

## **Relevance and compatibility of investments under measures No. 01.2.2-CPVA-K-703 "Promotion of centres of excellence and centres of innovation and technology transfer" and No. 01.2.2-LMT-K-718 "Targeted research in Smart Specialisation" – case study**

### **SUMMARY**

Under the request of the Ministry of Education, Science and Sport, the case study on relevance and compatibility of investments under measures No. 01.2.2-CPVA-K-703 "Promotion of centres of excellence and centres of innovation and technology transfer" (thereafter – measure 703) and No. 01.2.2-LMT-K-718 "Targeted research in Smart Specialisation" (thereafter – measure 718) of Operational Programme's priority axis 1, was conducted. Both measures contribute to achievement of specific objective No. 1.2.2. "Increase knowledge commercialisation and technology transfer" of the Operational Programme for EU structural funds' investments in 2014-2020.

The following assessment **methods** were used for the case study:

- 1) desk research and literature analysis;
- 2) analysis of administrative and monitoring data, including analysis of project contracts;
- 3) semi-structured interviews with representatives of the Ministry of Education, Science and Sport of the Republic of Lithuania, Ministry of the Economy and Innovation, representatives of implementing institutions (Central Project Management Agency and Research Council of Lithuania), project coordinators implementing projects under measures 703 and 718;
- 4) survey of the project coordinators implementing projects under measure 703 (call 2 – promotion of centres of excellence) and measure 718 (calls 1 and 2).

During the preparation of the case study, **18 projects** were being implemented under the first two calls of measure 703. The total of EUR 25.97 million were allocated for this measure and additional EUR 10 million were allocated in the beginning of 2020. EUR 257 900 are foreseen to be attracted from private funding. From all funding earmarked for measure 703, EUR **12.89 million** were allocated for projects under calls 1 and 2.

The main activities funded under **call 1 (promotion of centres of innovation and technology transfer) of measure 703** are related to strengthening of the capacity of human resources in the innovation and technology transfer units of research and higher education institutions. Activities include preparation of internal strategic and operational legal acts, establishment and equipment of workplaces, staff training, outbound visits to familiarise with best practices abroad, development and implementation of marketing plans. Meanwhile, activities funded **under call 2 (promotion of centres of excellence) of measure 703** include research, prototyping and production testing. The projects under this call foster commercialisation of knowledge, and, more specifically, focus on the financing of research and development activities corresponding to 4-6 technology readiness levels (TRLs).

At the time of the assessment, **60 projects** were being implemented under call 1 ("Research by high-level research teams") and call 2 ("Attracting researchers and abroad to conduct research") of **measure 718**. EUR 53.67 million were foreseen for activities under the measure and additional EUR 5.65 million were allocated in 2020. Funding of EUR 1 914 160 is expected to be attracted from private sources.

EUR 40.39 million are allocated to projects under calls 1 and 2 of the measure. The main activities funded include research corresponding to levels 1-6 of TRL (higher stages of TRL in exceptional cases, too). The products developed during implementation of projects include new knowledge, formulating ideas and

concepts; developing technological solutions, application for a patent; development of prototypes; product testing in production. Research missions and project team participation in international conferences are also funded.

*Relevance of funded activities.* Having evaluated the relevance of measures 703 and 718, it can be stated that **all the objectives set for the projects of these measures were relevant and responded to the problems identified in the Operational Programme**. Both capacity building for knowledge commercialisation and technology transfer, and the pursuit of R&D activities to commercialise their results, respond to societal needs. It encourages researchers to develop products that have potential of commercialisation and can contribute to addressing societal needs and challenges. Of particular importance is the promotion of centres of innovation and technology transfer, which not only take over the administrative workload for researchers directly engaged in research activities, but can also provide convenient access for businesses seeking to collaborate with higher education and research institutions.

Data collected via interviews with project coordinators indicate that continuous business involvement and critical feedback during the whole research process is crucial to develop products with high commercialisation potential. The information collected during the interviews shows that the main **factors limiting the potential** of interventions under measures 703 and 718 include:

- the lack of opportunities for collaboration with business partners due to the application of state aid rules and the reduction in funding intensity;
- the lack of utility and quality criteria to prioritise projects having partnership with business;
- low overall interest of researchers to commercialise knowledge.

*Compatibility of investments under measures 703 and 718.* The capacity building activities of the centres of innovation and technology transfer are **highly compatible** with both projects under the call 2 of measure 703 and projects under measure 718, as well as measure 701 under priority axis 1, which funds the upgrading, development and integration of research and development infrastructure. The enhanced capacity of the centres of innovation and technology transfer can assist bridging the gap between science and business in various stages of the TRL. This was also confirmed by the project coordinators implementing projects that promote centres of innovation and technology transfer. They claimed that the newly established (or developed) teams of science managers are assisting researchers that carry out projects not only under measure 703 but also measure 718.

