ultimately promote the self-sufficiency of those centres and to use the rent-generated income for improving the quality of services and facilities to the tenants. Nevertheless, the focus should ultimately remain on promoting the growth and expansion of the housed firms.

3.3.1.5 Investor incentives

Description
These types of measures (e.g. reduced capital gain taxes / tax credits / free transfer of capital) are aimed at offering incentives to potential investors. They are focused on the "supply" side, aimed at encouraging private capitalists to get involved in the sector. The perceived high risk/low returns related with very early stage investments can be quite discouraging indeed. Incentives could therefore allow to reduce the risk, for example by making losses deductible from the income basis. In the case of informal investors, a reduction of the income tax would also serve the purpose of encouraging investments. We did not find any such measures being implemented in Estonia. (Investor incentive measures are applicable to tiers 2, 3, 4, 5).

Recommendations
These measures could be introduced for a limited period of time (e.g. 10 years) as a way of encouraging risk capital and private investors. Specific conditions and requirements should consider issues such as:
- innovativeness
- employment creation
- business performance

These measures do not apply to Tier 2 alone but are also important to the following tiers (3/4/5), since ever larger amounts of money would be involved. The specific conditions and characteristics of these incentives must be very carefully studied before implementation, because large volumes of capital may depend on it.

3.4 Tier 3 Growth/Development

3.4.1 Recommended activities to be developed

3.4.1.1 Growth funds (2nd and 3rd round financing)

Description
Growth funding would cover investments from € 250K – €1 million. This initiative would in principle not be immediately required, as it would take roughly 3 years to have some potentially interesting exits coming from the Start-up/Seed stage funds.

Recommendations
Since activities in this stage are no longer considered to be "earlier stage", the requirement for "*Option 1: Full Government Funding*" is strongly reduced (when the development level becomes higher, so should the percentage and level of private investment). In fact for this type of funds we would only recommend actions following the examples and descriptions of "*Option 2: Guarantee System*" and "*Option 3: Co-financing / PPP*". These have already been described in detail in Tier 2's relevant section and we present here the main modifications that apply to the present Tier.

Option 2: Guarantee system
Independent of the typology that will be selected by the contracting authority, we would strongly recommend a reduction in the percentage of investment being guaranteed. Even though the Guarantee fund will still be supplied totally by public money, the actual support should be reduced in order to take into account the reduced investment risk. Thus, we would recommend a ceiling of no more than 40% of the original approved private investment and only in case of bankruptcy. (Estimated budget requirement is 15–25 Million euros over a three to five year period)

Option 3: Co-financing / PPP
Once again independent of the variation selected, there is a need to allow for the reduced risk of private investors. Thus, the percentage of public investment should be reduced. In this aspect we would recommend as a rough estimate that 1 € of public investment should be supported by a minimum of 2 € of private money.

3.5 Tiers 4/5 Maturity & expansion

3.5.1 Recommended activities to be developed

3.5.1.1 Expansion funds

Description
The expansion stage refers to investments larger than €1 million, normally done purely by the private sector – namely venture capital. However, we would put forward the option of providing a small degree of support for these larger investments either via "*Option 2: Guarantee system*" and/or "*Option 3: Co-financing / PPP*". These have already been described in detail in Tier 2's relevant section and we present here only the main modifications that apply to the present Tier.

Option 2: Guarantee system
As explained in the specific section on Growth funds, there will be a need to reduce the percentages of money being guaranteed even though the Guarantee fund will still be supplied totally by public money. Thus, we would recommend a ceiling of no more than 10%–20% of the original approved private investment and only in case of bankruptcy. (Estimated budget required 20–30 Million euros over a three to five year period)

Option 3: Co-financing / PPP
There is once again a strong need to allow for the reduced risk of private investors. Thus, the influence of public investment should be heavily reduced. In this aspect we would recommend as a rough estimate that 1 € of public investment should be supported by a minimum of 4 € of private money. These conditions would also apply to both variations i.e. "per project" and "lump co-financing".

4 Vertical Measures

Vertical measures refer to issues that apply to all the tiers.

4.1 Innovation Estonia Platform

In this section we are recommending the set-up of a new type of body, the "Innovation Estonia Platform", as being an effective promoter of "innovation" and "entrepreneurial development" in and for the Country.

The Estonia Innovation Platform would be a flexible organization lying across all the business development tiers, aimed at helping the implementation of innovation system in the business community. The members of the network would have tasks such as: raising awareness on entrepreneurship; promoting Estonian innovation system nationally and abroad; lobbying with public authorities (national and European); helping to identify promising projects by informal scouting; favouring the matching between ideas and money, i.e. between promising business and suitable funding; laying bridges among the national business community and other selected international business communities. The focus of the Platform is one of providing input from all the relevant sectors of innovation; and more importantly to: 1) fully involve leading figures of private sector together with the existing governmental coordination bodies, and 2) represent a link between the national and international dimensions.

The Platform should include 10 to 15 people (national and international) from:

- large enterprises in innovative sectors,
- business angels,
- venture capitalists,
- banks,
- universities,
- national, regional and local public administration,
- incubators and science parks.

Their tasks would be that of managing and coordinating the implementation of specific measures and carrying our systematic scouting actions in all relevant knowledge centres (universities, research centres, events).
The management would involve experts from outside (on a contract basis) to handle specific topics.

Among other hands-on promotional activities, they should organise an annual international conference on "Innovation in Estonia", inviting leaders from academic and business communities. The added value of the Innovation Estonia Platform is in 1) bringing together the ideas and roles of existing management committees and councils to form a single institution capable of supporting and promoting the innovation process both nationally and internationally, and 2) bringing together the scientific, industrial, business, financial and political elements to ensure the growth of innovation in Estonia.

4.2 Implementation management mentoring

The "innovation system", especially in the view of the newly introduced elements and the goals concerning biotechnology, nano-technology and ICT technology, will be quite complex to manage. In order to support the managers when they are faced with strategic choices and problematic issues, they should have access to mentoring guidance by a restricted number of appointed executives.

Mentors should be two to four top executives, who will be available from their usual locations on predetermined moments during the working week.

4.3 Innovation managers' training

Specific training, addressed to topics related to innovation and business management, should be designed and made available for the staff involved in the management of the innovation system. It should consist of a set of modules focused on technical and market issues, including stages to be carried out abroad within the management units of similar programs selected from European best practices.

5 Comparative Analysis of Funding Options

5.1 Key indicators for comparing different funding options

In order to provide a simple system for assessing and appreciating the different peculiarities of described options for seed-venture funding, we have compiled a comprehensive table with some key indicators, which according to our experience and to international operators in the seed capital industry are determinative of expected outcome:

- **organisational and management aspects** – considering that the initiator of the fund will be either the Government itself or a Governmental organisation, we have given a score to the degree of expected difficulty in carrying out organisation-related tasks, such as finding consensus amongst participants, defining management regulations and structure, and performing monitoring tasks;
- **generation of employment** – assuming that the success of (new) companies is proportional to their proximity to the market, in terms of set-up as well as the management, it is possible to link resulting high employment with market driven companies. This indicator points out the expected employment potential, resulting from the mix of typical elements for each option: shares ownership, management function, driving principle;
- **generation of additional capital** – a public investor does not aim at profit but at a general interest objective, in this case at supporting innovative company creation. At the same time, it is against market principles (and specifically regulated by State Aid Regulation) that a public entity alone takes up investments. On the contrary, a key role of public investment is that of attracting additional funding form privates. This indicator expresses the capacity of each described option to generate additional funding from private sources;
- **firm dynamics – short term / long term** – different types of impacts can be expected on the number of actually started firms. This indicator expresses the attitude, differentiating the expected result in the short term. In other words, it is a measure of how well the investment responds to the immediate need for financing. In longer term, it is a measure of how the investment responds to the market and becomes sustainable in time;
- **promotion of entrepreneurship** – different options require a different type of effort from the entrepreneur in order to set up a firm. For example, if public funding becomes available only at condition that a private player is willing to invest as well, this obliges the entrepreneur to be very active in promoting his plan and approaching investors.

As the last indicator, the table refers to the actual existence of pre-conditions in order to implement the described measures, here called **accordance to the Estonian situation**. A higher score corresponds to the existence of required conditions for the described measure in the Estonian market; a lower score responds to a higher necessary effort in order to make the specified option possible.

Comparative Table (3 options)

The values shown in the table below gather observations based on our own broad experience in fund management and development. Results of the research and interviews carried out in Estonia are also taken into consideration.

	Public government fund		***Guarantee fund***		***Public-private co-funding***	
	1- subcontracted manag. services	*2 – direct control*	*1 – investors portfolio*	*2 – business venture guarantee*	*1 – lump co-financing*	*2 – per project co-financing*
organisational aspects	+	+++	++	++	++	++
generation of employment	++	-	+/-	+	++	+++
generation of additional capital	+	-	+/-	+	++	+++
firm dynamics – short term	+	+/-	+/-	+/-	++	+++
firm dynamics – long term	++	+/-	+/-	+	++	+++
promotion of entrepreneurship	+	+-	-	+	++	+++
accordance to the Estonian situation	+	+++	++	+	++	+

5.2 Option 1.1 – Public government fund with subcontracted management services

Advantages of having only public government funding

- At condition that the government can gather the necessary capital alone, setting up a fund requires very little time – no consensus must be sought besides that of government's political components.

Disadvantages of having only public government funding

- The government alone must avail all of the necessary capital.
- A 100% government programme would most likely be regarded as a grant type, therefore somewhat of a gift, having the following consequences: very low return on investment for the government, very low promotion of entrepreneurship and spirit of enterprise.
- Lack of private co-funding implies that some supplementary financial sources will not be usable, for example the EIF programmes, which require private participation to some extent.
- Specific attention is required to avoid the breach of State Aid regulations in defining the working conditions of the fund, provided that it could be regarded as market disturbance.

Advantages of having an independent management organisation

- Any choice concerning investments or management aspects will be made according to market principles, implying a higher sustainability of the venture.
- The professionalism of the management organisation will be guaranteed by a properly done international tender.
- The use of open tendering as a procedure will permit careful selection of more suitable operators to manage the fund. Ideally these operators would provide knowledge of the market and of the innovative sector. In order to promote the relevance of the eventual manager, we would recommend ensuring that the company and partnership should also bring a mix of local knowledge and international relevance.

Disadvantages of having an independent management organisation

- There is little or no control at all from the government over the type of investments / companies funded (which should be determined by market principles). If the government has decided to focus investment on specific sectors for strategic national economic reasons, there is the risk that fund managers will not be able to satisfy that policy if no / too few feasible projects actually apply for funding.
- Decision-making might be complicated, when management organisation and the government do not agree on specific issues.
- Need to create TOR: As with any subcontracting agreement, the terms of reference will have to be very carefully drawn out. Terms of reference must therefore ensure that the potential firm or consortium does not only have the financial capacity, but more importantly the expertise and experience of dealing with early stage technology-based firms.

Expected impact

- Expected long-term sustainability of ventures, due to initial investment choices made according to market trends and principles. The same applies to employment creation.
- In general, the higher the market influence, the more feasible and sustainable are the investments.
- If properly managed, such fund could represent an example for other potential risk capitalists. But that will require some time, a few years, in order to assess the achievements.

Accordance to Estonia

- It should not be very difficult to identify a management organisation, provided that a number of private organisations are active in risk capital operations, although in a later stage than seed phases.
- It is easier to rely uniquely on the public sectors than to involve private investors, considering that there are only a few private investors and little tradition of risk capital operations in Estonia.

5.3 Option 1.2 – Public government fund with direct management

Advantages of having only public funding

- Same as option 1.1

Disadvantages of having only public funding

- Same as option 1.1

Advantages of having direct control

- It is easy to make investment decisions that are coherent with specific economic development policies. If the government considers a specific sector has strategic importance, it will be able to direct investments to that sector despite any market shortcomings.
- Decision-making is simplified, since government controls the management function.

Disadvantages of having direct control

- There is a high risk that investment decisions will not be market-driven. Therefore there exists a risk that any funded venture will not become self-sustainable but will remain more or less a state-owned activity.
- It is difficult to avail of the necessary fund management competence and experience within a public administration. The risk is that some civil servants will be appointed without having sufficient experience and competence, thereby putting at risk the functioning of the fund. The professionalism of management will be the result of long-term training activity.
- Such an instrument would be considered as a fall-back to a state-run economy, both internally and for any foreign observer.

Expected impact

- High risk of fuelling an unsustainable venture. Since it is not market-driven, it is doomed to either fail or continue to rely on state support.
- It is possible to promote specific types of ventures in the short term, resulting in high enterprise dynamics.

Accordance to Estonia

- The organisation conditions already exist in Estonia, considering that the government bodies actually in charge of company support and development respond to the basic requirements of carrying out the management of such a fund as well.
- It is easier to rely uniquely on the public sectors than to involve private investors, considering that there are only a few private investors and little tradition of risk capital operations in Estonia (as in option 1.2).

5.4 Option 2.1 – Guarantee fund Investor's guaranteed portfolio

Advantages of Guarantee funds

- Lowers the investment risk threshold (both to entrepreneurs and investors) by providing a clear safety net.
- It can be assumed that a large number of proposals previously kept "on hold" due to the involved risk will be put forward to the evaluating authorities, generating a good short-term project flow.

Disadvantages of Guarantee funds

- Long-term uncertainty on the exact amount to be guaranteed.
- Possibility of a high "project mortality" ratio in the longer term, because some projects were not in line with market requirements.
- No possibility to influence the progress of the project once a "go"/"no go" decision has been made besides at the end of pipeline.
- There is an intrinsic possibility of fraud from potential entrepreneurs, since they could "divert/misuse" the money rapidly and then request the guarantee due to bankruptcy.
- The public sector must take the responsibility of endorsing the viability (both technical and market-related) of specific projects.

Advantages of having an Investor's guaranteed portfolio

- Simple set-up and organisation, as the selected capitalists have already gone through a pre-qualifying process. Therefore, they have the full responsibility to pick and administer the investments.

Disadvantages of having an Investor's guaranteed portfolio

- High risks as the public authorities fully relinquish control over the whole process.
- The influence of public authorities goes only as far as selecting the "approved" capitalists.

Expected impact

- Any Guarantee fund would encourage increased activity by (mostly) large institutional investors.
- It could promote high business creation dynamics due to simple application procedures and no initial financial disbursement (at risk if not conforming to market trends and rules) – no entrepreneurship promotion.
- Risk of heavy financial burdens at the end of pipeline.

Accordance to Estonia

- There is a limited number of large-sized early-stage investors, which may create a monopolistic or oligopolistic situation.

5.5 Option 2.2 – Guarantee fund Business venture guarantee

Advantages of Guarantee funds

- Same as option 2.1

Disadvantages of Guarantee funds

- Same as option 2.1

Advantages of focusing on a per project approach

- It encourages potential entrepreneurs to take risk in starting a new venture.
- It would be possible to examine the merits and drawbacks of each one of the presented projects, and therefore allocate a tailor-made guarantee limit dependant on project-specific conditions.

Disadvantages of focusing on a per project approach

- Final approval of any single project may be slow as the evaluation of each project will not be an easy task for the evaluating authority. Thus, there will be additional costs in terms of management and time.

Expected impact

- Higher chance that smaller investors become involved in investment operations; higher chance that market logic is taken into consideration.

Accordance to Estonia

- The evaluating authority will require extensive experience and knowledge in order to carry out the selection procedure. Research suggests that the skills and experience necessary to carry out such a task are not yet widely available in Estonian public sector.

5.6 Option 3.1 – Lump co-financing

Advantages of having co-financing / Public Private Partnership (PPP)

- Can have access to a wide source of funding, including structural funds (EIB, EIF, also EU Actions, e.g. seed capital action). Due to inclusion of private capital, this option would allow to apply to a wide variety of sources for funding.
- Generation of additional capital: this is an evident advantage of selecting any kind of co-financing approach. The private input (min. recommended €1=1) will automatically lead to an increase in the overall fund size. It allows in principle to invest either larger sums or in more projects.
- Validation*:* the feasibility of the fund would be automatically validated, as market players would not risk their own funds unless there was a real understanding that such a venture would be viable and that proven results are expected. This would in turn help to ensure that the firms selected do not only have technological potential but also market potential, and therefore can generate long term employment.
- Promote cooperation (PPP): the cooperation between public and private actors is of critical importance. This option can act as a springboard to promote network-building and give long-term relevance to the partnerships formed.

Disadvantages of having co-financing / PPP

- Cooperation conflict (public private): in our own experience we have seen that potentially conflicting objectives of public and private sectors can result in friction over how the fund should be exactly managed, and what should be the importance and impact of different members. This difficulty can be dealt with by ensuring an ongoing dialogue and by clearly defining the roles and responsibilities of public and private players from day one.
- Loss of control (strategic, not operational): by accepting this option, the government would also have to admit to a loss of overall control over the process once it is implemented. Nevertheless, the focus should move away from operational issues, in which the responsibility should fall on private fund manager, toward the more strategic aspects.

Advantages of having an independent management organization

- Same as option 1.1

Disadvantages of having an independent management organization

- Same as option 1.1

Advantages of focusing on a lump approach

- In this option, the level and intensity of (financing) resources required is relatively limited when referring to the lump co-investment that would be put forward by the tender-winning firm or consortium.

Disadvantages of focusing on a lump approach

- Considering that the main takers would mostly be either banks or venture capitalists, there is the risk that the focus would not lay on seed phase. In fact, banks are risk adverse by nature and rarely have the expertise required to deal with early stage high-tech investments. Venture capitalists are more interested in larger investments in companies at a "later stage/tier" of investment. The terms of reference must therefore ensure that the potential firm or consortium has financial capacity, and also the expertise and experience of dealing with early-stage technology-based firms.

Expected impact

- It might be easier and more rapid to obtain a one-off agreement with a larger financial operator for setting up the fund.

Accordance to Estonia

- There is a history of cooperating with large regional banks (some of which have recently secured financing from the EIF). Therefore, the likelihood of easily finding local private co-financers in Estonia is indeed large.

5.7 Option 3.2 – Per project co-financing

Advantages of having co-financing / Public Private Partnership (PPP)

- Same as option 3.1

Disadvantages of having co-financing / PPP

- Same as option 3.1

Advantages of having an independent management organization

- Same as option 1.1

Disadvantages of having an independent management organization

- Same as option 1.1

Advantages of focusing on a per project approach

- High visibility of the fund, since there is an intrinsic need to involve a pool of national and international investors in order to find co-financing for each of the investment proposals.
- Each project is clearly validated by the market. Not only will the fund managers carry out their own due diligence, but they will have to demonstrate clearly to private investors that the project can indeed make money. This may in many cases be followed up by an additional check (due diligence) by the investor, assuring further the viability of projects.
- Since the entrepreneur also needs to take an active approach to finding private partners, he/she will be forced to promote the venture accordingly and approach investors. Therefore, entrepreneurship will be substantially promoted.

