



**Pilot Action Plan**

***Creation of Pilot IP Fund***

**Implementing region:**

**SOUTH ESTONIA**

**Executive Summary**

<b>Main objective of the creation of Pilot IP Fund</b>	To prepare the launch for the regional Pilot IP Fund.
<b>Main activities</b>	To develop the necessary administrative structure and documentation for the creation of Pilot IP Fund
<b>Expected results and outcomes</b>	Implementation of necessary steps for the creation of Pilot IP Fund
<b>Direct and indirect beneficiaries of the creation of the Pilot IP Fund</b>	Direct: IP fund’s stakeholders (regional institutions) Indirect: Innovative SMEs
<b>Main implementing organization</b>	Tartu Science Park
<b>Partner(s) in creation process</b>	Tartu Science Park Tartu Biotechnology Park Tartu City Government Tartu County Government University of Tartu Estonian University of Life Sciences University of Tartu Institute of Technology Ministry of Economic Affairs and Communications Estonian Patent Office
<b>Duration</b>	The whole project will have three stages: 1. Creation phase of the Pilot IP Fund is 1,5 years 2. Pilot IP Fund will operate for 3 years leading to the creation of regional IP Fund 3. Regional IP fund – the duration of the fund shall be clarified in stage 2
<b>Estimated budget of the stage 1 and 2.</b>	The budget of Stage 1 is estimated to be 50 000 Euros and the budget of the Stage 2 is estimated to be 300 000 Euros

# 1. Problem identification

## 1.1. Introduction

Majority of Estonian enterprises, mostly SME-s, are active in traditional sectors and industries and, thus, as expected the number of R&D performing enterprises is quite low although increasing. On the other hand, the share of innovative SME-s is in Estonia, especially in the service sector, in international comparison quite high. The average share of innovative enterprises is 49% (48% in manufacture and 51% in services) in Estonia.<sup>1</sup> Also, firms with larger number of employees and foreign owners or partners are more innovative.

Generally, there is widespread understanding that raising the innovative capacity of enterprises and via that country's economic sustainability should be a prime policy concern of Estonian RTDI policy. The most recent innovation survey available on Estonia reports however that there is very little public support available to innovation activities undertaken by enterprises. Public funding seems to be still very much geared towards investments into public research (and the science system). In our view, there is definitely a need for a system more oriented in supporting research and development activities taking place in SMEs<sup>2</sup>.

Besides the support system which is focused mainly on public R&D also the general level of services provided by, and lack of knowledge and experiences of intermediaries' employees become obvious during the provision of knowledge intensive and technology-specific services (technology audits, technology watches, services linked to IPR and licensing) to R&D intensive SMEs. To provide high-quality services to R&D intensive companies, very specific and deep knowledge about specific technology areas is needed. Therefore services (including IPR services) need further development and improvements in Estonia or the modifications in support system is needed to finance the engagement of experts from public and private sector.