*Effectiveness and sustainability of investments under measures 703 and 718.* The delay in launching the measures resulted in **low achievement of project indicators** during the impact assessment. Based on the target values of the project contracts, it is evident that the product index *P.S.305 "Patent applications filed by research and higher education institutions"* will be significantly exceeded (17 planned and 80 foreseen in project contracts). Meanwhile, the total number of R&D projects to be achieved (indicator *P.S.396 "Implemented R&D projects"*) (target of 95 for measures 703 and 718 combined) has not yet been reached. Even though the level of achievement of indicator values is low at the time of the report, there is a high probability that the contractual targets will be achieved. 98% of project coordinators, who participated in the survey, stated that, given the current state of the project, **it is likely that the project will achieve the planned physical indicators**. The project coordinators also informed that the qualifications of researchers have already improved, there are publications already published and research infrastructure base improved.

By investing EU structural funds in projects under measures 703 and 718 two main **behavioural changes** of ecosystem participants were expected to be fostered:

1. Higher education and research institutions seek to generate profits and cooperate with business.
2. Public sector researchers aim to develop products with commercialisation potential.

The promotion of centres of innovation and technology transfer has **contributed significantly to these goals**. During the interviews with project coordinators, it became clear that strengthening managerial competences and creation of databases enable higher education and research institutions to: 1) search for potential business partners and developers, 2) follow industry and market trends, and 3) to carry out marketing activities. Establishing new managerial positions also helps higher education and research institutions to plan future needs strategically and proactively, to look for what may be relevant to businesses in the near future, and to seek financing opportunities in Lithuania and abroad. Centres of innovation and technology transfer guide and motivate researchers to develop products and conduct research responding to market needs. Centres also promote the transition from fundamental to applied research among researchers.

During the interviews with the project coordinators, **different positions of researchers were voiced about their aspirations to develop products with commercialisation potential**. While one part of the researchers, usually with patenting and project delivery experience, sought innovation and marketability, another part of the researchers claimed having no interest in commercialisation of their product.

Based on current achievements of projects observed, it is likely that only the promotion of centres of innovation and technology transfer will bring more significant results – encourage higher education and research institutions to cooperate more closely with business. The **sustainability of the results** produced by these centres will depend to a large extent on the ability of higher education and research institutions to maintain such units once project funding has finished. On the other hand, investments in centres of excellence and targeted research in the area of smart specialisation are unlikely to achieve the goal of intensifying science and business cooperation and increasing the scale of R&D commercialisation. A significant number of researchers implementing projects do not seek to commercialise the products they develop, and have only formally treated the requirements for applications linked to commercialisation potential and strategy. Therefore, the behavioural changes of public sector researchers will likely be unsustainable.

*Importance of EU funds. R&D sector remains dependent on EU structural assistance.* Appropriation from the national budget to the area remains low and lacks continuity required for maintaining, upgrading and operationalizing R&D infrastructure. More than half of the surveyed project coordinators claimed that their projects would not be able to achieve the results without EU support, and 42% of project coordinators believe that results could be achieved without EU support, however, on a smaller scale, with lower quality or in the longer term.

*Factors fostering and limiting achievement of results.* During the interviews and a survey of project coordinators several **driving factors**, encouraging the accomplishments of project results were identified: motivation of the project team, experience in patenting and implementation of large (international) R&D projects, collaboration with business experience, clear project goals, good access to R&D infrastructure, and effective coordination and management. The **main obstacles** to the implementation of project activities and accomplishing objectives are related to project administration: the need to change funding and administrative contracts, high administrative burden and the lack of additional sources of funding.

Based on the results of this impact assessment, recommendations are listed below:

### **RECOMMENDATION NO.1**

There are several possible options for ensuring that investments into R&D activities contribute to the development of scientific and business cooperation and the commercialisation of knowledge:

- Increase the weight of score for applicants with the partner(s) from private sector;
- Set the indicators for projects to achieve related to collaboration between the scientific and business sectors and/or commercialisation of knowledge, and use them when assessing quality of project applications. Examples of such indicators:
  - revenue from contracts with business;
  - number of *spin-offs* created during the project or within the set time period after the completion of the project; clearly defining the conditions under which 100% financing would be in line with state aid rules.
- In the mid-term evaluation of the projects conducting activities corresponding to the lower stages of TRL, seek for assistance of independent experts (including centres of innovation and technology transfer in the future) to assess if interim results show commercialisation potential.

### **RECOMMENDATION NO.2**

To ensure the sustainability of the activities of centres of innovation and technology transfer, it would make sense to oblige applicants to retain the number of managerial positions established for 2-3 years after the end of the project financing. This would encourage strategic planning in the stage of project applications (how many new positions could be set up) and would foster advance planning of how they will be retained after the end of the project. This would ensure that managerial competencies obtained and developed during the project would not be lost after the EU funds' support finished.

### **RECOMMENDATION NO.3**

It is recommended to further promote the activities of the centres of innovation and technology transfer. Creation of other high-level centres in Lithuanian higher education and research institutions should be encouraged by allocating a significant share of funding in the next programming period to this end.