



Early Stage Investment Triggering in Eastern Regions

ESTER

Final Report

The creation of seed and venture capital sources
for small eastern European countries following
the models of the Yozma and technological incubators' programmes

Riga 2005

Table of Contents

LIST OF ACRONYMS	3
KEY DEFINITIONS	4
FOREWORD	8
EXECUTIVE SUMMARY	13
THE ESTER PROJECT – A BRIEF OVERVIEW	15
THE FLOW OF THE PROJECT	17
Latvia – analysis of business environment and potential	18
Potential players in the high-tech sector	22
Potential financial operators for early-stage investments	25
Drafting of support schemes	27
Promotion & dissemination of results	28
RESULTS OF THE ESTER PROJECT	30
TI programme	30
<i>TI operators' scheme</i>	32
<i>Seed scheme</i>	33
<i>Pre-seed (Think for a Month) scheme</i>	34
Venture capital programme	35
Related issues	37
SUMMARY & OUTLOOK	38
List of Experts	39
List of documents	40

LIST OF ACRONYMS

BAN	Business angels network
CSB	Central Statistical Bureau, Latvia
DG	Directorate General within the EC
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ERDF	European Regional Development Fund
EU	European Union
EUR	European currency, the Euro
FMC	Fund management company
GDP	Gross domestic product
HEI	Higher education institutions
IPO	Initial public offer
IPR	Intellectual property rights
LIDA	Latvian Investment and Development Agency
LVCA	Latvian Venture Capital and Private Equity Association
LVL	Latvian National Currency, the Lat
MoE	Ministry of Economy
NTBF	New technology-based firm
PAXIS	The Pilot Action of Excellence on Innovative Start-ups
PE	Private equity
PoC	Proof of Concept
R&D	Research and Development
RIS	Regional innovation strategy
RTD	Research and technology development
SAP	State aid programme
SME	Small and medium enterprise
TFM	Think for a Month scheme
TI	Technology Incubator
VAT	Value added tax
VC	Venture capital
VCF	Venture capital fund

KEY DEFINITIONS

A **market failure** can be defined as a situation in which the economic efficiency of supply and demand is not achieved owing to imperfections in the market mechanism.

Business incubation is a dynamic process of business enterprise development. Incubators nurture young firms, helping them to survive and grow during the start-up period when they are most vulnerable. Incubators provide hands-on management assistance, access to financing and orchestrated exposure to critical business or technical support services. They also offer entrepreneurial firms shared office services, access to equipment, flexible leases and expandable space – all under one roof.¹

Downside protection – a set of measures intended to motivate private investors by allowing them to recover their investments disproportionately in cases where the investment target (fund/ company) is incurring losses

Early Stage – a company has a product or service in testing or pilot production. In some cases, the product may be commercially available. May or may not be generating revenues. Usually in business less than three years.

Early-stage capital – financing to companies before they initiate commercial manufacturing and sales, before they begin generating a profit. It includes seed and start-up finance.

Equity – the ordinary share capital of a company.

Exit route – the ways in which business angels/venture capital funds sell their stake in a business. Possible exit routes include management buyouts, sale of stock to another business angel or a formal venture capital firm and – in a few cases – listing on the stock market (by means of IPO).

Expansion capital – finance (equity capital) for the expansion of an established, usually profitable company.

Financial incentives – direct government funding for private sector innovation activities through grants, loans, subsidies etc.

Fiscal incentives – tax relief measures which encourage firms to carry out innovation activities by reducing their costs.

Idea – can be defined as an entity (a thought, conception, sensation, or image) actually or potentially present to consciousness.² An idea is an embryo of a potentially new concept.³

Innovation – process within which new scientific, technical, social, cultural or other ideas are developed into a competitive and marketable product or service.⁴

Innovative (innovating) company – comprise 1) companies which were in existence at the beginning of the period under review and which, during this period, have implemented product or process innovations; 2) companies which have come into existence during the period under review and which: 2a) upon foundation implemented products and processes which are technologically new or improved for the operating market of the company; 2b) after the founding, implemented products or processes at a later date during the period of analysis, which are technologically new (or improved) for that particular company.⁵

New product – result of innovative activity – new product, process or service.

***Pari passu* investment** – model of investment where all investors (e.g. public and private) are subjected to the same investment conditions and none of them is either protected or receives profit distribution disproportionately

Pre-seed fund⁶ is addressed to individuals and companies willing to validate business plans before starting a new company. It supports business ideas in the initial stage, when private intervention is not available and public initiative can initiate a process to leverage private equity finance in later stages.

Pre-seed capital – financing provided to design and work out an initial business concept.

Pre-Seed Stage – Basic development of the technology is complete. Some testing, lab demonstration, prototype also completed. Usually no company has yet been formed. Patents and/or other intellectual property may or may not have been applied for. Usually there has been little or no outside funding, not even friends and family funding.

Risk capital – as a term captures the use of all instruments (as well as equity finance, hybrid equity/loan and high-risk loan arrangements known as mezzanine finance products). The term “Private Risk Capital” is usually used to refer only to investment in companies whose shares are not traded on public equity markets.

Risk capital financing is the term used in this report to describe schemes that make public funds for SMEs available on a basis where they can be recycled and also leverage additional private sector finance. These schemes include loans, the provision of venture capital and similar finance, guarantees and other instruments.

Risk capital. The Commission defines risk capital as equity financing provided to companies in their start-up and development phases.

Seed capital – financing provided to research, assess and develop an initial concept. Seed capital is risk finance at its earliest stage; usually it is principal for high-tech projects to enable entrepreneurs to create, study, investigate and develop initial prototypes of the products, which will later form the business base.

Key Definitions

Seed/Start-Up Stage – The initial stage. The company has a concept or product under development, but is probably not fully operational. Usually in existence less than 18 months.

Spin-off company – a company created on the basis of the exploitation of research results from the public science sector. This includes companies created by students, young graduates, researchers, professors, but also by other individuals, with the aim to exploit commercially an idea (or invention) developed within a public research organisation. “Academic” here refers thus not only to universities, but also to public research institutes, technical colleges, etc.⁷

Start-up fund – addressed only to pre-existing companies willing to develop industrial projects stemming from R&D activities.

Start-up capital – financing provided to companies for product development and initial marketing.

Start-ups – new companies established especially to develop or commercialise an invention licensed from a public research organisation but without staff participation.⁸

Successful technology incubator project – is defined as one that has at least one source of financing that is not public and that is not provided by the entrepreneur himself. In other words, a source that invested in the project on the basis of business criteria alone.⁹



Technological incubator programme – is an economic development programme aimed at fostering technological entrepreneurs from the very beginning of their project's development; it helps to create a healthy entrepreneurial culture by empowering local people and encouraging them to develop their firms locally. The economic impact on employment and economic development can be assessed after 15-20 years.¹⁰

Technology – comprises the ability to recognise technical problems, the ability to develop new concepts and tangible solutions to technical problems, the concepts and tangibles developed to solve technical problems, and the ability to exploit and to use the concepts and tangibles in an effective way.¹¹

Technology transfer – transfer of a definite technology (knowledge, production skills, technology) from one user to another; application of technology created in one country in another country with the purpose of creating new products, processes or services.

Upside incentives – set of measures intended to motivate private investors by allowing them to obtain disproportionate returns in cases where the investment target (fund/company) is generating profit.

Venture capital – investment in young unquoted companies by venture capital firms managing in-house or third-party funds. It includes early stage, expansion and replacement finance, but excludes the financing of buy-outs. Assets temporarily invested as stock by specialised firms expecting return on investment that is fast and very substantial, i.e. commensurate with the level of risk.

Venture capital funds – closed-end funds, created to provide venture capital.

¹ US National Business Incubation Association (NBIA), Best Practice in Action: Guidelines for Implementing First Class Business Incubation Programs (NBIA, 2001).

² Webster, 1991

³ Laamanen T., Aution E. Technology transfer between research laboratories and industry. Measurement and evaluation. VTT Research notes, Espoo, 1993.

