



Proposal of revenue sharing operational model and its implementation into
the innovation ecosystem of Latvia which could be implemented within the
framework of 2021-2027 Planning period

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SEPTEMBER 1, 2019



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Abstract

Innovation ecosystem refers to the ability of stakeholders (companies, research institutes, investors, business support providers and public institutions) to open themselves up to external networks and relationships in order to gain the full potential of their investments in innovation. One of major issues is ensuring operational models that support delivery of such innovations that build real and long-lasting effects. The concept of ecosystems is now often used in business and innovation contexts but originally comes from biology, where it is defined as a set of relationships between organisms whose functional goal is to maintain an equilibrium sustaining state. Such ecosystems can be either autotrophic (meaning: capable of surviving on own resources), or heterotrophic (meaning: depending upon preformed resources imported from autotrophic ecosystems elsewhere).

Same rules applies to innovation ecosystem. When applied to the innovation context, innovation ecosystems are defined as dynamic, purposive communities with strong relationships based on collaboration, trust and co-creation of value and sharing complementary technologies or competencies. In long term autotropic innovation ecosystems should be ultimate goal being able to maximize value of initial funding. More valuable, market-bounded solutions are being delivered during process, as ensuring benefits does become ground assumption.

In this paper, we will draw lessons learnt from current Latvia's innovation ecosystem operation model to understand how to leverage current advantages and how to address challenges to enhance support and expand the value of the goods and services delivered in Latvia. The paper concludes with a steps be implemented within the innovation ecosystem operational model to archive "atrophic principle" for 2021-2017 Planning period built on InnoEnergy's experiences.



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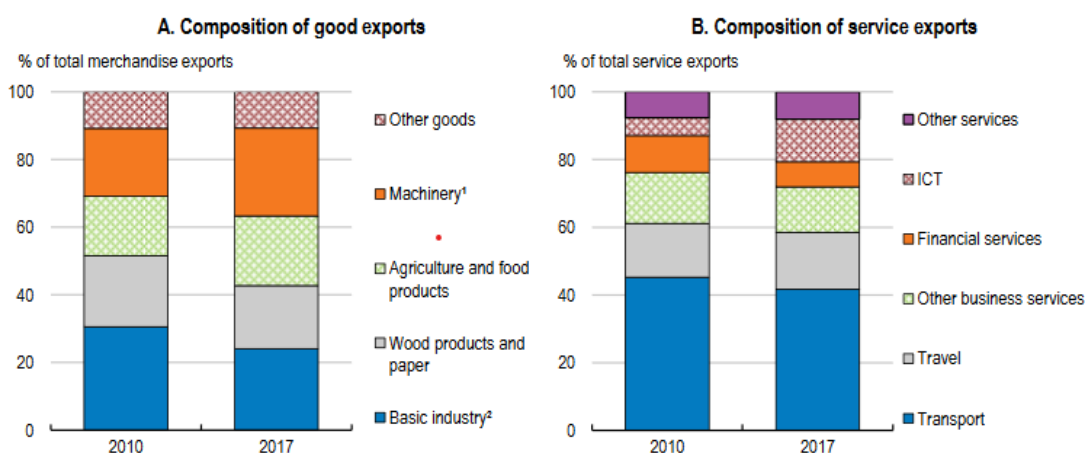
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1. Overall analysis of Latvian ecosystem and its gaps

This section focuses on overall evaluation of Latvian innovation ecosystem performance both from financing and delivery perspective. Latvian-based observations were compared with other European countries, taking into consideration specifics of Latvian economics. Analysis are based on sources like: Eurostat, OECD Economic Surveys, European Commission research papers and direct interviews. In 5-12 July 2019 InnoEnergy has also conducted 5 teleconferences with stakeholders proposed by the Ministry of Economics. In order to respect interlocutor's anonymity all observations and recommendations are shown collectively. Major conclusions are continued in section 3.

Latvian economic growth is considered strong and income convergence continues, macroeconomic indicators and projections are positive. Nevertheless, there are several factors that indicate a need for strengthening local innovation system. For instance, activity in general has not reached pre-crisis levels. The dynamics of competitiveness indicators show that the model of Latvian economy has not changed and the benefits of low cost competitive advantage still remains.



1. Includes mechanical appliances; electrical equipment; transport vehicles; optical instruments and apparatus (inc. medical); clocks and watches; musical instruments.

2. Includes products of the chemical and allied industries; plastics and articles thereof; rubber and articles thereof; base metals and articles of base metals; and mineral products.

Source: Central Statistical Bureau of Latvia; Bank of Latvia.



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1.1 EU as an important source of R&D financing

Latvia is one of the largest recipients of EU funds in relation to its GDP and relies heavily on the EU budget to finance public investment and policies support to innovation and skills development. As availability of these funds may change in time, there is a need for developing more innovation in financing strategy. Efficiency of stimulating those investments via public funds in EU Member States may be crucial for assignment of new funds in upcoming years, and as such effectiveness of innovation ecosystems may have serious impact on Latvia's GDP. This is especially important taking into account the fact that repayable instruments are not commonly recognized and known among key actors. Most of InnoEnergy's interviewees recognize grants and loans as public sources of financing (which does not contribute to the autotrophic-typed innovation ecosystem). Interlocutors stated that in current system there is much more emphasize on starting business than its development. No one was able to think about any existing profit-sharing or cashback-demanding instruments. This in fact results in their final conclusion that with current support scheme and instruments there is 'no chance for making innovation support self-sustainable'. However, talk and interviews also show that there is a place and appetite for 'new' instruments to be introduced. Interlocutors cannot clearly define their characteristic yet but space for discussion has already been identified.

In evaluated sources current innovation performance of Latvia is considered to have few areas for potential improvement.

1.2 Ease of starting a business

The World Bank Doing Business (DB) 2017 rankings, the Global Innovation Index (GII) 2017 and the World Economic Forum Global Competitiveness Index (GCI) 2016-2017 all mention the ease of starting a business and assign it a relatively good assessment for Latvia. It ranks 22nd out of 190 economies with regards to this aspect in DB 2017. The good ranking is associated with comparatively small number of procedures, little time and costs associated with starting a business in Latvia when compared to the average of Europe and Central Asia as well as OECD high income countries.

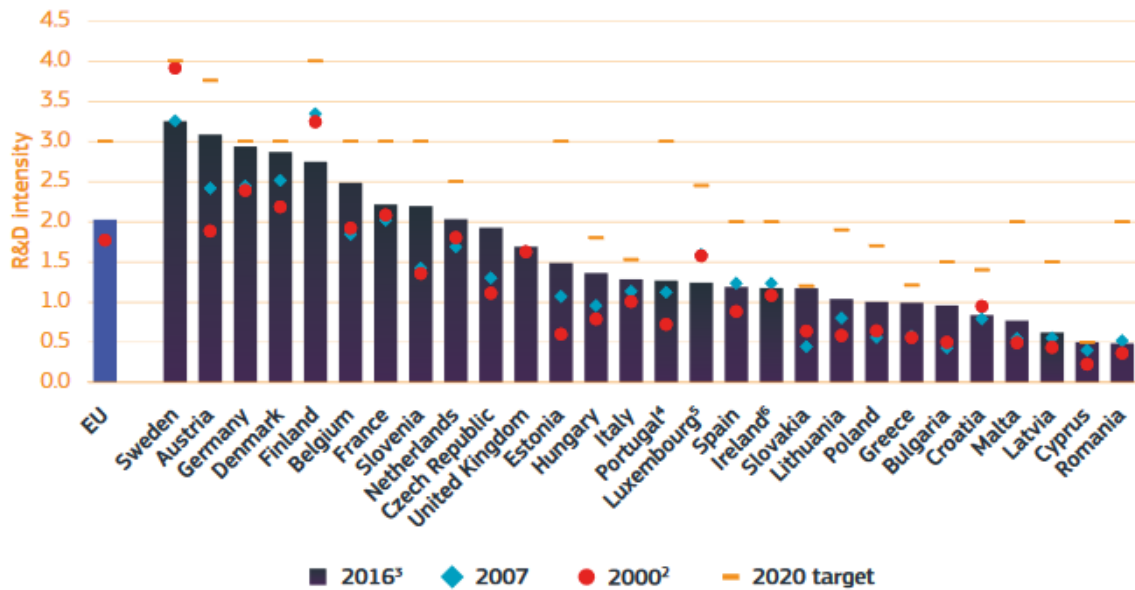
1.3 Relatively low R&D intensity

R&D Intensity (R&D expenditures to GDP ratio) is one of lowest when considering all EU Member States. When leaders are spending more than 3% of their GDP on innovations (from 2017 year equals 2,07%), Latvia results were close to 0,51% of its GDP on R&D. This result is much lower



than ultimate goal of 3%, which was one of five headline targets of the Europe 2020 Strategy, set in order to provide a stimulus to the EU's competitiveness.

Figure I.3-A.5 R&D intensity 2000, 2007, 2016 and 2020 target¹



Science, Research and Innovation performance of the EU 2018

1.4 Insufficient innovation readiness at market entry

Even if Technology Readiness Level is high enough, other Readiness Levels (a methodology developed by InnoEnergy) are not complete nor ready, such as: Market Readiness Level (MRL), Intellectual Property Readiness Level (IPRL, also known as “Freedom to operate”) as well as Consumer Readiness Level and Society Readiness Level.

1.5 Early stage funding for ideation, market validation and prototyping

Startup companies, aiming to be lean, fast and innovative, seem to be often too small for Ministry of Economics support mechanisms, yet their maturity level (market traction, initial sales) are not good enough for a serious valuation by venture capital funds. It is especially true for hardware or software/hardware startups, where the required CapEx investments are much greater. Although



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universities, as a natural point of innovation, produces quite a lot of novel ideas, prototypes and services, it rarely gets effectively technology transferred into new ventures.