Disadvantages of focusing on a per project approach

- Final approval of any single project may be slow, because there will be a need to find and formalize additional financing.
- There will be additional costs in terms of management fees and performance bonuses. Due to the time and effort required to bring in financiers, the management of such a fund would have to be remunerated accordingly. Nevertheless, since there will be a performance element included in the fees, it is reasonable to assume that the fund manager will be much more motivated to succeed.

Expected impact

- Seed investment will generate synergy between newly created and established ventures in the same sector.
- Only ventures that conform to market will be promoted.
- The scheme would spread knowledge about good practice and provide an example for other potential investors in the country, i.e. there exists a high multiplier effect.

Accordance to Estonia

- It was possible to identify during our research Estonian firms that due to the failure of finding local capital were obliged to seek and succeeded in obtaining that capital through foreign private investments. This clearly demonstrates that if the project has clear potential and management is motivated and capable, it is always possible to find the capital.
- Per project co-financing would require a well-established and wide network of private investors. Presently this is not the case in Estonia. Therefore, the fund manager would be obliged to a) have experience in gathering funding both nationally and internationally, b) have a support network to gather this financing. If an unsuitable management is selected, there is the risk that no or few investments will be realized.

6 Sources of Finance

6.1 Structural Funds and financial engineering measures

The possibility to use European money for co-financing measures supporting the creation of new companies is linked to:
- the nature and amount of resources needed,
- the European programmes to be used.

As a general rule, it is possible to use for supporting the creation and the development of start-ups:
- Structural funds via single programming documents
- EIB/EIF facilities

STRUCTURAL FUNDS AND FINANCIAL ENGINEERING MEASURES
Structural Funds can be used by central and regional governments via the Single Programming Documents and through the Regional Operating Programmes.

Many European regions have allocated a good amount of financial resources under the 2000–2006 programming period, which can be used for supporting the creation of innovative ventures. In order to allocate that money under national and regional measures, each interested party (central and regional governments) has to fulfill several obligations.

The European Commission is in charge of verifying the compatibility of these measures to the existing European laws and regulations.

Such examination is only due if the measures allocates a "significant"[11] amount of money towards a certain beneficiary according to the *De-Minimis rule*[12].

If the financial support available for eligible beneficiaries (either companies or persons) is larger than € 100.000, the European Commission will evaluate the measure according to the state aid rules. If it is not possible to measure the value of the aid[13] (according to the planned measure) intervention, the European Commission examines the measures according to the state aid rules. In case when a given measure is regarded as state aid by the Commission, its compatibility to European policies will be assessed case by case at European level.

State aid and risk capital
Guidelines for "Public government funds" and "Public-private co-funding" measures
The European Commission has recently published a communication ("*Risk Capital and State Aid*" C 235/3, 21.8.2001) that regards public risk capital and public-private interventions according to the existing state aid law. The communication, together with the state aid and Structural Funds rules must be considered as a relevant legal basis when designing risk capital measures and tools.

The mentioned Communication "*Risk Capital and State Aid*" indicates the criteria according to which the potential state aid can be compatible with the competition rules of European capital market.

These criteria must be considered as mandatory for the setting up of risk capital tools that support the creation of new companies as long as the funding intended for co-financing is available at European level, under the Structural Funds.

If co-financing takes place <u>without</u> contributions from the Structural Funds, it is NOT necessary to respect those criteria.

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11 *Significant means more than 100.000 euros in three years time: according to the De-Minimis rule.*

12 *The* De Minimis *rule states: it is allowed to receive public funding support without the implications of the State Aid rule if the total amount perceived by public administration (adding European, national and local levels) does not exceed € 100.000 in a three year period.*

13 *State aid for risk capital interventions cannot be quantified: it is not possible to quantify the market distortion due to such kind of interventions. For guarantee schemes some mathematical formula can be used which allow calculating the intensity of the public aid in terms of market distortion.*

The regional or national governments that intend to set up risk capital funds using European sources should therefore bear in mind the following two points:

- the criteria contained in the "State Aid and Risk Capital" Communication are only suggestions. This means that it is not strictly necessary to fulfil all the indications provided, although it is strongly advisable.
- Each risk capital tool looking for EU co-financing via the Structural Funds will be evaluated taking into consideration the specific characteristics of the home market. This means that a number of the general criteria provided can remain unfulfilled if a reasonable justification is provided.

Management team:

- The management fee can not be more than 5% of the total capital.
- The fund must be run by an independent and professional team: it is envisioned that the management team be selected by a public bid.
- The private co-financing must be significant, at least 30% of the fund.

Investment strategy:

- The risk capital public participation should be in a minority position, max 49%.
- The risk capital fund size should be adequate to the investment strategy and the size of the market to be covered.
- Investment in each company should be a total maximum of € 500 000, or € 750 000 in regions qualifying for assistance under Article 87(3c) or € 1 million in regions qualifying for assistance under Article 87(3a).
- Investments can be made in start-up or early-stage companies. The European Venture Capital Association defines start-up financing as financing provided to companies for product development and initial marketing. Companies may be in the process of being set up or may have been in business for a short time, as long as they have not sold their product commercially. Early-stage financing is also considered in the case of companies still in the stage of research and product development, as well as in the case they have completed the product development stage but require further investment to initiate commercial manufacturing and sales. They must not be generating profits. (As a general rule, interventions are limited to companies no more than 36 months old).
- Investment decision should be made according to a viable business plan, pursuing a profit strategy.
- Exits should be made at market prices.

Investors

Private and public investors must have the same rights and obligations (*pari passu* clause – i.e. Like Risk, Like Reward).

Other suggestions:

- Public participation to risk capital funds should be regarded as a tool for filling in a gap due to market failures.
- The final beneficiary (start-up) should NOT be receiving any other state aid.
- It is expected that the Management team will invest in the fund.
- The availability of commitment from private investors is a crucial point for assessing the eligibility of the risk capital fund to EU co-financing.

STATE AID EVALUTATION

In order to verify if the risk capital fund can be considered as state aid, it is necessary to check the existence of the following conditions, according to art. 87, paragraph 1, EC Treaty:

- the competition rules are actually effected, giving an advantage to the beneficiary;
- the advantage is given from public resources;
- commercial trade exchange amongst member states is effected.

If the planned measure (either risk capital fund or guarantee fund) is considered as state aid, the EU Commission will evaluate its compatibility with the existing policies in order to assess its acceptance.

6.2 Structural Funds implementation in Estonia

The Single Programming Document (SPD) 2004–2006 of Estonia clearly spells out the priorities and types of measures funded by the Structural Funds.

It is easy to see the overlapping among these indications and the measures we recommend. In the present section, we recall the parts of the SPD that could provide a suitable source of funding for their implementation.

Priority 1 – Human resource development
Measure 1.2 – Increasing the competitiveness of enterprises (ESF)
Indicative operations
…/…
- Provision of entrepreneurial training for potential entrepreneurs;
- Training activities to increase the awareness and skills of managers and specialists about business management, export and marketing, R&D, innovation, quality management, etc;

➡➡ As clearly described in the abstract, it could be possible to fund all the activities related to training under this measure (starters and potential entrepreneurs in Tier 0, innovation managers as a continuous running activity, part of the coaching in Tier 0 and Tier 1).

Priority 2 – Competitiveness of enterprises
Measure 2.1 – Business development (ERDF)
Indicative operations
…/…
- Start-up aid for new entrepreneurs to support the formation and survival of new businesses

…/…
- Improving business information and mentoring services (promotion, infoline, mentoring, company visits, diagnostic services, portal, etc)
- Enhancing entrepreneurs' awareness and programme-participation through events, seminars, workshops, company visit programmes, etc.

➡➡ The bulk of financial needs for the seed and start-up financing will be originated by this measure, throughout Tier 0 to Tier 2, covering both the grant and risk capital instruments.
Additionally, a part of Coaching and mentoring, also from Tier 0 to Tier 2, can be funded under this measure, as well as the communication and entrepreneurship awareness raising activity from Tier 0 to Tier 2.

Measure 2.2. – Business infrastructure development (ERDF)
Indicative operations
…/…
- support to the generation of business incubators.

➡➡ This measure is suitable for the funding of incubation facilities and activities, from Tier 1 to Tier 3.

Measure 2.3 – Promotion of research, technology, development and innovation
Indicative operations
…/…
- **Strengthening the innovation system**, including the development of RD&I infrastructure through support for R&D institutions and science/technology parks; support scheme for technology transfer ***and high-tech incubation services; Spinno Programme***; Competence Centres Programme;

➡➡ These measures meet the needs of transferring more business competence into academic and research world to match science and technology with market issues. Services in support of academic spin-offs can also be funded under this measure.

Measure 3.3: Diversification of economic activities in rural areas (EAGGF)
Indicative operations
…/…
- diversification of agricultural activities and activities close to agriculture;

➡➡ Possibly a large part of the recommended activities could be funded under this measure when targeted to areas heavily dependent on agriculture or companies willing to diversify and/or innovate their activities.

6.3 European Investment Bank Group facilities for the creation of new companies

The EIB Group (European Investment Bank-EIB, and European Investment Fund – EIF) resources for venture capital are managed by the EIF as part of the Amsterdam Special Action Programme and the Innovation 2000 Initiative.

The EIF aims to invest in:
- independent management teams that raise funds from a wide range of investors in order to provide risk capital to growing Small- and Medium-sized Enterprises (SMEs).
- funds targeting early-stage companies that are developing or using advanced technologies in industry or services.

Investment Target
EIF seeks a minority position of between 10 and 35% of the total capital committed in a fund. The exact size of EIF's investment varies according to the size and characteristics of each fund.

The EIF requires that its portfolio funds:
- raise at least EUR 15 million.
- focus their investments principally in the EU and the Acceding/Accession Countries.
- focus their investments primarily on early-stage, development or expansion capital, preferably in technology-oriented SMEs.
- target mainly SMEs, defined as businesses with less than 250 employees, with total turnover not exceeding EUR 50 million or a balance sheet total not exceeding EUR 43 million, and that are independent (i.e. not owned by more than a third of their capital by non-SMEs) at the time of the fund's first investment. In exceptional cases, a target of enterprises with more than 250 employees can be considered.
- be mainly independently and professionally managed, i.e.:
  - selection/monitoring is performed by a dedicated management team of professionals with appropriate experience and skills;
  - investment/divestment decisions are taken either by the management team and/or by an independent board whose members are independent from the investors.
- provide a risk-adjusted return in line with that of the private equity market.
- be mainly funded by private sector investors, with the public sector investors (including the EIF) not exceeding 50% of total committed capital.

6.3.1 Facilities

6.3.1.1 ETF Start-up

The ETF Start-up is a facility funded by the European Community designed to support the establishment and financing of innovative Small- and Medium-sized Enterprises (SMEs) in their start-up phase. ETF Start-up is managed by the European Investment Fund (EIF) on behalf of the European Commission. The EIF makes the selection of investments into appropriate venture capital (VC) funds.

SELECTION OF INTERMEDIARIES AND ELIGIBILITY CRITERIA
Intermediaries: ETF Start-up invests only in VC funds operating in the Participating Countries.

ETF Start-up invests in specialised VC funds established specifically to provide equity to SMEs, in particular seed funds, smaller funds, funds operating regionally or funds focused on specific industries or technologies, or VC funds financing the exploitation of R&D results, e.g. funds linked to research centres and science parks. It does not invest in funds whose primary focus is on medium-to late-stage (pre-IPO or MBO and MBI transactions) or on replacement capital.

ETF Start-up may also invest in multipurpose VC funds, in proportion to the amount allocated to Eligible Final Beneficiaries.

Eligible Final Beneficiaries:
- SMEs with growth potential at their establishment and early stages (including seed capital).
- The target SMEs must have been established for less than 5 years before the first investment of the VC fund. However, for companies principally engaged in research and development activities and which have a commercial activity of less than 2 years, this 5 year period may be extended. This extension is calculated as 2 years minus the period of commercial activity. This extension has to be appropriately substantiated.

Selected funds:

- ETF Start-up targets commercially-oriented VC funds managed by independent teams. "Independent" management teams include teams operating within a corporate structure, provided that the operation of fund management business has a high degree of independence from the parent company with sufficient business experience to demonstrate the necessary capability and credibility to manage a VC fund, although they need not have prior direct experience of fund management.
- Fund managers are required to demonstrate a clear strategy, adequate deal flow and appropriate exit policies. They are expected to apply best market practice in terms of legal structure, investment principles and reporting. Where more than one legal entity is used to form a VC fund, the investment criteria are applied to the aggregate of the entities.

ETF Start-up targets funds with a sufficient size to achieve a critical mass in the segment of the VC market that they address. Funds need to be able to support adequate professional management, make a sufficient number of SME investments and be in a position to provide follow-on investments either directly with their own resources or indirectly with appropriate other parties. Fund managers are required to maximise private sector participation and will normally be expected to obtain an amount of at least 50% of total fund size from private sources. However, for funds mainly operating in assisted regions (objectives 1 and 2) or in candidate countries, a percentage of public funding up to 70% may be authorised. A broad range of investors is encouraged. No single investor can account, directly or indirectly, for more than 50% of the capital of any fund. Purpose of financing: investments must provide long-term equity or quasi-equity capital (including subordinated or participating loans, convertible bonds, etc). The funding must not be principally used to refinance existing obligations.

The EIF investment

Nature: Equity investment in VC funds.

Amount: The maximum participation is normally 25% of total equity capital after the closing of the fund, or 50% in exceptional cases such as new funds which are likely to have a particularly strong catalytic role in the development of VC markets for a specific technology or in a specific region. However, this percentage is:

- reduced by the percentage of the VC fund's capital available for investment outside Participating Countries, always within the requirement that the majority of its capital must be invested in these countries;
- reduced to a lesser amount at the request of the fund manager;
- always at least 10% of the investee fund, provided that it does not exceed the limits hereunder.

In the case of a multipurpose fund, which includes start-up companies in its investment programme, the above-mentioned percentages are reduced to the proportion of total monies which are allocated to eligible beneficiaries.

Notwithstanding the above, the amount committed to a single VC fund is limited to EUR 10 million. In exceptional, duly substantiated cases the amount committed may be higher but do not in any case exceed EUR 15 million.

Duration: Investments usually take 5 to 12 years positions in VC funds. For VC funds whose duration exceeds 18 December 2017, clearly defined, non-detrimental exit terms are negotiated by the EIF for the ETF Start-up investments.

Co-investment: Co-investment in VC funds with other Community facilities or with EIF's own resources or other resources under its mandate, is permitted provided that the aggregate amount does not exceed 50% of the capital of the fund.

***Pari passu* clause**: An ETF Start-up investment is always on the same terms as, and ranks *pari passu* (i.e. Like Risk, Like Reward) with private equity investors.

Closing: ETF Start-up normally invests at the first closing of the fund. However, an ETF Start-up investment is possible at a later closing if the catalytic effect of that investment is duly demonstrated. Further ETF Start-up investment(s) are available at subsequent closings, provided that the conditions set out above are met at each closing.

6.3.1.2 EIF Seed Capital Action

The Seed Capital Action is aimed at long-term recruitment of additional investment managers to increase the number of qualified personnel and to reinforce the capacity of venture capital and incubator industries to cater for investments in seed capital.

The nature of support provided by the Seed Capital Action is a grant to cover part of the management costs linked to eligible activities.

For each additional eligible staff member recruited, the beneficiary signs a facility grant agreement. The maximum amount for each facility grant agreement is EUR 100,000, which is payable subject to the conditions set out in the Seed Capital Action guidelines.

The maximum grant per beneficiary is not more than either EUR 300,000 (3 people) or 5% of capital allocated to Seed Capital Investments at the time of signature of the facility grant agreement. The beneficiary does not receive a grant for more than 50% of its overall professional staff.

6.3.1.3 SME Guarantee Facility

GUARANTEE POLICY FOR
- Equity Guarantees
- Guarantee schemes

The "SME Guarantee Facility" is funded by the European Community and is operated by the European Investment Fund (EIF) on behalf of the European Commission.

Purpose
In the framework of the "SME Guarantee Facility," the Equity Guarantee window supports own funds' investments in small- and medium-sized enterprises (SMEs) with growth potential in order to reduce the particular difficulties which SMEs face due to their weak financial structure.

Selection of intermediaries and eligibility criteria
Intermediaries: Intermediaries operate in Participating Countries. They are selected among financial institutions that offer equity guarantees or intend to implement such products (primarily guarantee schemes within the public or private sector). **Selection process**: Intermediaries are examined and selected by the EIF on a continuous basis in conformity with best business and market practice in a fair and transparent manner. Intermediary proposals will be considered for approval by the EIF and the Commission after satisfactory evaluation by the EIF, within the limits of the available Community budget allocations. Furthermore, the EIF endeavours to achieve an overall adequate geographic balance.

Selection criteria: Intermediaries are selected based on the following criteria:
- the financial standing and operational capability of the intermediary,
- its ability to manage risk and its willingness to accept contractual terms complying with the requirements of the Facility;
- whether the intermediary provides or will provide equity guarantees to cover investments by venture capital funds, corporates or individuals in the equity of eligible SMEs;
- the extent to which the intermediary has a wide geographic coverage of SMEs either in the relevant country or, if the intermediary operates on a regional basis, in the region concerned;
- the extent to which the portfolio includes or will include SMEs with a high risk profile;
- the overall risk-sharing arrangements;
- willingness to accept "the additionality criteria"; and
- compliance with the state aid rules.

Final Beneficiaries: Directly, investors in SMEs; indirectly, SMEs whose equity benefits from the guarantee.

Selected portfolios: A portfolio may include equity guarantees extended to cover own funds investments in eligible SMEs. The eligibility criteria is determined by the EIF individually for each selected portfolio, in agreement with the intermediary and with the aim of reaching as many SMEs as possible. These rules reflect market conditions and practices in the relevant territory. However, the intermediary's portfolio should aim at reaching a composition which allows it to be treated as a portfolio from a risk management point of view, and, as applicable, comply with the following criteria:

a) sufficient homogeneity so as to have a loss expectation that may be predicted with reasonable accuracy;
b) sufficient number of individual investments.

Maximum guaranteed amount: The EIF cover per individual investment in an SME does not exceed EUR 500,000.

Purpose of the guarantee: Investments guaranteed must provide additional long-term equity or quasi-equity capital.

