



Action Plan for Lithuania

Improving innovation policy mix of Lithuania

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Introduction

This action plan is a document providing details on how the lessons learnt from the MANUMIX project will be implemented in order to improve Lithuanian R&D policy-mix, which consists from 3 policy instruments: "Promotion of activities of centres of excellence and centres for innovation and technology transfer", "Promotion of the commercialisation and transnationality of R&D results" and "Targeted research in the smart specialization areas". Action plan specifies the nature of the actions to be implemented, their timeframe, the players involved, the costs and funding sources.

Part I - General information

Project: Innovation policy-mix learning for advanced manufacturing in European regions

Partner organisation: MOSTA (Research and Higher Education Monitoring and Analysis Centre)

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Part II - Policy context

The Action Plan aims to impact: √ Investment for Growth and Jobs programme Name of the policy instruments (in a policy-mix) addressed: (1) Promotion of activities of centres of excellence and centres for innovation and technology transfer; (2) Promotion of the commercialization and transnationality of R&D results; (3) Targeted research in the smart specialization areas. TARGETED RESEARCH IN PROMOTION OF ACTIVITIES OF CENTRES OF PROMOTION OF THE THE SMART EXCELLENCE AND CENTRES FOR INNOVATION AND COMMERCIALIZATION AND SPECIALIZATION AREAS **TECHNOLOGY TRANSFER** TRANSNATIONALITY OF **R&D RESULTS TARGETED** CAPACITY **TESTING R&D-**R&D RESEARCH BUILDING BASED IDEAS COMMERCIALIZ-Research; attraction Competence Technology ATION development of of foreign-based development, Market launch and full R&D personnel scientists; R&D prototyping, commercial activities of parallel testing, application laboratories demonstration Participants: Participants: Participants: Participants: Institutions of research Institutions of research Institutions of Institutions of research and education and education research and and education education University hospitals University hospitals Companies with IRE as University hospitals stakeholders Companies licensed to use intellectual property created in IRE.

Figure 1. Lithuanian Manumix Policy-mix. Source: Lithuanian Policy-mix Analysis, 2nd Learning Journey.

Due to the number of local initiatives and EU support, results, showing the development of Lithuanian

R&D ecosystem, are improving. Yet, it remains moderate in comparison to other EU countries and requires regular development, monitoring and reviewing of various R&D policy instruments. During the MANUMIX project implementation, a thorough analysis of one Lithuanian R&D policy-mix (Figure 1) was executed. It included peer-review sessions and analysis of case studies of similar policy-mixes and instruments in Wales and Basque Country.

Analysed Lithuanian MANUMIX policy-mix consisted from 3 policy instruments and was dedicated to knowledge transfer and commercialization. The instruments were fully funded by EU funds and they were included in Operational Programme for the European Union Funds' Investments in 2014-2020, Priority 1 "Strengthening Research and Development and Innovation".

Talking about every policy instrument, included into the policy-mix, their specifics should be noted. The "Targeted research in the smart specialization areas" instrument was dedicated to investing in high-level research that address relevant R&D issues and the results of the research could subsequently be commercialized; also, one of the aims of the instrument was to attract foreign scientists. The instrument of "Promotion of activities of centres of excellence and centres for innovation and technology transfer" was dedicated to encouraging the excellence centres to test R&D-based, commercially-promising ideas in order to create a follow-up investment or other outcome that can be tailored to market deployment. Afterall, third policy instrument, the last one in policy-mixing chain, was "Promotion of the commercialization and transnationality of R&D results". It was dedicated to support the commercialization of ideas of scientists and other researchers and students working / studying in institutions of research and education, also, to support emerging young innovative enterprises.

Whole policy-mix was mainly focused on research entities and universities, it covered a high range of Technology Readiness Level (TRL), ranging from fundamental research to commercialization of R&D results. The key issue addressed was to accelerate the transfer and commercialization of knowledge and technology, what, in turn, is a prerequisite for successfully enhancing the private sector's knowledge absorption and the scope of high-value-added production development.