During InnoEnergy interviews it was suggested that more emphasize should be put on business development rather than creation. *'We need more successes and more products. Not more companies'. 'Mistakes are needed to be made. Learning from your own mistakes (and losing your own money) is much more valuable than learning on someone else's money'.*

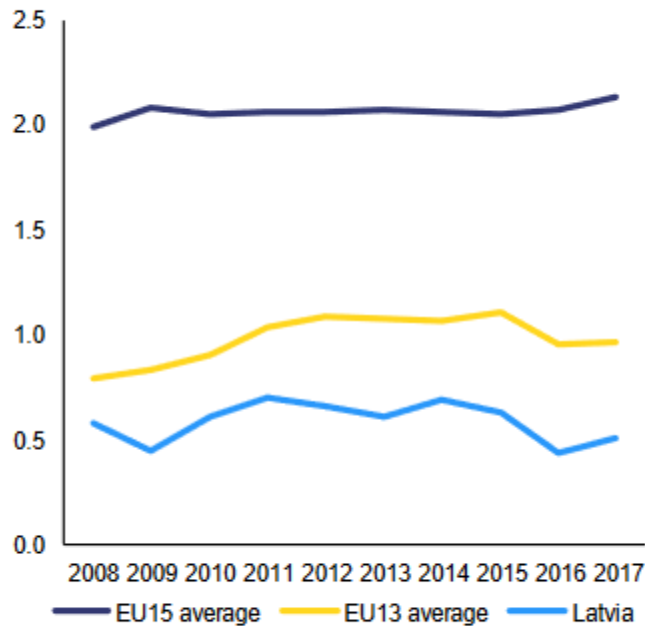
Also time trend of R&D intensity factor indicates a need for a strategy shift as in 2007 Latvia have spent 0,55% of GDP on R&D (versus 0,51% in 2017). Not only this factor is far from expected, it is not catching-up with overall GDP grow. Important to be noted is that also none of current strategic documents is being widely recognized as a reference to future activities. No one from private interlocutors interviewed by InnoEnergy was able to identify any strategy or policy paper that is crucial in shaping and developing innovations in Latvia. No indicative target or goal was also named. The only national document InnoEnergy's interlocutors referred to was Latvian National Development Plan for 2014-2020. Out of its four Strategic Objectives in 'Growth of the National Economy' Priority they find 'Outstanding Business Environment' as a crucial factor. In terms of Measurable Outcomes it is believed that Latvia's position in the Doing Business Index (progress from 20. in 2014 to 11. in 2030) and Global Competitive Index (60. In 2014 to <40 in 2030) are most urgent and measurable indicators.



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Graph 3.4.8: Research and development expenditure, % of GDP



(1) Non-weighted averages for EU15 and EU13
(2) EU15 – EU Member States that joined before 2004
EU13 – EU Member States that joined after 2004
Source: European Commission

1.6 Lack of demand-side policy measures

Demand-side innovation promotion instruments such as public procurement for innovation and pre-commercial procurement are largely absent in Latvia, which significantly influences innovation performance of both the public and the private sector. To cope with that, several initiatives were set up to strengthen innovations. For instance, Latvian Government expanded the innovation voucher scheme that finances firms' purchase of technology extension services. That indicates that there is a chance for increasing overall innovation performance, but taking into consideration scale of gap - additional steps seem to be required. On the other hand, better information dissemination on calls for proposals and countries' success stories is required. It was suggested by InnoEnergy's interlocutors that Managing Authorities and other entities responsible for setting up R&D/innovation calls should put more emphasize on promoting their activities and



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financing opportunities. *'If we want to promote public ecosystem as an investor – we need to prove it already has some good traction. For today it is hard to point any real success story'*.

Our interlocutors indicated also relatively **low awareness of possible financial opportunities among entrepreneurs**. In their opinion, it seems clear for the local innovators where they can get support from national sources but the European ones are still seem to be 'external' and 'difficult to approach'. Many researchers, academics and PhD students in Latvia are struggling with financial obstacles at the very beginning of their journey. *'There are numerous stories of people who were lacking of hundreds or few thousands of euros to develop a prototype, cover the travel costs of exhibition or a paid conference participation fee'*.

As mentioned in previous section, % of GDP spent for innovations in Latvia is one of lowest in the European Union. When comparing number of patent applications per billion GDP, Latvia also ranks rather low.



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Figure I.4-C.9 Patent applications per billion GDP (PPS€), 2014 and business R&D intensity, 2013



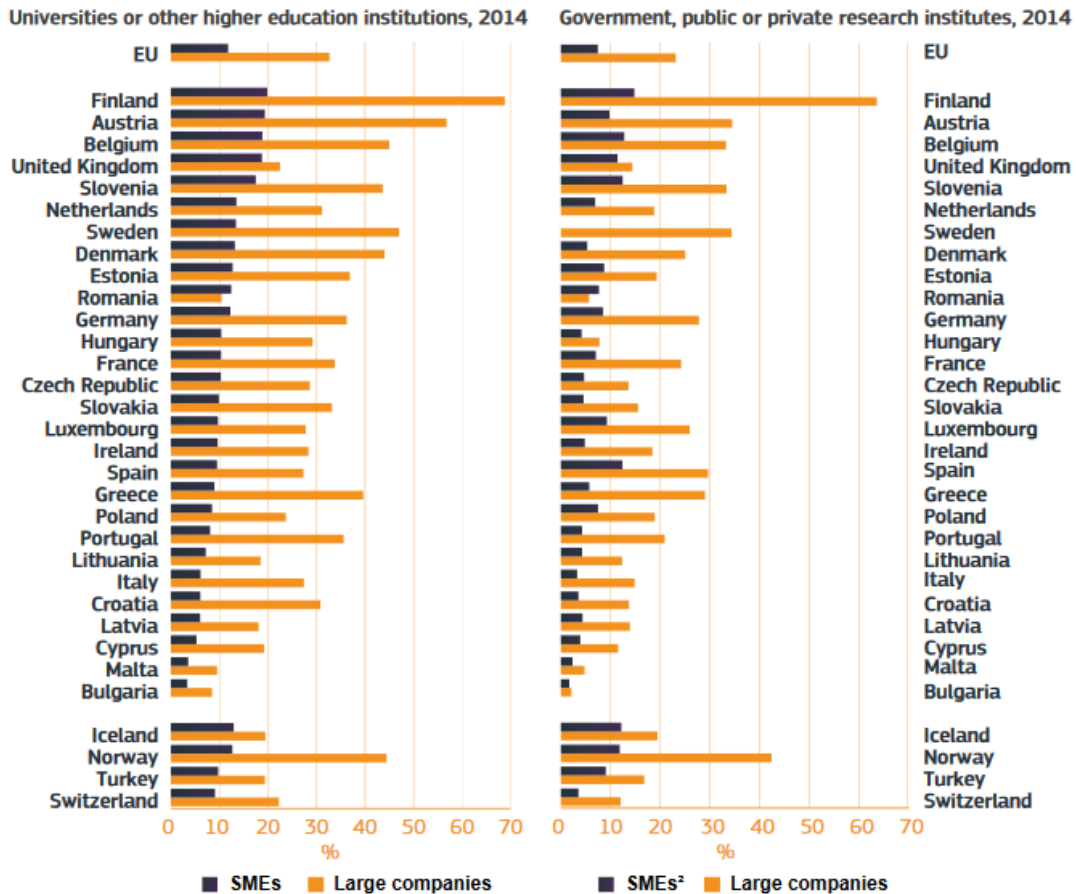
Science, Research and Innovation performance of the EU 2018

From academic perspective, which is also a pillar of innovation ecosystem, number of publications is also rather low, when compared with other EU countries. Only about 20% of Latvia's large innovative enterprises is cooperating with universities or higher education institutions, as academic researches are not supporting enough real business challenges¹.

¹ https://ec.europa.eu/info/sites/info/files/srip-report-chap-1-4_2018_en.pdf



Figure I.4-B.4 % share of innovative enterprises¹ cooperating with:



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The universities and their innovation-related output, although decent, **rarely rises beyond TRL level 4**. Successful technology transfer & commercialization cases are very rare. This is mainly due to the so called ‘death valley’ at TRL 4-7. Therefore, most of the technologies created at universities are “innovation ready”, but it never reaches the “investor ready” phase. There is also a big funding gap for technologies trying to go up from TRL 4. **Yet, TRL levels 4-7 stay as the weakest and least covered section of the innovation chain in Latvia**. At this stage, it is critical to involve all knowledge triangle actors - universities, researchers, policy makers, investors, mentors and other innovation actors.