THE EIF GUARANTEES
Nature: Co- or counter-guarantees for eligible guarantee schemes. Each EIF Guarantee agreement comprises an undertaking that the guaranteed portfolio will be formed of eligible investments exclusively in enterprises which, at the date of the respective investment agreement evidencing the participation, constitute SMEs established or to be established.

Participating Countries: There is always a risk-sharing arrangement between the EIF and the intermediary.

Additionality: The EIF guarantee is made available against appropriate undertakings by the intermediary to take specific action for ensuring that the risk borne by the EIF is additional to the risk the intermediary would have underwritten in the normal course of its business during the availability period. The additionality of EIF guarantee is measured regarding the following criteria and, where relevant, the effect of any risk premium charged by an intermediary:

- volume of guarantees extended by the intermediary in respect of the same type of risk-taking as is covered by the EIF guarantee; and/or
- acceptance of higher risk.

Availability Period: The guarantee agreement between the EIF and each intermediary stipulates an availability period during which eligible investments may be included in the portfolio for cover. Such inclusion becomes effective upon receipt by the EIF of an inclusion notice submitted by the intermediary.

Guarantee Rate: The EIF guarantees provide partial cover to intermediaries' commitments (directly or indirectly) with regard to eligible investments included in a specific selected portfolio. The EIF guarantee rate is determined individually for each portfolio, considering the risk-sharing arrangements and maximisation of the effect of Community funds in increasing the availability of equity to eligible SMEs. The EIF guarantee rate should normally not exceed 50% of intermediary's commitment in the case of guarantee schemes.

Guarantee Cap: The EIF's obligation to pay its share of losses under a specific portfolio is capped to a pre-set amount. The obligation remains as long as the cumulative amount of payments made, reduced where appropriate by the aggregate amount of corresponding proceeds, reaches such pre-agreed amount above which the EIF shall have no further liability. Where appropriate, the EIF loss cover might also be limited with regard to individual investments. The guarantee cap rate does in principle not exceed 25% of EIF's guarantee commitment. The guarantee cap is determined by the EIF individually for each portfolio based on the expected loss rate of the portfolio, to be established and documented on the basis of historical data and/or forward looking estimations; and – additionality requirements.

***Pari passu* clause**: Subject to the guarantee cap, the EIF usually ranks *pari passu* with the intermediary, in regard to loss payments.

Maturity: The EIF guarantees have a final maturity of up to 10 years.

Fees: The EIF issues the guarantees under the Facility free of charge for the intermediary. However, where appropriate and in order to encourage utilisation, during the availability period the EIF may charge commitment fees on the unutilised amount of EIF guarantee commitment according to a pre-agreed schedule.

SME GUARANTEE FACILITY
The "SME Guarantee Facility" is funded by the European Community and is operated by the European Investment Fund (EIF) on behalf of the European Commission. In order to make a full range of guarantee products available to SMEs, four windows are available under the Facility:

- loan guarantees to support enterprises with growth potential, which have up to 100 employees. Under this window, the EIF issues partial guarantees (directly or indirectly) to cover portfolios of loans;

- guarantees for portfolios of micro-loans for very small enterprises with up to 10 employees to encourage financial institutions to become more involved in this area by offering loans of a smaller amount which proportionally involve higher handling costs;[14]
- counter- or co-guarantees of eligible guarantee schemes to cover equity investments in SMEs with fewer than 250 employees. The EIF will not provide direct guarantees to venture capital funds;
- ICT guarantees to cover portfolios of loans for the financing of IT training, purchases of equipment and software related to specific activities to promote the use of the Internet and e-commerce. Priority will be given to small enterprises with up to 50 employees.

Followingly, more information applying to all four windows is given.

Selection of intermediaries and eligibility criteria
Intermediaries:
Intermediaries operating in the Participating Countries are selected among:
- primarily guarantee schemes within the public or private sector, including mutual guarantee schemes; and whenever possible, guarantee schemes set up primarily to help finance loans that the banking system would not readily provide without a guarantee cover; and
- any other appropriate financial intermediary.

Selection process:
Intermediaries are examined and selected by the EIF on a continuous basis in conformity with best business and market practice in a fair and transparent manner. Intermediary proposals are considered for approval by the EIF and the Commission after satisfactory evaluation by the EIF, within the constraints of the available Community budget allocations. Furthermore, the EIF endeavours to achieve an overall adequate geographic balance.

Selection criteria:
Intermediaries are selected based on the following criteria:
- the financial standing and operational capability of the intermediary, its ability to manage risk and its willingness to accept contractual terms in compliance with requirements of the Facility;
- whether the intermediary guarantees loans extended by a wide range of lenders (for equity guarantees: whether the intermediary provides or will provide equity guarantees to cover investments by venture capital funds, corporates or individuals in the equity of eligible SMEs) – where appropriate;
- the extent to which the intermediary has a wide geographic coverage of enterprises either in the relevant country or, if the intermediary operates on a regional basis, in the region concerned;
- the extent to which the portfolio includes or will include loans with less security than is customary for commercial SME lending or equity investments in SMEs with a high risk profile;
- in case of micro credit: the extent to which the intermediary has the possibility to provide mentoring schemes and/or business support
- the overall risk-sharing arrangements;
- willingness to accept "the additionality criteria"; and
- compliance with the state aid rules.

Selected portfolios:
A portfolio may include guarantees or as the case may be, loans. The eligibility criteria are determined by the EIF individually for each selected portfolio, in agreement with the intermediary and with the aim of reaching as many eligible enterprises as possible. These rules reflect market conditions and practices in the relevant territory. However, each portfolio must have a composition which allows it to be treated as a portfolio from a risk management point of view; and, as applicable, comply with the following criteria:
a) sufficient homogeneity so as to have a loss expectation that may be predicted with reasonable accuracy;
b) homogeneity between the borrowers and between the maturity of loans;
c) in case of guarantees for equity: sufficient number of individual investments.

[Loan Maturity: Usually medium- and long-term financing, i.e. loans with a maturity longer than 18 months (for the three loan windows)]

14 *Technical support to the intermediaries could be made available under the window in the form of a lump sum, in order to partially offset the relatively higher administrative costs inherent to micro lending. Such support shall not exceed EUR 200 per loan guaranteed and will be payable to the intermediary, subject to the intermediary's representation that it has not granted or guaranteed any other loan to the same final beneficiary. The maximum aggregate amount of technical support payable to one intermediary shall be capped.*

THE EIF GUARANTEES

Nature:
Guarantees for guarantee schemes and direct loan guarantees in case of any other appropriate intermediary.

Each EIF guarantee agreement comprises an undertaking by the intermediary to lend or allow lending to or invest exclusively in enterprises who, at the date of the respective loan agreement evidencing the loans or at the date of the respective investment agreement evidencing the participation, comply with the criteria defined hereafter and are established or will be established in the Participating Countries. There is always a risk-sharing arrangement between the EIF and the intermediary.

Additionality:
The EIF guarantee is made available against appropriate undertakings by the intermediary to take specific action for ensuring that the risk borne by the EIF is additional to the risk the intermediary would have underwritten in the normal course of its business during the availability period. The additionality of EIF guarantee shall be measured in regard to the following criteria and, where relevant, the effect of any risk premium charged by an intermediary:

- volume of guarantees or, where appropriate, loans extended by the intermediary in respect of the same type of risk-taking as is covered by the EIF guarantee; and/or
- enhanced access to debt finance for eligible enterprises through less stringent eligibility criteria (e.g. for start-up companies, investment in intangible assets, loan maturities, professional qualifications) or reduced cost of finance to eligible enterprises; and/or
- acceptance of higher risk (e.g. increased share of losses covered or reduced security requirement).

Availability Period:
The guarantee agreement between the EIF and each intermediary stipulates an availability period during which eligible financing may be included in the portfolio for cover. Such inclusion becomes effective upon receipt by the EIF of an inclusion notice submitted by the intermediary.

Guarantee Rate:
The EIF guarantees provide partial cover to Intermediaries' commitments (directly or indirectly) related to individual financing included in a specific selected portfolio. The EIF guarantee rate is determined individually for each portfolio, considering the risk-sharing arrangements and maximisation of the effect of Community funds in increasing the availability of debt finance to eligible enterprises.

Guarantee Cap:
The EIF's obligation to pay its share of losses under a specific portfolio is capped to a pre-set amount. The obligation remains as long as the cumulative amount of payments made, reduced where appropriate by the aggregate amount of corresponding recoveries or proceeds, reaches such pre-agreed amount above which the EIF shall have no further liability. The guarantee cap rate varies from window to window and is determined by the EIF individually for each portfolio, based on the:

- expected loss rate of portfolio, to be established and documented on the basis of historical data and/or forward looking estimations; and
- additionality requirements.

***Pari passu* clause:**
The EIF will usually rank *pari passu* with the intermediary, regarding the loss recoveries: following the payment by EIF, the intermediary will pay back to the EIF its share of recoveries.

Maturity:
The EIF guarantees will have a final maturity of up to 10 years, except for micro-credit when it is up to 5 years.

Fees:
The EIF will issue the guarantees under the Facility free of charge for the intermediary. However, where appropriate and in order to encourage utilisation, during the availability period the EIF may charge commitment fees on the unutilised amount of the EIF guarantee commitment according to a pre-agreed schedule.

GUARANTEE SCHEMES: Current EU support and guidelines for implementing guarantee schemes
The European Investment Fund (EIF) provides support to guarantee societies in the form of counter-guarantees of commitments undertaken by Guarantee Funds and Mutual Guarantee Societies.

During the period 1998–2001, the SME Guarantee Facility offered to cover 50% of losses incurred by guarantee funds. In return, guarantee societies were expected to increase their risk profile by supporting higher risk SME investments with the objective of fostering "growth and employment." Assistance was provided either directly to Guarantee Societies or via intermediaries such as publicly funded guarantee schemes.

The Multiannual programme for 2002–2006 builds on the work of earlier programme and provides additional support for counter-guarantees of micro-loans and ICT investments. The guarantee programme is now also open to EU pre-accession countries. In preparation for the accession, the EU has also made financial subsidies available to help establish new Mutual Guarantee Societies in new EU Member States and/ or activity areas. This covers up to 50% of the cost of feasibility studies.

Factors to consider in setting up and developing a guarantee society
A number of cross-cutting factors apply to setting up of financial engineering measures in the context of regional policy – these are considered elsewhere in the guide. In respect of Guarantee Societies, public authorities must consider the following issues.

The feasibility study
The feasibility study must cover these issues: addressing market failure; avoiding distorting existing private sector operators who provide loan finance; the need for robust corporate governance structure to ensure accountability; and the need for in-depth local knowledge of the local operating environment/ banking culture before launching a guarantee fund.

Type of Guarantee Fund
Should public authorities support the creation of a publicly funded Guarantee Fund, administering SME guarantees directly – or should public support be administered through an intermediary, i.e. a mutual guarantee society?

Regulatory framework
Specific mechanisms and procedures must be put in place to check applications, assess and regularly monitor risk and regulate transactions between SMEs and Lending Institutions.

EU regulations on state aids
As with all financial instruments with a publicly funded component, guarantees must conform to the EU's rules on state aid. In addition to provisions that apply to financial engineering schemes, there are a number of regulations specific to guarantee schemes.
In March 2000, the Commission published detailed guidelines on the application of Articles 87 and 88 of the EC Treaty on state aid in the form of guarantees.
The following conditions must be met to ensure that a state guarantee scheme does not breach the rules on state aid:

- guarantees cannot be granted to borrowers in financial difficulty;
- beneficiaries of assistance (i.e. borrowers) should in principle be able to obtain a loan at commercial market rates from the financial markets without any intervention by the State;
- guarantees must be linked to a specific financial transaction, be for a fixed maximum amount, must not cover more than 80% of each outstanding loan or other financial obligations (except bonds and similar instruments), and must not be open-ended;
- the terms of the scheme must be based on a realistic risk assessment, so that premiums paid by beneficiaries increase the likelihood of the scheme becoming self-financing;
- the scheme must set out the financial terms of future guarantees and the overall financing of the scheme must be reviewed at least once a year;
- the premiums must cover both the risks associated with granting the guarantee and the administrative costs of the scheme, including, where the State provides the initial capital for the start-up of the scheme, a commercial return on capital.

Guarantee schemes must inform the Commission of any state aid (over €100,000) through official notification procedure prior to the launch of the scheme. The Commission then considers whether the proposal is compatible with the rules on state aid and the common market.

State aid and guarantee facilities (Guarantee Fund)
The considerations previously established partially apply to guarantee facilities. In particular, it is relevant to Regulation (CE) n. 70/2001 12.1.2002 in application of article 87 and 88 of the CE Treaty to state aid favouring small- and medium-sized enterprises (OJCE 13.1.2001).

For this kind of fund, the public-private nature of the capital of the fund is also highlighted (it is possible to have private resources not exceeding 30% of the total).

If investors (banks), which are part of the fund, are paid according to the benefits of the fund without special advantages and without a minimum retribution guaranteed, the aid received by investors (banks) cannot be considered as a state aid. This conclusion is strengthened in the case of banks if the fund grants guarantees at rates lower than market ones. However, this will be considered as state aid for beneficiary enterprises that would be granted guarantees at lower prices than those available on financial markets.

The European Commission evaluates aid granted in the form of guarantees (for financing, loan or leasing operations). This kind of aid should be considered on the basis of Commission Notice on the application of article 87 and 88 of the CE Treaty to state aid granted in the form of guarantees. For this purpose, it must be said that guarantees granted by the fund could not exceed 80% of financing operations.

In addition, the concession of the guarantee is subordinate to a previous request to the borrower as well as to the specific conditions that can be established until the compulsory declaration of bankruptcy of the beneficiary enterprise or the start of similar procedures.

There are two conditions, according to paragraphs 3.4 and 5.3 of the Commission Notice, which must be fulfilled so that the Commission could allow guarantees constituting state aid.

On the other hand, paragraph 3.2 of the Commission Notice establishes some principles for calculation of the cash grant equivalent of a loan guarantee in a given year. The method proposed for calculation of the intensity of guarantees must be an "objectively justifiable and generally accepted method".

In addition:
- all beneficiary enterprises of the guarantees must be SMEs, according to the definition established in Annex I of Regulation CE n. 70/2001;
- the definition of investments and of eligible costs over which guarantees are applied must conform to article 2 and 5 of Regulation CE n.70/2001;
- the aid intensity must be lower than the authorised ceilings fixed in article 4 of the Regulation CE n. 70/2001;
- aid cumulation rules must be observed;
- the aid measure subject to analysis must not be applied to sectors excluded from the field of coverage of Regulation CE n. 70/2001

Examples of Guarantee Societies
Schemes supported by the Structural Funds
Examples of guarantee schemes set up with assistance from the Structural Funds include:

In Italy, Eurofidi is a mutual guarantee fund providing loan guarantees to small- and medium-sized enterprises. With headquarters in Turin and 8 regional offices, it is the largest guarantee consortium in Italy and the third largest in Europe. Its primary objective is to facilitate access to finance for SMEs in the Piedmont Region. It also assists financial institutions in screening loan applications and in risk management. In Finland, Finnvera offers SMEs three main categories of financial instruments: loans, guarantees and export credit guarantees. Finnvera's portfolio of guarantee products is tailored to the needs of SMEs depending on the business sector in which they operate and on their developmental needs and objectives.

Other national schemes Some Guarantee Societies are open to any type of SME (Italian Confidi, German Bürgschaftsbanken), while others have developed and tailored products specific to market needs. For instance, Finnvera (Finland) and Bürges Förderung (Austria) offer export guarantees and a guarantee to support SME internationalisation. In the Netherlands, technology projects can be supported by guarantees covering funding provided through some 20 Dutch banks. In Sweden, Almi offers guarantees specially for female entrepreneurs. Other guarantee products target specific groups such as women entrepreneurs (Finland, Sweden) and young entrepreneurs (Germany, Italy). There are relatively few guarantee societies providing equity guarantees. Exceptions include the Bürges Förderung in Austria which offers guarantees for equity capital covering the risk to venture capital and angel investors. Finnvera also offers equity guarantees although there is evidence that venture capital investors are less keen on the guarantee instrument than their counterparts in financial institutions. There are considerable variations in the level of cover provided by Guarantee Societies.

In Italy and Portugal, Guarantee Societies typically cover 50% of the lending risk incurred by banks whilst in Germany the Deutsche Ausgleichbank covers up to 68% of loans (half of which is counter-indemnified by the federal government and half by the regional banks).

Privately managed Bürgschaftsbanken cover up to 80% of the risk in Germany, receiving also partial support from both the federal and the regional authorities.

In the United Kingdom, the Small Business Service covers 85% of loan risks up to 250.000 GBP for SMEs engaged in R&D projects. In Spain, a special regulation allows the Sociedades de Garantia Reciproca to offer a 100% cover but they are backed by entrepreneur's own collateral which they rule instead of the bank.

Guidelines on interpretation of the state aid rules

Under the Commission's guidelines on interpretation of the state aid rules in respect of guarantees, guarantee schemes are encouraged not to guarantee more than 80% of the loan value except in exceptional circumstances.

In terms of management and ownership structure of guarantee societies, there are a number of different models in operation around Europe. In France, a good example of a mutual guarantee society is SOCAMA Midi Pyrénées, which is owned by its 4,089 SME members and managed by their nominated representatives. A good example of a guarantee fund run by public authorities is the Flemish Guarantee Fund in Belgium, owned and subsidised by the Flemish regional authorities. Fund management is delegated to an expert committee. An example of a 'mixed' guarantee society with public and private elements is the Hungarian Hitelgarancia, which was founded and financed by the State with subsequent financial support, fund management expertise and managerial input from the Hungarian private banking sector. A good example of a publicly created Mutual Guarantee Society with both public and private sector partners is Portugal. In 1994, the public development agency, IAPMEI, initiated the launch of a mutual guarantee fund. Capital was provided by both banks (34%) and beneficiary entreprises (12%). Its development, initially conceived as a pilot project, was cemented by the creation of a public counter-guarantee Fund and support from the EIF. The pilot project is now being replicated in Portugal with the setting up of 3 regional Mutual Guarantee Societies, which will work closely together with chambers of commerce and other business federations. They will target small businesses and micro-firms.

Observation:

The research in this phase has focused on the identification of most suitable funding sources, and on the existing EU schemes responding to the requirements for funding of our recommendations.

In the second phase, after the Government has expressed its preference, specifically about the seed capital funding instruments, it will be possible to describe conditions and specific requirements for Estonia in further detail.

7 Recommendations on a Funding Scheme for Estonia

In formulating our recommendation we must remind that, in our experience, a **key element in determining the success of any type of VC** investment is the degree of **accordance to the market trends and rules**: a market-driven venture will most likely be successful. A venture that is not market-driven will most likely fail.