⁴ National Innovation strategy. 2003.10 Modena V., Shefer D. Technological incubators as creators of new high technology firms in Israel. European regional science association 38th European Congress, Vienna, Austria, 28 August – 1 September, 20 p.

⁵ EC Innovation paper No.19. Corporation tax and innovation. EC, DG Enterprise, Innovation Directorate, 2003, p.27.

⁶ National Venture Capital Association handbook

⁷ European Trendchart on Innovations. Policy Benchmarking Workshop held on 19-20 February, 2002 Conclusions. The changing role of public support to academic spin-offs. DG Enterprise, 2002.

⁸ Institutions for technology transfer from science to enterprises in Europe. Final Report. DG Enterprise, June 2004.11 Modena V., Shefer D. Technological incubators as creators of new high technology firms in Israel. European regional science association 38th European Congress, Vienna, Austria, 28 August – 1 September, 20 p.

⁹ Institutions for technology transfer from science to enterprises in Europe. Final Report. DG Enterprise, June 2004.

¹⁰ Modena V., Shefer D. Technological incubators as creators of new high technology firms in Israel. European regional science association 38th European Congress, Vienna, Austria, 28 August – 1 September, 20 p.

¹¹ Laamanen T., Aution E. Technology transfer between research laboratories and industry. Measurement and evaluation. VTT Research notes, Espoo, 1993.

FOREWORD

This document is an outcome of the ESTER project “The creation of seed and venture capital sources for small eastern European countries following the models of the Yozma and technological incubators’ programmes”. The project was carried out in Latvia within the framework of the EU PAXIS (Pilot Action of Excellence on Innovative Start-ups) programme with the aim of sharing identified novel strategies that encourage the creation of innovative companies. The project lasted for 36 months – from January 2003 to December 2005. At the European level, Latvia can be considered as a single region, so project activities covered the whole country.

The project was financed by the European Commission as a part of the 5th Framework Programme PAXIS network budget. The main target groups of the project were decision makers at state, regional and company levels in early-stage financing and incubation areas. The project was intended to raise awareness of the role of innovation, early-stage financing and technology start-up development, and to initiate activities that would stimulate the development of a knowledge-based economy.

The idea for the PAXIS network grew out of the First European Forum for Innovative Companies held in Vienna in 1998 which drew up some proposals to encourage innovation and to support the creation of start-up companies. They fall within the Fifth Framework Programme’s horizontal programme for the promotion of innovation and encouragement of SME participation. The PAXIS initiative was designed to examine mechanisms which facilitate the setting up and development of innovative companies. It has two main objectives: to identify and network economic areas which have created ideal environments for start-up and spin-off companies and to support projects which validate and promote novel strategies that encourage the creation of innovative companies.

Similar projects were carried out in around 40 EU regions and they have proved to be an effective tool for high-tech cluster development. A network of high-tech-excellence regions exists under the PAXIS programme. The ESTER project enabled Latvia to become a member of this excellence family.

At the Lisbon Spring Council in March 2000, 15 EU leaders set a strategic goal for the next decade: “to become the most dynamic and competitive knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion, and respect for the environment”. But, as early as 2004, experts declared that “too many targets will be seriously missed. Europe had lost ground to both the US and Asia and its societies are under strain.”¹²

The experts’ report states that “the limited availability of finance is a second obstacle to setting up and developing business in Europe. Company financing in Europe is currently

too lending-based and insufficiently risk capital-based. This makes it particularly hard for start-ups and SMEs to attract sufficient financing, as they cannot meet the guarantees demanded by traditional financial institutions. ... Investors in Europe should be encouraged to commit more to long-term involvement in start-ups.”¹³

New technology-based companies play a central role in national economic development and are of crucial importance if a knowledge-based economy is to emerge. A supportive business environment and the availability of finance for the entire growth cycle are the cornerstones of a functioning national innovation system. Its vital element is access to capital at various stages of new technology-based company evolution. Ideally, all risk capital should be acquired and executed from private sources. However, as markets are not perfect, a number of market constraints are likely to arise.

Therefore the public sector intervenes to promote policy measures that allow risk sharing for private-equity investments. The widespread market failure seen with the creation of technology-based companies is a result of the so called “equity gap” – the limited supply of seed and early-stage risk capital required by start-ups, in amounts that are uninteresting in size to the conventional venture capital industry. So far, such private investment has only been transferred to a few small technology companies in Latvia.

Starting with the objective of increasing the availability of early-stage capital for new technology-based companies in Latvia, the ESTER project designed potential models for the creation of a VC scheme and an integrated technology-incubation and seed-finance scheme. One primary aim was to help Latvian decision makers come to a consensus on the most effective public intervention model that could support access to early-stage risk finance.

To meet the objective for high-tech cluster creation in Latvia, a set of practical measures was suggested. They include recommendations to foster the development of effective technology-transfer infrastructure, the development of an innovation-supportive culture to encourage entrepreneurial spirit, and the creation of a network for advising and financing new technology start-ups. The ESTER project had an influence on the collation of the National Innovation Programme and its Action Plan via synergies in a number of joint activities.

¹² Facing the challenge. The Lisbon strategy for growth and employment. Report from the High Level Group chaired by Wim Kok, November 2004. EC, 2004.

¹³ See p.29,30

Challenges and innovation tomorrow



Latvia's accession to the European Union has generated new challenges for the development of our national economy. The EU has set itself the ambitious goal of becoming the world's most competitive economy by 2010. To achieve this, all member states must renew the basis of their competitiveness, increase their growth potential and productivity, and strengthen social cohesion, placing emphasis on knowledge, innovation and the optimisation of human capital.

Over the past few years, the Ministry of Economics has developed a number of policy documents with the objective of establishing an effective national innovation system in Latvia and increasing the national capacity for innovation. The government has adopted all of them. It is clear that the main priority is the creation of an innovation-friendly business environment in which ideas can be successfully turned into new products and business processes. Within this context the Ministry of Economics has developed several support measures, administered by the Latvian Investment and Development Agency, aimed at promoting competitiveness and innovation. Implementation of these measures through the attraction of resources from EU structural funds is an important step in the development of entrepreneurship. However, this is not enough to ensure the successful functioning of the national innovation system. We need more efficient instruments to support innovation, especially, to overcome one of the key weaknesses hindering the formation and development of new innovative companies in Latvia – the lack of appropriate financing.

The Ministry of Economics values highly the ESTER Project "The creation of seed and venture capital sources for small eastern European countries", which was supported by EU Framework programme PAXIS networks. The project provided an excellent opportunity for different Latvian institutions to form a number of partnerships across Europe: to benchmark existing tools and to formulate recommendations for the promotion of early-stage investment. Recommendations obtained from the project will promote the implementation of a new state-support programme with the objective of helping new enterprises attract early-stage capital and increase their competitiveness.

Anrijs Matīss,

Undersecretary of State
Ministry of Economy

New capacity for high-tech cluster development in Latvia



Competitive and sustainable national economic development, the improvement of welfare and increases in social cohesion should form the basis for national policy in any country. Small businesses are the lifeblood of our economy – boosting productivity, creating employment and prosperity, and revitalising our communities. Our aim as a government executive arm has been to change attitudes to business and tackle the difficulties that we know entrepreneurs can face in starting and growing their businesses, including access to finance.

During the last two years, the government and the Latvian Investment and Development Agency have played an important role in ensuring that markets work effectively and that any identified gaps and weaknesses were addressed. We have created several state support programmes to modernise companies infrastructure and technological capabilities, to develop their human capital, to promote the development of new products and technologies and to provide much needed consultancy services.

But many small businesses with high growth potential still find it difficult to acquire risk capital, the equity they need to achieve their ambitions. These lost opportunities represent both an economic cost through reduced productivity growth and job creation, and a social cost to the communities within which they trade.

The limited availability of seed and pre-seed finance is a second obstacle to setting up and developing R&D spin-offs in Latvia. New innovative company financing is currently too lending-based and insufficiently risk capital-based. This makes first-round development particularly hard for knowledge-based businesses, as they cannot provide the guarantees demanded by traditional financial institutions.