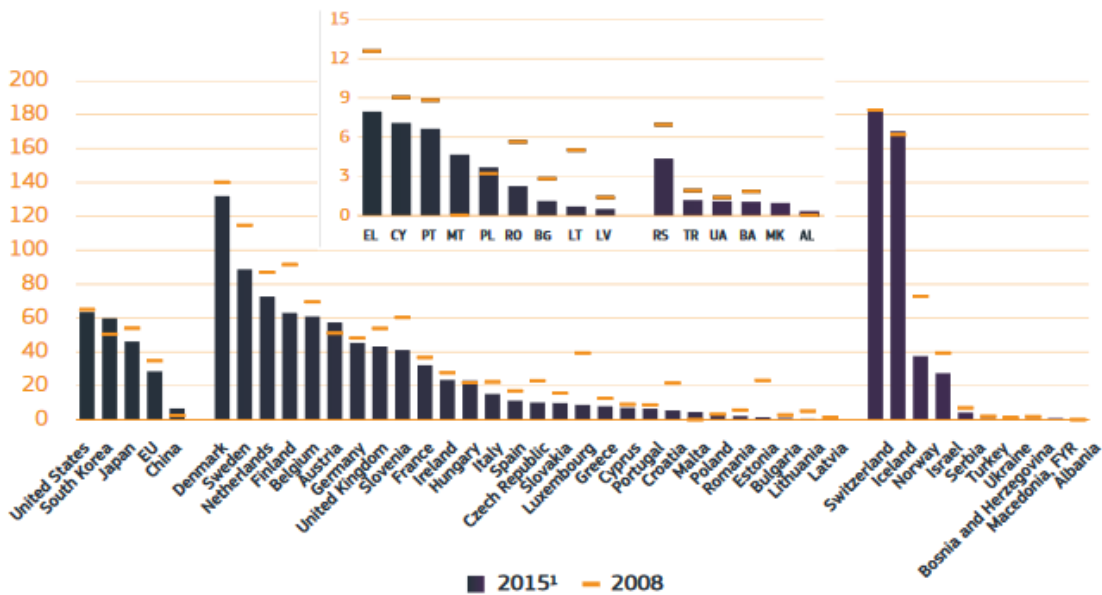
The ecosystem seems to be characterized by strong scientific base focused strongly on research



phase of the innovation value chain. At the same time, interlocutors shows little emphasis on commercialization phase which ends in existed ‘death valley’ phase between academia and market. Most frequently indicated reasons for this are:

- lack of **business skills** among students/lecturers (*‘Even for us it seems unclear where these innovations actually happens and where they should be redirected to’*)
- weak **existing linkages and lack of trust** between venture capitals (VCs) and business angels (*‘You can get a meeting but only if you have direct connections with an investor’*)
- Comparatively **easier access to R&D than commercialization financing** (*‘It’s much easier to get money for a scientific paper than for establishing a start-up’*).

Figure I.4-B.6 Public-private co-authored scientific publications per million population, 2008 and 2015



Science, Research and Innovation performance of the EU 2018



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Key recommendation	Organization(s)
Expenditures on research and innovation needs to grow in order to drive performance and mitigate risks related to geopolitical situation.	government agencies, business
Innovation ecosystems must be focused on delivering more tangible assets like patents and publications. More controls must be ensured to drive that change.	government agencies
More business enterprises, especially SME's, should be involved in innovation ecosystems. More business incentives should be set-up to drive that change.	government agencies

2. Overall assessment of the approach and experience of support instruments at the national and EU level

This section focuses on evaluation of Latvian funding structure for innovation ecosystem, including: source of funding for R&D, funding distribution channels and evaluation of innovative output indicators. Analysis are based on Eurostat, OECD Economic Surveys and European Commission research papers. Major conclusions are continued in section 3. Interestingly, despite all abovementioned difficulties, Latvia positions itself relatively high among other Member States in terms of its participation in European-wide funding programmes (Horizon2020, EIT).

2.1 Low focus on R&D among private enterprises

Enterprises in Latvia, compared to those in other EU Member States, are characterized by their lack of innovation perspective, small size, low added value/complexity, high resource intensity and lack of integration into global value chains. Most of producers (~65%) are concentrated in low technology industries, such as basic wood and metal processing, which results in relative overall little innovation prospects.

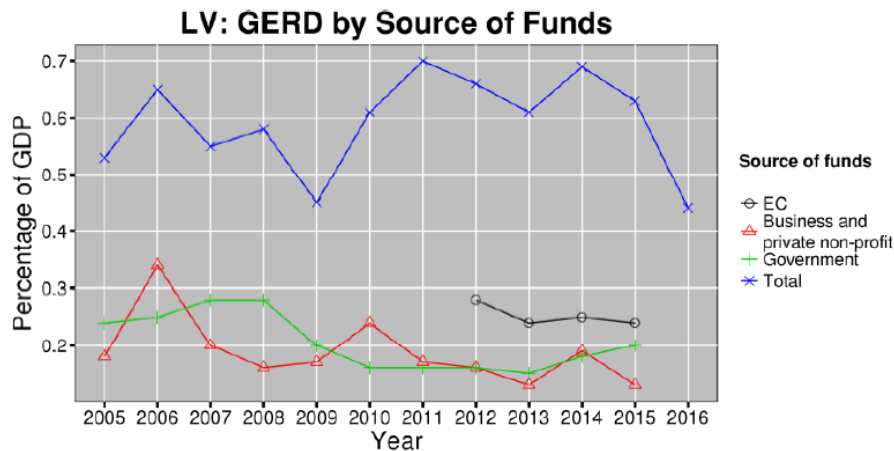
Latvia has lowest ratio among all European Union's countries when it comes to number of patents delivered in cooperation with foreign co-investors. Building more incentives in that area and opening the ecosystem to external partners is crucial to ensuring access to additional funds and



know-how. Focusing innovations delivery process on more cross-country sought solutions would attract more investors, as promising scale-up revenues.

2.2 Important role of the Government

Only 20% of R&D expenditure is covered by local business enterprises, which is one of lowest ratio from all EU countries. Remaining expenditure is either covered by government or other national sources (35%), or financed from abroad. In fact majority of foreign funding is financed by European Commission (>80%), which is managed by government owned entities. This in fact means that any evolutionary (not revolutionary) change within the ecosystem should engage and put public support in the core if it. Keeping crucial role of the Government in new innovation support design seems to be justified.



Source: ESTAT data 2017

Publicly funded R&D is almost entirely performed by the public sector. Based on data from 2016, 39.3% of government funded R&D was performed by the governmental sector, 59.4% by the higher education sector and only 1.3% by the business enterprise sector. Government funding contributed to only 2.6% of total business expenditure on R&D.



Key recommendation	Organization(s)
State expenditure on research and innovation needs to grow in order to drive performance and growth, especially shift production into new areas that would build revenue streams less dependent on geopolitical situation.	government agencies
State expenditure on creating market-ready, revenue-creating innovations. Innovation ecosystem operational model needs to include business case evaluation, prospect for revenue from innovation deliverables.	government agencies
The current high dependence on structural funds may not be sustainable in the longer term, so Latvia should seek a better balance between national and European funding. Innovation ecosystem operational model needs to create revenue streams that, in long turn, would deliver funding base for new innovations.	government agencies

2.3 Successful in Horizon 2020

Altogether 1114 project applications with Latvian participants (1392 Latvian researchers) have been submitted to EU framework programme “Horizon 2020” by February 28 2017 from which over 400 projects (36% of a total of submitted) have received an evaluation above the quality threshold. 131 project proposals have been funded and contract have been signed for a total amount of 35.22 MEUR. Considering that Latvia's success rate in the framework programme ‘Horizon 2020’ is 12.57 %, the trend towards higher success projected in STDI guidelines (and thus an increased attraction of funding of programme) cannot be provided to the extent envisaged.

However, it is important to note that the achievement of the indicator is affected by several external factors, namely overall high competition and limited available funding, for the implementation of the programme “Horizon 2020”. Overall, the average success rate of project applications in the programme “Horizon 2020” according to eCORDA data is 12.17 %, which indicates that Latvia's performance is equivalent and even slightly higher than the EU average. When developing policy result indicators included in the STDI guidelines, it was taken into



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account that the success rate of Latvian representatives of FP7 in the project calls was 21.3 % and the average success rate within the 7th FP was 21.8 %.

At the same time, when analysing the Latvia's success in the programme “Horizon 2020”, it is important to focus not only on the performance of Latvia on a regional level, but also on the number of competitive parameters within the EU Member States as a whole. According to CORDIS data, 13 EU Member States during the implementation of the 7th FP and the programme “Horizon 2020” to date have received less than 5% of the total funding for the framework programmes (Latvia – 0.1 % in both the 7th FP and the programme “Horizon 2020”).

3. Conducted interviews with the stakeholders of innovation ecosystem of Latvia

In 5-12 July 2019 InnoEnergy has conducted 5 teleconferences with stakeholders proposed by the Ministry of Economics:

- Mr. Gatis Silovs, Director of the Sectoral Policy Department of the Ministry of Economics
- Mr. Roberts Dlohi, PERUZA co-owner
- Mr. Aivars Rubenis, SIA TransfoElectric
- Mr. Āris, SIA SCM Latvia
- Mrs. Lauma Muižniece, LIAA

3.1 Discussion framework

During interviews interlocutors covered at least following topics:

- Financial instruments which are available for entrepreneurs in Latvia and assessment of their effectiveness
 - What support mechanisms do you recognize? Are they repayable or not? On which stage are they focusing (starting business, running business, expanding to new markets, etc.)? Are they considered to be relatively easy to get?
 - Do you think that there has been put enough emphasis on smart specialization strategies? Are these instruments contributing to their goals?
 - What are the support tickets (in EUR k) available from public funding? What is this money usually spent on?



- Is there relatively big bureaucratic burden? What is the procedure of applying to these?
- Which Latvian startup/technology do you find as best example success-story?
- Do you find current financial instruments effective? Why?
- Implemented innovation policy in Latvia
 - Which strategy or policy paper do you find crucial in shaping and developing innovations in Latvia? Do you know any indicative targets or goals?
 - How could you describe current value chain in implementation of innovation policy in Latvia?
 - Is the innovation policy implemented on national, regional or local level? What is the division of responsibilities between these?
 - Which entities do you find crucial in implementing current innovation policy in Latvia? Why?
- Potential development of innovation ecosystem in Latvia – ideas and brainstorming
 - Organizational structure
 - Assessment procedure and criteria (selection of projects)
 - Legal framework
 - Competences and HR
- Other topics related to innovation
 - What is the general attitude/approach of Latvian entrepreneurs? Are they ready to take risk?
 - How do you define innovation? What does it mean for you?