Nevertheless, policy-mix encountered some serious issues during its' implementation stage. The instrument "Promotion of the commercialization and transnationality of R&D results" has not resulted in funding agreements (due to problems in the financial conditions that have made the instrument unattractive to applicants). The launch of the "Promotion of activities of centres of excellence and centres for innovation and technology transfer" instrument was considerably delayed, with only 12.89 million EUR allocated (from 34.8 million Eur planned investments). The same applies to the instrument "Targeted research in the smart specialization areas": the first call for funding contracts was concluded at the end of 2017, 27.79 million EUR were allocated from 44.9 million Eur planned.

Activities of policy instruments are just beginning to flourish. For these reasons, the technology transfer and commercialization activities in general are developing slowly. Additional challenges can arise in ensuring proper performance of the policy-mix at the end of financial perspective 2014-2020. It is considered whether some of the ideas currently being developed can be traded in the future EU investment perspective.

It is also important to note that, during design phrase of the policy-mix, some changes were made and deviation from the original ideas occurred. During designing phrase, policy instruments have been envisaged, but at the later stages of the consideration they were lifted even without beginning, the funds were reallocated, but the scope for promoting technology transfer and commercialization was not strengthened. Thus, a further challenge of Lithuanian policy-mix is to correct its rationale and solve emerging problematic.

During implementation of MANUMIX project peer-review sessions and case studies revealed that knowledge transfer and commercialization practice implementation are different in Wales and Basque Country. The Basque Country has thoroughly evaluated its R&D policies, policy impacts in its region and only after it formed a new policy-mix aimed at balancing the system between academic institutions, technology organizations and enterprises. Also, Welsh region applied several instruments to

professionally mentor, advise emerging technology companies on the commercialization of their products, thus accelerating the technology push aspect in R&D system. These distinguished practices of Wales, Basque Country practices can be adopted in Lithuanian case too. During re-designing exercise, more attention to the policy evaluation aspect, also to the needs and expectations of applicants should be emphasized. This action plan is expected to contribute to the development of Lithuanian technology transfer and commercialization policy-mix, considering distinguished good practices.

Part III - Details of the actions envisaged

ACTION 1 (for policy instrument "Targeted research in the smart specialization areas")

PROGRESS EVALUATION OF THE POLICY INSTRUMENT "TARGETED RESEARCH IN THE SMART SPECIALIZATION AREAS"

1. The background

As mentioned above, under the framework of the Operational Programme for the European Union Funds' Investments in 2014-2020, policy instrument "Targeted research in the smart specialization areas" was delayed, the first call for funding contracts was concluded at the end of 2017, 27.8 million EUR were allocated from 44.9 million Eur planned. The second call for funding contracts has taken place during the summer of 2018. Although there are 47 contracts under the policy instrument signed, policy instrument is not considered as attractive as expected. It can be assumed that the problematics and needs of the beneficiaries of the instrument were not sufficiently analysed and evaluated prior to the calls for contracts. In order to improve the policy instrument and make it more relevant to potential applicants and the aims of Operational Programme, it is necessary to create preconditions for improvement, relevant to current policy challenges.

For managing authorities of the instrument, the main challenge at present is how to ensure the timeliness and relevance of the results (as instrument was delayed). Attention should be drawn to the fact that under the instrument researchers' salaries are compensated (as form of the grant), and therefore, evaluating the progress of research work is sufficiently high challenge, especially in the first-second year of implementation of projects, when research work is mainly initiated, studies are being started. Patenting activities (as indicators of policy instrument result) are planned in subsequent stages of the implementation of the projects.

The authorities responsible for the instrument, for a long time since the start of the implementation of the projects, have not enough information on whether the projects are sufficiently relevant and effective. Moreover, the managing authorities have evaluated ex-ante projects, but in the long run they do not have enough information on whether there is enough probability of reaching results of the whole instrument, whether the developed products are still relevant, whether whole policy instrument is implemented in a sufficiently effective manner. There is no enough information whether changes in the behaviour of the target group (as sufficiently developed technology transfer skills) are taking place. Finally, how to improve the policy instrument to achieve better results and the impact (better academia orientation to business needs and faster transfer or knowledge)? Therefore, in order to improve the policy instrument, it is necessary to consider the fact that information on the progress and impact of the intervention is currently largely lacking.