The ESTER project helped the understanding of the existing situation, to identify the equity gap for new high-tech clusters and provided suggestions and guidance to improve the effectiveness of public support for risk capital investment and applied research. A review of the demand for and supply of financial policy instruments helped identify the ones that could impact on early-stage, risk-capital funding gaps and resulted in a new, integrated, technology-incubation programme model. In this sense, the ESTER project played the role of a catalyst in the facilitation of access to private innovation finance and provided solutions for better knowledge protection and commercialisation

Andris Ozols,

Director, Latvian Investment and Development Agency

Latvia's venture capital and private equity industry



Latvia, as a member of the EU, is committed to the Lisbon Strategy, which aims to make the EU the „most competitive and dynamic knowledge-based economy in the world“. A critical factor for the success of this strategy is the way in which capital is mobilised to support entrepreneurship and innovation. The story of the venture capital industry in US and Europe has been one of growth and success, encouraging entrepreneurship and providing support and assistance to innovative businesses.

Venture capital is a new industry for Latvia's capital market and not very well known as a means of finance for innovative, fast-growing companies. Thus, one of the main tasks of the Latvian Venture Capital and Private Equity Association (LVCA) is to raise awareness of the availability and benefits of using private equity among entrepreneurs as well as national decision makers.

The ESTER project helped the Association to achieve this task by providing a very good framework for discussions between experienced foreign experts, local professionals and national policy makers. These fruitful discussions resulted in a much improved State Aid Programme for Venture Capital in Latvia which will have significant impact on the future development of the VC industry.

Dairis Cālītis,

Chairman, Latvian Venture Capital
and Private Equity Association

Executive Summary



Project ESTER was initiated by the University of Pavia (Italy) and was addressed to three small eastern European countries: Slovakia, Estonia and Latvia. It was envisioned to transfer the best practices of early-stage support and financing schemes predominantly from Israel, better known as the Technology Incubators' and Yozma programmes. The project lasted for more than two and a half years and its Latvian element was carried out by the Latvian Investment and Development Agency (LIDA).

The principal concept of the project was to survey and analyse the local situation in each of the target eastern European countries, identifying both supply and demand conditions for the early-stage development of technology-based companies. This was followed by the drafting of suggested national and regional policies that would facilitate entrepreneurial and innovative activity by utilising the adapted concepts of the Yozma and Technology Incubators' programmes.

Surveys carried out by the Latvian project team indicated that, despite clearly favourable general economic conditions, there is a relative lack of funding for companies at the start-up phase of company life cycles, and this lack is more pronounced in the case of technology-based (middle-to-high-tech) enterprises. The financial market was not providing early-stage/higher risk-return profile financial instruments, which could clearly be regarded as a market failure. On the other hand, surveys revealed the lack of an accepted entrepreneurial culture, serious obstacles to the development of applied science and research and development activities in the public domain, and low demand-side activity by enterprises at their early stage. The latter brings into question whether supply-side improvements to the innovation system would have any immediate effects. Studies also indicated that the small potential financial market for early-stage and VC financing, considering Latvia alone, may become a serious obstacle to the development of an effective supply of early stage finance.

As a specific outcome of the ESTER project, two support programmes were drafted: the first was for venture capital facilitation and envisages state co-investment into privately managed VC funds together with the provision of downside protection and upside incentives for the respective private co-investors. This has since been launched as a State Aid Programme (SAP) as early as the autumn of 2005. The second draft was of a Technology Incubators' (TI) programme, which anticipated inter-related schemes for

subsidising incubator management companies together with the provision of matching finance to target enterprises – newly-established, technology-based SME's. A specific scheme within the TI programme also deals with pre-seeding in order to encourage innovators to validate their ideas and start up their technological companies within a TI environment. The ESTER project's Latvian team also paid particular attention to the development of a holistic approach for innovation support to by trying to position the drafted support schemes within a broader context of other upstream and downstream support measures for commercial technology development. This resulted in development concepts for a variety of important support initiatives targeted at problem areas, such as the motivation of entrepreneurial spirit, technology transfer, market intelligence, co-operation between industry and academia, and many others. The ESTER team believes that only the introduction of more all-embracing policies will make Latvia's innovation process effective, so strengthening the country's competitive position and ultimately that of the whole north-east European region.



THE ESTER PROJECT – A BRIEF OVERVIEW

The project 'Creation of Early Stage Financing Sources for Small Eastern European Countries Following the Yozma Model' (acronym ESTER) was initiated by the University of Pavia and was carried out in 3 small eastern European countries: Slovakia, Estonia and Latvia. Early-stage-support experts from Israel provided additional advice to the project. The project commenced in March 2003 and continued until the end of 2005.

The main objectives of the project were:

- Analysis of the business environment in the context of support for entrepreneurial activity, both general and technology-based
- Identification of the real and perceived needs of potential technology-based entrepreneurs and the main barriers to starting up technology companies
- Identification of potential financiers for early-stage investments; evaluation of their perception of market needs and incentives that would appeal to them
- Drafting of policy proposals to address early-stage support in small eastern European countries
- Promotion and dissemination of these proposals to local and regional business and political communities and academia

In Latvia, the project resulted in the planning of a specific support and financing programme for very-early-stage, technology-intensive companies, named Technology Incubation, similar to that utilised in Israel. An additional outcome of the ESTER project was a set of proposals, which helped to finalise and fine tune the Latvian Venture Capital (VC) scheme, already launched in 2005.

The leading partner of the ESTER project was the University of Pavia (Italy), the Latvian partner being the Latvian Investment and Development Agency (LIDA). Part of the Latvian work package was subcontracted to the business and investment consultancy company *Eureka*.

Carrying out the project required extensive and diverse activities, including the organisation of various events, popularisation of the project via public relations, extensive research, consensus building and launching pilot activities. *Short-, medium- and long-term planning* were carried out continuously. The development and analysis of action plans for the different stages was undertaken by the Project Management Team. To ensure the achievement of long- and medium-term plans, day-to-day activities were co-ordinated with the lead partner, the University of Pavia.

In general, the range of activities carried out during the Latvian ESTER project were more extensive and detailed, and the volume of work required was greater than initially anticipated, and than in earlier, similar projects. This was because no such specific projects on early-stage financing and technology-incubation innovation, nor explicit studies on those issues, had ever been carried out in Latvia.

The following table itemises project activities:¹⁴

Activity	Number
Project partners' meetings	4
Project Management Team meetings	19
Focus and discussion group meetings	11
Number of experience-increasing study trips	2
Articles in mass media on innovation issues	8
On-camera interviews on TV, radio	2
Printed publications on ESTER outcomes (500 copies)	1
Presentations at Dialogue events, seminars and conferences on innovation	14

Additional attention was given to coordination and cooperation with Latvia's Ministry of Economy. As a result, a number of experts' meetings took place in 2004 and 2005, and ESTER Latvia project analysis outcomes and policy recommendations were presented and discussed.

Information exchange with PAXIS Network partners took place on a regular basis. ESTER Latvia activities and outcomes were discussed and presented at several PAXIS events by the lead partner or by the local team. Informative materials were disseminated during seminars and other meetings.

