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**Forming of the regional institutes of financing of innovative projects of a "seed" stage of development**

*The small innovative enterprises are considered as the main propeller of innovative development of the region. At the same time, the entrepreneurs implementing the innovations meet difficulties of investment attraction in the projects of "seed" stage. The impossibility, for the most companies, overcoming then investment barrier leads to the forced termination of perspective projects. As a result, the innovative capacity of the region remains unrealized. Forming of the regional institutes of risk financing can be one of the problem resolutions. In the Khabarovsk territory there is an approbation of such institute created in the form of regional consolidation of "business angels". The reasons and results of work of the regional alliance of venture investors are provided in this article. The object of research the regional innovative system of the Khabarovsk territory, as a subject –subsystem of financing of the innovative projects acts.*

**Формирование региональных институтов финансирования инновационных проектов «посевной» стадии развития**

*Малые инновационные предприятия рассматриваются в качестве основного движителя инновационного развития региона. В то же время, предприниматели, внедряющие инновации, сталкиваются с трудностями привлечения инвестиций в проекты «посевной» стадии. Невозможность, для большинства компаний, преодоления инвестиционного барьера приводит к вынужденному прекращению перспективных проектов. Как результат, остается нереализованным инновационный потенциал региона. Одним из решений проблемы может быть формирование региональных институтов рискового финансирования. В Хабаровском крае происходит апробация такого института, созданного в форме регионального объединения «бизнес-ангелов». Обоснование и результаты работы регионального альянса рисковых инвесторов представлены в настоящей статье. Объектом исследования выступает региональная инновационная система Хабаровского края, предметом – подсистема финансирования инновационных проектов.*

***Keywords:*** *innovative project, "seed campaign" and "start-up" of a stage of investments, business angels, venture funds.*

***Ключевые слова***: *инновационный проект, «посевная» и «старт-ап» стадии инвестиций, бизнес-ангелы, венчурные фонды*.

One of the main conditions of transition of national economy on the innovative way of development determined by the Strategy of innovative development of the Russian Federation for the period till 2020 is an increase in the innovative activity of business. At the same time, limited opportunities of the small companies on getting of direct support in case of implementation of innovative projects, at the same time limited opportunities of the federal executive bodies to administer provision of the support on a set of medium-sized projects are called one of the key problems. The problem shall be solved mainly within the appropriate regional programs, and also in the realization of different mechanisms of support of innovative activities of the entities by means of the industry business associations [1].

In development of the sector of innovative and venture entrepreneurship as a single complex the experts allocate two "bottlenecks". First, it is backwardness of "seed" investments in Russia, discrepancy of small handling capacity of "seed" sector (business angels and specialized funds) to the repeatedly increased financial resources of venture funds and state investment organizations, secondly – a shortcoming of qualified specialists [2].

Unevenness of distribution of the investments between the sowing and the late stages of development is noted in "The national report on innovations in Russia 2015": "In Russia the general world tendency of considerable orientation to investments into the companies at the late stages of development is observed:

- the total volume of investments at a preseeding and seed stage made 16,0 mln. dollars, i.e. 15% of the total amount of venture investments;

- the total volume of the equity of the operating sowing funds made 0,58 bln. dollars, i.e. 10% of the total amount of the equity of venture funds" [3].

The same tendencies found reflection in the data of the research conducted by the All-Russian public opinion research center by request of JSC "RVK": "… in terms of money the big share of investments into the industries is the share of the companies which are at the advanced stages of development. On them the main attention of participants of the market was for an appreciable length of time focused" [4].

Development of the innovative enterprises depends on the costs for development of a product and duration of the period of preparation for a product conclusion to the market and the process of an exit. On this way of development there are several early stages which successful passing requires sufficient financing: research and development works (RD), development of the concept of a product and creation of a prototype, determination of the market and its research, beginning of production of a product.

In the industry of direct and venture investment allocation of the process of growth and development of the company on the following stages is adopted:

- "Seed" stage covers initial researches and developments of the idea or the concept of business, determination of the market potential and economic viability, process of forming of a management team.

- "Star-tup" stage implies the work on creation of a prototype and/or a prototype of a product, primary researches of the market and search of the ways of contact to it, company registration, development of the business plan, organization of small-lot production of a product.

- The stage of "The early growth" is related to achievement of the already small scale of commercialization of a product and the beginning of growth, but the sustained profit at the company still is absent, foundation for the production expansion is laid here. The exit to "breakeven point", as a rule, is the share of this stage.

- At the stage of "Expansion" of business there is an essential growth on production volumes, the taken place in the market; increase in the fixed assets and equity; additional marketing researches and an exit to a sustained profit are conducted.

- The Laterstage or sustainable development is characterized, as a rule, by strong line items in the target markets, a sustained profit and dividend payout since the shares of the company can be traded at the exchange [5].