3.2 Findings

Collective conclusions are as follows:

1. Financial instruments which are available for entrepreneurs in Latvia and assessment of their effectiveness

1.1. Most of interviewees recognize grants (5 out of 5) and loans (3 out of 5) as public sources of financing. Most of interlocutors stated that in current system there is much more emphasize on starting business than its development. No one was able to think about any existing profit-sharing or cashback-demanding instruments. This in fact results in their final conclusion that with current support scheme and instruments there is 'no chance for making innovation support self-sustainable'.

1.2. No one from private interlocutors (3 out of 5) was able to comment on whether there is enough emphasis on Latvian smart specialization strategy (SSS) in innovation policy



implementation schemes. However, once shortly introduced and got briefed they admitted that current scheme indeed contributes to those (especially to 'Knowledge-intensive bioeconomy' and 'Smart materials, technologies and engineering systems').

1.3. The approach of our interlocutors shows also that there is a place and appetite for 'new' instruments to be introduced. Interlocutors cannot clearly define their characteristic yet but space for discussion has already been identified.

1.4. It was emphasized that it is 'relatively easy' to get public funding and that investment tickets are 'rather high enough'. This means that there is no disproportion between supply and demand in this particular topic. 'If you know where to go – you can get funding'.

1.5. Interviewees see two main bottlenecks in effectiveness of the current support scheme: (a) cash flow maintenance while waiting for refunds, e.g. 'Payment should be done 30 days after submitting the report but in reality it takes ~11 months. The last grant was released more than a year after finishing the project' and (b) paperwork and administrative burden, e.g. 'Red tape is killing many promising projects with inexperienced teams. It is a common knowledge that one thing is getting the funding but you can get in trouble while dealing with papers'.

2. Implemented innovation policy in Latvia

2.1. No one from private interlocutors was able to identify any strategy or policy paper that is crucial in shaping and developing innovations in Latvia. No indicative target or goal was also named. The only national document they referred to was Latvian National Development Plan for 2014-2020. Out of four its Strategic Objectives in 'Growth of the National Economy' Priority they find 'Outstanding Business Environment' as a crucial factor. In terms of Measurable Outcomes it is believed that Latvia's position in the Doing Business Index (progress from 20. in 2014 to 11. in 2030) and Global Competitive Index (60. In 2014 to <40 in 2030) are most urgent and measurable indicators.

2.2. All participants claim that it is the national (not regional or municipal) level that does implement innovation policy in Latvia and choose LIAA as a most experienced entity in this area.

3. Potential development of innovation ecosystem in Latvia – ideas and brainstorming



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3.1. Policy: more continuation – it was stressed out that local ecosystem is lacking of continuity and firmness. ‘With every new financial perspective everything is drafted from the scratch so whatever we got used to is being radically changed’.

3.2. Communication: better information dissemination on calls for proposals and success stories – it was suggested that Managing Authorities and other entities responsible for setting up R&D/innovation calls should put more emphasize on promoting their activities and financing opportunities. ‘If we want to promote public ecosystem as an investor – we need to prove it already has some good traction. For today it is hard to point any real success story’.

3.3. Value chain: it was suggested that more emphasis should be put on business development rather than creation. ‘We need more successes and more products. Not more companies’. ‘Mistakes are needed to be made. Learning from your own mistakes (and losing your own money) is much more valuable than learning on someone else’s money’.

3.4. Organizational structure: All interlocutors chose LIAA as a best and most experienced center for possible future revenue-sharing model in Latvia. This is mostly due to the fact that LIAA pro-actively promotes foreign direct investment and business development in indigenous industry and manages several innovation programs financed by structural funds. ‘Latvian authorities should seek to build platforms for routine cooperation among the ministries on research and innovation, starting at the level of ministers’. ‘We should reduce the number of organizations involved in research and innovation funding and centralize all those into a single and competent party which potentially could be LIAA’.

3.5. Selection process and criteria: It was suggested that if any revenue sharing model is going to be introduced, it should be merged with a well-structured business development service package. This is mainly due to the fact that in our interlocutors’ opinion Latvian companies and entrepreneurs are lacking of interpersonal and networking skills. Introducing such services would allow to communicate new approach as a ‘two-sided highway’ (you share revenue but you receive support in return). Such approach would also solve the challenge of creating competitive advantage in front of other (non-repayable) financing sources that do not require any form of cashback.

4. Other topics related to innovation

4.1. Our interlocutors have stated that Latvian entrepreneurs are generally reluctant to take risk and estimate numbers at early stage. Therefore, it is highly advisable to encourage them to try to make mistakes.



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4.2. Innovation is understood as ‘problem solving’ and ‘doing things differently’. However, it does not automatically mean generating profit or making money.

4.3. It is Scandinavia that is usually shown as an example of well-ordered and efficient ecosystems. Our interlocutors are especially looking at Finland and Norway. However, no ‘one-fit-all’ approach exists. Any solution introduced should be based on deep market understanding and be preceded by consultations and interviews with local actors (both public and private).

4. General description of revenue-sharing model and detailed case description

Revenue-sharing is a concept that means distribution of the total amount of income generated by the sale of goods or services between the stakeholders or contributors. However, it should not be confused with profit shares. As with profit shares only the profit is shared, that is the revenue left over after costs have been covered.

Growing sophistication of technologies and the rising costs and uncertainties of developing and launching new products require both private and public entities to. However, it also presents a new set of challenges in sharing the costs and benefits in cases where more than one party is involved. Although collaboration enables each partner to focus on what it does best, it also introduces new issues associated with the alignment of decisions and incentives that have to be managed alongside conventional performance and timing uncertainties of new product development.

Sometimes, revenue-sharing is used as an incentive program. Small business owner may pay partners or associates a percentage-based reward e.g. for referring new customers. Other times, revenue sharing is used to distribute proceeds that result from a business alliance. This is also why general aim of all introducing revenue sharing in their policy is to stimulate performance. As revenue maximization becomes a win-win strategy to all engaged in the process, their mutual interests become aligned. This is also a way in which revenue-sharing model works in InnoEnergy. If the incentive system works in an efficient way and if all participants behave rationally, they will increase their efforts, which should subsequently raise the overall’s performance.

Revenue-sharing applies to many forms of financial transactions. Any situation in which individuals receive payment based on the amount of money that was made rather than on the



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amount of work that was done is a form of revenue sharing. The practical details for each type of revenue sharing plan is different, but their conceptual purpose is consistent. It uses profit to enable separate actors to develop efficiencies or innovate in mutually beneficial ways. It has become a popular tool within corporate governance to promote partnerships, increase sales or share costs. Private businesses aren't the only ones that use revenue sharing models. It is also used by public administration, e.g. both the U.S. and Canadian governments have used taxation revenue sharing between different levels of government.

4.1 Types of Revenue Sharing

When different companies jointly produce or advertise a product, a profit-sharing system might be used to ensure that each entity is compensated for its efforts. Several major professional sports leagues use revenue sharing with ticket proceeds and merchandising. For example, the separate entities that run each team in the National Football League (NFL) jointly pool together large portions of their revenues and distribute them among all members. Revenue sharing can also take place within a single organization. As with revenue sharing models that involve more than one business, the inner workings of these plans normally require contractual agreements between all involved parties. There are also web content creators who are compensated based on the level of traffic generated from their writing or design, a process that is sometimes referred to as revenue sharing.

4.2 IP and new mechanism of protection

All rights, titles or interest related to Background IP and Foreground IP, as well as any other intellectual property (IP) right usually belong to the Company. If a new patent is obtained on a part or the whole of the rights on the Foreground IP, the Parties agree that said patent will be automatically included in the scope of the Contract.

4.3 Examples

MODEL A (Single entity)

Model is based on and described in:

- Standard Services Agreement (SSA) and
- Fee Agreement (FA) as an Annex to SSA



SSA describes investment program, network benefits and activities carried out by the investor to be provided to the Company to turn its ideas into successful products and services. Structured compilation of services includes, e.g. mentoring to develop a new business plan, resources for developing a plan of industrialization or bringing in knowledge of outside experts. The list of services or resources above mentioned is not limitative. SSA describes different activities and milestones to be followed by the Company to develop the Project, as well as the terms and conditions according to which the FA will be executed. The Company commits to make their best efforts to develop all activities detailed in the Roadmap/or Business Plan in accordance with the terms and conditions agreed.

FA describes in details terms and conditions related to the payments between the Parties.

Based on SSA and FA Investor is entitled to financially share in the success of the Project for which the Company e.g. receives Services. The Fee (being overall financial benefit for the investor) means jointly: Enrolment Fee and the Success Fee.



Success Fee means % of the Gross Revenues for Annual Sales and/or Annual Licenses charged by the Company for Sold Product and/or Licensed Technology in a calendar year

Enrolment Fee means annual fee that the Company shall pay to investor

Example A.1

Company A signed SSA and FA in 2019. Enrolment fee is 10k EUR/year and success fee is 5%.



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Calendar year	Total gross revenues	Gross revenues from supported product
2020	250k	100k
2021	320k	120k
2022	300k	200k

Model would result in the following revenue for the Investor:

Calendar year	Enrolment fee	Success fee ²	Total revenue
2020	10k	5k	15k
2021	10k	6k	16k
2022	10k	10k	20k

Many variables are possible. For instance, in FA it may be stated that the investor is entitled to Success fee only from specific market (if expansion to this market was the subject of the contract). See the example A.2 below.