During the implementation of the MANUMIX project, first learning pillar (Innovation policy-mix for advanced manufactory: what works and what does not), discussions were held on R & D policy instruments and their mixes that are most effective in the regions, as well as on the conditions, circumstances and concrete actions that determine the success of the policy instruments. During the peer-review sessions, this specific case of Lithuania was reviewed and an insight into the deeper analysis of the case and solutions were provided. During peer review session there was elaborated, that Basque Country, in the 80', aimed at improving technology

transfer policies, paid special attention to the system analysis of the whole of their R&D ecosystem. Before policy development activities, they have thoroughly explored both the academic, business environment and its needs and concerns. A comprehensive study helped them to better understand the assumptions of future behavioural change.

Also, during MANUMIX project's peer-review sessions, the representatives of Basque Country and the Welsh Government payed attention that in their cases business sector (enterprises) are influencing universities' research agenda widely, so research is developed as strongly oriented to the needs of businesses. Such academia orientation towards the business sector provides the prerequisites for bigger amount of applied research and acceleration of the knowledge transfer between science and business.

Also, during MANUMIX project's peer-review sessions, Basque Country and the Welsh Government emphasised, that in their cases, during development of the knowledge transfer policy instruments, it was important to assure "knowing how is the other side"; it means authorities wanted to have full knowledge of the situation and the needs not only of academia, but also of the business sector. Authorities wanted to have deep understanding what are biggest gaps and main needs. In order to gain information, Basque Country and the Welsh Government applied quantitative evaluations with qualitative ones. During qualitative data collection exercise, programme managers, intermediate agents were key actors.

Also, while implementing its policy-mix, consisting of programs Hazitek, Basque Industry 4.0 and Gauzatu, the Basque Region explained how they use a partial annual - interim - ex-post evaluation scoreboard, and during peer-review sessions demonstrated its ambition to develop a comprehensive policy-mix evaluation cycle. For example, the Basque region uses a full exante, interim and ex-post evaluation scheme in Gauzatu's evaluation cycle, distinguishing the relevant performance evaluation criteria for each policy cycle phase. Such an evaluation cycle (adopted to policy cycle) allows proper assessment of the effectiveness and impact of the program. The Basque Government wants to expand this assessment case and apply it not only to other programs but also to their whole policy mix. In other words, Basque Government's improved evaluation cycle is being developed towards a holistic approach, the goal is to apply a unified policy evaluation cycle for couple of programs (as policy-mixes) and to cover all questions raised by stakeholders. These questions are, for example: are the objectives of the policy-mix, tasks, and solutions still valid; what is the connection of policy instruments within policy-mix (questions of relevance); is there a high probability of achieving a positive effect of the policy-mix, compared to the target values; are the products achieved / expected products and results are high quality (questions of performance); how the skills of R&D ecosystem participants change, what are the changes in behaviour (questions of behavioural changes); what are the benefits of the policy instrument to beneficiaries and others (questions of benefits); what is the expected impact of the implementation of the policy instrument (questions of possible impact)?

The policy-mix assessment of the Basque Government is also relevant to the Lithuanian policy mix and the policy instrument in question. Basque Government practice responds to the same problem, as the policy-mix of Lithuania and the policy instrument "Targeted research in the smart specialization areas". The development of policy evaluation (adding full scale of evaluation criteria to measure performance and benefits) is necessary to ensure the proper development of the policy instrument and to increase the effectiveness of the intervention.

Summarizing the problematic and the experience gained in the MANUMIX project, the

partners' recommendations received, it can be said that the improvement of the policy instrument "Targeted research in the smart specialization areas" should be directed to a more detailed policy evaluation, including analysis of the policy environment, progress, and possible impacts (including evaluation questions of relevance, performance-progress, behavioural changes, benefits and possible impact). Analysis should include qualitative and quantitative analytical methods and involve all key stakeholders.

2. Action

Taking into account the first objective of the MANUMIX project "to analyse and improve regional innovation policy-mixes" and the first learning pillar, as well as the remarks made by the Basque region and the Welsh Government during the peer-review project, the action should result in more detailed holistic and systematic policy evaluation. Peer-review sessions introduced good practice of integrating evaluations, covering both policy relevance, progress, policy change and potential impact.