The innovative entities of the early stages (seed and start-up) are characterized by the high degree of uncertainty: the project represents only the idea or a packet of intellectual property, the company is in a forming stage, there is no notable proof of prospects of their product or service, there is no accurately built scheme of business and the authentic forecast of future financial flows and costs. These characteristics lead to perception of this project (entity) as a high-risk and by that force "classical" investors to refrain from financing because of the high level of alternative expenses of such investments.

The trajectory of growth of cost of the company depending on a stage is significantly not linear. In case of success explosive growth happens in the last several years before the exit.

Thus, the single process of financing of the companies is divided into different phases. At the same time, each stage is financed by the type of investors. These comparisons are provided in the table.

*Table 1*

**Investment type depending on a stage of development of the company**

|  |  |
| --- | --- |
| **Stage at the time of the beginning of investment** | **Investors** |
| "Seed" | Own means, business angels, state grants and target programs, seed investment funds, state investment funds |
| "Start-up" | Venture funds |
| "Early growth", "Expansion" | Direct investment funds |

Financings of the early stages, many of traditional sources, not quite are suitable for the innovative entities. The own means of founders, their families and friends are an important source at a seed stage. But they are frequent insufficiently to cover the needs of the entity when it begins to submit the growing promises. As "the financial gap" (equitygap) – a situation when the own means of founders of the entity are already not enough for its development is especially sensitive for the entities of the early stages, and the other forms of getting financial resources (credits, bonds, the stock market) are still unavailable due to the lack of the large liquid property and high risks.

The grants which are in fact payments for the certain merits represent quite viable variants of development financing of the ideas. They don't need to be returned, and they often provide some kind of certification to the entities which received them when they are engaged in the searches of private equity for the further development. So the “CLEVER MAN” or “START” programs of the Fund of assistance to the development of small forms of the entities in the scientific and technical sphere work (further – FAD SFE STS).

Possible the most suitable form of financing of the early stages of innovative enterprises which corresponds to a ratio of level of the risks of these enterprises with their potential level of income is the external direct investment in the capital or authorized capital. The main sources of such financing are "business angels", funds of seed investments and the venture capital funds though the most venture funds after all focus the activities on the companies with the already developed product.

The investors receive a share in the company in exchange for the provided financing that allows them participate in the profit on value increase of the company in the case of its implementation. Such investors acquire the important right to participate in the control over the activities of the enterprise and to perform comprehensive monitoring that helps them to manage the risk of emergence of losses. At last, they bring the valuable experience and working connections in the enterprise, increasing thus its business potential.

Coming of a private capital to the projects at the early stages is caused by a variety of reasons: first, the projects of "seed" stage and start-ups require absolutely different campaigns to the management; secondly, work with the "seed" project requires bigger degree of involvement of the investor into the management, than the team of modern large venture fund is able to afford it; thirdly, the initial risk of the "seed" project is too high that makes impossible adoption by the managing company of venture fund of the positive decision on investment, proceeding from the formal criteria used by the fund; fourthly, the volume of investment is one "seed" project significantly less, than for the venture project of a stage of start-up. With respect thereto "seed" investments drop out of a format of venture.

In the process of development of venture sector and gradual withdrawal of venture funds from a niche of "seed" projects the opportunity to invest in them became vacant again. And this "financial gap" began to be filled with a private equity, i.e. "business angels" – private investors whose contribution to the companies usually doesn't exceed 30,0 million rubles.

Business and angelic money – "clever": investors "live" with the company, helping it not only with the financing, but also giving useful contacts and management skills especially as many of them in the past – successful entrepreneurs.

With respect thereto, between the venture funds and business angels there is not a competition, but "job specialization". Business angels take part in forming of the company on the earliest, "seed campaign", a stage when the project is only at the level of structuring the idea and forming of business and requires rather small investments. Venture funds invest in start-ups – the companies with already existing business, a product (prototype, small batch etc.) and the profit size which is giving in to the realistic forecasting for the next several years.

In the developed countries where "seed" financing – the developed industry (for example, the State of Israel), it is possible to speak about existence of special "business and angelic" infrastructure (on the materials of training of the authors "Development of the regional infrastructure of support of innovations in the State of Israel", Israel, on May 15 – 22, 2011). It represents a network of commercial and non-commercial institutes, organizations, firms, communities which purpose – implementation of the investments or grant financial help of a "seed" stage to the entities, and also increase in the efficiency of "business and angelic" investments and forming of the comfortable relations between "business angels", recipients of their investments and the external environment.