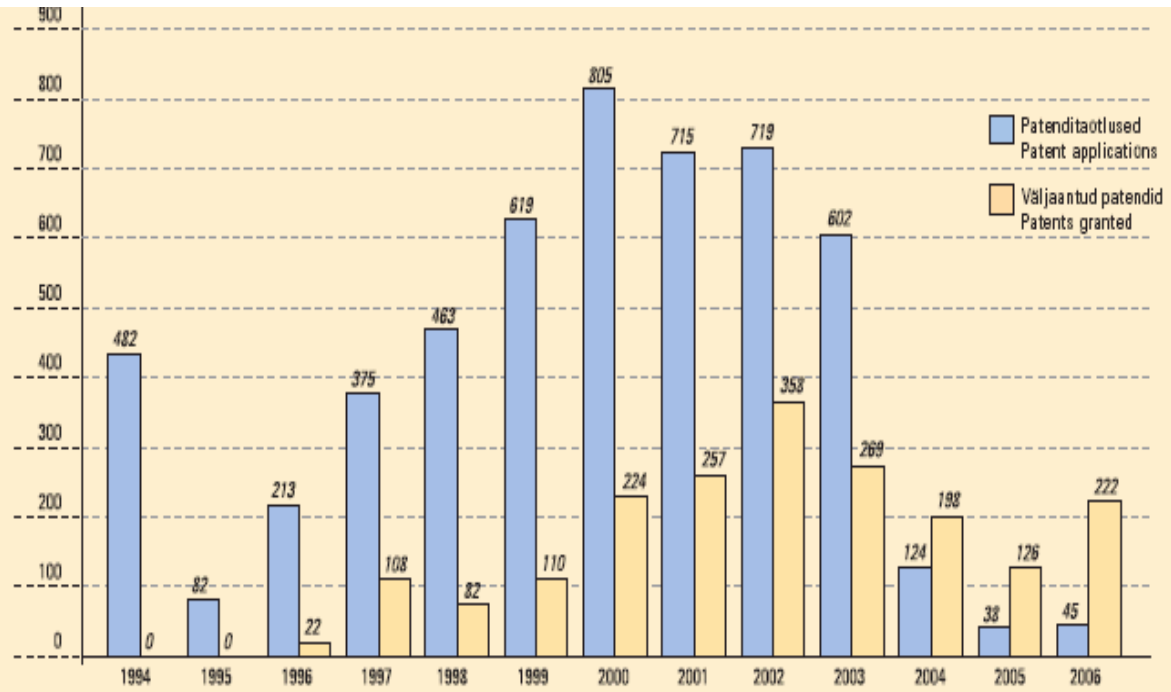
In Estonia the number of patents and licenses in industry is small. Availability of skilled labour in enterprises is one of the barriers for private research and development activities leading to commercialization of inventions which could be protected with patents. Currently the labour shortage is caused by the very rapid growth of the Estonian economy, but this shortage might not disappear in the future also because of low enrolment in Science and Engineering studies.

The number of patent applications has fallen (about 95% in 2006 compared to 2002) in Estonia (see figure 1). One of the main reasons for rejecting patent applications (or withdrawals) is non-payment of patent for the continued validity fees. The number of patent licenses is also very small. Creating thus an IP fund would help to increase the IPR protection activity through eliminating the main obstacle in IPR protection in Estonia – the shortage of financial resources.

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<sup>1</sup> Community Innovation Survey 4, Eurostat, 2007.

<sup>2</sup> OMC Policy Mix Review Report, Country Report Estonia, August 2007  
[http://www.mkm.ee/failid/p\\_3.2\\_OMC\\_Country\\_Report\\_Estonia.pdf](http://www.mkm.ee/failid/p_3.2_OMC_Country_Report_Estonia.pdf)



Patendiametisse esitatud patenditaotlused ja väljaantud patendid.

Patent applications filed with the Estonian Patent Office and decisions made on these applications.

## 1.2. Pilot project focus

There are main problems hampering the patenting activities in Estonian enterprises – IPR protection is too expensive for Estonian SMEs and SMEs are not informed of benefits of IPR protection. Besides the previous the low patenting activities could be also explained by the strategic choices of the Estonian enterprises. Currently it is easier and quicker to gain competitive edge through acquiring new machines and equipment than through R&D and patenting in Estonia. Below the short overview of these problems is presented.

**IPR protection is costly and not too efficient in Estonia, research results are slowly commercialised.**

The average duration of the examination of a patent application is 4.5 years, the long timeframe is the result of the examination-based system used in Estonia. Examination-based system means that Estonian Patent Office examines the compliance of filed patent applications with the formal requirements and carries out substantive examination of the invention, examining the novelty of the invention worldwide, the inventive step and industrial applicability. Estonian Patent Office has published its goals, one of which is shortening the duration of the examination process to less than 32 months from the patent application date. (Yearbook 2006: 27, 50) Still – the patent system is considered not to be cost-effective across all European Union member states. Before the whole system will be modified, the efficiency of patenting process remains low despite of all efforts. (Putting knowledge into practice.... 2006: 6–7). Using examination-based system has both positive and negative impacts. The thoroughness of the system assures the strength of granted patents. At the same time it is difficult to licence or otherwise commercialize the invention for what patent has been applied for before the registration.