Example A.2

Company A signed SSA and FA in 2019 aiming to expand its activities and introduce the product to the Swedish market. However, it already operates in Poland and Lithuania. Enrolment fee is 10k EUR/year and success fee for the investor is 5% of gross revenues from supported product generated in Sweden only.

² 5% of gross revenues from supported product



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Calendar year	Total gross revenues	Gross revenues from Poland	Gross revenues from Lithuania	Gross revenues from Sweden	Enrolment fee	Success fee ³	Total revenue
2020	250k	100k	150k	0k	10k	0k	10k
2021	400k	150k	50k	200k	10k	10k	20k
2022	300k	150k	100k	50k	10k	2,5k	12,5k

4.4 Roles and responsibilities of the Parties

The Company is usually responsible for the future developments of the Product and/or Technology (P/T) and, with respect to the P/T, the manufacturing and operation thereof, including among others: maintenance, repair, technical assistance and post-sales services. All costs related to such future Product maintenance shall be borne by the Company. The Company is also the designated Party to introduce Updates and/or Upgrades, as may be required to adapt it to the changing needs of the market, or to respond appropriately to the developments in competitors' activities.

Important note is that any Update and/or Upgrade is automatically included in the scope of the present Fee Agreement. If the Company develops a new product using the Foreground IP, the investor will be entitled, with preference over any third party, to request that such new product is commercially exploited under the same conditions set forth in the initial contract.

MODEL B (Consortium-based)

In contrary to the previously shown scheme, Model B is dedicated to consortiums (clusters) of partners. However, the legal basis remains the same and is described in:

- Project Agreement (PA) and
- Fee Agreement (FA) as an Annex to PA

PA establish relations between Project Partners who shall develop a product or service and entitles the investor to be entitled to financially share in the success of a Project for which the Project Partners receive funds through providing a success-based contribution.

³ 5% of gross revenues from supported product generated in Sweden only



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FA describes in details terms and conditions related to the payments between the Parties.

It is extremely important to set up clear roles and divisions of responsibilities among partners within the consortium. However, crucial obligations rely on the so-called ‘Exploiting Partner’ who shall perform the engineering, design, integration and manufacturing of the Product as well as testing and technical assessment of the Products during the development phase. It is also the Exploiting Partner that shall commercialize the Products to customers by marketing, selling, promoting and distributing the Product.



The consortium may consist of different types of Partners and assign them different roles. It is only ‘Exploiting Partner’ that is necessary to establish a consortium. All others contribute to the Project, benefit from investor’s input but do not have direct responsibilities and obligations in relation with the investor. In this sense, the consortium is represented by the Exploiting Partner.

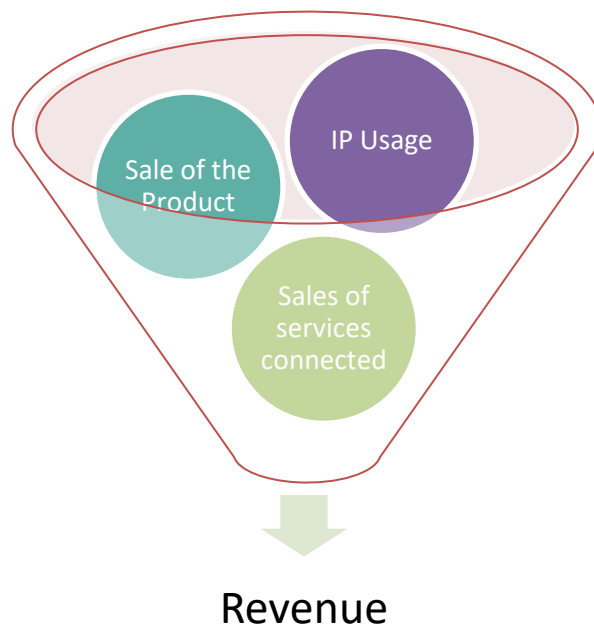
As the revenue sharing model is based on previously made calculations and expectations, the Exploiting-Partner shall implement the standard sales price policy applied to the supported Product as attached to the FA. It shall also inform the investor promptly of any material change in the way the Product is commercialized, such as but not limited to changes in the



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commercialization model, the commercializing entities, the standard sales price policy, individual negotiations with potential customers that substantially deviate from the standard sales price policy.

In the **FA** the Exploiting Partner agrees to reserve a % of its yearly sales revenues generated by the sale of the Products and by sale of all services connected with sale of the Products, in particular maintenance services. Parties jointly confirm, that Sales Revenues are not only the sales revenues generated by the sale of the Products but also any other revenues generated in connection with using of Intellectual Property Rights.



The Sales Revenues shall be calculated on the basis of the sales price (minus VAT) charged to customers or end users for all Products sold in a given calendar year. A Product shall be considered as 'sold' when invoiced by an Exploiting Partner or transferred against a compensation other than monetary (other than purely non-commercial R&D and demonstration purposes). The Exploiting Partner is obliged to pay the Fee irrespective of the person (entity) who performs the Commercialization of the Product(s). The Fee is due for the entire lifecycle of the Product.



Example B.1

The consortium ABCD wants to bring an innovative product to market. It has already been proven to have a TRL level 5. The plan to reach TRL 9 level in next 5 years' time, so decide to sign SSA and FA with an investor.

Contracts have been signed in 2019 on conditions as follows: 5mln EUR from the investor, approx. 1mln to be spent/year. After 5 years of project's development the sales process shall start. If A pays back the investor within 10 years' time from the signature date (2029), the contract may be terminated. If not, the Fee is due for the entire lifecycle of the Product.

Consortium consists of four different Partners (A-technology provider, B-software, C-research institute, D-big utility). They jointly appointed A as an Exploiting Partner to represent ABCD in relation with the investor.

Situation A (Consortium successful within 10 year's time)

Partner	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Beneficiary A	0.4M	0.8M	0.5M	0.9M	0.3M	0.5M	Investor's financing finished					
Beneficiary B	0.3M	0.1	0.3M	0	0.3M	0.3M						
Beneficiary C	0	0.1	0.1M	0.1M	0.3M	0.1M						
Beneficiary D	0.3M	0	0.1M	0	0.1M	0.1M						
Sales/year (A)	0	0	0	0	0	0	10M	20M	20M	40M	20M	20M
Sales (cumulative)							10M	30M	50M	90M	110M	130M
Investment	-1M	-1M	-1M	-1M	-1M	End of financing	0	0	0	0	0	0
Investor's revenue/year	0	0	0	0	0	0	0.5M	1M	1M	2M	1M	0M
Investor's revenue (cumulative)	0	0	0	0	0	0	0.5M	1.5M	2.5M	4.5M	5M (breakeven point)	5M



Situation B (Consortium unsuccessful within 10 year's time)

Partner	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2040
A benefit/year	0.4M	0.8M	0.5M	0.9M	0.3M	0.5M	Investor's financing finished						
B benefit/year	0.3M	0.1	0.3M	0	0.3M	0.3M							
C benefit/year	0	0.1	0.1M	0.1M	0.3M	0.1M							
D benefit/year	0.3M	0	0.1M	0	0.1M	0.1M							
Sales/year (A)	0	0	0	0	0	0	0M	10M	20M	10M	10M	50M	50M
Sales (cumulative)							0	10M	30M	40M	50M	100M	150M
Investment	-1M	-1M	-1M	-1M	-1M	End of financing	0	0	0	0	0	0	0
Investor's revenue/year	0	0	0	0	0	0	0	0.5M	1.5M	0.5M	0.5M	2.5M	2.5M
Investor's revenue (cumulative)	0	0	0	0	0	0	0	0.5M	2M	2.5M	3M (<5M)	5.5M	40M

5. Lessons learnt from using revenue-sharing model

5.1 Legal and organizational framework

The EIT (European Institute of Innovation and Technology) was created based on Regulation (EC) No 294/2008 of the European Parliament and of the Council of 11 March 2008 establishing the European Institute of Innovation and Technology⁴. The EIT is an integral part of Horizon 2020 and this is why, in accordance to EU's analysts⁵, its support should not be considered to be state resources. Nonetheless, public officials occasionally appear uncertain as to when such EU funding should be subject to state aid rules. This uncertainty arises partly because the source of the funds is the EU and partly because EU regulations such as those of Horizon 2020 require "consistency" or "compliance" with state aid rules. This problem is described in details in the abovementioned paper. State aid involves the transfer of state resources which are controlled by public authorities. EU funds which are granted directly to undertakings (like those from Horizon 2020) without coming under the control of a public authority of a Member State are, in accordance to

⁴ Amended by Regulation (EU) No 1292/2013 of the European Parliament and of the Council of 11 December 2013

⁵

http://www.europarl.europa.eu/cmsdata/142819/Briefing_State%20Aid%20and%20EU%20funding_Final.pdf



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those interpretations, not considered to be state resources. This seems to also be the case with COSME, EIB/EIF funds and ESI Funds that support financial instruments managed at EU level. Revenue-sharing model is a key tool that KIC SE uses seeking to achieve its financial sustainability (meaning steadily decreasing EIT's grants contribution and increasing own return on investments). At the same time, InnoEnergy is a non-dividend paying company that re-invests its whole generated revenue thanks to the 'snowball effect'.



FIGURE 1 INNOENERGY SE SHAREHOLDERS

KIC SE operates based on specific agreements concluded with the EIT, namely: Framework Partnership Agreements (FPA) and Specific Grant Agreements (SPA) that set up relations between those two. The company has currently 23 shareholders.



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InnoEnergy Central Europe Sp. z o.o. (later: KIC Central) with register office in Krakow (Poland) functions next to its mother company – KIC InnoEnergy SE (later: KIC Europe) with register office in Eindhoven (Netherlands) and is an operational arm of the EIT. KIC SE is a European company (*societas europea*) fostering the integration of business, technology, education and entrepreneurship and strengthening the culture of innovation. KIC Central is just one of the six regional nodes (the “co-location centers”), through which KIC SE provides its actions.