The aspiration to risk diversification in the "business and angelic" sector leads to consolidation in the alliances which allow not only raise the funds in a single financial pool, but also lower the costs for search and selection of projects to the investment. Most often, investors manage the alliance, without involvement of the managing companies though sometimes hire the skilled managers or consultants. Anyway management of "business and angelic" alliance is much more simply and less costly, than venture fund with the professional managing company functioning on a fixed basis.

Financing of innovative projects of the early stages in the territory of the Khabarovsk territory is performed through the FAD SFE STS programs, the seed investments of RD interacting through the system of venture partners realized by the representative of the Fund in the region. The program implementation of the specified Funds, as a rule, provides joint financing, i.e. attraction of the non-budgetary sources of financing of the projects.

Dynamics of effectiveness of the "CLEVER MAN"and "START" programs of FAD SFE STS in the territory of the Khabarovsk territory for the period is 2009 – 2015 provided in the table 2.

*Table 2*

**Dynamics of effectiveness of the "CLEVER MAN"and "START" programs**

**of FSR MFP NTS in the Khabarovsk territory in 2009 – 2015**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name of the program** | **Results of participation in the programs, piece.** | | | | |
| **Participants** | **Winners of the 1st year** | **Have passed for the 2nd year** | **Have passed for the 3rd year** | **It is supported according to the CTAPT-1 program** |
| "CLEVER MAN" | 422 | 147 | 57 | - | 7 |
| "START" | 124 | 33 | 2 | 1 | - |

*Source: it is made by the author.*

The purpose of the "CLEVER MAN" program is a support of the young scientists aiming to be implemented through the innovative activities; stimulation of mass participation of the youth in the scientific and technical and innovative activities; stimulation of young scientists and specialists to creation of the small innovative enterprises necessary for commercialization of the results of scientific developments [6]. The financial support is provided in the form of a non-paid and irretrievable subsidy in cash – grant, allocated for carrying out research works to the applicants selected by the results of tender. The program is implemented by the winners within 2 years.

The "START" program is an assistance to the innovators aiming to develop and master production of new goods, product, technology or service with the use of results of the scientific and technological researches which are on initial stage of development and having high potential of commercialization [6]. The "START" program is based on the principle of public and private partnership: the government budget realizes only a part of the actions necessary for business development. In the first year the Fund allocates money for accomplishment of Research and Development and controls whether any results following the results are received. As a result investment risks of the private investor decrease to an acceptable level. From the second year the Fund performs financing on the parity basis, that is the small innovative enterprise shall attract the non-budgetary sources of financing or make the own investments if realization of the product is begun. For the companies which successfully finished the second year of the "START" program the following stage of financing – the Business start program is provided (since 2016 there were changes in the "START" program: earlier the 3rd year assuming the joint financing of development of the project is allocated in the separate "Business-start" program).

The analysis of dynamics of the data characterizing the program implementation results "CLEVER MAN" in the territory of the Khabarovsk territory just shows a situation in case of which the low interest – only 12,3% (7 projects performed transition from the "CLEVER MAN" program to the "START" program) could create the small innovative companies and continue the development. At the same time 3 of 7 companies which received financing according to the START-1 program work in the science and technology park of FGOU VO "KnAGTU" (Komsomolsk-on-the Amur).

Results of the "START" program also characterize a situation in case of which the impossibility to raise extrabudgetary funds of the private investor or a business angel leads to so low indicator characterizing transition for the second year of project implementation within the "START" program (only 2 companies from 33 managed to find private investments and to continue work on the project).

The current situation, namely extremely low percent of "survival" of the companies of a seed stage, speaks about a gap of single process of the financing of the companies assuming different phases and, respectively, involvement of specific investors. This problem can be solved due to the creation and development of the institute of "business angels" – private investors.

In Russia there are from 15 to 25 rather steady formalized groups of "business angels" – the networks, clubs, alliances uniting from 10 to 50 angels everyone [4].

In the territory of the Russian Federation it is possible to carry the following to the main associations of business angels: National Association of Business Angels (NABA); National commonwealth of business angels (NCBA); Association of business angels "Starting investments"; St. Petersburg organization of business angels (SOBA); The Far-Eastern network of business angels "Laboratory of investments"; Business angels of the Urals (BAUR); Business Angels of Siberia (BAS) and some other regional associations.

For an increase in "survival" of the companies of "seed" stage and forming of single process of financing of the innovative companies in the territory of the Khabarovsk territory in 2015 creation of the alliance of private investors in a format of autonomous nonprofit organization – "The agency of assistance to the investors and developers" (www.asir27.ru) was initiated.

The alliance of private investors represents the legal entity which activities are directed, including on:

- creation of the conditions for consolidation of the equities and co-investment, including in the form of participation in the forming of venture funds, the other collective investment mechanisms;

- interaction with the science and technology parks, business incubators, special economic zones, other elements of innovative infrastructure, implementation of interaction with the federal and regional executive bodies and legislature;

- interaction with the state and private financial mechanisms for the purpose of attraction of financial resources for co-investment in the innovative companies;

- rendering assistance to the developers in promotion of the investment projects offered to implementation;

- organization of a search of innovative offers (new materials, technology solutions, economic and legal mechanisms) for implementation as a part of investment projects and creation of information databank of innovative solutions.