Besides above mentioned problem there are also other barriers which have caused the decrease in number of patent applications. Last year the main reason for rejection or withdrawal of patent applications was the non-payment of patent for the continued validity fees (88.8% of the withdrawals). The cost of IPR protection is estimated to be another reason for not claiming the patent protection.

There are no funds or grants available in Estonia to cover the expenses of IPR protection. Previous may be one of the reasons behind very low patenting and licensing activity. The process is especially expensive for SME's. Estonian SMEs have mentioned the shortage of financing sources and scarcity of qualified labour as the main obstacles in IPR protection process. In most cases patent applications are filed or patents licensed by enterprises with foreign partners, who have better ability to finance IPR protection. Also those enterprises may be technologically and strategically more focused and successful than in other enterprises.

**SMEs are not informed about existing services in IPR area, there is lack of good-quality information.**

Information about IPR protection is distributed by Estonian Patent Office and some intermediaries. Two intermediaries of Estonian intermediary system are quite active in giving information about IPR protection – Enterprise Estonia and Tartu University Institute of Technology. Still, the quality of these services does not correspond totally to the needs of small and medium sized research and development intensive enterprises. The knowledge and

competence of intermediaries' employees is quite general, but small research and development intensive enterprises need specific knowledge in narrow patenting areas. Due to the previous SMEs tend to use private enterprises (mainly patent attorneys both from Estonia and foreign countries) or increase their own competence in the area of the IPR and commercialization. (Summary Report... 2007: 14) The first solution is quite expensive for SMEs and increasing the competence inside the firm may be hampered by the scarcity of necessary workforce. At the same time considering the smallness of Estonia it may not be rational to increase and deepen the expertise of intermediaries, but instead of that public sector may cover the costs of private patent officers for SMEs.

Establishment of a Pilot IP Fund would contribute to solving the above problems. The IP fund will not be sector specific and will cover all sectors where SMEs are active. There are few really innovative SMEs in Estonia, so there's no need to finance the protection of IPR only in high tech sectors.

Service areas covered and IPR activities financed by the fund shall be following: cost of patent application (from national to a patent registered under Patent Cooperation Treaty (PCT), from PCT to country by country etc), fees for patent continuity, and cost of licensing negotiation process (with additional development where necessary). Also the cost of IPR checks and services like assistance in commercialization of industrial research projects and assistance in depositing patents should be covered. Creation of links between IP fund and relevant intermediaries (Estonian Patent Office, Enterprise Estonia, Tartu University Institute of Technology) should be foreseen.

Main stakeholders of the IP Fund are Tartu Science Park, University of Tartu, Estonian University of Life Sciences, Tartu City Government, Tartu County Government, Tartu Biotechnology Park, and University of Tartu Institute of Technology. Estonian Patent Office shall be the leading advising partner in IP questions.

The Pilot IP Fund shall be created under the jurisdiction of Tartu Science Park and linked with the seed capital fund which will be founded also under the jurisdiction of Tartu Science Park, because the activities of Pilot IP Fund are similar to the activities of pilot seed capital fund. Probably it would be rational to join these two funds under one management structure. The knowledge obtained through creating Pilot IP Fund in South Estonia can easily be used to create regional IP fund.

Below a short description of the stakeholders and partners of Pilot IP Fund is presented:

Tartu Science Park (TSP). The aims of the IP fund and TSP's pilot seed capital fund are similar - to invest into SMEs registered in Southern Estonia that are innovative and develop new products. At the same time they have to have considerable growth and export potential, and a perspective to achieve a remarkable position at the international market. Considering the cost and timeframe of creating a fund, IP fund could be a part of TSP's activities.