In the case of the policy instrument "Targeted research in the smart specialization areas", there must be interim progress evaluation of the policy instrument performed at the end of 2019. During the project there was distinguished that the greatest challenge for the policy instrument is the lack of evidence of its **relevance**, **progress**, **behavioural change**, **possible impacts**. For this reason, it is difficult to identify the key factors that can improve policy intervention and achieve the desired effect.

A thorough evaluation of the policy instrument is required, covering:

- (1) **relevance** of the policy instrument objectives, tasks and projects addressing the identified challenges in the Operational Programme, considering changing external environment factors (are the objectives of the instrument, tasks, and solutions still valid; what is the policy instrument connection with other instruments, programs? Is there any duplication or synergy with other policy instruments);
- (2) **relevance** of the policy instrument objectives, tasks and projects addressing the target group, beneficiaries, community needs, considering changing external environment factors:
- (3) **performance** of the policy instrument (is there a high probability of achieving a positive effect of the program, compared to the target values; are the products achieved / expected products and results are high quality);
- (4) skills and **behavioural changes** of the policy participants (how the skills of R&D ecosystem participants change, what are the changes in behaviour);
- (5) What are the **benefits** of the policy instrument to beneficiaries and others? What is the **expected impact** of the implementation of the policy instrument?
- (6) policy recommendations (how to improve the policy instrument).

The policy evaluation should be carried out at the end of 2019. Following the first call for call for funding contracts, 47 project investment agreements were signed, and the second call for funding contracts has now taken place. 47 projects are being implemented since the end of 2017 and beginning of 2018. At the end of year 2019, the duration of implementation of then projects will reach 24 months. Most likely, first project products will be developed. The end of 2019 is appropriate date to assess the progress of the instrument and respond to the

evaluation aspects above.

The evaluation of the policy instrument should include: analysis of secondary sources, collection and summarization of primary quantitative data (statistical, monitoring and other administrative), collection and summarization of primary qualitative data through semi-structured interviews. The assessment should be mixed, i.e. independent experts and persons directly related to the policy instrument should be involved.

Major sub-actions must include: design and validation of evaluation design in 2019, II quarter; execution of procurement procedures in 2019, II quarter; conduction the evaluation and preparing, approving and presenting the evaluation report in 2019, III-IV quarter. The main result of the activity is the prepared report of the evaluation.

Through policy assessment, policy makers should gain enough information how to improve the policy instrument in order to meet the needs of beneficiaries and to address the emerging challenges in the field of applied research, knowledge transfer and commercialization. Policy makers should have enough knowledge how to improve intervention and gain better impact.

It must be stressed that depending on conditions agreed with Ministry of Finance the scope and methodology of evaluation can be modified to some extent. Evaluation of policy instrument "Targeted research in the smart specialization areas" may become a separate part of integrated evaluation of all policy instruments administered by Ministry of Science and Education under Priority 1 of the framework of the Operational Programme for the European Union Funds' Investments in 2014-2020.

3. Players involved

Ministry of Education and Science – should approve the evaluation framework and agree on a timing, resources with Ministry of Finance.

Research Council of Lithuania – responsible for designing, management, data collection for the interim progress evaluation.

Independent experts – responsible for performing interim progress evaluation, preparing evaluation report and presenting results to all stakeholders.

4. Timeframe

The policy evaluation should be carried out at the end of 2019. Evaluation report should be prepared during the second quarter of 2020.

5. Costs

Evaluation costs are already included in the cost of administering the Operational Programme for the European Union Funds' Investments in 2014-2020. The project does not include any additional costs for the implementation of the action, except for the foreseen costs in the application.