One of the key outcomes of the ESTER Latvia project was regional consensus building. This was achieved through active dialogue with all parties involved in innovation-activity target groups. The major activities included discussions at expert panel meetings, various workshops, the provision of information, communication with the media, expert panel discussions and other events. These key elements played a significant role in a number of ways:

- keeping different social groups informed about project activities and outcomes
- receiving feedback from the public and private sectors to validate methodologies, studies, analyses and suggested actions
- adjusting policy proposals and support measures to local needs and circumstances

¹⁴ Stages 0 and 1 only

THE FLOW OF THE PROJECT

The ESTER Project was divided into specific work packages and in Latvia's case, their interrelation can be depicted as follows:

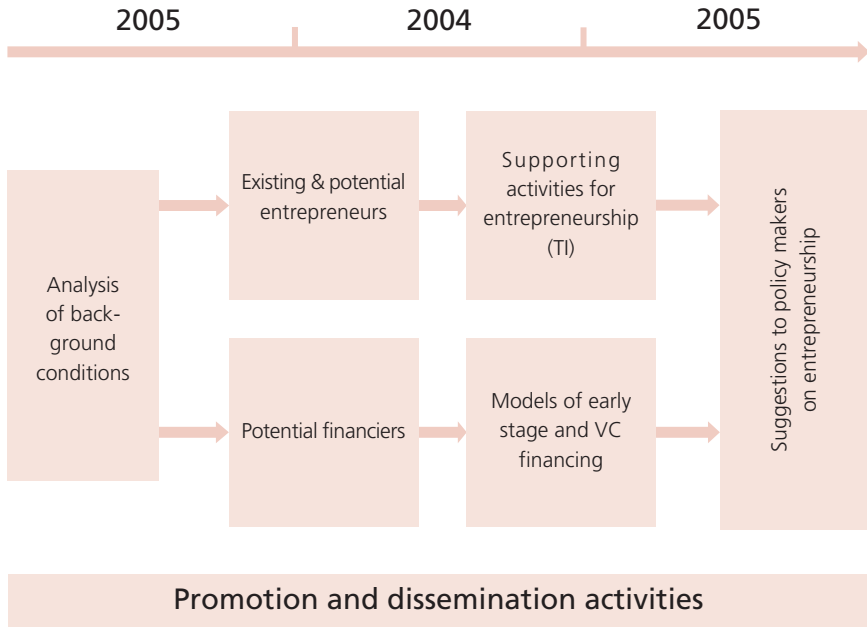


Fig.1. Flow of work packages within the Latvian part of the ESTER project

Latvia – analysis of business environment and potential

Objectives and tasks:

As its first task, the ESTER project team evaluated Latvia's general business environment and identified the potential of different research and development sectors. The report was predominantly based on secondary-data analysis. The data sources used, such as the Central Statistical Bureau of Latvia and Eurostat, were assumed to provide accurate and precise information for the purposes of this project. Small-scale primary research was also carried out, particularly reference interviews at the best-known incubator-type structure – the Latvian Technology Centre, at the Latvian Patent Board, and several financial funds providing equity financing (or similar).

The resultant report then served as pre-re-search for wider primary research, which was carried out during later stages of the ESTER project.

Findings:

Since 1990, Latvia has rapidly undergone full reconstruction of its economy, from a planned one, characteristic of Soviet-block countries, to a free-market type. During the last 15 years, the country has experienced large-scale privatisation; a sharp, marked reduction of industrial output to a half of previous levels, as a consequence of the loss of traditional markets and military procurement; hyperinflation, and a bank crisis. Over the same period, however, Latvia's economy was re-oriented towards western markets and since 1995 has produced GDP growth well above the levels both of older EU member states and the average of all the newly acceded countries.

As a result of the experience it gained during the 1995-6 bank crisis, Latvia's Central Bank is maintaining a very prudent approach towards regulation of the country's banking sector. Latvia's inflation rate was stable and low (2-3% p.a.) prior to EU accession (May 2004), but has risen to about 5% p.a. since then, as a result of the evening out of price levels. Credit supply increased by more than 40 times during the period 1996-2004, and average consumer credit interest rates have fallen from 86% p.a. in 1993, to less than 2% above inter-bank rates (approx. 4% p.a.) 12 years later.

The vast majority of enterprises established in Latvia have been founded as Limited Liability Companies (LLC).¹⁵ Obviously, this is also the most common structure for start-ups in high-technology sectors. The minimum statutory capital for such companies is 2000LVL (2845EUR at the exchange rate fixed by Latvia's central bank¹⁶) and founding fees account for an additional 200EUR. The registration procedure is relatively simple and takes between two and ten working days. The situation regarding enterprise liquidation is far less clear, nevertheless legislation (particularly bankruptcy law) is being harmonised with EU legislation.

In practice, though, liquidation procedures are inefficient and investment funds regard them as one of the major barriers to equity investment.

Over the last 5 years, tax burdens have been reduced in Latvia. In the case of direct taxes – corporate income tax has been reduced from 25% to 15%. Currently, the proportion of social taxes on salaries paid by the employer have been reduced to 24.09%, and property tax has been decreased to 1%. On the other hand, partially in line with EU practices, VAT (5, 9 or 18%) has recently been applied to a number of goods and services (utilities, pharmaceuticals, books, etc.). The biggest problem, however, is inefficient tax collection by the state, as many companies try to evade taxation through largely illegal accounting practices. This situation has a severe adverse impact on entrepreneurial morale in general, as those companies following the legislative rules consider themselves ‘unjustly punished’ compared to tax evaders, creating a situation of unfair competition. In the cases of taxes applicable to high-technology based manufacturing and income from intellectual property, several discount schemes apply. Additionally, all entrepreneurial activities in specially designated areas (Special Economic Zones, Freeports) qualify for tax discounts.

In August 2004, a number of State Support Programmes were launched in Latvia offering grant schemes for private enterprises with different commercial needs (upgrade of business infrastructure in line with EU standards, assistance with market research and marketing planning, education and re-training of workforce, and also support for the development of new products and technologies. However, it should be noted that these programmes provide post-completion grants, thus they are relevant to existing enterprises rather than to start-ups, because of the latter’s limited pre-financing of their activities.

During the last decade, a clear shift from technology-based tertiary study programmes (engineering, natural sciences) towards social sciences, law and business administration has been seen. While this movement partly alleviates the Soviet-era phenomenon of hyper-dominance by technical disciplines, it is, on the other hand, cost-driven – as technology-based studies cost significantly more than those in the humanities and related fields of studies. This, together with the existing vocational education system, means that companies cannot access specialised workforces, and are thus obliged to extensively train their employees – a significant additional cost.

In theory, Intellectual Property Rights (IPR) are protected in Latvia, in line with all internationally acknowledged principles, as the country has joined all major IP protection treaties. In practice, however, several forms of IPR infringement are widespread. Effective protection in practice is problematic largely because of a lack of relevant court precedents in IPR-related settlements, and because of a general case overload in the court system. The situation is

often made worse by the reluctance of potential proprietors to register their IPRs, as the research climate inherited from the Soviet period regards patenting as unimportant, if not actually obstructive to academic agendas and careers. All of these issues have resulted in a loss of patent protection potential during the past 15 years, as there is no requirement for the development of internationally competitive IPR lawyers in a system which only registers 100 patents annually

Up to 2001, state support for innovation was mainly in the form of weakly coordinated measures. Some were relatively successful (Latvian Technology Centre) but mainly they have failed as a result of blurred targeting and a lack of multi-faceted support activities. The turning point in this field was marked by the adoption of the National Concept for Innovation (NCI) in February 2001, followed by the White paper – the National Innovation Programme (NIP) – approved in April, 2003 – which formulated strategic goals for innovation support and methods for quantifying their assessment.

Evidence of this turnaround is seen in a survey carried out by the Central Statistical Bureau of Latvia (using *Eurostat* methodology) which found that while only a quarter of all enterprises could be considered to be innovative, the proportion of innovative enterprises among large ones is close to two thirds. Innovative expenditure predominantly (3/4) takes the form of equipment acquisition. It is worth noting that this is largely process innovation, whereas product innovation accounts for less than 10% of total innovation. The survey also found that currently the proportion of R&D personnel within Latvia's total labour force is markedly lower than that in EU countries and is also lower than the average in EU candidate countries. Furthermore, these researchers are predominantly employed by higher education establishments (universities and related institutes).