Tartu City Government and Tartu County Government. Tartu is the second-largest city in Estonia and an important scientific and research centre. Many innovative SMEs are situated in Tartu County. Tartu City and County Governments are very much focused on supporting South Estonian enterprises in their activities. based on the Tartu regional innovation strategy. .

University of Tartu (UT) and Estonian University of Life Sciences (EULS). University of Tartu is the oldest and biggest in Estonia. Tartu University is the leader in R&D fields in Estonia and it is closely linked to its spin-offs. Therefore this institution has a lot of valuable information about commercialising innovations. Estonian University of Life Sciences is the only university in this field in Estonia and therefore it provides necessary qualified workforce for enterprises and conducts high-quality research. These stake-holders have an important role in the council of the fund because of their knowledge and experience in IPR and spin-off area.

Tartu Biotechnology Park (TBP) and University of Tartu Technology Institute (TUIT). Both organizations are specialized on giving R&D related advice to innovative enterprises. The experience of being intermediaries is valuable and therefore they shall be members of IP fund's council.

Estonian Patent Office (EPO). The objective of the operation of the Office is to implement national economic policy in the field of legal protection of industrial property. One of its main functions is to participate in the development of policies, strategies and development plans within its area of activity and to prepare and implement projects connected with its area of activity. On 1 January 2006 a special division called Small-Sized Enterprise Support Division was established under the Patent Department. Its main goal is to raise the awareness of the entrepreneurs and the public in the field of legal protection of intellectual property by arranging seminars, info days, consultations and participating in the fairs. (Yearbook 2006: 43) Therefore EPO should take part in the creation of IP fund and participate in decisions making process linked to possible funding (i.e. which inventions have a value of novelty and therefore also the potential for commercial success).

Ministry of Economic Affairs and Communications (MEAC). One of the main goals of the ministry is to boost innovativeness in Estonia. The ministry is responsible for developing and innovation policy in Estonia. Therefore the creation of Pilot IP Fund should be favoured by MEAC and set up in close cooperation with the ministry.

## **2. Pilot action specification**

### **2.1. Objective and purpose**

The objective of the project is to increase the number of Estonian patent applications and patent licenses through creating financial means for SMEs and providing support for patenting and licensing process. The Pilot IP Fund will be established to provide financial support and encourage Estonian SMEs' innovativeness that have a clear economic potential.

There are mainly two types of IPR protection supporting funds in Europe – investment-type and support-type funds. Investment-type IP fund invests its money in order to finance the IPR protection and in turn will be the share-holder of the company or the patent portfolio. Support-type fund gives grants for the same purpose, but will not become a share-holder.

As economic success is the prime indicator for successful IPR protection, investment-type fund seems to be more appropriate type for Estonia. Also because the IP fund should be linked to the seed fund the financial resources for patenting might come together with the financial resources for expanding the activities of enterprise. It also fits better with Estonian economic policy aims.

## 2.2. Approach: tools and methods

Creating an IP fund would help to increase the IPR protection activity because it eliminates the important obstacle in IPR protection in Estonia – the shortage of finance. The scheme would be launched with the intention that it would focus specifically on covering IPR protection costs of Southern Estonia’s SMEs. This issue has not been dealt with in the past in Estonia. The money given by the fund could also be used for buying specific IP-related services from private enterprises because the creation of this kind of knowledge inside intermediaries is not reasonable and effective considering the smallness of Estonia.

### Eligibility of the project

The Pilot IP Fund will provide financial support to South Estonian SMEs in the IPR protection areas. For receiving financial resources from seed and IP fund innovative enterprises or the enterprises responsible for commercialisation of the invention has to fill in specific application. Funds will also be distributed for licensing negotiation process (with additional development where necessary). In addition to financial resources Tartu Science Park and Tartu Biotechnology Park will provide intermediary services linked to IPR checks if the knowledge exists in Tartu Science and/or Biotechnology Parks and/or networking in patenting and licensing areas. The basis of the Pilot IP Fund scheme is presented in Table 1.