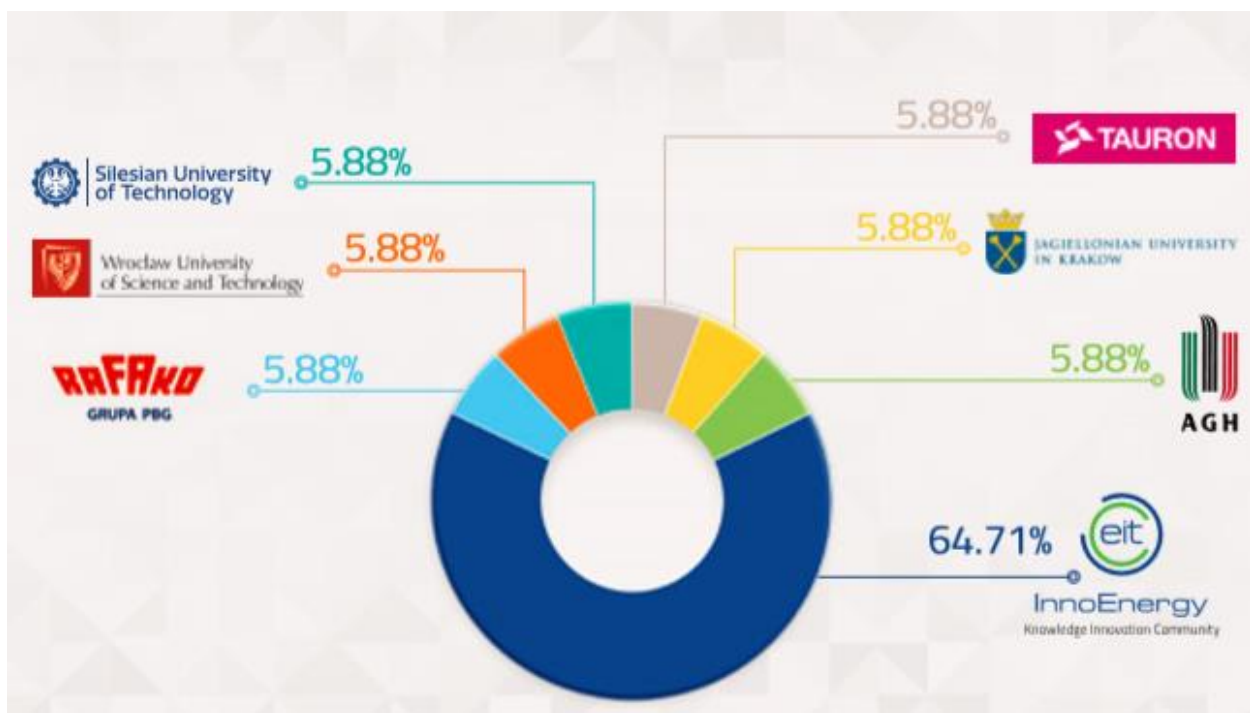


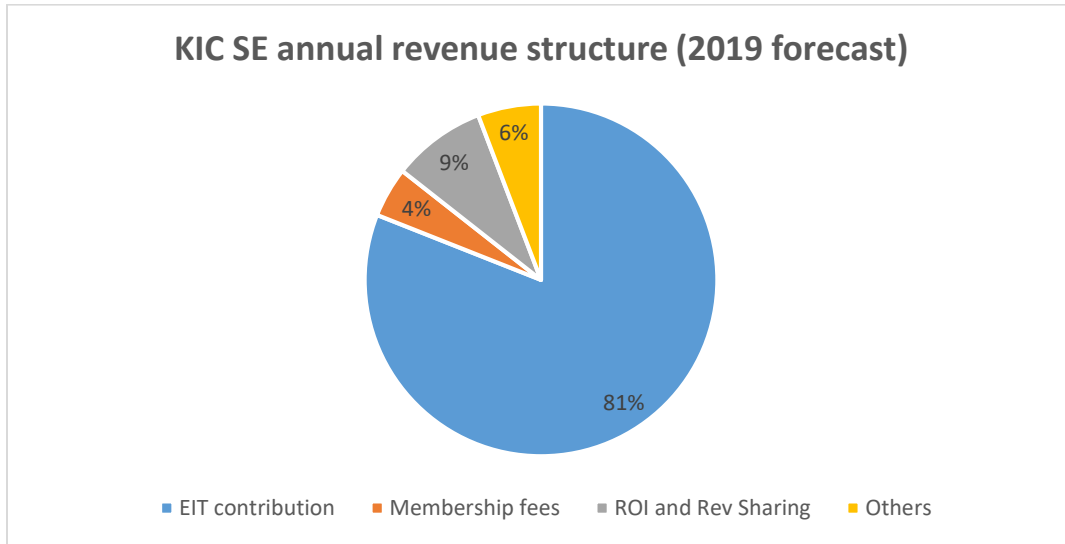
FIGURE 2 INNOENERGY CENTRAL EUROPE SHAREHOLDERS

KIC Central has currently 7 shareholders (with 4 universities, 2 companies and KIC SE as a major shareholder).

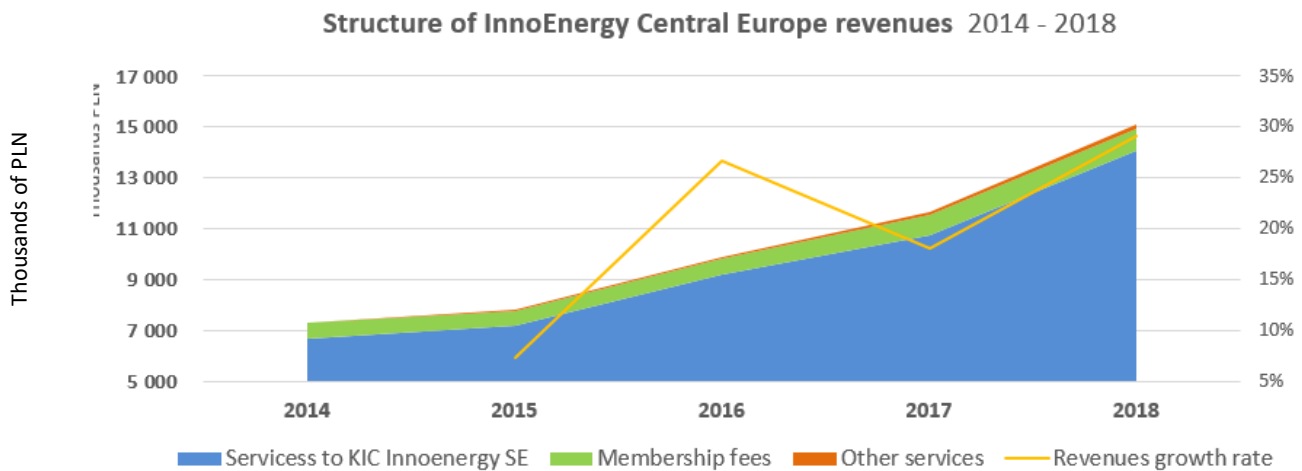
The EIT incentivizes InnoEnergy to co-finance added-value activities from other resources, supporting their way towards financial sustainability. For today, main source of revenue for KIC SE and InnoEnergy Central Europe still remains EIT’s contribution as depicted below. However, ROI from innovation projects and equity monetization is responsible for 9% of current annual revenue structure. Around 4% comes from Partners’ (not shareholders) membership fees who benefit from being part of InnoEnergy ecosystem. The remaining 6% is planned from ‘Education’ and Service Sales section (e.g. self-paying students, professional learning courses and reports).



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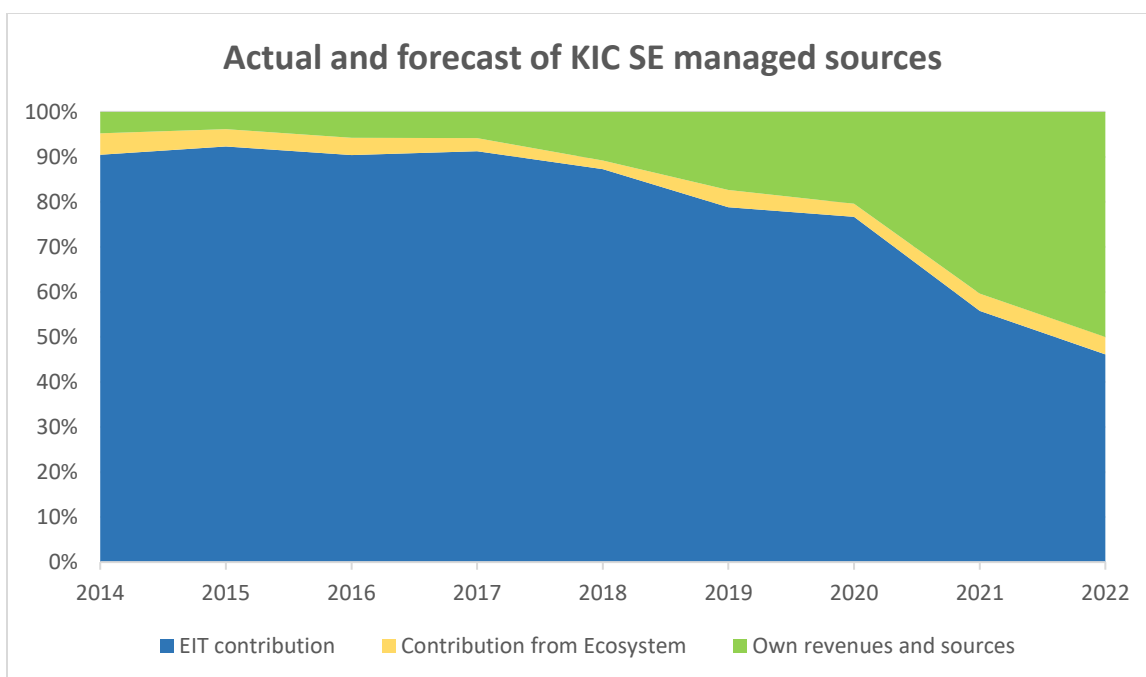
As it is shown on the Graph above, 19% of KIC SE annual revenue for 2019 is expected to come from its own operations. Important part (9%) is going to come from ROI and revenue sharing which shows the importance of this mechanism in the total revenue structure.