Funding sources

ACTION 2 (for policy instrument "Promotion of activities of centres of excellence and centres for innovation and technology transfer") PROGRESS EVALUATION OF THE POLICY INSTRUMENT "PROMOTION OF ACTIVITIES OF CENTRES OF EXCELLENCE AND CENTRES FOR INNOVATION AND TECHNOLOGY TRANSFER"

1. The background

Under the framework of the Operational Programme for the European Union Funds' Investments in 2014-2020, policy instrument "Promotion of activities of centres of excellence and centres for innovation and technology transfer" was delayed, there are currently two calls for funding contracts being concluded, only 12.89 million EUR allocated from 34.8 million Eur planned. Currently, only 18 project financing agreements are signed. So, as the policy instrument described above, this policy instrument is also considered as not as attractive as expected. It can be assumed that the problematics and needs of the beneficiaries of the instrument were not sufficiently analysed and evaluated prior to the calls for contracts. In addition, the evaluation of this policy instrument was a relatively long, complicated procedure, since several sophisticated, difficult to reach assessment criteria were included in the description of the financial conditions of the instrument.

For managing authorities of the instrument, the main challenge at present is how to ensure the timeliness and relevance of the results (as instrument was delayed). It is important to pinpoint, that evaluation phrases of the projects have already raised questions about the ability of the policy instrument to meet its objective of developing an international level excellence centres, develop them, and develop products that could be patented at the end of the project. The challenges raised were large, many potential applicants could not meet them even during ex-ante evaluations. However, the questions are still unanswered: how many centres of excellence Lithuania really need? What kind of (wide scope or niche)? Is it possible to develop competencies within a short time frame, to create market-tailored products, solutions that could be immediately patented? Is the challenge realistic for the project implementers in a short period of time?

Managing authorities have evaluated ex-ante projects, but in the long run they do not have enough information on whether there is enough probability of reaching results of the whole instrument, whether the developed products are potential enough, whether whole policy instrument is implemented in a sufficiently effective manner. There is no enough information whether changes in the behaviour of the target group (as sufficiently developed technology transfer skills) are taking place. Finally, how to improve the policy instrument to achieve better results and the impact (high level of excellence and faster transfer or knowledge)? Therefore, in order to improve the policy instrument, it is necessary to consider the fact that information on the progress and impact of the intervention is currently largely lacking.

During the implementation of the MANUMIX project, first learning pillar (Innovation policy-mix for advanced manufactory: what works and what does not), discussions were held on R & D policy instruments and their mixes that are most effective in the regions, as well as on the conditions, circumstances and concrete actions that determine the success of the policy instruments. During the peer-review sessions, this specific case of Lithuania was reviewed and an insight into the deeper analysis of the case and solutions were provided.

During peer review session there was elaborated, that Basque Country, in the 80', aimed at

improving technology transfer policies, paid special attention to the system analysis of the whole of their R&D ecosystem. Before policy development activities, they have thoroughly explored both the academic, business environment and its needs and concerns. A comprehensive study helped them to better understand the assumptions of future behavioural change.

Also, Basque Country and the Welsh Government emphasised, that in their cases, during development of the knowledge transfer policy tools, it was important to assure "knowing how is the other side"; it means authorities wanted to have full knowledge of the situation and the needs not only of academia, but also of the business sector. Authorities wanted to have deep understanding what are biggest gaps and main needs. In order to gain information, Basque Country and the Welsh Government applied quantitative evaluations with qualitative ones. During qualitative data collection exercise, programme managers, intermediate agents were key actors. As a result of the environmental analysis, the Basque and Welsh Governments have adapted a number of policy instruments that are geared towards collaborative ventures between business and academia but focus on market needs and the development of those products that have real commercial potential. For example, Basque Country adopted Advanced Manufacturing Centre Model for relationship between different research fields and currently industry applications. The Centre was built as a mixed research centre within the University of the Basque Country and a consortium of companies, the aim was to work towards final applications and generate new know-how.