**Table 1.** Basis for the creation of Pilot IP Fund and Pilot IP Fund scheme

<b>Denomination</b>	Creation of Pilot IP Fund South Estonia
<b>Type of scheme</b>	Created Pilot IP Fund should be investment-type fund, fully publicly funded, and regionally focused
<b>Objective</b>	To create the framework and bases for the establishment of Pilot IP Fund. This fund should help innovative SME’s with promising commercial potential to finance the cost of IP protection
<b>Stakeholders</b>	<ul style="list-style-type: none"> <li>• Tartu Science Park</li> <li>• Tartu City Government</li> <li>• Tartu County Government</li> <li>• University of Tartu / Estonian University of Life Sciences</li> <li>• Tartu Biotechnology Park / Tartu University Institute of Technology</li> <li>• Estonian Patent Office</li> <li>• Ministry of Economic Affairs and Communications</li> </ul>
<b>Geographic coverage</b>	South Estonia (enterprises must be located in the region)
<b>Duration of the scheme</b>	The pre-creation phase of the Pilot IP Fund will be 1,5 years. The duration of Pilot IP Fund should be 6 years: 3 years investment + 3 years (portfolio management and exits)
<b>Capital of the Pilot IP Fund</b>	<ul style="list-style-type: none"> <li>• own resources of the stakeholders, € 100.000 per year, for three years, in cash and in-kind:</li> <li>• cash € 250.000; in-kind € 50.000.</li> <li>• cash paid to the fund in one lump sum.</li> <li>• in-kind includes: IPR check, networking in patenting and licensing areas</li> </ul>
<b>Investment per project by Pilot IP Fund</b>	<ul style="list-style-type: none"> <li>• from € 10.000 to € 50.000.</li> <li>• maximum 49% shareholding in the company</li> </ul>
<b>Company eligibility criteria</b>	<ul style="list-style-type: none"> <li>• SME</li> <li>• must demonstrate strong commercial perspectives</li> </ul>

	<ul style="list-style-type: none"> <li>• only legal persons incorporated in Estonia</li> </ul>
<b>Patent application eligibility criteria</b>	<ul style="list-style-type: none"> <li>• applicable IPR must have clear commercial potential</li> <li>• clear exit strategy from the fund within 3 years (indicated in the business plan)</li> </ul>
<b>Industrial sector</b>	<ul style="list-style-type: none"> <li>• no sector limitation</li> </ul>
<b>Fund strategy</b>	In the present form it is intended as a pilot project, to test and validate the model. After the Pilot IP Fund is in place, operational and has shown results (indicatively 3 years), additional financial resources will be sought either from the central administration or from European sources (European Commission, European Investment Fund, etc.) aiming at the set-up of a fund with broader scope (financial means, duration, and geographical coverage) at the end of the 3rd year.
<b>Expected results of the Pilot IP Fund</b>	From 2 to 5 investments into SMEs per year
<b>Management organisation</b>	The management of the Pilot IP Fund could be contracted to an external organization, with proven experience and professional staff in the management of similar fund schemes. This external management organization should also be responsible for seed capital fund. The external management organisation and Tartu Science Park should strictly cooperate in the management of the scheme. TSP should appoint professional staff from their own organization to form a joint working team.

The investments of the fund are restricted to costs directly associated with the protection of the invention concerned. It should normally cover 100% of such costs<sup>3</sup>. Funding to enterprises can be provided at any (or for all) of following three stages describing the process of IPR protection:

- Stage 1. Funding of up to €10,000 to assist with the costs of preliminary patent protection (incl. the cost of patent attorneys).
- Stage 2. Funding of up to €50,000 (additional to any funding already provided) to support patenting costs arising in the continuing prosecution of an already filed initial patent application or extension of patent coverage to other countries.
- Stage 3. Funding to provide support for licensing process. The amount of money invested will be determined by the fund in each case but normally not more than €40,000 in addition to any funding already provided.