Governing bodies of the Agency are:

- the collegial supreme body of management – the Board of Trustees of the Agency;

- individual executive body – the Director of the Agency [7].

Activities of the Agency completely cover a cycle from the idea before the successfully working business.

Within the priority activities the Agency sets the following tasks for itself:

- search, examination and preparation for the investment of innovative projects at the seed and postseed stages;

- external maintenance and independent control of the course of implementation of the invested projects;

- promotion of the available developments and technologies for implementation on the industrial enterprises of the territory;

- involvement of new participants (investors) in the investment process due to the forming of a positive image of the investor, increase in appeal of business and angelic investment, promoting of the investing activities of business angels;

- coordination of the activities of private investors (business angels) among themselves, and also ensuring their interaction with the other mechanisms of support of innovative activities, including within the state federal and regional development programs;

- increase in a capital inflow for financing of projects of the early and later stages in the territory of the region.

Now the alliance of private investors unites 48 participants. To the alliance came 44 projects finding the investments, it is financed – 9 projects with a total amount of investments of 23,7 million rubles.

In practice the mechanism of interaction of the initiator of the project (author) and the potential investor looks as follows: for the purpose of search of projects of the "early" stages for the further investment and conclusion of a product to the markets, the alliance on a fixed basis will organize and hold the presentation business sessions which, on the one hand, bring together the developers, with another – potential investors. The purpose of these actions is detection interest of the investor interest in further work with the project. In case of the interest shown by the investor in subsequent there are some more meetings with the author of the project at which the project is more carefully studied regarding necessary researches, readiness of a product for an entry into the markets, the feasibility statement and some other aspects allowing with a bigger share of probability estimate the project risks and expectations of the potential investor is developed. Then, between the investor and the author of the project the relevant documents affirming the rights and obligations of the Parties are processed and joint operation over the project begins.

So, for example, one of participants of the alliance (investor) supported the project of the winner of the "CLEVER MAN-2015" program directed to development of the device in the medical sphere. The total amount of investments is estimated at 5,0 million rubles. At the same time it should be noted that the investor not just provides the investments, he participates also in the development of the project: the experience of business, connections, material and technical resources, performs legal maintenance, i.e. he "lives" together with the project. Certainly, such format of interaction increases chances of the project of survival and will allow attract further the other participants of single process of financing of the developing project.

Creation and development in the territory of the Khabarovsk territory of missing elements of the system of financing of projects of the early stages will allow increase the percent of "survival" of the innovative companies which are at the early stages of development that, in turn, in the future can lead to portfolio construction of the projects capable to raise the funds of larger players of the venture market – venture funds to thereby realize the principle of "the investment and innovative elevator" [8].

***Literature and the sources:***

1. *Стратегия инновационного развития Российской Федерации на период до 2020 года // утверждена распоряжением Правительства Российской Федерации от 8 декабря 2011 г., № 2227-р.*
2. *Каширин, А. И. Инновационный бизнес: венчурное и бизнес-ангельское инвестирование : учебное пособие [Электронный ресурс] / А. И. Каширин, А. С. Семенов. – М. : Издательский дом "Дело" РАНХиГС, 2014. – 260 с.*
3. *Национальный доклад об инновациях в России 2015 г. // Аналитический материал ОАО «РВК», Москва, 2015, - URL: http://www.rvc.ru/upload/iblock/b70/NROI\_RVC.pdf*
4. *Рынок венчурных инвестиций ранней стадии: ключевые тренды // аналитический материал ОАО «РВК», Москва, 2016. – URL: http://www.rvc.ru/analytics/?rubric=512#rubrics-holder*
5. *Инновации: ключ на старт. Экосистема венчурных компаний посевного цикла: состояние и перспективы / ООО Наутех, коллектив авторов. – М. : Бизнес-журнал, ИД Компьютерра, 2010. – 288 с.*
6. *От студента до предпринимателя – «Умник», «Старт» и труд желательно : учеб.-метод. пособие / Л. А. Совцов, А. С. Митрофанов. – М. : ААТРОНИК, 2011. – 176 с.*
7. *Официальный сайт альянса частных инвесторов АНО «АСИР» –.– URL: http://www.asir27.ru*
8. *Гурунян, Т. В. Инвестиционно-инновационный лифт для малого и среднего предпринимательства: вопросы финансирования стартапов // Вестник Томского государственного университета. Экономика. – 2013. – №3 (23). – С. 120 – 124.*