Traditionally, research in industry is financed by internal sources within it – generally by re-investment of profits and secured loans. As a result, these sectors show a slow and organic growth pattern. State support is virtually absent, the high-tech share of manufacturing output is decreasing, and yearly R&D expenditure as a proportion of GDP has stagnated around 0.5%. Certain financing initiatives by private equity funds are initiating attempts to provide at least some expansion capital under higher risk profiles. Obviously this financing is not appropriate for start-ups, and, as no start-up/venture capital initiatives exist in practice, the necessary pace and scope of innovation cannot currently be achieved in Latvia. On the other hand, the public-sector share of innovation financing is growing mainly because of the increased funding opportunities provided by EU membership.

Despite the declining trends, both in public funding of research and innovation, and innovation content in the manufacturing sector, some sectors of academia and industry

are still maintaining remarkable potential for successful growth and development. The majority of these are organised around the disciplines of applied physics and mathematics, and chemistry and life sciences. These are the sectors which were further investigated in the later stages of the ESTER project.



Conclusions:

In completing the first phase of the ESTER project in Latvia, the project team come to the following conclusions:

1. Latvia's overall economy is developing favourably and in itself cannot be considered to be a limiting factor in the creation and development of sources of seed and venture capital.
2. All secondary and primary data available suggest that there is a relative lack of funding, both for companies in the start-up phase of their life cycle, particularly for those companies working with high-tech and innovative projects. Currently, the financial market is failing to provide early-stage/high-risk financing (pre-commercialisation grants, seed and venture capital funding), thus seriously limiting the starting up and development of high-tech and innovative companies.
3. The limited data also suggest that one of the major factors restricting new business formation is that potential entrepreneurs and developers of innovative ideas lack an entrepreneurial spirit. This hypothesis was analysed in more detail through the in-depth interviews during the second phase of the ESTER project.
4. Currently, there are almost no viable support schemes for start-ups in terms of technical support, coaching and business incubation. The need for these was revealed in the later stages of the project.
5. At present, no consensus has been developed on how a system to finance innovation in Latvia should function – on the legal framework for such a system, fund size, investment principles, size of investment, control mechanisms, etc. The ESTER team believes that the interviews, both with prospective financiers and recipients (entrepreneurs), should provide sufficient data to draw practical conclusions on this issue by the end of the project.

¹⁵ In Latvian: Sabiedrība ar ierobežotu atbildību (SIA)

¹⁶ 1 EUR = 0.7028 LVL

Potential players in the high-tech sector

Objectives and tasks:

Work package WP6 had two main objectives: to assess the readiness of potential entrepreneurs to set up their own company, their real and perceived problems; to assess the needs of centres of excellence and the likelihood of spin-off formation at these centres.

There were three target groups:

- potential entrepreneurs
- managers of high technology start-ups
- centre of excellence managers

Findings:

For each of the groups semi-structured questionnaires were developed and face-to-face interviews were undertaken with 15 potential entrepreneurs, 11 managers of high-tech start-ups and 10 managers of centres of excellence.

Consequently, the report on work package WP6 consisted of three parts. In the first part, covering Latvian centres of excellence, five main problem areas are identified: lack of funding, the unsolved question of legal status, deteriorating infrastructure, out-of-date equipment and the shortage of scientists – in short, the ageing of science. The resultant spin-off capacity is analysed.

In the second part, on potential entrepreneurs, the main problems discussed cover patenting, market analysis, financing and the need for consultancy and services.

In the third part, on high-tech start-up companies, company managers disclose their main problems and these are compared with the challenges confronting potential entrepreneurs.

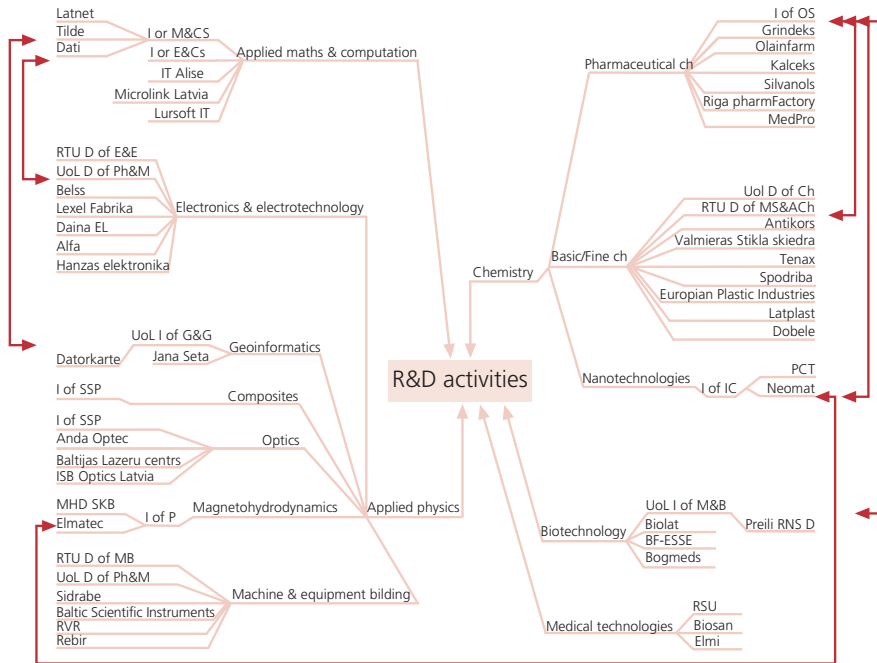


Fig.2. Diagram representing academic areas of R&D activities with marked innovative potential, clustered with industry examples and spin-offs.

Conclusions:

The potential for spin-off creation in research institutes is diminished substantially to almost zero by:

- a Extremely low funding for R&D
- b Ageing of scientific personnel and few ongoing rejuvenation processes
- c Short-term needs:
 - Out-of-date basic technologies for R&D
 - Deteriorating infrastructure
- d Centre of excellence managers have low awareness of technology-transfer processes
- e Centre of excellence managers have limited management skills

The main problems for potential entrepreneurs:

- a The potential entrepreneurs' ideas are mostly at a very early stage of development, where additional funding is needed to perform market-oriented research
- b Potential entrepreneurs have insufficient knowledge about markets
- c Potential entrepreneurs have no business administration or marketing skills
- d A need for consulting services, but a low level of trust in them

The main problems for start-ups:

- a Lack of qualified specialists
- b Problems with small markets or inability to conquer those markets
- c Difficulties in implementing new products

Recommendations:

- a Reorganise the R&D funding system
- b Formation of a business incubator with all the necessary support services: Mentor-type help, business consulting, legal consulting, IPR consulting, financial consulting, marketing consulting, technological services, R&D supply
- c Creation of seed capital funds to support market-oriented research
- d Development and implementation of awareness-creation programmes
- e Replace innovation and R&D policies that place public institutions at the centre of the technology development process with policies that place industrial companies at the centre of the process
- f Facilitate links between industry and research institutions

Potential financial operators for early-stage investments

Objectives and tasks:

The objectives of this survey were to identify potential investors, evaluate their perceptions and investment needs, in particular, the identification and assessment of effective and convincing incentive schemes that would facilitate early-stage investment.

Findings:

The survey was conducted utilising a common questionnaire with both quantitative and qualitative questions. Where possible, the questionnaire answers were reinforced by semi-structured face-to-face interviews with financial managers.

Altogether, 29 questionnaires were forwarded to selected prospects, 14 answers received and 7 interviews conducted. The responding sample consisted of investors in funds, fund management companies (FMC) and local banks assessing potential opportunities to commence limited early-stage investment. The answers on the current fund investment/management principles used by respondents were assessed and analysed, as was their evaluation of suggested investment incentives, assumed principles of potential fund operations and the respondents' experience in co-financing with public investors.

High-tech	Seed capital National/ EU grants	Venture capital	Equity capital Collateral loans
Middle-tech	Equity capital Mezzanine/ sub.loans Collateral loans	Business Angels Seed capital National/ EU grants	Venture capital Collateral loans
Low-tech	Micro-loans Business Angels Seed capital	Mezzanine/ sub.loans Collateral loans	Equity capital Collateral loans
	Starting up	Fast growth	Slow growth

Fig.3 Grid of appropriate financial instruments for enterprises depending upon the stage of their life cycle as well as their technological orientation

Based on the findings, discussion was initiated on possible solutions to overcoming the disadvantages of the small size of the market, the place of VC financing schemes in the general framework of national innovation support, and their effectiveness within it.