Furthermore, we have seen that **private operators tend to invest in market-oriented businesses** much more effectively than any public entity. It is logical, since privates risk their own limited resources. They must take care that their resources are soundly used, because a loss would have a high impact. On the contrary, a loss for the public sector is never as relevant, given the much larger resources and the lack of individual losses. The private operator has a high motivation in achieving profit; the public operator will often act according to many more aims, such as political ones.

Therefore, we would recommend for Estonia the type of instrument that allows **the highest possible involvement of the market** and the **highest possible involvement of private operators.** Hence, we recommend **option 3.2: a public-private partnership, per project co-funding.**

There are a number **of relevant implications**, some specific to the Estonian situation in such an option.

It is more **desirable to involve investors from industry than pure financial investors** in a growing economy, because they bring much more than only capital into the new venture. This is possible only in cases where the investment operations are not too large and are focused on individual projects, such as in option 3.2.

As far as the long-term results go, such an instrument actively **promotes entrepreneurship and the market economy** as a whole. Both these topics are quite sensitive in Estonia indeed, which makes this option quite desirable.

We had the opportunity to assess in our research that **starting companies with good potential,** operating within market trends and logic, **can find private investors** (also abroad) despite the lack of specific national support. This important fact supports our conviction that private matching is actually feasible in Estonia.

On the other hand, the on-site research has shown that the generalized **market awareness among starters is rather low** – there is a visible tendency to base venture decisions on other factors, such as technology contents. For this reason, it is desirable to implement an instrument that will increase market awareness.

The fund manager of such an instrument is obliged to take care that market operators are constantly involved, aiming at identifying interested parties as new projects apply. The entrepreneur will share the same effort as well.

In order to make this instrument successful, and important condition is that the investments be properly dimensioned. It is not effective to promote the establishment of many small-size firms in the hope that the larger the number, the higher the success ratio.

It is necessary instead that the seed capital instruments are focused on sufficient size operations with high market feasibility.

In conclusion, we note based on experience that this type of instrument increases the chances of careful management of public money and its use for achieving a general goal without force but within the logic of the market.

Final remark: this type of financial instruments applies specifically to Tiers 2 and 3, i.e. that it suits the needs of a venture that has already gone through Tier 0 and 1. The reason is that only at this stage can any private investor actually recognize enough factors to justify taking risks. In previous phases, the public sector support is essential.

Appendix 1 | Acts of the Round Table on "Seed capital for company creation support in Estonia: needs and opportunities"

Date: Nov.18, 2003
Time: 10:30–16:00
Location: MoEAC Tallinn

Organisers:
Zernike Group and the Ministry of Economic Affairs and Communications of Estonia (MoEAC)

Participants:

Raul Malmstein	State Chancellery
Pirko Konsa	MoEAC
Kitty Kubo	MoEAC
Jaak Aaviksoo	TU
Mart Ustav	TU Technology Institute
Taavi Lepmets	LHV
Allan Martinson	Microlink
Jaanus Pikani	Egeen
Teet Jagomägi	Regio
Meelik Kattago	SAK
Kristjan Kalda	BaltCap
Olev Schults	Cresco
Madis Võõras	Enterprise Estonia
Jaak Tikko	KredEx
Mart Repnau	City of Tallinn
Jari Romanainen	Tekes
Kaupo Pastak	Tallinn Technology Park Development Foundation
Raivo Tamkivi	TTU Innovation Centre
Lex De Lange	Zernike Group
Alessandro Favalli	Zernike Group

I part 10:30–11:30

Mr. De Lange presents the objectives of the round table and gives a presentation on business development tiers and the bottlenecks for innovative starters. Furthermore, Mr. de Lange points out indications from the interviews, explains his understanding of the actual innovation system in Estonia and makes suggestions from best practices.

First questions are asked while Zernike covers indications from the interviews.

Participant**:** Can you give us any examples of how to improve attitude, entrepreneurial spirit?

Zernike**:** Good examples should be promoted. You should set up a system aimed at promoting entrepreneurial thinking. The motivation to start with entrepreneurship should be that the people concerned have ideas and like to take risks, not that they do not have any other options.

Participant: Where do these indications come from?

Zernike: These indications come from different sources among other things also from interviews. The indications used are the most obvious ones, aimed to provoke you to a discussion. For example, many people complained that when they applied for Estag, it was a very slow process.

Zernike: Applicants do not understand what the government wants with the questions asked on the application forms.

Participant: Is the problem with perception only on the public side?

Zernike: No, companies often do not understand the requirements. As a result, the applications are often wrongly made, which results in a lower success rate of the program.

Participant: You say that some instruments exist but they are modest. What do you mean by modest? What might be the reason: 1) recent establishment of instruments, or 2) for some reason not enough activity?

Zernike: Financially, they are always modest. The money that is allocated is most of the time very limited, which means that it is often not enough to fulfil the financial need of companies. This is not a problem for traditional companies, but for technological companies it is. Substantial technical support is not there. On the other hand, everything goes slower than is needed.

Participant: Money is always a limited resource. What is your suggestion? Less companies, more money?

Zernike: Yes, although in this case you will have a lot of disappointed people. That is the consequence when only a small amount of money is available. It is not to be expected that the European Union will easily grant a sufficient amount of money for this purpose. You will have to invest considerable time in getting the funds from the European Union.

Zernike: On slide 12 you find many existing elements needed for the system. The problem is that the system in total is weak, meaning that the system should allow linking all elements and at present that is not the case. In order to succeed, the system should be implemented first and afterwards it should be properly managed.

Zernike: The big word is not seed capital alone, but promoting and supporting entrepreneurial thinking and related activities. Today's system is monitored but not guided well enough. Money comes back from implementing the business model not from the technology. Venture capital will not take responsibility for the consequences of unsuccessful ventures.

Participant: Do you see a difference between what the public sector should do and what the private sector should do?

Zernike: Absolutely, the public sector should monitor and control but they should not be making decisions in the business. Question is: what would be the best? A fund next to the existing funds? This would be a waste of money. The responsibility of business society must be more relevant in the network. This can be accomplished by a "money for money" system. In the existing system, the companies are not guided correctly.

Participant: What are your picks from business side?

Zernike: You should have a bigger amount of money available for substantial businesses.

Participant: Picking a winner sounds great and easy, but in reality – should it be an enlightened decision making or agreed on an academic level to get consensus?

Zernike: As a matter of fact, it is not really about picking a winner, but all about picking the winning technology and really making a choice for this technology. You should stimulate entrepreneurship in making choices. Keep what you have, put a communicator in top and stop financing. You do not need to finance.

Participant: There are great expectations in the society. But you tell us that what we should stress are soft measures and not financing?

Zernike: I do not see the above as soft measures. In fact, I consider them harder measures than just financing. You have to make harder "yes or no" choices. The population must be proud of large companies, not small self-employed companies. Invest in existing companies if they are good. 30% technology and the other 70% people, markets, etc.. Together it should give a business. It is of no great use to let people make a relatively big effort for relatively little money. Use university professors in smarter ways.

Participant: Should Estonian government increase spending on technology?

Zernike: Yes, on specific sectors such as biotechnology, life sciences, ICT: nanotechnology combined with one of the other three, but not nanotechnology as such.

Participant: How much is a substantial amount for that kind of fund?

Zernike: I would say – if You have 1,5 million people, then 5 million euros would make a modest fund. You can make use of provisions of the European Commission, besides that you can make use of the "money for money" principle.

Participant: What do you think of the system as such?

Zernike: The system should be on a government budget with a professional team that has been working in seed and start-up capital field for years doing the management.

Participant: I think that you are underestimating the need of money!

Zernike: You should not put the entire burden on government. Ask whether 5 million euros per year is doable by the government. That way you'll have 25 million € in five years, another 25 million € from venture capitalists, put together with the "money for money" principle – and you'll have a 100 million euros in a five years period.

Participant: We are speaking of a national innovation centre – putting systems together, but shouldn't we look at Scandinavia?

Zernike: True, but you are already in the middle of Scandinavia. You have to have the proper system in order to go abroad. You have to explain to foreign countries the reason why you are doing it. In other countries, for example a company like Asper or Quattromed would be financed ten times more than here. The culture is not here yet, first you should establish the right culture. The demand side should be very transparent.

Participant: If there would be a venture capital fund with European Union participation, what would be different from existing venture capital offers?

Zernike: There are venture capital funds here in Estonia but they are not mature yet. These venture capital funds need experience from all over Europe. They should be focused on business model. Scandinavia wants to see a partnership that is moving. They are ready to invest not because it is Estonia, but because it is the right technology.

Participant: Could the fund be smaller in the first year?

Zernike: Yes, of course – you can divide the process in three steps. For example:
1) to 100 000 euros 2)100 000-500 000 euros 3) 500 000-1000 000 euros (1500 000). Then you have survived the whole gap. We have to see the network of entrepreneurship to cover these three steps. I would not advise the government to set up a fund but to allocate money for raising a fund. Then start to tender and find good people to realize the fund.

Participant: Somebody has to manage the fund.

Zernike: The management of the fund is one of the most important issues to be taken care of. Management of the system is very important. Foreign people are not coming here for grants but for businesses.

Participant: How to help existing companies?

Zernike: Of course, you do not have to start from scratch. Make existing companies stronger by putting money into them in a professional way, sharing their shares. Another opportunity is to go to universities to find good ideas.

Participant: I have been involved in that and I think it is outdated: there are many people who have substantial knowledge and ideas in universities. How biotechnology and life sciences got to be so strong here in Estonia? Because Russians invested 6 million gold roubles there in the 1980-s. Just put some 10 million euros and the output will come.

Zernike: But most likely nobody will put in 10 million euros.

Participant: Maybe you should suggest something to the government about legal questions, since there is no structure for limited partnership right now. Here all the funds are off-shore. We cannot have preferential shares for more than 25%. We have to do things to make investing easier and more attractive for investors.

Zernike: We will try to cover it in our final conclusions – tax holiday, etc. In order to get the European Investment Bank to come and invest in Estonia, you will have to comply with their rules. It means that a lot of changes have to be made, also in legal issues.

Lunch break 13:45–14:15

II part – discussion continues

Participant: What are the main findings from this project?

Zernike: You should see management of the network as a complete system. Then it will work, based on our business experience. I would advise to run the management under private sector, guided but not managed by government.

Participant: What will be Estag's role?

Zernike: It's a technicality; I think it is essential that you focus on business behaviour.

Participant: Can you give an example of where that kind of system has worked?

Zernike: This kind of system has worked and is in fact working in West-Australia (explaining the case).

Participant: You are talking about an entrepreneurship scheme. Estag has a broader base.

Zernike: Estag shouldn't manage it.

Participant: (comment) Estag has changed already and has been replaced by Enterprise Estonia.

Participant: Enterprise Ireland has been very successful; they still have grant schemes and venture capital schemes. Could you clarify that you are not suggesting to replace the national innovation scheme with the one you are talking about?

Zernike: In order to be successful, you have to start from phase zero and carry it all the way to the end. It has to be ensured that someone has taken the responsibility. If the establishment of a seed capital fund is another vehicle without follow-up, then there will be no results. Venture capitalists are interested in a business model. This is a responsibility for society. Anyway, whether you do want it or not, you will be changing to knowledge-based businesses like the whole Europe.

Participant: If you are talking about the system, how would you structure it? Private management? How many parties?

Zernike: Any proposal we make has its own pros and contras. Everybody is in favour of a consensus model, but not all of them work.

Participant: As whom did you act in West-Australian case?

Zernike: We are venture capitalists. The government came to us and told that they wanted to have a new university, to start producing LCD without using chemicals. Although LG and Philips had Intellectual Property all over the world, we found out who were those scientists who had published most about photonics. Three leading scientists were asked to come to Australia and offered a contract for 5 years with excellent labs, etc. We have a fixed budget, so we have to get everything done before the money ends. So we are the organizing and pushing part.

Participant: How to attract people to come to Estonia?

Zernike: You have to decide whether Estonia is the right place. People are interested in skills and business models. Can Estonia offer that?

Participant: Companies that have come out from Tallinn Technical University – they are coping somehow. 90% of them are not complaining about the money, but the question is where to find people to add to their team. What are the possibilities for generating potential managing pools for start-ups?

Zernike: If you want to promote entrepreneurship it is not so important what you do precisely as long as it comes down to dragging. Networking is important in order to develop the business.

Participant: So you are suggesting not only to create a fund, but also…

Zernike: Yes, the fund is only part of it. Network is the keyword. Projects should be validated and ranked.

Participant: As seed capitalists, you would not come before a network is existing?

Zernike: For us it does not matter – we can do this dragging ourselves as well.

Zernike: Every scheme can have their own management but networking gives dragging and communication. They have to be guided, otherwise it will not succeed. You have to speed up the process and guide the person from door to door.

Participant: I haven not seen any such national organization.

Zernike: Estonia is such a small country – as one region in Ireland. So Estonia can easily be fit into one system.

Participant: In black and white – make one national committee that makes all the decisions. This is theoretical it never happens this way.

Participant: What is your model?

Zernike: My model is very businesslike. Networking – public and private, including science. The board is the management that is used to deal flows and has international experience. At the moment, Enterprise Estonia has no such skill in the house (Intellectual Property Rights). They are just monitoring. This management team we are talking about should not run anything, but it should have a strategy. Decided success rate is needed.

Participant: Any standard of how to make a public-private partnership to work?

Zernike: This should be for long term, say 5–10 years. The team has to be professionally picked.

Participant: To modify venture capital scheme that management fees cover organisational costs?

Participant: If you think Enterprise Estonia is ok, then keep it.

Participant: The venture capital model cannot be a large one then?

Zernike: Does not need to be a large one; you need to use a business model.

Participant: Then how many people are necessary in this business model?

Zernike: 10-15 persons. First 2 years directly paid by the fund.

Participant: Can this model support two competing teams?

Zernike: No, this is a model where we see that government is one part.

Participant: So, you suggest to establish a business development company and cover their activity costs for 5 years?

Zernike: Yes, costs can be easily covered by the European Union.

Participant: If fund is in private venture capital, how to assure that supported companies will stay in Estonia in later phases?

Zernike: This is same for all the countries – if a company is born here, it shows that here are good people and good skills. You can buy a company but not brains. Why should they leave the country where their roots are? In the end, the profits are most important, not where these are made.

Participant: For example, if you keep a company as a pure R&D company and in certain phase you merge it with a company, that takes to markets.

Zernike: In the case of merging, the money comes back to the shareholders. This is an exit.

Participant: But if government puts in an investment it wants to get something back for the society as well.

Zernike: So far as the brains stay in Estonia, I do not see a problem.

Participant: Because of the exits, more money will be available.

Participant: What is the leverage for government?

Zernike: Nokia is the best example – they are considered a Finnish company although they have worldwide centres and selling. I agree about generating cash flows with exits. Government's task is to attract, I do not see any threats here. I see it as a success case.

Participant: There is a big inconsistency in the instruments provided. There is a huge lack of equity whether from government or somebody else. I am concerned about the national umbrella. This is a product-based approach. There could be more fitting instruments. We cannot say that this is an innovation centre for Estonia, if we are talking about 10–15 companies at total.

Zernike: Important is the responsibility to drag. My *dream* is to upgrade the existing system.

Participant: I share these concerns. Bottlenecks – there is no instrument missing but scale is modest. I agree that entrepreneurship should start from kindergarten.

Participant: Enterprise Estonia is only capable of monitoring. If to start a new diligent instrument, then I think Enterprise Estonia should be able to do due diligence as well.

Zernike: I agree. Biggest issue is that you should concentrate more on technology platforms, not seeding everywhere any more.

Participant: Can we summarize that one of the problems is that many people are in the beginning of a learning curve?

Zernike: Exactly.

Participant: You have to cumulate experience.

Zernike: You have to work with demand side.

Zernike: It should be integrated with what already is happening.

Participant: To summarize – 25 million euros comes into Estonia, government puts another 25 million euros, then they agree on key areas, adjusted instrument for that, commitment from government.

Zernike: More or less. You need to have substantial deal flow to be winners. Search of potential winner's attitude should be everywhere, even in Enterprise Estonia. If you want to make entrepreneurial environment, you have to be very serious in your decisions.

Participant: Are we not talking here about putting all the eggs into one basket?

Zernike: We are talking about professional entrepreneurship only for technology-based area.

Participant: Criticism for Enterprise Estonia comes from the fact that there is a need for capital investment, not grants or loans. European Union's state aid regulation – if talking about subsidies of investments up to 10–15%, rest should come from private money. If R&D-based, then up to 50%, rest from private money. From where the private money would come? Problem of equity fund?

Zernike: Estonian government is ready to spend money but in small amounts. You can help yourself when you make minimum amount higher. Then it will probably be more effective.

Participant: This is not a government policy but the lacking of venture capital. It is not their choice.

Participant: Co-financing capacity is not there.

Participant: About small amounts. May be this is a statistical disillusion as well. Enterprise Estonia tends to fund many small feasibility projects out of which come few larger projects. Focusing starts later.

End of the round table 16:30

Appendix 2 | Guidelines for the interviews

Supply side
Private sector (seed capital funds, banks, clubs of investors, etc)

- describe your **organisational and institutional characteristics** (history, shareholders, management organisation, mission, typical / distinguishing traits, competitive advantage with respect to other market players, etc) – give brochure
- describe your **offer** of financial products / services
- describe existing **portfolio**:
  - type and number of investees,
  - average value of investment operations
  - average duration
  - how many plans do you get per year? how many did you get in the last three years?
  - acceptance / rejections ratio
  - major reason for rejecting plans?
  - mortality ratio and main reasons?
  - average quality of the plans
  - exit modalities?
- project **assessment** method
- how do you **monitor** existing investments?
- how do you approach the **market**? what is your **marketing strategy**?
- **which business development stages are properly supported** by risk capital financial facilities (business plan valorisation and development, company start-up, company development, business expansion, etc)? where are the gaps?

- do you get any **co-investment** or **other form of financial support** from the public (tax deduction, guarantees, grants...)
  - from whom? which Ministry / which organisation?
  - how does it work? specific requirements in order to benefit from them?
  - does is meet your need or not?
  - what impact does this support have on the investee?

- **legal environment**: are the existing regulations favourable to investment climate, to investors?
  - what are the major plusses and major minuses?
  - how could it be improved? what would make your life easier?

- at present, what is the **involvement of the public sector** in risk capital market? (both positive and negative role: bureaucracy requirements, controller function, pro-active participation, active interaction with public sector, etc)
  - what do you think the public sector should do (central level or/and local level) in order to improve the environmental conditions for risk capital market?