In the same time, KIC Central's annual revenue is increasing (with average annual growth rate of 20%).



It is also important to notice that EIT's contribution in total KIC SE managed sources has been decreasing (starting from 2015). What is more, it is expected to fall below 50% threshold in 2022. This would not be possible without revenue sharing model, membership fees and other services provided by InnoEnergy. Those mechanisms allow InnoEnergy acting as investor and work on becoming financially sustainable in the future.



Being part of Horizon 2020 scheme affects also numerous internal procedures and processes. All rules described in H2020 AGA guide (Annotated Model Grant Agreement⁶) e.g. in relation to cost eligibility, rights and obligations of the parties or sanctions apply also to companies supported by InnoEnergy.

Specific budget categories varies in relation to exact acceleration/support programme. Financial support may directly be upfront transferred to beneficiary's bank account in order to be spent on technology enhancement (e.g. purchase of necessary materials or parts, laboratory tests) or team creation (personnel salaries). Some subcontracting costs (e.g. consultancy services, external legal or marketing support) may also be covered by paying for eligible invoice to the third party. This applies mostly to startups and SMEs who may have problems with their cashflow while

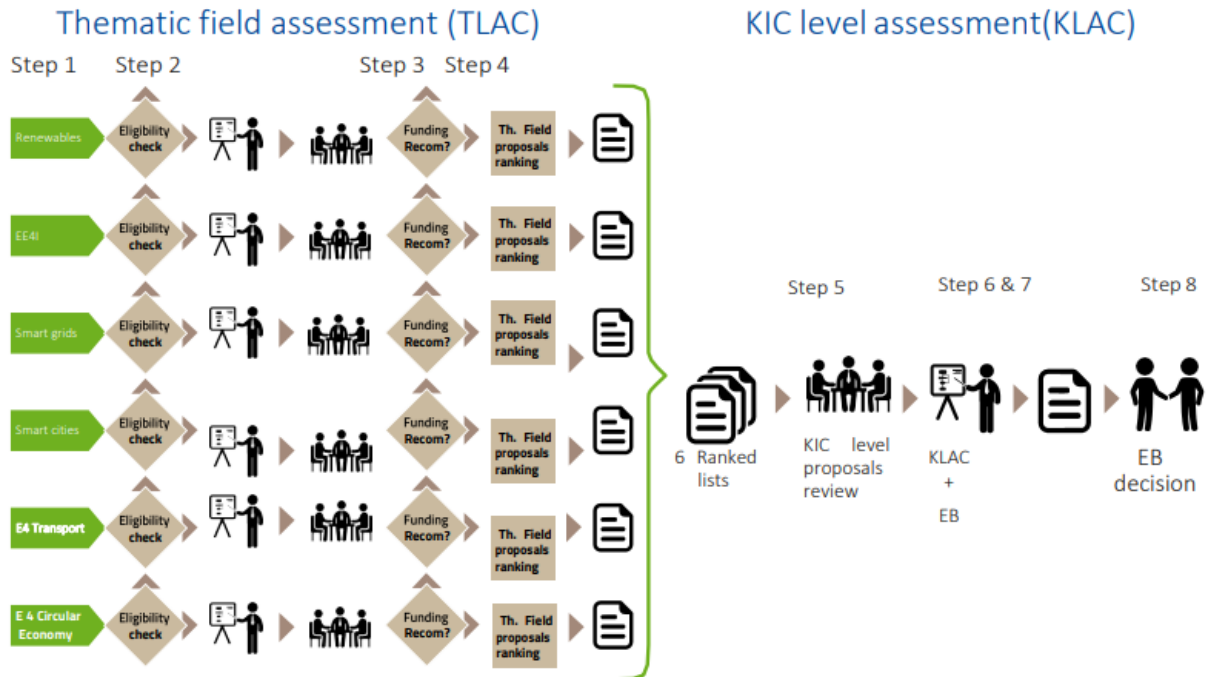
⁶ https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf



executing the project. For bigger partners it is usually refinancing (reimbursement of incurred costs) returned after the end of the year. Specific budget categories and reporting requirements are described in H2020 AGA guide.

5.2 Everything starts with selection process and holistic view

InnoEnergy's evaluation process occurs in two levels as per the process depicted below.



a) Thematic Field Level Assessment Committee (TLAC) where each Thematic Field appoints an assessment committee in charge of evaluating the proposals corresponding to its own theme (e.g., Thematic field Renewables committee will assess all proposals related to renewables, irrespective of the affiliation of the partners in the consortium). The TLAC checks both admissibility and eligibility criteria and ranks the proposals according to the assessment criteria. Only those proposals selected by TLAC will be considered in the next assessment phase. The TLAC can reject a proposal if the ranking is too low.

b) KIC Level Assessment Committee (KLAC) performs an assessment of the proposals submitted by the TLAC by a committee composed by the thematic leaders as well as representatives from



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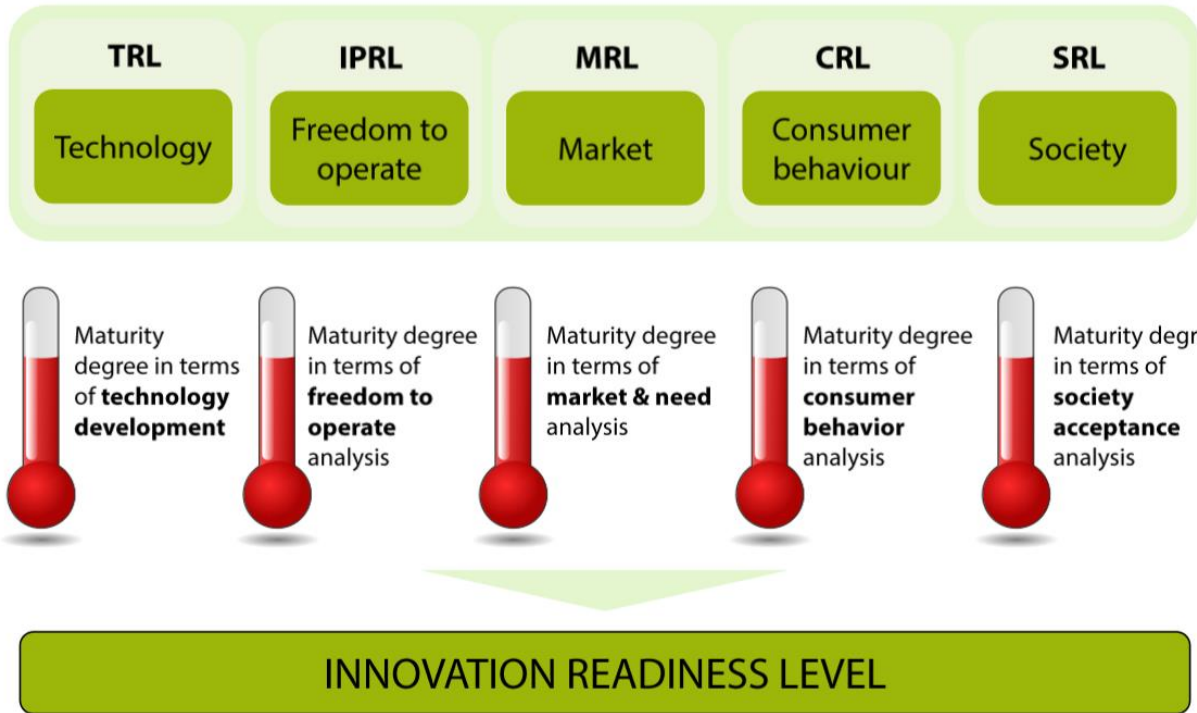
industry and academia. This group reviews and ranks all the eligible proposal evaluations performed at thematic level using the same assessment criteria. Upon presentation by the consortia, the KLAC submits a ranked list to the KIC InnoEnergy SE Executive Board for final decision. Please note that during the KLAC review the project proposals positively evaluated by the TLAC can be rejected, even before the KLAC meeting takes place. The final resolution together with comments and recommendations is communicated to each proposal manager.

InnoEnergy uses its own assessment methodology called 'Innovation Readiness Level' (IRL) that helps to answer investor's daily question on whether it is market demand or technological opportunity that converts disruptive ideas into reality. When innovation project is initiated, not only the technological essence of the solution has to be taken into account (as usually done by investors), but some other key issues need to be treated in parallel. Is there a business opportunity? Is there a place on the market where new technology can be introduced? Are there similar products? Who are the competitors? Is the consumer/end user ready to innovate? Those questions also have to be answered. In many cases it is one of non-technological aspect that determines project's possible success or a failure. If the submitted undertaking seems to be very promising in terms of turnover, there is no regulated limit for InnoEnergy's contribution in its costs (investment intensity may technically vary in %). Same applies to contribution volume in absolute numbers (as the average investment value from InnoEnergy's side is around 2,8M eur it may also be much higher or lower in specific cases). Important thing is, this is always due to pace of case by case negotiations and multidimensional risk assessment.