Conclusions:

The survey of potential Latvian financial operators for early-stage investment resulted in the following main conclusions about possible designs for investment-facilitation incentive schemes:

1. There are no legal, formal or technical barriers to early-stage investments in Latvia.
2. There is very limited interest by foreign financial operators in investing in Latvia through VC instruments. Geographically, this interest is limited to Finnish and Scandinavian VC and PE investors; those potential investors based in Latvia (typically banks) appear to be more interested.
3. There is no specific perception of Latvia's high-tech potential either in the eyes of foreign or local financiers; no sectoral advantages are perceived.
4. Coverage of fund management expenses over its starting period appears to be a very convincing incentive for private investors as this would help overcome the higher costs of operating in a small market.
5. 'Upside' incentives, which result in disproportionate apportioning of profits in favour of private investors, are another strong motivator, however they should be coupled with private co-financing having a minority share of the fund and strict passivity by the public partner in the fund's investment processes (i.e. very much a Yozma-like approach).
6. Most foreign operators perceive the Baltics as one market, so another effective means of overcoming the small-market disadvantage would be joint activities by these countries in applying incentive schemes to facilitate early-stage investment.
7. At the innovation-support system's current level of development, the positive impact of fostering Venture Capital funding will be very limited for high-tech and innovative companies. In order for it to become effective, it should be preceded by financial and non-financial support at earlier stages of the company life cycle (seeding and start-up). Principles for this need to be developed
8. Taking into account everything listed above, both early-stage (seeding & incubation) and Venture-Capital support schemes should be designed and implemented in Latvia to facilitate the interest of private investors in investment at early stages of the life cycle of technology-based companies.

Drafting of support schemes

As a result of the preceding survey and analysis, the project ESTER team began developing recommendations for support schemes for technology-based businesses at early stages of their life cycle. At this stage, the advice of European and Israeli experts was used extensively to leverage the best practices of effective existing early-stage schemes into the situation and needs of Latvia as revealed by the research phase of the project. As the project's own survey showed, the most pronounced needs and development barriers were observed specifically at the very early stage (seed/start-up phase), rather than the relatively later stage of VC financing. Therefore, the project team concentrated on drafting schemes that would deal particularly with support activities for the very early stages, in parallel drafting a VC scheme, the latter having seemed to be main aim of the ESTER, initially.

Altogether, two programmes were drafted during the project: a programme for Technological incubation (TI) and one for Venture Capital support. The support programme for TI consists of three interrelated funding and support schemes: an incubator operators' scheme, a seed scheme (including a sub-scheme for proof of concept) and a pre-seed scheme 'Think for a month'.

All these schemes were finalised to a level at which they could be introduced into the planning process for State Aid Programmes (SAP's) at Latvia's Ministry of Economics and LIDA presented them to the ministry to gain additional political support.

Another valuable outcome of the ESTER project was assistance in the drafting of Latvia's State Support Programme for VC facilitation. Based on the initial results and recommendations of the ESTER project, Latvia's MoE designated a working party to develop a special SAP for VC, which incorporated many of the successfully proven concepts of Israel's Yozma programme. Latvia's SAP for Venture Capital facilitation was launched in August 2005.

Promotion & dissemination of results

The policy measures envisaged for Latvia only have a chance to be implemented and become operational if, already at a very early stage, they are anchored in a national context and have the support of the country's decision makers. To start to achieve this, a series of focus groups and expert panels were set up. The personal networks of the relevant people involved, representing all target groups, played a very important role in the information-dissemination and consensus-building processes. Key objectives were (a) consensus building among key players involved in Latvia's early-stage financing and innovation policy implementation; (b) raising awareness of new financial instruments; (c) political safeguarding of the project results and ground preparation for the institutionalisation of the policy measures developed.

Throughout the ESTER project implementation, every effort was made to continually involve an extensive range of stakeholder groups and decision makers, special attention being paid to deepening their understanding of, and confidence in, early-stage financing and technology-incubation issues.

Promotional events were organised throughout the project to disseminate the draft programmes and developed concepts. Additionally, members of the Latvian project team presented results and outcomes at various local, national, regional and European events focussing on entrepreneurship and innovation support and took part in numerous individual meetings.



During the second and third stages, the media were involved in the project's events so that the outcomes would be accessible to the public at large. The ESTER website was continuously updated and results from the Latvian project were covered twice in the PAXIS network's newsletter "Excellent News". The main dissemination events were:

- Project team meetings in Pavia (Italy), Riga (Latvia), Bratislava (Slovakia) and Tel-Aviv (Israel), involving representatives of local political and business communities
- 11 Latvian dissemination workshops and focus group meetings involving elaboration of the proposed models by local experts and political administrators in the economics and innovation sectors
- Presentation at IRE meeting "RIS-NAC Implementation Group" 20-21 April 2005 in Krakow
- Presentation at PAXIS Joint Workshop at Salamanca "New strategies for Innovation Support", June 23-24, 2005
- Presentation 'Seed and venture financing and incubation in Latvia' at Baltic Forum for Innovation and Entrepreneurship, Rostock, April 29, 2005

The major dissemination event in Latvia was organised towards the end of the project, on September 23, 2005, when a national ESTER conference was convened. Those involved included the project team, its management and advisors from Italy and Israel, and a wide cross-section of the local business community, political leaders, academic representatives and the media.

RESULTS OF THE ESTER PROJECT

One of the main outcomes of ESTER for Latvia is a full draft of a Technological Incubators' programme specifically aimed at operational and financial support for technology-intensive and innovative companies at their creation and technological-development phase. This programme consists of three inter-related funding schemes which, as well as addressing different needs of start-up companies, provide incentives for the private investors assisting those start-ups.

The second of the principal results of the project is the drafting of a SAP for Venture Capital facilitation. This programme provides for state co-financing of privately managed VC funds with the aim of sharing private investors' risk and providing incentives to those investors by allowing them to receive all profits. The SAP for VC was launched in August 2005.

TI programme

Additional valuable outcomes of the ESTER project were assessment and positioning of the Technological Incubators' and VC programmes in the context of other up- and downstream needs of the innovation process and the drafting of initial concepts for other innovation-support-related activities.

The Technological Incubators' programme is an integrated set of support schemes, with the common goals of fostering technological start-up activity and increasing the efficiency and success of the commercialisation of technological ideas. It consists of three integrated schemes: one provides incentives for private companies supporting the development of start-ups (scheme for operators of Technological Incubators); the second addresses the financial needs of the start-ups themselves by matching private investment into the R&D and early commercialisation phase of technological companies; the third is aimed at triggering the emergence of new companies by providing pre-seed finance for the authors and development teams of technological ideas to facilitate their transition into the incubation phase.