A standard application form that shall be developed by the council of Pilot IP Fund will be used for the application process. In addition to basic administrative details the following issues should be addressed in application form:

- A short description of the innovation and opportunity analysis for exploring and developing its commercial potential:
  - Platform (multi-application in different fields) or a specific product application;
  - Cutting edge or an incremental improvement on existing technology;
  - Has it been demonstrated to work in practice?
- A brief outline of the patent strategy the applicant organization is planning.

The IP fund will help SMEs with a high innovative potential but scarce financial resources to reach a position where they can protect their innovations. Intensive IP protection (patents and

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<sup>3</sup> The amount of the fund and the size of given support are derived from Central Macedonia's suggestions in the project "Development of specific regional policies through the analysis of early-stage financing opportunities for innovative start-ups and spin-offs" taking into account the specific features of Estonia.

patent licensing) could also increase the level of export consisting of high-tech and high value added products.

### 2.3. Target groups and beneficiaries

The direct beneficiaries of Pilot IP Fund will be innovative SMEs, who lack finances for IPR protection and growth. Different IP related surveys clearly show that the lack of financial resources is one of the main obstacles for filing patent applications for innovative SMEs. Creation of IP fund could remove this obstacle. Still there are some additional constraints that need to be targeted – the lack of high quality information about the benefits of IP protection and Estonian SMEs' low ability to enter international market. Pure investment-type IP fund is not suitable for solving latter problems, so cooperation with science parks is included to this particular Pilot IP Fund model.

### 2.4. Implementing body and partnership

The leading implementing body of the Pilot IP Fund should be Tartu Science Park. Tartu Science Park's objective is to support enterprises in implementing new technological solutions through offering them variety of services. For that purpose, Tartu Science Park is also currently planning to perform risk capital investments into the starting and growth-oriented technology companies. The role of TSP in the project would be to lead the creation of the IP fund and steer the external management organization.

The leading advisory board of the Pilot IP Fund should consist of the stakeholders' representatives (the list of stakeholders is presented in Table 1) and one or two experts with experiences from investment sector. The Estonian Patent Office will be the main advisory body for deciding which patents have potential for economic success and therefore should get funding from Pilot IP Fund.

### 2.5. Policy context

The support measures of IPR support area are not very well developed in Estonia. Longer description of this issue is presented in sub-sections presented above. Below a short summary of institutions and services existing in Estonia is given.

Following institutions and services have been developed and implemented in Estonia for supporting IPR activities of the enterprises:

- S&T intermediaries provide different IP-related services: IPR check, financial support to conduct patent surveys, commercialization of IPR, etc. Mostly these services are information related.
- Estonian Patent Office is the official registrar for IPR. It also organizes free consultations to SME's and natural persons in that particular area.
- Enterprise Estonia gives financial support for IPR checks conducted as a part of S&T development projects.

### 2.6. Monitoring and evaluation system

The most important indicator for monitoring and evaluation of the project on the level of outputs is number of enterprises supported through the means of IP fund. Additional

indicators are number of applications per year and the amount of money invested into projects in total and/or per project.

It is expected to support up to 5 applications or patent license procedures per year in the pilot phase of the fund (3 years). The total amount of money given to enterprises in the Pilot IP Fund phase is up to 300 000 Euros and up to 50 000 Euros per project.

### **3. Duration and detailed action plan for creation of Pilot IP Fund**

Tartu Science Park is the most appropriate local intermediary to take the lead in the actual implementation of the Pilot IP Fund. They will have the task to guide the stakeholders through the tasks necessary for establishing the framework.