- what **other reasons** do you have in existing investment operations other than pure investment? (e.g. employment, technology development, local/regional development, etc)
- are there interesting **syndicates of private investors** (possibly organised in consortium or network), guided by central selection / assessment committee, aiming at scouting and distribute investment opportunities among the investors (PartInvest type)?
- who are the **big guys** in your sector? both Estonian operators and foreigner operators?
- what are the **main criticalities in the sector**? (poor quality projects, no sufficient, market, low entrepreneurship, etc)
- can you sketch a **SWOT analysis of the risk capital market**?

Supply side
Public sector (Ministry level, regional or local bodies, development agencies, chambers of commerce, etc)

- describe your **institution**, specifically about your interaction with business development / economic support (departments, activities, mission, who is who, decision process)
- how do you regard – at present – the **Estonian environment for economic development** / business support?
- which other public / private organizations are depending / connected to your institution **in interacting with the private market**?

- which are the **basic laws regulating public intervention / participation** in economic life?
  - are there any cases of **participation in private – public ventures**? give details (characteristics, purpose, public financial contribution, mission, management organisation)
  - which Ministry is responsible?
  - do you have a brochure / description of the venture?
  - how has it been performing in the last years?
  - what impact does it have on business?

- how do you regard the **"profit-making aspect"**, also meaning **"risk"** in getting involved in venture operations?

- describe **any public financial support, both to risk capital operators** (indirect) **and to business** (direct) – grants, tax deductions, guarantees, etc
  - which Ministry is responsible?
  - do you have a brochure / description of the facility?
  - how has it been performing in the last years?
  - what is the application procedure?
  - average duration?
  - how many plans do you get per year, in the last three years?
  - acceptance / rejections ratios
  - major reason for rejecting plans?
  - mortality ratio of investment operation and main reasons?
  - average quality of the plans
  - exit modalities?
  - does it meet the needs of the economy? what impact does it have on business?

- project **assessment** method
- how do you **monitor** existing investments?
- **which business development stages are properly supported** by public financial facilities (business plan valorisation and development, company start-up, company development, business expansion, etc)? Where are the gaps?

- **legal environment**: are the existing regulations favourable to investment climate, to investors?
  - what are the major plusses and major minuses?
  - how could it be improved?

- at present, what is the **involvement of the public sector** in risk capital market? (both positive and negative role: bureaucracy requirements, controller function, pro-active participation, active interaction with private sector, etc)
- what do you think **the public sector should do** (central level or/and local level) in order **to improve the environmental conditions** for risk capital market?
- what do think should **the "demand side" do in order to improve the business** environment?
- how do you appoint a **priority order** among the following issues: employment, technology development, local/regional development?
- are there interesting syndicates of private investors (possibly organised in consortium or network), guided by central selection / assessment committee, aiming at scouting and distribute investment opportunities among the investors (PartInvest type)?
- who are the **big guys** in the sector of risk capital? Estonian operators and foreigner operators?
- what are the main **criticalities** in the sector?
- can you sketch a **SWOT analysis** of the risk capital market?

Demand side
Profit-making (companies, research organisations, BICs, business incubation centres, etc)

- describe your **organisational and institutional characteristics** (history, shareholders, management organisation, mission, typical / distinguishing traits, competitive advantage with respect to other market players, etc) – give brochure
- what are the **main criticalities in your sector**? main **problems / needs** for your organization?
- what business support **needs** are **satisfied** by available offer in the market? by which **organizations**? what is presently **not available**?
- describe your **experience with market operators**, both private and public, for business support measures

- do you get any **co-investment** or **other form of financial support** from the **public** (tax deduction, guarantees, grants..) and / or from the **private sector**?
  - from whom? which Ministry / which organization?
  - how does it work? specific requirements in order to benefit from them?
  - does is meet your need or not?
  - what impact does this support have on the investee?

- **which business development stages are properly supported** (business plan valorisation and development, company start-up, company development, business expansion, etc)? where are the gaps? which organisation (public or private) supports what?

- **legal environment**: are the existing regulations favourable to investment climate, to investors?
  - what are the major plusses and major minuses?
  - how could it be improved? what would make your life easier?

- at present, what is the **involvement of public sector** in the risk capital market? (both positive and negative role: bureaucracy requirements, controller function, pro-active participation, active interaction with public sector, etc)
- What do you think **the public sector should do** (central level or/and local level) in order to improve the environmental conditions for risk capital market?
- are there interesting **syndicates of private investors** (possibly organised in consortium or network), guided by central selection / assessment committee, aiming at scouting and distribute investment opportunities among the investors (PartInvest type)?
- what type of **relations do you have with universities**? with research centres?
- who are the **big guys** in the risk capital market? both Estonian operators and foreigner operators?
- can you sketch a **SWOT analysis of the risk capital market**?

Demand side
Non-profit-making (universities, research centres, associations of enterprises, BICs, business incubation centres, etc)

- describe your **organisational and institutional characteristics** (history, shareholders, management organisation, mission, typical / distinguishing traits, competitive advantage with respect to other market players, etc) – give brochure
- how does you organisation **interact with profit-making sectors**?
- how does it **interact with government** institutions?
- what are the **main criticalities / problems / needs** for your organisation?
- what business support **needs** are **satisfied** by available offer in the market? by which **organisations**? what is presently **not available**?
- describe your **experience with market operators**, both private and public, for business support measures

- do you get any **co-investment** or **other form of financial support** from the **public** (tax deduction, guarantees, grants...) and / or from the **private sector**?
  - from whom? which Ministry / which organisation?
  - how does it work? specific requirements in order to benefit from them?
  - does is meet your need or not?
  - what impact does this support have on the investee?

- **which business development stages are properly supported** (business plan valorisation and development, company start up, company development, business expansion, etc)? where are the gaps? which organisation (public or private) supports what?

- **legal environment**: are the existing regulations favourable to investment climate, to investors?
  - what are the major plusses and major minuses?
  - how could it be improved? what would make your life easier?

- are you involved in **private – public ventures**? Give details (characteristics, purpose, public financial contribution, mission, management organization)
  - which Ministry is responsible?
  - do you have a brochure / description of the venture?
  - how has it been performing in last years?
  - what impact does it have on business?

- what is the **involvement of public sector** in the risk capital market? (both positive and negative role: bureaucracy requirements, controller function, pro-active participation, active interaction with private sector, etc)
- what do you think **the public sector should do** (central level or/and local level) in order to improve the environmental conditions for risk capital market?
- are there interesting **syndicates of private investors** (possibly organised in consortium or network), guided by central selection / assessment committee, aiming at scouting and distribute investment opportunities among the investors (PartInvest type)?
- who are the **big guys** in the risk capital market? both Estonian operators and foreigner operators?
- can you sketch a **SWOT analysis of the risk capital market**?

Appendix 3 | Examples of funding variations

Option 1: Full government funding

Variation 1: Subcontracted services
Invertec (Spain)

Brief Description
Invertec makes equity investments, limited to 10 years, of up to EUR 300 000 representing between 5% and 49% of total equity, in technology-based seed-stage companies. The intent is to help firms created by the Trampolines Technologicos programme to raise seed funding by taking a minority stake. Invertec has EUR 6 million under management by CIDEM together with six universities and business schools.

Field of operations
One successful regional programme is the Catalan government's *Centre d'Innovació i Desenvolupament Empresarial* (CIDEM), which operates a number of schemes providing equity funding and managerial advice to start-ups. Although its impact is constrained by limited funds, CIDEM offsets this by offering a wide range of services needed by entrepreneurs and by partnering with other investors and funds, such as the SGECRs. An attempt is being made to create new SGECRs in Cataluña focused on early-stage venture investments, which may then develop a track record and can be used to solicit further funds from private investors.

Organisation and management
The *Centre d'Innovació i Desenvolupament Empresarial* (CIDEM) was created by the Department of Industry, Commerce and Tourism of the Government of Cataluña in 1985 to provide Catalan entrepreneurs with consultative and financial support. It functions as a "one-stop shop" for start-up businesses and potential investors offering practical assistance at all phases of early business development. CIDEM assists with feasibility studies, funding, project development and implementation, and follow-up.

Variation 2: Direct control
The Finnish National Fund for Research and Development (Finland)

Brief Description
The Finnish National Fund for Research and Development (Sitra) is an independent public foundation under the supervision of the Finnish Parliament. Its activities are designed to promote the economic prosperity of the Finnish people.

The public sector accounts for 50-80% of venture capital funding of seed and start-up technology companies, and Sitra is the most important investor for companies in this stage of development. Sitra invests in technology firms and venture capital funds both in Finland and abroad. Its operations are mainly financed through income from endowment and project finance. Sitra has invested more than FIM 600 million in early-stage technology companies and over FIM 500 million in domestic and international venture capital funds and technology transfer companies to date. Through its status as a minority shareholder, Sitra is able to develop companies from the inside and contribute to the work of their boards. In addition to Sitra's own investment activity, there are over a dozen regional funds under the management of six management companies owned by Sitra. Regional funds invest in seed stage companies as well as traditional manufacturing industries.

Field of operations
Sitra offers a range of services in development and funding:

- to entrepreneurs intending to set up a company and to existing companies at the seed or start-up stage of their operations (PreSeed);
- to technological and commercial enterprises in the early stages of their existence, wanting to go international and having new products, services or models of operation (Sitra Industry Ventures);
- to newly started small- and medium-sized companies in traditional industry that intend to enter the international arena (Sitra Industry Ventures);
- to new companies in the fields of biotechnology and medicine that wish to expand to international markets (Sitra Life Sciences).

Sitra provides funding for high-risk enterprises that are just getting started or experiencing radical changes, when market-based services are not sufficient or private capital is unavailable.

Investment

	No of companies	*Amount of money € M*
Seed	23	36.6
Start-up	25	19.8
Early growth	42	38.8
Rapid growth	17	14.1
Exit /transition	5	14.7
Total	112	124.0

(Investment portfolio by stage of development 2002)

Option 2: Guarantee system

Variation 1: Guaranteed portfolio
Regional Venture Capital Fund Programme (UK)

Brief Description
Regional Venture Capital Funds (RVCFs) is a nation-wide programme to provide risk capital finance in amounts up to £500,000 to small- and medium-sized enterprises (SMEs) who demonstrate growth potential. The funds, managed by experienced venture capital professionals, are commercially focused, making commercial returns.

There is an acknowledged 'equity gap' at the lower end of the market. The Government's intervention is designed to be the minimum necessary to stimulate private sector investors for providing small-scale risk finance for SMEs with growth potential.

Source of finance
Small businesses in search of venture capital were given a further boost recently when the European Investment Fund committed up to €86 million (£53.5 million) of investment into UK's nine new Regional Venture Capital Funds.

Secretary of State for Trade and Industry, Patricia Hewitt, and head of the Small Business Service, David Irwin, met with Walter Cernoia, Chief Executive of the EIF, to sign an agreement that will enable the SBS to manage €86 million of EIF investment.

Field of operations
- Each fund operates within a regional boundary in England
- Fund Managers operate and manage funds on a purely commercial basis and are governed by a 10 to 12 year Limited Partnership Agreement
- The Fund Managers are independent companies who are operating out of their own premises, on a purely commercial basis
- Fund Managers make all investment decisions, including how the investment should be structured

Objectives of Regional Venture Capital Funds
Short term:
Establish at least one viable, commercial fund in each of the nine UK regions – which increases the amount of "equity gap" venture capital available to the SME market and which does not displace any existing fund activity in this segment of the market. This objective has been achieved and funds are now operational in each region.

Long term:
- increase the amount of equity-based risk finance available to growing SMEs for enabling them to realize their full growth potential
- ensure that each region in England has access to a viable, regionally-based venture capital fund, making equity-based investments in smaller amounts in SMEs;
- demonstrate to potential investors that commercial returns can be made by funds investing in the SME "equity gap"; thus promoting the private sector venture capital industry;
- increase the supply of quality Fund Managers operating in the "equity gap".

Organisation and management
Commercial private sector venture capital Fund Managers were sought via a comprehensive bidding and open tender process throughout 2000.

All of the bids to operate Regional Venture Capital Funds have gone through a comprehensive, robust assessment and due diligence process. SBS has brought in professional corporate finance (PKF) and legal advice (Clifford Chance) as part of this process as well as utilised the Government Office network to assist in the assessment of proposals from a regional perspective.

On completion of this assessment process, all proposals were put to an independent Appraisal Board (a subgroup of the Small Business Investment Taskforce whose members consisted of external people with experience in the venture capital sector). The recommendations put forward by the Appraisal Board have been taken forward by SBS.

All nine funds are operational and making investments.

Investment
RVCFs can invest up to £250,000 in equity or debt into any qualifying business; be it a start-up, early-stage or in need of development capital either for an acquisition or for organic growth.

As stated above, all decisions as to whether or not to invest in any proposal are made by the Fund Manager based on commercial viability. MBOs, MBIs and BIMBOs are also eligible.

If another institutional venture capitalist has already invested, then the cost of that investment is deducted from the £250,000 ceiling to arrive at the amount the RVCF can invest.

If an RVCF wishes to bring in another venture capitalist at the time of its initial investment, then it may do so. However, the total investment by the RVCF and other venture capitalist must not exceed £250,000. These restrictions have been applied to help ensure that the RVCFs stay firmly rooted in the lower segment of equity gap.

The RVCFs are allowed to make "follow-on" investments of up to a further £250,000 and in exceptional circumstances more than that. For such follow-on investments, there are no restrictions on who can co-invest or how much can be co-invested. Such follow-on investments are not permitted within a six-month period starting from the date of the original investment.

Requirements and beneficiaries
A business may apply to the fund for equity finance covering the area in which the head office is situated or where it conducts a material part of its business and where the purpose of the relevant investment is, or the application of the proceeds of such investment by the relevant company shall be, predominantly related to or for the benefit of the region.

There are three differing types of criteria other than the geographical one mentioned above.

Size of business
The business has to comply with the European Union's definition of a small- and medium-sized enterprise ("SME"). Currently, this is defined as a business with less than 250 employees and either has a turnover of less than 40 million euros (approximately £24 million) or a balance sheet total of less than 27 million euros (approximately £16 million).

Ownership
It must not be owned:
- by another company;
- have 25% or more owned by another enterprise;
- jointly by several enterprises not meeting the above SME definition.

Some of its equity can be owned by business angels or other individuals not connected with the directors or other shareholders, and it can already have had venture capital funding. This can either be from Seedcorn funds or from other venture capitalists. If the latter is the case, the amount the RVCF can invest will be restricted.

Sectors
As a condition of state aid clearance, there are a number of sectors in which the RVCFs cannot invest. The key ones are listed below:

- land and property development, dealing and investment
- provision of debt and equity finance and financial services in general
- accountancy and legal services
- hotels
- nursing and residential care homes
- international motor transport
- agriculture
- forestry and timber production
- horticulture

The rules governing what is eligible and what is not, are quite complex, but anyone wishing to know about a particular case should contact in the first instance the Fund Manager of the appropriate RVCF.

Additional information
Investors in the Fund
In each RVCF, the Government via the DTI's Small Business Service, is investing for its own account. In addition, SBS has secured funding from the European Investment Fund (the equity arm of the European Investment Bank) such that in most cases approximately 50% of the funding will be from these two sources. Each Fund Manager then has to secure the remaining percentage from other private sector investors.

In order to assist Fund Managers in attracting private sector investors, the Government decided to subordinate its investment position by putting a "cap" on its investment return, there-by boosting the anticipated return to private sector investor and the European Investment Fund ("the EIF") along with agreeing to act as "first loss." This means that in the event of an erosion of a fund's capital base, the DTI investment suffers the loss first.

Length of investment holding
No investment is permitted if it is expected to last less than six months. Most investments are likely to be held on average for about five years, after which the Fund Manager will need to find an exit. Each RVCF has a "life" of ten years and at the end of that time must have turned all its investments into cash.

What is the relationship between SBS, RDAs and Fund Managers?
The role of the SBS has been to manage all aspects of the development of RVCF programme including the bidding process and handling state aid issues. The SBS has also agreed to act as an agent for the EIF investment in this programme. With operational funds, it is responsible for managing both the DTI's and EIF's investment in the programme.

The Fund Managers are responsible for delivering/operating the 10- to 12-year Limited Liability Partnership Agreements signed by all investors in funds, including the DTI. They also undertake all aspects of the investment process in funds, including making all investment decisions on what investments are made.

RDAs have a pivotal role in ensuring success of this programme by supporting the RVCF operating in their region.

The role of RDA is to assist the Fund Manager in raising the necessary private sector investment by utilising their contacts and knowledge of business support network within their region.

Once funds are launched, RDAs:

- develop the networks within their region that will ensure the funds' success;
- assist by providing links to organisations that could support businesses once they have received investment.
- sit as members on the Advisory Committee for each fund. The Advisory Committee's role is to monitor the activities of the fund and represent the interests of Limited Partners. However, the Advisory Committee does not have the authority to amend or influence any investment decision made by the Fund Manager.

How to access the RVCFs
Each RDA has sponsored a Fund Manager to set up and run a fund in their region. Access to funds will either be direct to the Fund Manager or through normal business support channels.

Variation 2: Guaranteed investment
Guarantee of Venture Capital Funds (VCFs) (France)

SME support measure

Brief description
Since French SMEs suffer from a lack of equity, the role of Venture Capital Funds must be fostered. To help them accompany more SMEs and specifically small ones and start-ups, the BDPME offers its guarantee.
It's a 50 % guarantee (up to 70 % for start-ups, when it is necessary to give a more important help because of higher risks).

The BDPME guarantees for 10 years, but after the fifth year the level of the guarantee is lower: 70 % of the previous level. It means that during the first five years, the BDPME guarantees for example 50 % of the equity financing and during the last five years only 35 %. The guarantees come into action when the enterprise in which the VCF has invested, is declared legally bankrupt. The BDPME receives two different kinds of income: a commission (0.3 % per year on the amount of the equity financing) and possibly a capital gains sharing (when the VCF divests with capital gains, the BDPME shares them; not at the level assumed by the BDPME, but less: i.e. 10%).

Source of finance
The BDPME signed an agreement with the European Investment Bank in March 1998. This agreement gives to the BDPME complementary means to guarantee the interventions of VCFs specialised in innovation.

Requirements and beneficiaries
Before 1999, the BDPME could intervene in favour of all unlisted SMEs which carried out merely MFF 500 of annual turnover (76 million of euros) and employed less than 500 people. The French State then decided to concentrate the BDPME intervention in favour of SMEs really needing to be helped: young SMEs (less than 7 years old) and very small operations of MBO or MBI (concerning enterprises which realised less than 5 million euros of turnover).