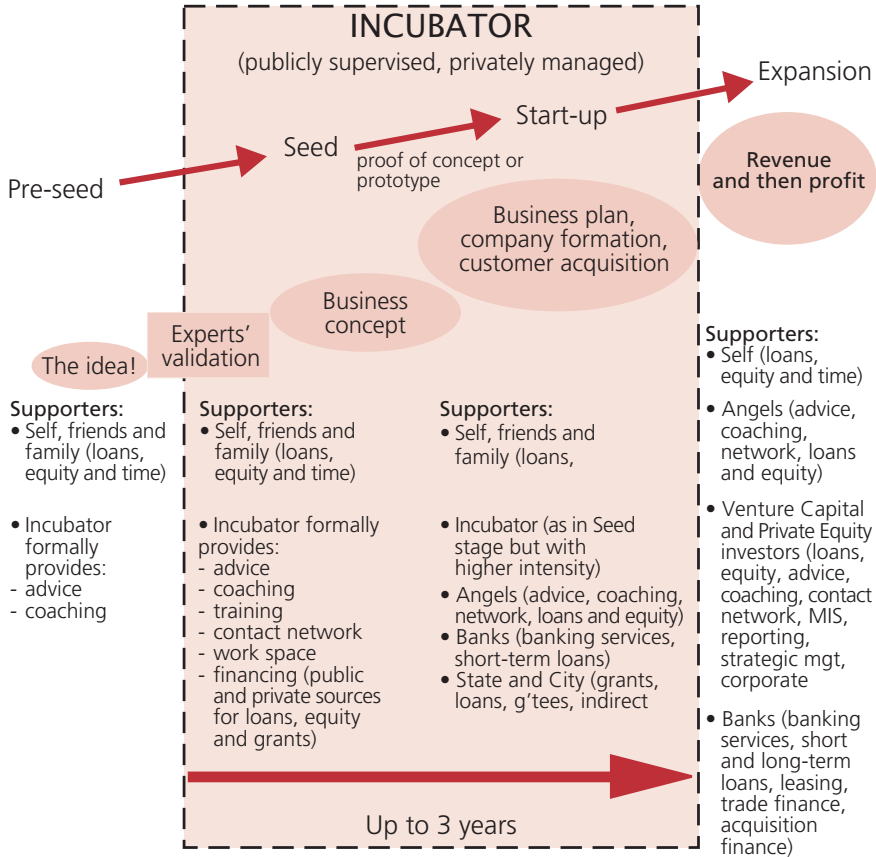


Fig.4. Schematic role of a Technological Incubator during the development process technology-intensive enterprise

TI operators' scheme

Aims of the scheme:

- To stimulate the transfer of best management practices to early-stage technology-intensive (mid- to high-tech) and innovative companies
- To foster private investment at early stages of company development
- To maximise the commercialisation prospects of technology-intensive and innovative ideas for products and services

Target group:

- Directly: potential operators of Technological Incubators – management and consultancy companies to early-stage businesses
- Indirectly: technology-intensive and innovative companies and individuals – the originators of commercially-valuable ideas

Outline of the scheme:

The state issues a tender for Technological Incubator (TI) operating companies. A number (initially two) of TI operators are selected. They must possess both management and consultancy experience, know-how and capacity for early-stage support, as well as having appropriate infrastructure to incubate up to 10 new technology-intensive and innovative companies. The state compensates the TI operators for their services to a maximum of 500,000EUR per year, of which 200,000EUR is a flat-rate payment and 30,000EUR is added for each current tenant company. Several other restrictions apply (e.g. state compensation commences only with 2 existing tenants; if there are no tenants after 6 months of operation –the TI operating company's contract is terminated).

Implementation:

- Implemented through a public seeding fund administrated by the Ministry of Economics and its affiliated state agencies
- Decision making is via a public-procurement process
- Payment – quarterly post-payment in accordance with the approved budget of the TI operator

Seed scheme

Aims of the scheme:

- To facilitate access to financing for technology-intensive and innovative start-ups
- To foster private investment into the early-stage of company development

Target group:

- Technology-intensive (mid- to high-tech) and innovative start-up companies

Outline of the scheme:

Public funds are loaned to new technology-based or innovative companies together with private investors' equity investment at a ratio of 70:30 respectively. If the products/services of the target company attain commercialisation, the loan is re-paid in real terms (interest around 3% p.a.) within a finite period, the loan repayment being calculated as 5% of the total sales of the company. If the product/service does not reach market within 3 years, the company is liquidated but the loan is converted into a non-reimbursable grant. The maximum budget for a project to receive matching finance is 400,000EUR per company, thus the maximum public participation is limited to 280,000EUR. In order to receive the public loan, the target company must be situated in a technology incubator with professional business management; the remaining finance should be secured as an equity investment by the operating company of this incubator either through its own or other private investment.

To solve timing problems with investment, companies may also initially use a sub-scheme of the seed scheme: the Proof of Concept (PoC), which allows for easier acquisition of public loans of up to 20,000EUR after the incorporation of the company, but prior to equity investments. If the target company applies for the matching loan within 6 months, the PoC loan is incorporated into the full Seed finance scheme.

Implementation:

- Implemented through a public seeding fund administrated by the Ministry of Economics and its affiliated state agencies
- Decision making is by the seeding fund board on applications made by technology incubators
- Payments– quarterly payments in advance (in PoC sub-scheme cases – monthly advance payments) in accordance with the approved budget of the company

Pre-seed (Think for a Month) scheme

Aims of the scheme:

- To encourage the founding of technology-intensive (mid-to-high-tech) and innovative start-ups.
- To facilitate technology transfer from public sector R&D into private entrepreneurship

Target groups:

- R&D employees in the Latvian public sector – originators of ideas with potential for commercialisation
- Private-sector employees – authors of inventions with commercial value
- Foreign inventors, in both public and private sectors, who would be willing to return or relocate to Latvia

Outline of the scheme:

The 'Think For a Month' (TFM) scheme enables the originators of ideas with potential for commercialisation to join an incubator team before their company is incorporated and validate their ideas together with potential business partners. The scheme reimburses salary-related expenses of the author or team of authors for 25 working days, which may be used within 5 calendar months. The maximum grant under the scheme is 3000 EUR and no one may make a repeat application within 12 months of completing the pre-seed scheme.

Implementation:

- Implemented through a public seeding fund administrated by the Ministry of Economics and its affiliated state agencies
- Decision making – seed funding board considers applications from technology incubators. The decision-making scheme should be very accommodating and simple, in other words, if there are no fair grounds for rejecting an application, it should be approved to avoid unnecessary bureaucracy
- Payment – in a single instalment at the completion of the TFM programme

Venture capital programme

Aims of the scheme:

- To facilitate access to financing for SMEs in Latvia
- To encourage more private investment as venture capital

Target group:

- Privately owned fund management companies
- SMEs in growth and expansion phases

Outline of the scheme:

A public "Fund-of-Funds" is attracted which co-invests 5 million EUR into each of three privately managed VC funds, not exceeding 70% of that fund's total. After raising the corresponding private co-financing, the funds are allowed to invest into Latvia-based SMEs taking into account the following restrictions: the maximum investment in a single company is 946,000 EUR, maximum first tranche investment is 285,000 EUR, maximum stake allowed in a company is 49%, and certain EU industry restrictions apply. The funds are expected to operate for seven years, with an option to extend activities for another three years.



Through the distribution of profits, private investors are largely protected from the loss of their investments as well as motivated by disproportionate returns, as the public investment only recovers its investment in real terms. After payment of any management fees, the returns on each investment are apportioned in the following order:

- a private investors receive 100% of their investment in nominal terms
- b public investment recovers 25% in nominal terms
- c private investors receive 6% p.a. interest on their investment
- d public investment recovers the remaining 75% in nominal terms
- e public investment receives 6% p.a. interest
- f any returns above these levels are disposed at the full discretion of private investors and the fund management company

Implementation:

- Implemented through a public seeding fund administrated by the Ministry of Economics and the Latvian Guarantee Agency
- Decision making for investing into designated funds – Board of “Fund-of-Funds”
- Decision making for investing into particular SMEs – FMC with approval of the advisory committees of the designated funds
- Payments: management fees – monthly/quarterly payments; investments – in line with withdrawal requests from the FMCs

Related issues

During the project, the ESTER team conceptualised an idea for a wider framework of inter-related SME support measures, equally applicable to high- and low tech industries. This embraces a variety of upstream actions like entrepreneurship-motivation schemes, idea & plan competitions, entrepreneurial-awareness creation within academia (e.g. professorial chairs in entrepreneurship) as well as downstream measures such as export-enhancement schemes, assistance to under-developed regions, workforce inclusion, and specific auxiliary support issues (technology transfer, IPR protection support). The ESTER project team believes that the Technological Incubators' programme will serve as a solid foundation for a whole system of SME support, thus maximising the benefits of entrepreneurial activity and strengthening Latvia's competitiveness.