Also, while implementing its policy-mix, consisting of programs Hazitek, Basque Industry 4.0 and Gauzatu, the Basque Region explained how they use a partial annual - interim - ex-post evaluation scoreboard, and during peer-review sessions demonstrated its ambition to develop a comprehensive policy-mix evaluation cycle. For example, the Basque region uses a full exante, interim and ex-post evaluation scheme in Gauzatu's evaluation cycle, distinguishing the relevant performance evaluation criteria for each policy cycle phase. Such an evaluation cycle (adopted to policy cycle) allows proper assessment of the effectiveness and impact of the program. The Basque Government wants to expand this assessment case and apply it not only to other programs but also to their whole policy mix. In other words, Basque Government's improved evaluation cycle is being developed towards a holistic approach, the goal is to apply a unified policy evaluation cycle for couple of programs (as policy-mixes) and to cover all questions raised by stakeholders. These questions are, for example: are the products achieved / expected products and results are high quality (questions of potential); is there a high probability of achieving a positive effect of the policy-mix, compared to the target values; are the products achieved / expected products and results are high quality (questions of performance); how the skills of R&D ecosystem participants change, what are the changes in behaviour (questions of behavioural changes); what are the benefits of the policy instrument to beneficiaries and others (questions of benefits); what is the expected impact of the implementation of the policy instrument (questions of possible impact)?

The policy-mix assessment of the Basque Government is also relevant to the Lithuanian policy mix and the policy instrument in question. Basque Government practice responds to the same problem, as the policy-mix of Lithuania and the policy instrument "Promotion of activities of centres of excellence and centres for innovation and technology transfer". The development of policy evaluation (adding full scale of evaluation criteria to measure performance and benefits) is necessary to ensure the proper development of the policy instrument and to increase the

effectiveness of the intervention.

Summarizing the problematic and the experience gained in the MANUMIX project, the partners' recommendations received, it can be said that the improvement of the policy instrument "Promotion of activities of centres of excellence and centres for innovation and technology transfer" should be directed to a more detailed policy evaluation, including analysis of the potential, relevance, progress, and possible impacts (including evaluation questions of potential, relevance, performance-progress, behavioural changes, benefits and possible impact). Analysis should include qualitative and quantitative analytical methods and involve all key stakeholders.

2. Action

Taking into account the first objective of the MANUMIX project "to analyse and improve regional innovation policy-mixes" and the first learning pillar, as well as the remarks made by the Basque region and the Welsh Government during the peer-review project, the action should result in more detailed holistic and systematic policy analysis. Peer-review sessions introduced good practice of integrating evaluations, covering both policy potential, relevance, progress, policy change and potential impact.

In this particular case of the policy instrument, there must be interim progress evaluation of the policy instrument performed at the end of 2019. During the project there was distinguished that the greatest challenge for the policy instrument is the lack of evidence of its **potential**, **relevance**, **progress**, **behavioural change**, **possible impacts**. For this reason, it is difficult to identify the key factors that can improve policy intervention and achieve the desired effect. A thorough evaluation of the policy instrument is required, covering:

- 1) **potential** of the developed solutions in the projects, considering changing external environment factors (are the products achieved / expected products and results are high quality);
- 2) **relevance** of the policy instrument objectives, tasks and projects addressing the target group, beneficiaries, community needs, considering changing external environment factors;
- 3) **performance** of the policy instrument (is there a high probability of achieving a positive effect of the program, compared to the target values);
- 4) skills and **behavioural changes** of the policy participants (how the skills of R&D ecosystem participants change, what are the changes in behaviour);
- 5) What are the **benefits** of the policy instrument to beneficiaries and others? What is the **expected impact** of the implementation of the policy instrument?
- 6) policy **recommendations** (how to improve the policy instrument).

The policy evaluation should be carried out at the end of 2019. Following the first and the second call for call for funding contracts, 18 project investment agreements were signed. At the end of year 2019, the duration of implementation of then projects will reach 12-24 months. Most likely, first project products will be developed. The end of 2019 is appropriate date to assess the progress of the instrument and respond to the evaluation aspects above.

The evaluation of the policy instrument should include: analysis of secondary sources, collection and summarization of primary quantitative data (statistical, monitoring and other

administrative), collection and summarization of primary qualitative data through semistructured interviews. The assessment should be mixed, i.e. independent experts and persons directly related to the policy instrument should be involved.

Major sub-actions must include: design and validation of evaluation design in 2019, II quarter; execution of procurement procedures in 2019, II quarter; conduction the evaluation and preparing, approving and presenting the evaluation report in 2019, III-IV quarter. The main result of the activity is the prepared report of the evaluation.