The key steps that need being carried out can be summarized as following:

- formalize a document containing all the key features of the scheme, possibly based on the present pilot action plan. This document will be used in approaching the stakeholders to ask their opinions/modifications/changes.
- submit a Memorandum of Understanding (MOU) for signing to all stakeholders to formalize their commitment. The MOU should cover at least the following topics:
  - objectives of the fund;
  - mission list of stakeholders, roles of the stakeholders;
  - financial contribution of the stakeholders (cash, in kind);
  - criteria to become a stakeholders;
  - outline of the eligibility criteria for projects (duration of the projects, exit policy) and companies;
  - outline of the investment and credit characteristics;
  - duration of the scheme.

### **4. Management and human resources for creation of Pilot IP Fund**

All stakeholders will have equally important role to play ensuring the successful implementation of the project. The project is designed to be sustainable beyond its time horizon in that the participants aim themselves to develop into a modern IP fund. Therefore, all the participants are expected to function as pro-active nodes, mobilizing additional support, expanding the project frame and integrating project issues in other national, EU and issue-driven networks and initiatives. Therefore, the administrative structure should be based on collective responsibility of the participants concerning decision making, carrying out the activities, and assessing, exploiting and promoting their results.

Quality control and monitoring: There will be a joint responsibility in the sense that each contractor is responsible for tasks and deliverables undertaken by his organization and other bodies involved in his remit. The overall project progress and the effectiveness of actions will be supervised by Tartu Science Park. They will also suggest necessary modifications and corrective actions. Regularly circulated checklists will be used for monitoring the implementation and the absorption of the budget.

Tartu Science Park shall take the lead in supervising the process of developing and implementing of the Pilot IP Fund. Tartu Science Park shall also engage experts with good

knowledge of fund creation and IP protection, also a consulting company for preparing the needed documents.

The creation phase of the Pilot IP Fund is estimated to last for 1,5 years. Based on the above estimate the human resources needed to implement the project are following:

- project leading – 18 months, 3 persons included in this part of the project,
- experts on fund creation – 12 months, 2 persons included in this part of the project,
- experts on IP protection – 6 months, 1 person included in this part of the project,
- experts on preparing documentation – 12 months, 2 persons involved in this part of the project.

## **5. Budget and sustainability of Pilot IP Fund**

### **5.1. Budget**

The total budget of the fund in the creation and pilot phase is estimated to be 350 000 Euros (50 000 Euros for creation phase and 300 000 Euros for Pilot IP Fund). For management and operational expenses of the Pilot IP Fund 10% of the budget corresponding to 30 000 Euros is foreseen.

### **5.2. Sources of funding**

The main source of funding of project costs are the future stakeholders of the Pilot IP Fund and/or the Ministry of Economic Affairs and Communication of Estonia.

## **6. Dissemination during the creation of Pilot IP Fund**

For the management and transfer of knowledge and/or information the website can be used. The website will have a separate forum for internal communications (restricted parts, open parts and discussion forum). All documents common to the project will be stored in this closed part, in order to enhance sharing and transfer of e.g. updates to protocols, meeting reports, budget issues and input from the scientific community.

Also all stakeholders shall actively promote the idea of the Pilot IP Fund. Tartu Science Park and Tartu Biotechnology Park shall actively search for possible beneficiaries.

## **7. Sustainability of Pilot IP Fund and follow on**

Once the pilot phase of the fund is over it is expected that the exits made from the investments in the target companies will allow in average not only to gain back the investments but also increase the initially invested capital, which will then be used for the next round of investments. The long-term sustainability of the fund will thus be based on the model of reinvesting the initial capital together with the additional gains made from successful exits.

It is also to be hoped that in addition to the initial investment used during the pilot phase it will be possible to attract new capital and investments into the fund to be used for the new rounds of investments. The fund should also play a catalyst role for attracting investments from other either public or private investors to the target companies and thus reach certain multiplier effect with the initial capital invested.

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