Organisation and management
As an «établissement de place», the BDPME can work with all venture capital funds providing equity to SMEs and wishing to share their risks with a neutral institution. The partnership between VCFs and the BDPME is organised so that the SMEs' projects are identified by VCFs and then sent to one of 41 regional branch offices of the BDPME.

To be more efficient, the BDPME delegates its decision to VCFs. The VCFs can take the guarantee decision when the amount of required financing does not exceed a certain amount and as long as certain criteria are met by the SME.

Promotion
By different networks: BDPME and AFIC (Association Française des Investisseurs en Capital – French Venture Capital Association).

Evaluation
There are no comprehensive evaluations. However, the BDPME regularly (twice a year) analyses its database, which contains cumulative data. A major analysis of this data focuses on defaults and allows to determine the multiplier.

Additional information
The success of the measure (success factors from the point of view of the company)
The VCFs share their investment towards a company. It enables them to provide their customers with additional guidance.

A state-subsidised intervention: the BDPME discharges about 50% of the relevant risk (70% in the case of start-ups) against the payment of a reduced commission.

Measuring the success (objective evaluation criteria)
Age of the measure
The first guarantee fund dedicated to VCFs was created in 1983. But this intervention has been rebuilt with creation of the guarantee fund "Capital PME" granted by the Caisse des Dépôts et de Consignations in 1994.

Number of SME beneficiaries since the launch of the measure
Around 150 VCFs have signed an agreement with the BDPME, out of a total of about 300. Each year, the BDPME guarantees more than 250 million euros of equity financings in favour of about 750 enterprises. The BDPME estimates that it guarantees around 40 % of VCFs' interventions in favour of SMEs with less than 200 employees.

With all the measures taken by the French State to boost the activity of VCFs specialised in innovation, we can already notice an increase of their number and of their activity 1998 appeared for example as an exceptional year for equity financing in France (more recent figures are not available yet). The total amount of equity financing invested in 1998, 1,8 billion euros, grew 42 % compared to 1997 (source: EVCA). In terms of sector distribution, there has been a strong increase in high-tech investments. This is now the primary sector with investment doubling from 0.24 billion euros in 1997 to 0.49 billion euros in 1998.

Budget devoted to the measure and estimates returns on investment
Guarantee Fund Allocation amounts.

Option 3: Co-financing (PPP)

Variation 1: Lump co-financing
TIFAN B.V. (The Netherlands)

Brief description
The Technology and Industry Fund for Amsterdam and North Holland was founded to supply a financial need on behalf of young technologically innovative companies, the so-called techno-starters. TIFAN aims at accelerating new technological development.

The TIFAN fund offers share capital and convertible subordinate loans as well as management support.

Organisation and management
TIFAN was initiated by:
- Energy Research Centre, The Netherlands (ECN)
- Municipalities of Amsterdam, Alkmaar, Den Helder and Hoorn
- Hogeschool van Alkmaar (Higher vocational education)
- Hogeschool van Amsterdam (Higher vocational education)
- The Province of North Holland
- Local Rabobanks in the province of North Holland
- Rabobank Nederland
- University of Amsterdam
- Zernike Group B.V.

Requirements and beneficiaries
Entrepreneurs and companies who wish to participate in the fund will have to submit their business plan, which will then be assessed based on the following criteria:
- market and marketing strategy;
- financial feasibility and borrowing requirement

Furthermore, the following criteria must be fulfilled:
- the company must be less than 3,5 years old;
- the activities of the company should qualify for a reduction in the payment of tax imposed on wages and premium contributions (S&O reduction);
- on the basis of the business plan the company is expected to, at least partially, manufacture its own products;
- the first turnover of company's sales must be reached within the first year of company's business activities;
- the company is seated in the Netherlands during the first five years of participating in the fund.

Variation 2: Per project financing
BioPatrtner Start-up Venture (The Netherlands)

Brief description

Biopartner Start-up Ventures is a start-up venture fund established at the end of 2000 by the Ministry of Economics Affairs of the Netherlands, aimed at accelerating the Dutch life science industry by improving the entrepreneurial climate for bio-starters and bio-business. It also aims at removing the obstacles identified for bio-entrepreneurs, such as the lack of information, financing, laboratory equipment and lab space. The fund offers stimulation of life sciences in the Netherlands and risk capital fund for life science start-ups, investing in shares possibly combined with a subordinated loan. The fund has a total value of €10.5 million. The total investment is from minimum €50,000 to maximum €225,000 with an average contribution of €135,000. The investment is provided in exchange for shares in the start-up company. This initiative is expected to result in the creation of 45–75 new life science start-ups in the period 2000–2004. During the subsequent five-year period only the ongoing participation will be managed and sold. One important condition to be fulfilled is that private investors must invest an equally large amount in the company. Biopartner Start-up Ventures also makes management support available for the companies in its portfolio. This fund is managed by the Zernike Group and also has an advisory board that plays an important role in investment decision-making.

Requirements and beneficiaries

Entrepreneurs and companies who wish to participate in this fund must fulfil the following criteria:

- the venture should be a start-up company;
- the subject is in life sciences as described by the Ministry of Economic Affairs;
- the venture has its seat in the Netherlands; and
- co-funding / co-investor is required.

The initial requirement is a submission of a business plan containing detailed description of the product/services the company is based on, market analysis, company strategy, marketing strategy, competitor analysis, profile of the entrepreneur and his/her capacity, IPR status, organisation, investment requirements, historical financial data, financing proposal, proposed company structure and co-financing by a third party. Based on the business plan, an assessment will be carried out and if it proves to be positive, then an assessment of the entrepreneur is made.

Target initiates are entrepreneurs executing innovative activities in the life sciences in the following fields:

- development of biochips/DNA micro-arrays and associated services;
- development and improvement of analytical equipment;
- development of proteins that have a specific effect;
- development of whole genetically modified organisms;
- development of data-mining techniques and setting up of life sciences databases;
- activities of a biological nature in the field of nanotechnology;
- development of bio-activity molecules with a biological effect that do not occur naturally;
- development and production of innovative fermentation equipment; and
- breeding of plants and animals using modern biological techniques.

Application process:

- Business plan assessment and financing application
- Intake
- Declaration of agreement
- Due diligence
- Investment proposal
- Presentation to the Board of supervisory directors
- Final financing decision
- Signing participation agreement

Appendix 4 | List of interviews

List of interviews as of October 10th 2003

name	*organisation*	*supply*	*demand*	*met*
Valter Ritso	Tallinn Technical University (TTU)		x	18–08
Jana Kask Kadri Männasoo	Bank of Estonia	x		18–08
Anti Kõiv & Marit Pukk Tea Varrak	Enterprise Estonia	x		18–08
Rein Ruubel	TTU Innovation Centre		x	18–08
Olav Anton Kaupo Pastak	Tallinn Technology Park		x	18–08
Erki Hendrikson	Tallinn Business Incubator Centre		x	18–08
Tarvo Tamm	Connect Estonia	x		18–08
Mehis Pilv	SILMET Group		x	19–08
Mart Ustav Erik Puura	University of Tartu (TU) + TU Technology Institute		x	19–08
Meelik Kattago	Centre for Strategic Initiatives (SAK)	x		19–08
Marek Tiits	R&D Council		x	19–08
Richard Villems	Estonian Biocentre		x	19–08
Raul Malmstein – deputy secretary general Pirko Konsa – head of SME division Maria Hinrikus – head of Department of Economic Development Kitty Kubo – head of Innovation division	MoEAC	x		19–08 18–08
Erkki Raasuke	Hansabank	x		17–09
Allan Martinson	Microlink		x	17–09
Kaarel Siirde	Prosyntest		x	17–09
Ove Tüksammel	Proekspert		x	17–09
Kirke Kaleviste	Tallinn Entrepeneurship Board		x	18–09
Rein Rätsep	Unionbank	x		18–09
Maive Rute	Kredex	x		18–09
Taavi Lepmets	LHV	x		18–09
Rainer Nõlvak	Business Angel Celecure	x		19–09
Riin Ehin	Centre of Gene Technology of TTU		x	19–09
Gert Tiivas	Tallinn Stock Exchange			19–09
Toomas Noorem Rene Tõnnisson	Tartu Science Park		x	23–09
Teet Jagomägi	Regio		x	23–09
Erki Mölder	Quattromed		x	23–09
Richard Villems	Estonian Biocentre		x	23–09
Ain Heinaru Urmas Varblane Andrus Juhkam	University of Tartu (TU)		x	23–09
Andrus Tasa Alar Meltsov	Tartu Biotechnology Park		x	23–09
Indrek Kask	Asper Biotech		x	24-09
Jaanus Pikani	eGeen (Geenivaramu)		x	24-09
Roland Pärn	Clifton Electronics		x	24-09
Andi Pärn	Agricultural University (EAU)		x	24-09
Kristjan Kalda	Baltcap	x		25–09
Erki Hendrikson	Tallinn City Incubator		x	25–09
Marko Kivilo	TTU		x	25–09

name	*organisation*	*supply*	*demand*	*met*
Endel Siff	N-Terminal		x	25–09
Kaarel Korsen	Opr Konsultatsioonid		x	25–09
Olaf Kaljo	KONKR		x	25–09
Alar Tõugjas	Baltinfo		x	25–09
Rein Ruubel Raivo Tamkivi	TTU Innovation Centre		x	25–09
Joakim Helenius	Trigon Capital	x		26–09
Ülo Kaasik	State Chancellery – office of Prime Minister	x		26–09
Rein Vaikmäe	Ministry of Education and Research	x		26–09
Olev Schults	Cresco	x		26–09

Appendix 5 | Inventory of available reports and other information sources

- **Assessment of the Estonian Research Development Technology and Innovation Funding System**, by PREST, The Victoria University of Manchester, UK (Maria Nedeva, Luke Georghiou).
- **Business incubation**: review of current situation and guidelines for government intervention in Estonia, Vincent Rouwmaat, Alasdair Reid and Silja Kurik, Tallinn 2003
- **Competence Centre Programme**, Ministry of Economic Affairs and Communications, 2002.
- **Competence Centre Programme, Estonia, Feasibility Study**, Dick de Jager, Philip Sowden, Fritz Ohler, Michael Stampfer, Assisted by Erik Arnold and Bart van Looy, Tallinn 2002.
- **Official Journal of the European Communities**, COMMISSION REGULATION (EC) No 1685/2000 of 28 July 2000.
- **Enterprising Estonia, National Policy for the Development of SMEs in Estonia in 2001–2006**, Ministry of Economic Affairs and Communications, 2002.
- **Research on the Estonian biotechnology sector innovation system**, by Institute System and Innovation Research, Draft final report submitted to Enterprise Estonia, Tallinn 2002.
- **Estonian National Development Plan for the Implementation of the EU Structural Funds – Single Programming Document, 2003–2006** (*Draft as of March 18, 2003).*
- **European Trend Chart on Innovation**, Thematic trend report, "Innovation finance", 1999/2000.
- **Evaluation of Estonian Innovation System**, support to European Integration Process in Estonia, Hannu Hernesniemi Etlatieto Ltd, 2000.
- **Evaluation of the SPINNO Programme**, Final report to Enterprise Estonia, SQW limited (economic development consultants), 2003.
- **Framework for Venture Capital in the accession countries to the European Union.** Peter Schöfer, Roland Leitinger.
- **Innovation in Estonian Enterprises**, Silja Kurik, Rünno Lumiste, Erik Terk and Aavo Heinlo, Tallinn 2002.
- **Optimising the Design and Delivery of Innovation Policy in Estonia**: an Evaluation of Policy Instruments for Intensifying Business Innovation, Alasdair Reid with the assistance of Silja Kurik, Tallinn 2003.
- **Overview of research Technology Development and Innovation (RTDI) Policy in Estonia**, Ministry of the Economic Affairs and Communications, 2003.
- **Estonian National Development Plan for Implementation of the EU Structural Fund-Single Programming Document 2003–2006**, Approved report, 2003.
- **Knowledge-based Estonia**: Estonian strategy for research and development 2002–2006, Ministry of Economic Affairs and Communications, 2001.
- **Success Estonia 2014,** draft idea, 2003.
- **Development trends of Estonian small and medium enterprises**, 2003.
- **High tech venturing in Estonia**: background report for the ESTPIN programme, Technopolis BV, Amsterdam (Dick de Jager KU Leuven R&D, Leuven, Bart van Looy and Martin Hinoul), September 2001.
- **SPINNO Programme** Enterprise Estonia – Estonian Technology Agency**,** Tallinn 2001.
- **Venture Capital Policy Review**: United Kingdom, Directorate for Science, Technology and Industry, Günseli Baygan, 2003.
- **Venture Capital Incentives in Europe**, Europe Private Equity. Edited by S.J. Berwin & Co, 1997.
- **Assessment of Estonia's Export Policies and Programmes**, Ministry of Economics Affairs and Communications, Estonia 2003.
- **Industrial Policy**, NPAA, part III, chapter 15, 2002–2003.
- **Estonian Participation in the European Union Fifth RTD Framework Programme** (FP5), Archimedes Foundation, Tartu 2002.
- **Mobile Telecommunications Sector in Estonia and Latvia**, Drivers of Development, 2001.
- **Analysis of Estonian IT Sector Innovation System**: Introduction and Methodology, Tarmo Kalvet (Archimedes Foundation and PRAXIS Centre for Policy Studies), 2002.
- **Guide to Venture Financing in Regional Policy**, Centre for Strategy and Evaluation Services 2002.
- **National Technology Programme in Estonia**, Jari Romanainen, 2002.
- **More opportunities for success**, KredEx, Annual Report 2002.
- **Spin-off from Innovative Learning Environment**: Doing Business in the Knowledge Economy, the road to the New Economy. Edited by Piero Formica, Tayeb A. Kamali, John R. Metzner, IASP (International Association of Science Parks 1999.
- **Academic spin-off**: Methodological guide to the implementation of an operational regional policy, J. Chef, H. Muller-Merbach.
- **The Estonian Economy: Competitiveness and Future Outlooks**, R&D and innovation Policy Review, Research and Development Council, Tallinn 2003.

- **Innovation Support System and Science/Technology Parks in Estonia**: Lessons Learned and the Status Achieved, Raivo Tamkivi, Tallinn Technical University Innovation Centre Foundation, Estonia; International Association of Science Parks.
- **Access to finance with guarantee schemes**, presentation by Maive Rute CEO, KredEx, Estonia, Ljubljana, June 2002.
- **Estonian Innovation Policy in a comparative perspective**, by Alasdair Reid, Tallinn 2002.

Appendix 6 | Overview of existing measures to support company creation

Existing Tools Analysis Table

Organisation	*Name of the programme*	*Terms of the programmes*	*Observations on the programmes*	*Activities*
Estonian Technology Agency – ESTAG (under Enterprise Estonia)	**SPINNO**	Knowledge-Based Services: research, development, technical & business consultancy, technical laboratory services, personnel services. Overall service volumes: 1.5 MEUR in 2001, 2.8 MEUR in 2002 IPR Policy and Development: 26 trade-marks, patents and industrial designs. Active technology transfer and commercialization started in 2003. 3 MEUR of joint new domestic university-industry R&D projects in the pipeline. Enterprise Development of the TTU Membership: ca 35 spin-off companies, TTU staff in managing Estonian enterprises, TTU graduates in Estonian economy.	■ SPINNO was launched in response to a need to develop capabilities in the universities and change academic attitudes towards interactions with businesses. ■ The programme seems to have been well managed. Projects concerned are funded at 75% of their costs. The research and other skills need to be exploited by supporting existing businesses and by creating new ones via spin-outs and spin-ins. Our main observation regarding Spinno other than its success, is the need to provide the innovation managers with additional hands-on experience and specific training.	■ planning and feasibility studies for enterprises and R&D institutions; ■ applied research for R&D institutions and enterprises; ■ product development for enterprises; ■ domestic or international innovation/ enterprise awareness and cooperation projects for innovation support structures
	Applied research (Programme)	Applied research means any planned research activities aimed at obtaining new knowledge that can be used for developing new products, technologies or services; or for substantial improvement of existing products, technologies or services.	■ The programme does not grant funds for expenses related to other core activities of companies. ■ Enterprise: loan 75%, grant 50% ■ Research institutes; grant 50% (up to 100%) ■ Loan principal grace period max.: 3 years	
	Product development (Programme)	Product development aims at the attribution of results of applied research to new, altered or improved products and/or services designed for sales or applicable in the commercial activities of a company in any other manner.	■ the financing support may be insufficient: enterprise: loan 75%, grant 25% ■ Loan principal grace period max.: 3 years	
	Feasibility Study Grant (technological and innovative projects)	The Enterprise Estonia (EE) Feasibility Study Grant has been designed for the purpose of preparing the development of new products, technologies or services in enterprises.	■ EE does not grant funds for expenses related to other core activities of companies. ■ EE covers up to 75% of the expenses of a feasibility study (maximum 100,000 kroons (€ 6.700).	

Organisation	Name of the programme	Terms of the programmes	Observations on the programmes	Activities
		The feasibility study grant is intended only for preparing applied research and product development projects. The aim of a feasibility study is to obtain information on the practicability of the planned applied research or product development project and on the use of the results thereof. Feasibility studies are generally conducted over a short period and usually involve consultation by experts.	The total cost of a feasibility study may account for up to 25% of the project that follows the study.	
Estonian Regional Development Agency – ERDA (under Enterprise Estonia)	Start-up aid programme	The purpose of the Start-up aid programme is to encourage enterprising people to start business activities outside the City of Tallinn, helping them to overcome financing difficulties related to the start-up and developing the capabilities of entrepreneurs.	Amount of support: not more than 75% of the cost of investments related to the project, but not more than 100 000 kroons per application (€6700). In itself, this maximum sum does now provide sufficient funds to "start up" a technology based company.	▪ start-up support for entrepreneurship outside Tallinn; ▪ partial rebate of consulting and training costs for SMEs; ▪ small-size infrastructure support for SME's and local authorities; ▪ partial rebate of costs for fairs inside Estonia for SMEs
	Business consultancy	Business consultants are part of business support network and they provide information about products and services of Enterprise Estonia in the regions.	The programme provides support network and information, but entrepreneurs also need advice and training in business sectors, which can be provided by consultants of EE.	
	G2B portal Aktiva.ee	Aktiva.ee is a G2B (Government-to-Business, i.e. from the state to the commercial sector) information and services portal intended for small- and medium-sized businesses. Its main function is to supply entrepreneurs with information and services necessary for business activities and development.	This programme could eventually be integrated or partnered with the business consultancy or the Business Training Programme.	
	Business Training Programme	Training support is meant for entrepreneurs to increase their interest in the acquisition of up-to-date business and management knowledge.	Amount of support: up to 7000 kroons a year (about €570). Number of supports: each enterprise can get training support up to two times a year. In addition, application of this support requires effort and several documents, which complicate the entrepreneur's tasks and increase the processing costs.	