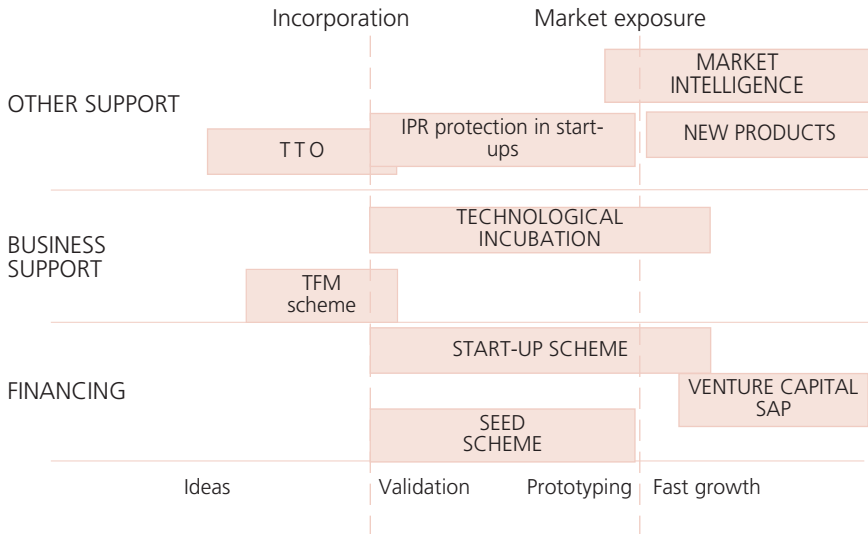


Fig.5 Integrated support model for hi-techs

SUMMARY & OUTLOOK

The ESTER Project should be viewed as an important and decisive step in the development of Latvia's innovation system. It relied upon the input of previous EU-funded projects such as IFISE and RIS Latvia and was strategically based on principles defined within the National Innovation Programme. It has resulted in the drafting of two major support programmes: the Venture Capital programme, which has already been launched as a State Aid Programme (SAP), and the Technology Incubators' programme, which, it may be assumed, will be developed into a SAP by 2007 at the latest. Therefore, these project outcomes should be viewed as a significant step towards the successful facilitation of early-stage financing for technology-based enterprises in the future. In addition to these measures, the project identified a set of issues requiring attention if the entire innovation system is to be improved. Other key policy measures that should be addressed in the nearest future are:

- generating increased private financing of R&D
- creating an effective technology-transfer infrastructure
- strengthening of IPR culture in academia and industry
- introduction of programmes for entrepreneurship motivation
- stimulating HEI and industry collaboration
- facilitating the emergence of BANs (business angel networks)

The existing and newly launched programmes should be carefully followed up and monitored to extract the best possible results from what is still the limited resource that Latvia can apportion for the fulfilment of these goals.

All the activities listed should aim to develop an effective and sustainable system to support technology start-ups in Latvia, so ultimately creating a competitive, knowledge-based economy – in line with the strategy defined by the Lisbon Summit in 2000.

List of Experts

List of Experts contributed to ESTER Latvia project deliverables

No.	Expert	Company and position
1	Andrejs Buharins	Mortgage and Land Bank, Head of unit
2	Andris Liepiņš	MoE, Under Secretary of State
3	Andris Ozols	LIDA, Director
4	Anrijs Matīss	MoE, Under Secretary of State
5	Arie Sadovski	University of Haifa, Centre for Organisational Research and Human Resources Management, Professor
6	Astrida Burka	MoE, Department of Entrepreneurship and Industry, Director
7	Dairis Cālītis	Risk Capital Association, President
8	Elmārs Baltiņš	Connect Latvia, Chief Executive
9	Jacopo Mattei	University of Pavia, Assistant Professor
10	Jānis Janevičs	Ekoinvestors, Project Manager
11	Jānis Stabulnieks	Latvian Technology Centre, Director
12	Juris Kanels	LIDA, former director
13	Kārlis Cerbulis	NCM Advisors Inc.
14	Kaspars Skalbergs	Technology Development Foundation, Project Manager
15	Līga Brikmane	Eureka Ltd., Director,
16	Līta Kalniņa	Latvian Guarantee Agency, Director
17	Māris Ēlerts	LIDA, Advisor to Director
18	Mārtiņš Jansons	MoE, Unit for design and evaluation of state aid programmes, Head
19	Moriss Teubal	The Hebrew University, Professor
20	Pēteris Treimanis	Ekoinvestors Ltd., Project Manager
21	Raimonds Aleksejenko	MoE, Department of Finance, Director
22	Ralfs Kļaviņš	LIDA, former member of the Board
23	Thomas Schwing	IMG, Rhineland Pfalz, Germany
24	Toby Moore	EBRD office in Riga, Principal Banker
25	Una Vanaga	MoE, Innovation unit, Head
26	Viesturs Sosārs	Technology Development Forum, Senior Partner
27	Viesturs Tamužs	Ekoinvestors Ltd., President
28	Viesturs Veckalns	Riga Technical University, Project Manager
29	Vittorio Modena	University of Pavia, ESTER Project Leader
30	Yigal Erlich	The Yozma Group, President
31	Alistair Brett	WB expert
32	Peter Lindholm	WB expert, INNO Group

List of documents

List of documents produced within ESTER project related to Latvia

No. Report / document

- 1 Sadoski A., Honig B., Rothschild-Shakked L., Incubators in Israel: An Analysis of Experiences of Entrepreneurs From Former Planned Economies. University of Haifa. The center for Organisational Research and Human Resources Management January 2004
- 2 Modena V., Shefer D. Technological Incubators as Creators of New High Technology Firms in Israel, European Regional Science Association, Report at 38th European Congress, Vienna, Austria, 28 August – 1 September 1998
- 3 Teubal M. Towards an R&D strategy for Israel. 1999.
4. Gill D., Minshall T., Rigby M, Campbell B. Funding Technology. Israel and the virtues of necessity. Slater Printing, Sheffield, Great Britain, 2002.
- 5 Modena V. IFISE project Final Report. Israeli financing innovation schemes for Europe. Planning for the creation of seed and start-up capital sources for high-tech firms in Italy following the Israeli success stories of the Yozma and the technological incubators' programmes. University of Pavia, 2002. See also <http://ifise.unipv.it>
- 6 Israeli Technological incubators' programme. See more at <http://incubators.org.il> or at www.science.co.il/incubator.asp
- 7 Avnimelech G., Technological incubators and high-tech clusters life cycle, University of Haifa. Centre for Organisational Research and Human Resources Management ESTER Project Report- 2005.
- 8 Gil Avnimelech, Morris Teubal, Evaluating Venture Capital Policies: Lessons from a Product Life Cycle Analysis of Israel's Venture Capital Industry, The Hebrew University 2003.
- 9 Report of the GOPP session for PAXIS Projects, University of Pavia, June 2003.
- 10 WP 3a Report. Identification of Potential Entrepreneurs and Analysis of Business Environment in Latvia. LIDA, 2004.
- 11 Modena V. First Interim Report – Year 2003. Submitted to EC. University of Pavia, 2004.
- 12 WP 6a Report. Interviews with potential players in Latvia's high-tech sector. LIDA, 2005.
- 13 WP7a Report. Interviews with potential financial operators for early-stage investments in Latvia. LIDA, 2005.
- 14 State Aid Programme "Risk Capital Financing for Small and Medium – Sized Enterprises". LIDA, 2004.
- 15 Modena V. Second Interim Report – Year 2004. Submitted to EC. University of Pavia, 2004.
- 16 Karlsson T, Honig B., Laurier W., Welter F., Sadoski A. Centre for Organisational Research and Human Resource Management The University of Haifa. A Cross-National comparison of incubated organisations: An Institutional Perspective. Report at the 2005 Academy of Management Meeting, August 2005 Hawaii.
- 17 Mattei J., Modena V. Evaluation of incentives schemes for VC. University of Pavia, July 2005.
- 18 Fratesi U., Modena V. The potential of equity capital investment into SMEs in the software industry: evidence from Lombardy. University of Pavia, July 2005.
- 19 Growth 4 Future programme. Description of new technology incubation programme. LIDA, 2005