Through policy assessment, policy makers will gain enough information how to improve the policy instrument in order to meet the needs of beneficiaries and to address the emerging challenges. Policy makers will have enough knowledge how to improve intervention and gain better impact.

It must be stressed that depending on conditions agreed with Ministry of Finance the scope and methodology of evaluation can be modified to some extent. Evaluation of policy instrument "Promotion of activities of centres of excellence and centres for innovation and technology transfer" may become a separate part of integrated evaluation of all policy instruments administered by Ministry of Science and Education under Priority 1 of the framework of the Operational Programme for the European Union Funds' Investments in 2014-2020.

3. Players involved

Ministry of Education and Science – should approve the evaluation framework and agree on a timing, resources with Ministry of Finance.

Central Project Management Agency – responsible for designing, management, data collection for the interim progress evaluation.

Independent experts – responsible for performing interim progress evaluation, preparing evaluation report and presenting results to all stakeholders.

4. Timeframe

The policy evaluation should be carried out at the end of 2019. Evaluation report should be prepared during the second quarter of 2020.

5. Costs

Evaluation costs are already included in the cost of administering the Operational Programme for the European Union Funds' Investments in 2014-2020. The project does not include any additional costs for the implementation of the action, except for the foreseen costs in the application.

6. Funding sources

ACTION 3 (for policy instrument "Promotion of the commercialization and transnationality of R&D results")

INCREASING THE MAXIMUM AMOUNT OF FUNDING AVAILABLE UNDER THE POLICY INSTRUMENT "PROMOTION OF THE COMMERCIALIZATION AND TRANSNATIONALITY OF R&D RESULTS"

1. The background

Under the framework of the Operational Programme for the European Union Funds' Investments in 2014-2020, policy instrument "Promotion of the commercialization and transnationality of R&D results" was launched in 2017 but has not resulted in funding agreements (due to problems in the financial conditions that have made the instrument unattractive to applicants). Managing authorities decided to announce the second call for funding contracts in the beginning of 2019. There are several problems related to the rationale of policy instrument, but one of them is relatively small amount of funding (only 23 579,48 Eur per project).

According to the recommendations stated by the "Visionary Analytics" Ltd. in "Evaluation of Progress in Implementing the Objectives of the Operational Programme Designed for Promotion of Research and Development and Innovations", commissioned by the Ministry of Finance, the amount of funding is sufficient only for the minimum set-up costs of the spin-off companies currently. However, it is also necessary to hire a manager, researcher, consultant (mentor), and therefore, it is necessary to increase the amount of financing per project. According to the current volume of support, such activities are not possible.

Lessons learnt by Basque and the Welsh partners influenced policy change. For example, Basque Industry 4.0 programme (Basque Country) invests in R&D projects that address technology transfer from "technological suppliers" to industrial manufacturing companies, that have a demonstration effect and therefore allow to accelerate the transfer to the market of the results. Projects must be located at a TRL level 5 to 9 (both included), with a minimum total budget of 75 000 EUR. Welsh partners represented their own similar practice, for example, "Smart Cymru" instrument, where amount of funding is directly linked to the level of project's TRL level, max grant 200 000 £ (for completion of prototype).

Summarizing the problematic and the experience gained in the MANUMIX project, the partners' practices demonstrated, and recommendations received, it can be said that the improvement of the policy instrument "Promotion of the commercialization and transnationality of R&D results" should be directed to raising the amount of project financing. During the action it is expected to enable spin-offs to get more support for a wider range of activities in the first months of the company. It is also expected that higher funding would have more solid impact on success of the project and the company, increase the chances of innovative solutions to be developed and introduced to the market.

2. Action

The action should result in increasing the maximum funding available to possible applicants (institutions of research and education, companies with IRE as stakeholders, companies licensed to use intellectual property created in IRE). The exact increase in maximum funding will be determined by assessing prices of management, research and mentoring services. It is recommended to increase amount of funding based on activities to be performed during the

project. The change must be made in 2019, II-III quarter, changing the description of the financial conditions of the policy instrument (1 sub-action: a draft change of financial conditions for a policy instrument; 2 sub-action: approval of the financial conditions of the policy instrument). Main output of the action – developed financial conditions of the policy instrument.