Organisation	Name of the programme	Terms of the programmes	Observations on the programmes	Activities
	Support for the construction of technical infrastructure required for business development	The Regional Development Agency of Enterprise Estonia (ERDA) provides support for the construction of technical infrastructure required for business development. The aim of the support is to contribute through the removal of shortcomings in technical infrastructure to the implementation of development projects of entrepreneurs, carried out for the production of goods and services.	Minimum amount of support: 100 000 kroons (€6670) Maximum amount of support: not limited. The limits of support provided through this measure are as follows: ■ for large companies – 50% of eligible expenses; ■ for small- and medium-sized companies – 65% of eligible expenses; ■ for local governments and associations of entrepreneurs – 65% of eligible expenses.	
	Programme for retraining of employees	The aim of the Programme for the Retraining and Further Training of Employees is to contribute to business development in regions, which have a low standard of living and high unemployment rate. Economic development of such regions is, however, often restricted by structural unemployment – there is primarily a lack of qualified skilled workers and specialists. Through this programme, Enterprise Estonia supports training projects of entrepreneurs which have the following purpose: raising the qualification of local labour; professional training; acquisition of new specialities and skills.	Amount of support: 10 000 kroons as a minimum; the maximum amount is not limited. The rate of support shall depend on the size and place of business of the enterprise, and the nature of the training. It can be no more than 80% of the cost of the training.	
	Programme for participation in trade fairs	The fair support paid by the state through ERDA to small- and medium-sized businesses and self-employed entrepreneurs is intended for the support of participation in trade fairs held in Estonia. The aim of support is to help entrepreneurs in creating business contacts and finding new distribution channels.		

Organisation	*Name of the programme*	*Terms of the programmes*	*Observations on the programmes*	*Activities*
	Estonian Trade Promotion Agency	The Estonian Trade Promotion Agency is the national trade development organisation, established by the Ministry of Economic Affairs. Agency is a branch of the Estonian Enterprise Development Foundation – "Enterprise Estonia". The Estonian Trade Promotion Agency is implementing, coordinating and financing public and private projects aimed at developing the Estonian transit sector.	Provides useful information, i.e. market information (including export markets and public procurement), advice, direct support and strategic services; also SME-specific training and education.	■ partial rebate of costs for fairs abroad for companies.
	Export planning programme	The Program of Export Planning consists of two main stages – compilation of an export plan and its execution. A company participating in the project compiles in cooperation with Enterprise Estonia (if needed, also with a consultant) a long-term (2–3 year) plan of export development strategy, which presents the marketing activities needed for achieving the strategic goals and their budget. Then the export plan is sent to the commission for evaluation. The commission selects the best plans, which will be financially supported.		Export planning programme aims at supporting the long-term export plans of Estonian companies and financing their implementation
KredEx	KredEx	■ Aim is to develop Estonian small and medium enterprises by improving the availability of capital ■ Also aims to develop Estonian exports by reducing export risks; to support housing purchases and renovations through improved funding. ■ Founded by the Ministry of Economic Affairs in July 2000.	■ In early stages still; a good safety net for Estonian families and companies. ■ Created over 1000 new jobs. ■ As of May 1, 2003, state covers the loans and leasing transactions guaranteed by KredEx to a total amount of 500 M kroons, which has positive effect on export and entrepreneurship in Estonia. Kredex covers up to 75% of the credit. Maximum guarantee is 7,000,000 EEK; maximum capacity is EUR 22,300,000. ■ Mainly involves micro- and small-sized businesses.	Guarantees: ■ for enterprise loans from commercial banks; ■ for equipment leasing; ■ for exports (credit or pro-duction risks).

Organisation	*Name of the programme*	*Terms of the programmes*	*Observations on the programmes*	*Activities*
EIA (under Enterprise Estonia)	Estonian Investment Agency	Estonian Investment Agency – EIA has been established with the aim of promoting foreign direct investment into Estonia. EIA provides the following free-of-charge services to companies wishing to locate in Estonia: ▪ general and industry specific information on investment opportunities in Estonia; ▪ introducing useful contacts within the public and private sector; ▪ identifying potential co-operation and joint venture partners; ▪ organising visits to Estonia; ▪ finding industrial property.	Estonia saw almost a twofold decline of FDI inflows in 2002 (EUR 300 million) compared to 2001 (EUR 600 million). Nevertheless, Estonia is one of the top performers of attracting FDI in the CEE.	Investment Agency
ETB (under Enterprise Estonia)	The Estonian Tourist Board	The Estonian Tourist Board is a state authority that aims to create a balance between the interests of tourists, the local communities, tourism businesses and local authorities in such a way that the present and future tourism potential of Estonia will be fully developed in harmony with the environment. Goals: ▪ to increase the number of tourist arrivals and over-night stays, and to take an active role in optimising the contribution of tourism to economic prosperity; ▪ to support sustainable development by encouraging responsible planning and management practices consistent with the conservation of cultural and natural heritage ▪ to promote quality tourism experiences between visitors and the local population, and encourage favourable social outcomes of tourism by assisting in the diversifi-cation of the product base and raising industry standards;		Tourism Board

Organisation	*Name of the programme*	*Terms of the programmes*	*Observations on the programmes*	*Activities*
		■ to provide and encourage the necessary planning, promotion, coordination, statistical support and research to assist the tourism industry's development.		
Concept of Entrepre-neurial University – TTU	Competence Centres Programme (to be established)	■ Strategic planning according to the needs of society and business. ■ Efficient use of its resources, measurement of performance against economic indicators. ■ R&D-intensive support network for enterprises. ■ Development of co-operation with industries. ■ Active offering of knowledge-based services – support to R&D-intensive spin-offs. ■ Increasing of innovation & enterprise awareness of academicians. ■ Initiating the development of enterprise support environment – TEHNOPOL.		■ strategic planning according to the needs of society and business, ■ efficient use of its resources, measurement of performance against economic indicators, ■ R&D-intensive support network for enterprises, ■ development of co-operation with industries, ■ active offering of knowledge-based services – support to R&D-intensive spin-offs, ■ increasing of innovation & enterprise awareness of academicians, ■ initiating the development of enterprise support environment – TEHNOPOL.

Appendix 7 | Overall recommendations framework for the company creation system

Need for direct public intervention/risk of failure

TIERS	*NEEDS*	*Existing tools / analysis*	*Recommended measures*			
Tier 0 Zero stage ▪ Idea creation (product) ▪ R&D ▪ Entrepreneurial	▪ Promote demand side ▪ Awareness creation ▪ Growth of IPR ▪ General interest in technology ▪ Entrepreneurialism promotion ▪ Link to Tier 1	**P&L** ▪ *SPINNO** **Scholarships/ Grants** ▪ *Feasibility Study Grant** **Technology Centers** ▪ *Competence centres** ▪ *TTU* ▪ *Tartu Science Park* **University facilities** ▪ *Entrepreneurial University (concept)**	Awareness raising Orientation / information services Zero stage grant IPR/Patents Spin-off creation Coaching and mentoring	Innovation Estonia Platform	Implementation mentoring	Innovation managers training
Tier 1 Early/ Pre-seed stage ▪ Market definition ▪ Prototype ▪ Idea and Business plan	▪ Clarity funding procedure ▪ Support organisations ▪ Incubation ▪ Spin-off promotion ▪ Promote demand side ▪ Subsidies, grants and pre-seed capital ▪ Central information point ▪ Network support ▪ Training entrepreneurialism & management ▪ Link to Tier 2	**Financial Support** ▪ *Start-up aid programme* ▪ *Applied research loan and grant* ▪ *Feasibility Study Grant* Training/Competence ▪ *Business Training Programme* **Network support** ▪ *Business consultancy* ▪ *G2B Aktiva* **Business centers/ Incubators** ▪ *Competence centres* ▪ *TTU/Tartu Science Park*	Early/Pre-seed grant (from research to pre-industrial prototype and business plan) Coaching and mentoring Incubation			
Tier 2 Start-up/Seed stage ▪ Sales & marketing ▪ First customers ▪ Product enhancement	▪ Focused incubation ▪ Seed and start-up capital (PPP) ▪ Promotion of supply side (Seed/Risk/VCI capital) ▪ Soft loans ▪ Network support ▪ Simplified procedures ▪ External services and mentoring ▪ Link to Tier 3	**Start-up support** ▪ *Programme for the business advisory* **Financing** ▪ *Kredex-applied research loan and grant* ▪ *Programme for the Construction of Technical Infrastructure* **Networks (Nat./Int.)** ▪ *G2B Aktiva*	Coaching and mentoring Starters' incentives (e.g. a tax discount for start-ups, tax deductions for innovative technology development) Seed capital funds (€50–500k) Investors' incentives (e.g. reduced capital gain taxes tax credits for investment, free transfer of capital) Incubation			

TIERS	*NEEDS*	*Existing tools / analysis*	*Recommended measures*
Tier 3 Growth/ Development ■ Market penetration ■ Sales and profit ■ Internationalisation	■ Increased private participation ■ Bank related funds ■ Promotion of exits ■ 2nd & 3rd round financing ■ VC and BA Associations ■ Internationalisation support ■ Top expert services	**Support** ■ *Export planning programme* **Financing** ■ *Kredex* ■ *Programme for the Construction of Technical Infrastructure* **Networks (Nat./Int.)**	Growth capital funds (2nd and 3rd round financing) Reduced capital gain taxes / Tax credits for investment / Free transfer of capital Incubation
Tiers 4/5 Maturity & expansion ■ Consolidation ■ Alliances, mergers, sell-offs ■ Rapid expansion	■ Positive environment for VC ■ Promotion agencies ■ Tax and legislation	■ *Programme for the Construction of Technical Infrastructure*	Reduced capital gain taxes / Tax credits for investment / Free transfer of capital Expansion funds

TIERS	*Recommended measures*	*Description*	*Management & organisation issues*	*Funding sources*
Tier 0 Zero stage ■ Idea creation (product) ■ R&D ■ Entrepreneurial	Awareness raising	At this early stage this may be one of the most important factors in increasing the number of entrepreneurs. The "seed" of business creation must be planted. Towards the domestic market, this will be achieved by communication campaigns and seminars. Towards the international environment, a large conference on innovation in Estonia could be organised once a year, attracting leading figures form the business and the scientific communities.	Mainly the members of the Innovation Estonia Platform and the Direction of the Platform will carry out these activities.	Included in the budget for the IE Platform, public source
	Orientation/ information services	This concept refers to an integrated service covering; a) the development of well-staffed information points gathering all relevant data on the innovation system and measures; b) added-value advise meant to help the developer with personal and direct guidance.	The "Orientation & information centers" should be located in universities and/or chambers of commerce and/or incubators. This should allow for an adequate regional coverage. The tasks should be carried out by internally appointed staff that has been previously trained to deliver this specific service.	100% public financing

TIERS	*Recommended measures*	*Description*	*Management & organisation issues*	*Funding sources*

	Zero stage grants and services	Under this heading, we advise to include grants for education, experience-building and training under the following headings:
		▪ scholarships & study visits of researchers and students (nat/int);
		▪ Promote participation in the sciences, business development and entre-preneurial experience;
		▪ Instituting professional placements should also be considered as a method of providing hands-on experience of the business environment
		▪ Focused training programmes:
		  ▪ Innovation management
		  ▪ Marketing sales analysis
		  ▪ Innovation and technology exploitation
		  ▪ Pilot entrepreneurial development programmes
			Most universities and educational institutions already have a board in charge of dealing with scholarships. There should be no need to duplicate this function externally.
			Therefore, the management and promotion function of this programme should be given directly to them.
				100% public, additional to the existing budgets.

	IPR/Patents issues	Covered by Spinno programme	The SPINNO programme has already demonstrated its success. For that reason it should remain as it is. We would recommend: a) training for managers, specifically about the issues regarding the commercial exploitation of Intellectual Property; b) active scouting for existing technologies and promotion of marketable IP.	The funding of the programme can remain the same; with allowance for extra budget to allow for additional requirements for training of the managers.
	Spin-off creation	Covered by Spinno programme	The SPINNO programme has already demonstrated its success related to Spin-off creation. We would recommend: a) training for the managers, more specifically about the issues regarding the commercial exploitation and business aspects; b) active scouting for existing technologies with commercial spin-off potential.	The funding of the programme can remain the same; with allowance for extra budget to allow for additional requirements for training of the managers.

TIERS	*Recommended measures*	*Description*	*Management & organisation issues*	*Funding sources*
	Coaching and mentoring	During Tier 0, a large part of the coaching and mentoring can be covered by the orientation and information services. Of course, the success of this initiative will also be affected by the influence of "Innovation Estonian Platform," innovation management training and "implementation mentoring".	On an "angel" or contractual basis, the prominent members of business community should be invited to give guidance even at these very early stages. The management of different incubation centers should also provide additional coaching.	The management fee of orientation/ information services and the incubator management fee should cover part of coaching and mentoring.
	Incubation	Tier 0 incubators are nothing more than "workshops," where the costs are covered directly by public sources. In these workshops, technological/ scientific knowledge is channelled towards becoming a business idea. This type of "workshop-incubators" should be established within the main scientific/technical poles (academic, industrial). In optimal situation, the "exit" of a project from this phase coincides with the early conception of a marketable product/service and the first definition of an enterprise structure. This stage is fully subsidised.	The government agency selects management of the incubator via open international tender, against a fixed yearly fee. The incubation centre should strive to become self-sustaining. In this aspect we recommend the establishment of a success fee as an incentive to the incubator management. Finally, any profits generated should revert back to the incubator itself (non-profit).	All costs should be covered by public funding as these activities are projects-generating rather than profit -generating.
Tier 1 Early/Pre-seed stage ▪ Market definition ▪ Prototype ▪ IDEA to Business plan	Incubation	Tier 1 incubation is aimed at supporting the realisation of business plan. If we are talking about a spin-off: the actual detachment of the newly created entity from the original organisation; the definition of the market; the actual start of the business; the first identification of potential sources of funding/investors; the definition of a company structure. In this incubation phase, technical equipment has a vast importance for product development. Therefore, the facility should include suitable laboratories. At the end of this incubation phase, the company prototypes are manufactured. This stage is partially subsidised.	The government agency selects management of the incubator via open international tender, against a fixed yearly fee. The incubation centre should strive to become self-sustaining. In this aspect we recommend the establishment of a success fee as an incentive to the incubator management. Finally, any profits generated should revert back to the incubator itself (non-profit).	Part of the costs can also be financed by charging a reasonable fee to the tenants/ developers.

TIERS	Recommended measures	Description	Management & organisation issues	Funding sources
	Coaching and mentoring	The efforts of coaching and mentoring should focus on this early stage on the following issues: ■ IDEA to Business plan ■ IDEA to Poduct/Prototype ■ financing and facilities ■ innovation network	On an "angel" or contractual basis, prominent members of the business community should be invited to give guidance even at these very early stages. The management of different incubation centers should also provide additional coaching. Additionally the Innovation Estonia Platform should be used to its fullest as a way of making use of leading experts in providing guidance and advice.	The management fee of orientation/information services and the incubator management fee should cover part of coaching and mentoring.
	Pre-seed grants (research to prototype and business plans)	The existing grant instruments: (start-up aid programme, applied research loan and grant, Feasibility Study Grant, the Product Development Programme) appear too modest and excessively fragmented. We recommend that they are grouped into a new instrument, Pre-seed grants, only providing grants up to a maximum of 100.000 €, according to the following criteria: Applied research loan and grant – 100% grouped Start-up aid program – 100% grouped Product development program – 100% grouped Programme for the Construction of Technical Infrastructure – projects up to 1 Mil. EEK are grouped. The Pre-seed grants will cover the activities previously covered by the grouped programs and additionally: ■ the finalisation of a feasible business plan; ■ the development and realisation of an industrial prototype. Early/Pre-seed stage grants promote the shift between idea and an independent enterprise. A maximum period per project should be marked in order to prevent the use of this facility as a research support tool. This subsidy may be intended for salary costs, materials, courses and the engaging of	As is the case with any grant, the management should by definition be carried out/monitored by a public body. In the Estonian scenario, this activity should continue to be carried out by Enterprise Estonia. However, in order in order to answer to the demands and observations coming from the market; procedures and bureaucracy should be simplified. The general approach should be to give support and facilitate. To this end, the appointed staff should undergo specific training to gather as much understanding from business environment as possible (see innovation managers training measure applicable to all Tiers).	100% public funding coming from already existing programmes. Additionally, the reduction and simplification of procedures should liberate some of the costs, allowing for an overall increase in the number of grants provided and a reduction in the time and effort taken to evaluate the aforementioned applications.