The TRL (Technology Readiness Level) measure is already widely recognized. However, from InnoEnergy's point of view it is insufficient to rapidly changing reality. That's why we created our own method where Technology is only one out of five dimensions.



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5.3 Revenue tracking for maintaining control

Participants of InnoEnergy's revenue-sharing model need to be clear about how revenue is collected, measured and distributed. This is why, within a certain period of time from the end of each calendar year, the Exploiting Partner shall provide a detailed List of Products sold during that year and the Fee amounts due for that same period. During the Term and for a period of one year thereafter, InnoEnergy's designated representative or independent auditors shall have the right to inspect the facilities used in connection with the Exploiting Partner to ensure the Exploiting Partner's compliance with the terms and conditions of the FA, including, without limitation, to verify the content of sales and licensing declarations of the Exploiting Partner.



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5.4 Play an active role in project's development

We support and invest in innovation at every stage of the journey – from classroom to end customer. No matter where the innovation is (pre-idea, proof of concept or proven market product that needs to expand) – there is an instrument in our portfolio that suits its needs. By this we want to serve as a one-stop-shop for our partners and make sure that every innovative idea finds its place. Active participation in project's development is reflected also in specific project's spending mechanism (InnoEnergy covers eligible costs of the ongoing project but do not transfer support directly to beneficiaries' account). Jointly with the consortium we set up clear development roadmap and milestones as a reference. If (from objective reasons) the project does not meet previously set expectations, we look for a solution first. We try to find 'reasons why' and set up (if reasonable) alternative paths.

InnoEnergy plays here an active role never leaving its partners alone. If the project does not meet initially agreed milestones (but still looks promising for the future), revenue-sharing may be e.g. converted into equity option if relevant agreement contains the appropriate clause.

Example C

Company A signed SSA and FA in 2019. Success fee is 5%. However, the contract provides the possibility to convert revenue sharing model into 10% equity starting from 2026. Investor would use this option if beneficiary does not follow agreed milestones and actual revenue does not



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meet previously agreed roadmap and expectations. On the other hand, it is also an open option for the Company if it over performs and do not want to have the investor's presence in its annual P&L (profit and loss) statement.

Under performance case

Calendar year	Expected revenues from supported products	Actual revenues from supported products	Deviation	Revenue for the investor	Mechanism used
2020	250k	100k	-150k	5k	RevShare
2021	320k	120k	-200k	6k	RevShare
2022	350k	200k	-150k	10k	RevShare
2023	400k	250k	-150k	12,5k	RevShare
2024	500k	300k	-200k	15k	RevShare
2025	800k	320k	-480k	16k	RevShare
2026	1000k	300k	-700k	0k	Ivestor uses 10% equity option

Over performance case

Calendar year	Expected revenues from supported products	Actual revenues from supported products	Deviation	Revenue for the investor	Mechanism used
2020	250k	300k	+50k	15k	RevShare
2021	320k	400k	+80k	20k	RevShare
2022	350k	500k	+150k	25k	RevShare
2023	400k	700k	+300k	35k	RevShare
2024	500k	800k	+300k	40k	RevShare
2025	800k	1500k	+700k	75k	RevShare
2026	1000k	3000k	+2000k	0k	Company uses 10% equity option



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Many variables are possible. For instance, in FA it may be stated that the investor is entitled to Success fee only from specific market (if expansion to this market was the subject of the contract). See the example A.2 below.

Only when there is no promising prospects or unsatisfactory team's attitude we may terminate the contract so our roads finally diverges.

6. Development proposal of revenue sharing operational model and proposal of its implementation into the innovation ecosystem of Latvia

To transfer similar and downscaled operational model used by InnoEnergy to Latvian local state aid programs several factors must be considered. A legal perspective is one of the key next steps, as there is a different legal framework for local state aid programs and those managed directly by the EU. The scope of this report does not involve any legal analysis of implementation revenue sharing operational model for 2021-2027 Planning period into Latvian ecosystem. Nevertheless, there are several key frameworks that future programme should meet from legal point of view, especially:

- Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty on the Functioning of the European Union;
- Commission Regulation (EU) No 1407/2013 of 18 December 2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to de minimis aid;

The closest analogies to potential future investment-oriented program within the current 2014-2020 Planning period in Latvia seem to be:

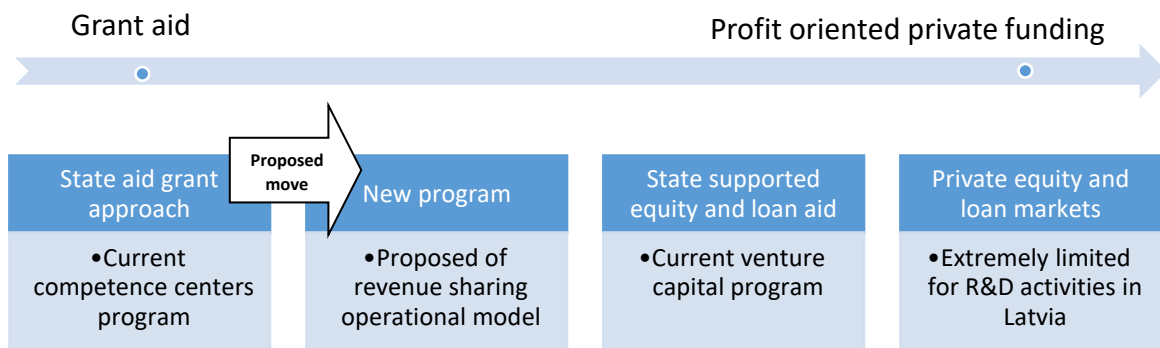
- 1.2.1.1. "Support for Development of New Products and Technologies within Competence Centers" (competence centers program) implemented under COMMISSION REGULATION (EU) No 651/2014 SECTION 4 Article 25 Aid for research and development and innovation;
- 3.1.2.1. "venture capital" (venture capital program) implemented under COMMISSION REGULATION (EU) No 651/2014 SECTION 3 Article 21 Aid for access to finance for SMEs Risk finance aid.



Currently functioning fund managers contracted and managed by ALTUM (state-owned development finance institution) already technically can invest in SMEs, however it looks like in most cases they may see innovation projects too early staged. On the other hand, private companies, as described in Section 2 of this document, are reluctant to share their ownership or lock themselves into strongly binding loans.

All these factors suggests that the most viable solution for today would be to reshape existing Competence Center Program and move its operations closer to sustainable market oriented approach. Based on our experience it seems to be the closest to InnoEnergy’s model and could potentially be a good starting point for further development into more market-oriented activities of Latvian companies.

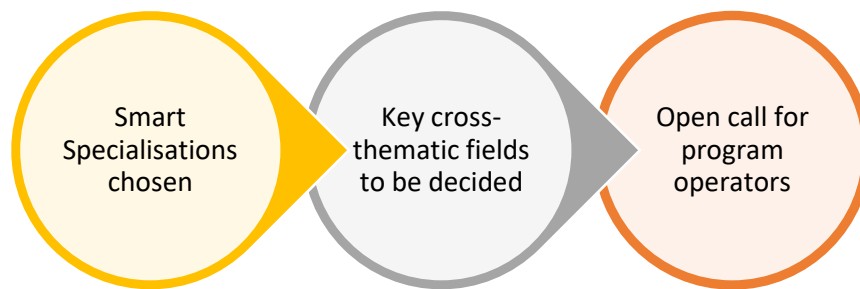
InnoEnergy positions itself as a smart value-added investor that offers a wide variety of tools for companies in different development stages that fit all possible categories of energy innovations. In current Latvian situation, taking into account already existing and planned programs, we suggest to consider limiting an operational framework to grant scheme based on state aid for research and development and innovation offered by transparently selected operators paid with a revenue-sharing model;



Main reasoning behind abovementioned is that it is a step by step approach needed and other considered options could be very surprising to implement from the future beneficiaries’ side.

Implementation of possible revenue-sharing operational model for 2021-2027 Planning period could be done through existing organizations that manages state aid in Latvia: Central Finance and Contracting Agency (CFLA) or ALTUM, depending on legal assessment and future regulatory

framework. As in EIT model, InnoEnergy is a private company that is contracted by European Institute of Innovation and Technology (EIT) in an open and transparent procedure with mandate to implement its agenda of pioneering the change in sustainable energy. Similar structure could be considered to be introduced, where self-established operators run by experienced players in the respective fields (similar as InnoEnergy in Europe or current competence centers in Latvia) are chosen to operate the program. The cross-thematic fields of interest must be chosen based on national priorities stated in upcoming 2021-2027 Planning period to reduce administrative costs and ensure synergies between different operators.



If private operators are going to be chosen, it is extremely important to get best possible ecosystem actors on board and encourage them to run in the procurement procedure. Analyzing existing practices in current Competence Center Program, the recommendation could be that the shareholders' structure should consist of representatives of at least 2 strong thematic field specific industry associations and 1 financial partner (preferably with venture capital or loan experience).

Other recommendations to improve corporate governance and sustainability of future operators could be setting up clear and restrictive administrative expenses for operators during and after program execution and to establish roadmap and milestones with stage gate reviews on the way.

Summary

Introduction of revenue-sharing model based on InnoEnergy's experiences could be a tool helping to create an autotrophic (meaning: capable of surviving on own resources) innovation ecosystem in Latvia. To maximize value of initial funding and test new market-bounded solutions,



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selection of KIC-alike private operators could be considered. However, important challenges in reference to corporate governance of such consortia and transparent selection process are to be overcome.



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