After implementation of the action and the change in the amount of funding for the project is expected to attract more valuable projects and help young businesses develop sustainable products that can be commercialized under market conditions.

3. Players involved

Ministry of Education and Science – should change financial conditions of the policy instrument and approve the new funding amount.

Agency for Science, Innovation and Technology – responsible for implementing the action, helping Ministry of Education and Science to update financial conditions of the instrument, informing applicants about the changes.

4. Timeframe

The policy improving should be carried out during 2019.

5. Costs

Overall budget of the instrument remains the same. The cost of changing the financial conditions is included in the Agency for Science, Innovation and Technology annual budget and includes 1 person's salary costs. The project does not include any additional costs for the implementation of the action, except for the foreseen costs in the application.

6. Funding sources

ACTION 4 (for policy instrument "Promotion of the commercialization and transnationality of R&D results")

INCLUDING ADDITIONAL ACTIVITY INTO THE POLICY INSTRUMENT "PROMOTION OF THE COMMERCIALIZATION AND TRANSNATIONALITY OF R&D RESULTS"

1. The background

Under the framework of the Operational Programme for the European Union Funds' Investments in 2014-2020, policy instrument "Promotion of the commercialization and transnationality of R&D results" was launched in 2017 but has not resulted in funding agreements (due to problems in the financial conditions that have made the instrument unattractive to applicants). Managing authorities decided to announce the second call for funding contracts in the beginning of 2019. There are several problems related to the rationale of policy instrument, but one of them is insufficient support for the spin-off companies in the first months of activity. As new companies are being set up, it is very important to provide consultancies and mentoring services to them (starting-up, development, financing, protection of intellectual property) throughout the project. At present, companies do not receive this type of assistance. Due to this reason, the risk of continuity of projects (and spin-offs) becomes especially high, there is no possibility to ensure the continuity of activities of enterprises, continuity of products in the post-project period, and to prepare properly for market challenges.

Basque Industry 4.0 programme (Basque Country) covers hourly-based work time expenses of the "R&D Agent" (for example, the agents in the Basque Science, Technology and Innovation Network), including assistance and consultation. Welsh partners represented their own similar practice with a strong start-up mentoring in the first months of their business (for example, "Smart Innovation" initiative for assisting SME's to access financial support and grow their investments in R&D).

Summarizing the problematic and the experience gained in the MANUMIX project, the partners' practices demonstrated, and recommendations received, it can be said that the improvement of the policy instrument "Promotion of the commercialization and transnationality of R&D results" should be directed to adding consulting and mentoring activity into the policy instrument rationale. Additional consultations will reduce the risk of failure of the projects under the policy instrument and will ensure the development of the results of the implemented projects. Also, the result of the action will be better prepared companies for market challenges.

2. Action

The action should result in adding consulting and mentoring activity to the policy instrument's financial conditions (in 2019, II-III quarter). Such consultancy can be provided by a consultant of the Research, Innovation and Technology Agency project "Innovation Advisory and Support Services for Business (InoSpurtas)". The financial conditions of the policy instrument should include consultancy activities, such as protection of intellectual property rights, the preparation and presentation of new products to the market, company establishment issues. Consultations are going to be given to R&D spin-offs.

1 sub-action: a draft change of financial conditions for a policy instrument; 2 sub-action: approval of the financial conditions of the policy instrument. Main output of the action —

developed financial conditions of the policy instrument. The general impact of the action - better prepared companies for market challenges.

3. Players involved

Ministry of Education and Science – should change financial conditions of the policy instrument and approve the new policy instrument rationale.

Agency for Science, Innovation and Technology – responsible for implementing the action, helping Ministry of Education and Science to update financial conditions of the instrument, informing applicants about the changes.

4. Timeframe

The policy improving should be carried out during 2019.

5. Costs

Overall budget of the instrument remains the same. The cost of changing the financial conditions is included in the Agency for Science, Innovation and Technology annual budget and includes 1 person's salary costs. The project does not include any additional costs for the implementation of the action, except for the foreseen costs in the application.

6. Funding sources

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