TIERS	*Recommended measures*	*Description*	*Management & organisation issues*	*Funding sources*
		external experts (such as coaches or patent experts). The project should result in a clear business plan that can progress toward the tools available in Tier 2 stage or otherwise be discontinued.		
Tier 2 Start-up/Seed Stage ■ Sales & marketing ■ First customers ■ Product enhancement	Coaching & mentoring	The efforts of coaching and mentoring should focus in this early stage on the following issues: ■ Business Plan to viable business ■ Product/Prototype to Saleable product ■ financing and facilities (see *Innovation Estonia Platform* measure applicable to all Tiers)	On an "angel" or contractual basis, prominent members of the business community should be invited to give guidance even at these very early stages. The management of different incubation centers should also provide additional coaching. Additionally, the Innovation Estonia Platform should be used to its fullest as a way of making use of leading experts in providing guidance and advice.	The management fee of orientation/information services and the incubator management fee should cover part of coaching and mentoring.
	Starters' incentives	A programme providing small tax rebates to starting companies (e.g. €10k for 5 years) can be a simple method to promote the number of new companies. Additional alternatives may include specific grants or subsidies to those businesses that are technological/ innovative in nature.	Not applicable	Not applicable
	Seed capital fund	Although a number of programmes already exist in Estonia under the title "start-up," there yet no real programme of funding covering investments from € 50–500K. The creation of such a fund is at the heart of our recommendations.	The government agency selects management of the funds via open international tender. The management of the fund is carried out by an independent private organisation (against a fixed year management fee of approximately 2% plus costs), according to market-driven criteria. The fund is steered by a management board in which both public and private actors are represented. The governmental roles include facilitating, monitoring and promoting.	Direct public funding 100% Budget 15–20 Million euros over a three to five year period.
			The management of a guarantee fund is arranged by accepting applications from the registered seed and	Guarantee fund (100% public funding). Covers up to 70% of

TIERS	Recommended measures	Description	Management & organisation issues	Funding sources
			venture capital industry. The applications are then evaluated by a government agency that decides if a guarantee is offered or not. In the case that the application is accepted, the exact percentage of guarantee must be negotiated between the agency and capitalist. The guarantee is paid out only in the case of failure of the venture.	original approved private investment (on project per project basis, only in case of bankruptcy). Budget variable, but should cover a maximum of 20 Mil. euro over a three to five year period.
			The government agency selects management of the funds via open international tender. The management of the fund is carried out by an independent private organisation (against a fixed year management fee approximately 2%, plus costs), according to market driven criteria.	Public-private co-financing The fund is 100% public. In order for invest-ments to get financed, there is an in-built requirement for private matching. In other words, before the man-agement can invest a single public euro, at least an equal amount of private co-financing must be achieved. Budget 15–20 Million euros over a three to five year period.
	Incubation	Tier 2 Incubation consists of accompanying the new entrepreneur in actual start of operations; the fine-tuning of the product-marketing mix, definition of commercial strategy; entering the market and closing the first contracts with their clients; generating the first turnover, further enhancement of the product. Entrepreneur's efforts will mostly be absorbed by marketing and business model implementation. In this stage, the entrepreneur will need support in finalising agreements with investors or/and banks.	The government agency selects management of the incubator via open international tender, against a fixed yearly fee. The incubation centre should strive to become self-sustaining. In this aspect we recommend the establishment of a success fee as an incentive to the incubator management. Finally, any profits generated should revert back to the incubator itself (non-profit).	The aim is to ultimately promote the self-sufficiency of those centres and to use the rent generated for improving the quality of services and facilities to the tenants. The stage is expected to be self-sustainable.

TIERS	*Recommended measures*	*Description*	*Management & organisation issues*	*Funding sources*
	Investors' incentives (reduced capital gain taxes / tax credits / free transfer of capital)	These types of measures will offer incentives to potential investors. They are focused on the "supply" side, making sure that there is a clear incentive for private capital to get involved in this sector.	These measures should be introduced for a limited period of time (e.g. 10 years) as a way of encouraging risk capital and private investors. Specific conditions and requirements to benefit from such measures should consider issues such as: ▪ innovativeness ▪ employment creation ▪ business performance	Not applicable
Tier 3 Growth/ development ▪ Market penetration ▪ Sales to Profit ▪ Internation-alisation	Growth funds (2nd and 3rd round financing)	Funding covering investments from € 250K– €1 million. The creation of such funds is at the heart of our recommendations.	The management of a guarantee fund is arranged by accepting applications from the registered seed and venture capital industry. The applications are then evaluated by a government agency that decides if a guarantee is offered or not. In the case that the application is accepted, then the exact percentage of guarantee must be negotiated between the agency and capitalist. The guarantee is paid out only in the case of failure of the venture.	Guarantee fund (100% Public funding). Covers up to 40% of the original approved private investment (on project per project basis), only in case of bankruptcy) Budget 15–25 Million euros over a three to five year period.
			The government agency selects management of the funds via open international tender. The management of the fund is carried out by an independent private organisation (against a fixed year management fee of approximately 2% plus costs), according to market-driven criteria.	Public-private co-financing. The fund is 100% public. In order for investments to get financed, there is an in-built requirement for private matching. In other words, before the management can invest a single public euro, at least an equal amount of private co-financing must be achieved. Budget 15–25 Million euros over a three to five year period.

TIERS	*Recommended measures*	*Description*	*Management & organisation issues*	*Funding sources*
	Investors' incentives (reduced capital gain taxes / Tax credits for investment / free transfer of capital)	These types of measures will offer incentives to potential investors. They are focused on the "supply" side, making sure that there is a clear incentive for private capital to get involved in this sector.	These measures should be introduced for a limited period of time (e.g. 10 years) as a way of encouraging risk capital and private investors. Specific conditions and requirements to benefit from such measures should consider issues such as: ▪ innovativeness ▪ employment creation ▪ business performance	Not applicable
	Incubation	Tier 3 Incubation is normally the last phase of the incubation process. In this phase, the company will need high-value support in penetrating the market, enlarging the sales and distribution network, internationalisation company operations. In this phase "Strategy" is the big concern for the entrepreneur.	The government agency selects management of the incubator via open international tender, against a fixed yearly fee. The incubation centre should strive to become self-sustaining. In this aspect we recommend the establishment of a success fee as an incentive to the incubator management. Finally, any profits generated should revert back to the incubator itself (non-profit).	The aim is to ultimately promote the self-sufficiency of those centres and to use the rent generated for improving the quality of services and facilities to the tenants. The stage is expected to be self-sustainable.
Tiers 4/5 Maturity & expansion ▪ Market consolida-tion ▪ Alliances, mergers, sell-offs ▪ Rapid expansion	Investors' incentives (reduced capital gain taxes / tax credits for investment / free transfer of capital)	These types of measures will offer incentives to potential investors. They are focussed on the "supply" side, making sure that there is a clear incentive for private capital to get involved in this sector.	These measures should be introduced for a limited period of time (e.g. 10 years) as a way of encouraging risk capital and private investors. Specific conditions and requirements to benefit from such measures should consider issues such as: ▪ innovativeness ▪ employment creation ▪ business performance	Not applicable
	Expansion funds	Funding covering investments larger than €1 million. The creation of such funds is at the heart of our recommendations.	The management of a guarantee fund is arranged by accepting applications from the registered venture capital industry. The applications are then evaluated by a government agency that decides if a guarantee is offered or not. In the case that the application is accepted, the exact percentage of the guarantee must be negotiated between the agency and capitalist. The guarantee is paid out only in the case of failure of the venture.	Guarantee fund (100% public funding). Covers up to 20% of the original approved private investment (on project per project basis, only in case of bankruptcy). Budget 20–30 Million euros over a three to five year period.

TIERS	*Recommended measures*	*Description*	*Management & organisation issues*	*Funding sources*
			The government agency selects management of the funds via open international tender. The management of fund is carried out by an independent private organisation (against a fixed year management fee of approximately 2% plus costs), according to market-driven criteria.	Public-private co-financing. The fund is 100% public. In order for investments to get financed, there is an in-built requirement for private matching. In other words, before the management can invest a single public euro, at least an equal amount of private co-financing must be achieved. Budget 20–30 Million euros over a three to five year period.

RECOMMENDED MEASURES APPLICABLE TO ALL TIERS			
Innovation Estonia Platform	The Estonia Innovation Platform is a flexible organisation laying across all the business development tiers, aimed at helping the implementation of the innovation system in business community. The members of network have tasks such as: raising the awareness on entrepreneurship; promoting the Estonian innovation system nationally and abroad; lobbying with the public authorities (national and European); helping to identify promising projects by informal scouting; favouring the match between ideas and money, i.e. between promising business and suitable funding; laying bridges among the national business community and other selected international business communities.	The Platform should include 10 to 15 people selected from: ■ large enterprises in innovative sectors; ■ business angels; ■ venture capitalists; ■ banks; ■ universities; ■ national regional and local public administration; ■ incubators and science parks. The Management of a network will be chosen by open international tender procedure, it will include 3 to 5 persons. Their tasks will be to manage and coordinate the implementation of specific measures, and to carry out systematic scouting actions in all relevant knowledge centers (universities, research centers, events). The management will involve experts from outside (on a contract basis) to handle specific topics. Among other hands-on promotional activities, they should organise an annual international conference on "Innovation in Estonia", inviting leaders from academic and business communities.	Public funding. Budget 1.5–2.5 Million euros over a five year period.
Implementation mentoring	The innovation system, especially in the view of the newly introduced elements and the goals concerning bio-, nano- and ICT technologies, will be quite complex to manage. In order to support the managers facing strategic choices and problematic issues, the managers will have access to mentoring guidance by a restricted number of appointed executives.	Mentors should be two to four top executives who in predetermined moments during the working week will be available from their usual locations.	Public funding
Innovation managers' training	Specific training addressed to innovation and business management should be designed and made available for the staff involved in management of the innovation system.	It should consist of a set of modules focused on technical and market issues, including stages to be carried out abroad within the management units of similar programs selected from European best practices.	Public funding

Appendix 8 | Comparative tables of funding options

<table>
<tr><th colspan="2">1 – Public government fund</th></tr>
<tr><th>1.1 – subcontracted management services</th><th>1.2 – direct control</th></tr>
<tr><td colspan="2">Advantages of having only public government funding
▪ At condition that the government can gather the necessary capital alone, setting up a fund requires very little time – no consensus must be sought besides that of government’s political components.</td></tr>
<tr><td colspan="2">Disadvantages of having only public government funding
▪ The government alone must avail all of the necessary capital.
▪ A 100% government program would most likely be regarded as a grant type, therefore somewhat of a gift, having the following consequences: very low return on investment for the government, very low promotion of entrepreneurship and spirit of enterprise.
▪ Lack of private co – funding implies that some supplementary financial sources will not be usable, for example the EIF programmes, which require private participation to some extent.
▪ Specific attention is required to avoid the breach of state aid regulations in defining the working conditions of the fund, provided that it could be regarded as market disturbance.</td></tr>
<tr><td>Advantages of having an independent management organisation
▪ Any choice concerning investments or management aspects will be made according to market principles, implying a higher sustainability of the venture.
▪ The professionalism of the management organisation will be guaranteed by a properly done international tender.
▪ The use of open tendering as a procedure will permit careful selection of most suitable operators to manage the fund. Ideally, these operators would provide knowledge of the market and of the innovative sector. In order to promote the relevance of the eventual manager, we would recommend ensuring that the company and partnership should also bring a mix of local knowledge and international relevance.</td><td>Advantages of having direct control
▪ It is easy to make investment decisions that are coherent with specific economic development policies. If the government considers a specific sector as having a strategic importance, it will be able to direct investments to that sector despite any market shortcomings.
▪ Decision-making is simplified, since government controls the management function.</td></tr>
<tr><td>Disadvantages of having an independent management organisation
▪ There is little or no control at all from the government over the type of investments / companies funded (which should be determined by market principles).
If the government has decided to focus investment on specific sectors for strategic national economic reasons, there is the risk that fund managers will not be able to satisfy that policy if no / too few feasible projects actually apply for funding.
▪ Decision–making might be complicated, when the management organization and the government do not agree on specific issues.
▪ Need to create TOR: As with any subcontracting agreement, the terms of reference will have to be very carefully drawn out. Terms of reference must therefore ensure that the potential firm or consortium does not only have the financial capacity, but more importantly the expertise and experience of dealing with early-stage technology-based firms.</td><td>Disadvantages of having direct control
▪ There is a high risk that investment decisions will not be market-driven. Therefore, there exists a high risk that any funded venture will not become self-sustainable but will remain more or less a state-owned activity.
▪ It is difficult to avail of the necessary fund management competence and experience within a public administration. The risk is that some civil servants will be appointed without having sufficient experience and competence, thereby putting at risk the functioning of the fund. The professionalism management will be the result of long term training activity.
▪ Such an instrument would be considered as a fall-back to a state–run economy, both internally and for any foreign observer.</td></tr>
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<table>
<tr><th colspan="2">2 – Guarantee fund</th></tr>
<tr><th>2.1 – investor’s portfolio</th><th>2.2 – business venture guarantee</th></tr>
<tr><td colspan="2">Advantages of Guarantee funds
▪ Lowers the investment risk threshold (both to entrepreneurs and investors) by providing a clear safety net.
▪ It can be assumed that a large number of proposals previously kept “on hold” due to the involved risk will be put forward to the evaluating authorities, generating a good short-term project flow.</td></tr>
<tr><td colspan="2">Disadvantages of Guarantee funds
▪ Long-term uncertainty on the exact amount to be guaranteed.
▪ Possibility of a high “project mortality” ratio in the longer term, because some projects were not in line with market requirements.
▪ No possibility to influence the progress of the project once a “go” / “no go” decision has been made, besides at the end of pipeline.
▪ There is an intrinsic possibility of fraud from potential entrepreneurs, since they could “divert/misuse” the money rapidly and then request the guarantee due to bankruptcy.
▪ The public sector must take the responsibility of endorsing the viability (both technical and market-related) of specific projects.</td></tr>
<tr><td>Advantages of having an Investor’s guaranteed portfolio
▪ Simple set-up and organisation, as the selected capitalists have already gone through a pre-qualifying process. Therefore, they have the full responsibility to pick and administer the investments.</td><td>Advantages of focusing on a per project approach
▪ It would be possible to examine the merits and drawbacks of each one of the presented projects, and therefore allocate a tailor-made guarantee limit dependant on project-specific conditions.
▪ It encourages potential entrepreneurs to take risk in starting a new venture.</td></tr>
<tr><td>Disadvantages of having an Investor’s guaranteed portfolio
▪ High risks as the public authorities fully relinquish control over the whole process.
▪ The influence of public authorities goes only as far as selecting the “approved” capitalists.</td><td>Disadvantages of focusing on a per project approach
▪ Final approval of any single project may be slow as the evaluation of each project will not be an easy task for the evaluating authority. Thus, there will be additional costs in terms of management and time.</td></tr>
<tr><td>Expected impact
▪ Any Guarantee fund would encourage increased activity by (mostly) large institutional investors.
▪ It could promote high business creation dynamics due to simple application procedures and no initial financial disbursement (at risk if not conforming to market trends and rules) – no entrepreneurship promotion.
▪ Risk of heavy financial burdens at the end of pipeline.</td><td>Expected impact
▪ Higher chance that smaller investors become involved in investment operations, higher chance that market logic is taken into consideration.</td></tr>
<tr><td>Accordance to Estonia
▪ There is a limited number of large-sized early-stage investors, which may create a monopolistic or oligopolistic situation.</td><td>Accordance to Estonia
▪ The evaluating authority will require extensive experience and knowledge in order to carry out the selection procedure. Research suggests that the skills and experience necessary to carry out such a task are not yet widely available in Estonian public sector.</td></tr>
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<table>
<tr><th colspan="2">3 – Public-private co-funding</th></tr>
<tr><th>3.1 – lump co-financing</th><th>3.2 – per project co-financing</th></tr>
<tr><td colspan="2">Advantages of having co-financing / Public Private Partnership (PPP)
▪ Can have access to a wide source of funding, including structural funds (EIB, EIF, also EU Actions, e.g. seed capital action). Due to the inclusion of private capital, this option would allow to apply to a wide variety of sources for funding.
▪ Generation of additional capital: this is an evident advantage of selecting any kind of co-financing approach. The private input (min. recommended €1–1) will automatically lead to an increase in the overall fund size. It allowins in principle to invest either larger sums or in more projects.
▪ Validation: the feasibility of the fund would be automatically validated, as market players would not risk their own funds unless there was a real understanding that such a venture would be viable and that proven results are expected. This would in turn help to ensure that the firms selected do not only have technological potential but also market potential, and can generate long-term employment.
▪ Promote cooperation (PPP): the cooperation between public and private actors is of critical importance. This option can act as a springboard to promote network building and give long-term relevance to the partnerships formed.</td></tr>
<tr><td colspan="2">Disadvantages of having co-financing / PPP
▪ Cooperation conflict (public private): in our own experience we have seen that potentially conflicting objectives of public and private sectors can result in friction over how the fund should be exactly managed, and what should be the importance and impact of different members. This difficulty can be dealt with by ensuring an ongoing dialogue and by clearly defining the roles and responsibilities of public and private players from day one.
▪ Loss of control (strategic, not operation): By accepting this option, the government would also have to admit to a loss of overall control over the process once it is implemented. Nevertheless, the focus should move away from operational issues, in which the responsibility should fall on the private fund manager, toward the more strategic aspects.</td></tr>
<tr><td>Advantages of focusing on a lump approach
▪ In this option, the level and intensity of (financing) resources required is relatively limited when referring to the lump co-investment that would be put forward by the tender-winning firm or consortium.</td><td>Advantages of focusing on a per project approach
▪ High visibility of the fund, since there is an intrinsic need to involve a pool of national and international investors in order to find co-financing for each of the investment proposals.
▪ Each project is clearly validated by the market. Not only will the fund managers carry out their own due diligence but they will have to demonstrate clearly to private investors that the project can indeed make money. This may in many cases be followed up by an additional check (due diligence) by the investor, assuring further the viability of projects.
▪ Since the entrepreneur also needs to take an active approach to finding private partners, he/she will be forced to promote the venture accordingly and approach investors. Therefore, entrepreneurship will be substantially promoted.</td></tr>
<tr><td>Disadvantages of focusing on a lump approach
▪ Considering that the main takers would mostly be either banks or venture capitalists, there is the risk that the focus would not lay on seed phase. In fact, banks are risk adverse by nature and rarely have the expertise required to deal with early stage high-tech investments. Venture capitalists are more interested in larger investments in companies at a "later stage/tier" of investment. The terms of reference must therefore ensure that the potential firm or consortium has financial capacity, and also the expertise and experience of dealing with early-stage technology-based firms.</td><td>Disadvantages of focusing on a per project approach
▪ Final approval of any single project may be slow, because there will be a need to find and formalize additional financing.
▪ There will be additional costs in terms of management fees and performance bonuses. Due to the time and effort required to bring in financers, the management of such a fund would have to be remunerated accordingly. Nevertheless, since there will be a performance element included in the fees, it is reasonable to assume that the fund manager will be much more motivated to succeed.</td></tr>
<tr><td colspan="2">Advantages of having an independent management organization
▪ Same as option 1.1.
Disadvantages of having an independent management organization
▪ Same as option 1.1.</td></tr>
</table>

NOTES on deliverables

The list of **deliverables provided** in the present report is slightly different from the one described in the proposal, due to minor changes occurred during the implementation. This had no negative consequence whatsoever on the quality and reliability of the work.

During the kick-off meetings, no changes have been made to the proposal. Therefore, the proposal itself has become the **"executive plan"** *de facto*.

The "**inception report**" has been handed in on October 10, 2003, and no further changes have been made to it.

Due to the difficulties met in obtaining business plans needed for carrying out the **pilot scouting action**, the validation of gathered results has been achieved by combining the outcoming of interviews with the outcome of round table. However, we expect to receive a number of business plans that we will use for the foreseen purpose later.

The mention of the **"contracts with local experts in subcontracting"** has become redundant since there has been no formal subcontracting with local experts. Following the first rounds of interviews, the experts have been repeatedly asked by various stakeholders to hold informal talks with willingness to provide additional insight of the actual innovation system. Zernike Group appointed a local person to provide assistance for the reporting in interviews and the round table – this should therefore not be regarded as subcontracting.