

Evaluation of the effectiveness of entrepreneurship and innovation support in the Operational Programme for Cohesion Policy Funds 2014-2020

Final report



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Ministry of Finance

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1. EXECUTIVE SUMMARY

1. The overall **objective** of the evaluation of the effectiveness of entrepreneurship and innovation support was to determine whether the grant corresponded to needs and expectations. The result of the evaluation was an independent assessment of the **relevance, efficiency, effectiveness, reciprocal and combined impact and sustainability of the entrepreneurship support and determination of how entrepreneurship support funded from structural funds has impacted productivity, export, employment, education cooperation between education and research institutions and companies and regional economic development in Estonia**. In addition, the **functioning of the implementation system** was evaluated and proposals were made for increasing the efficiency of the system in the current and following funding periods. The results of the analysis conducted for evaluating the effectiveness of entrepreneurship and innovation support are set out more thoroughly as a separate document in an appendix to the final report.

2. The following **entrepreneurship and innovation support of structural funds** was evaluated: **Priority Axis 4 of the “Operational Programme for Cohesion Policy Funding 2014-2020”** (“Business with potential for growth and supportive research and development activities”, with a focus on measures and actions meant to develop enterprise, not only actions that support R&D specifically), **Priority Axis 5** (“Development of small and medium-sized enterprises and strengthening the competitiveness of regions”) and in part, **Priority Axis 3** (“Improving access to the labour market and prevention of labour market drop-out”).

3. The evaluation was the joint initiative of the Ministry of Finance, the Ministry of Economic Affairs and Communications, the Ministry of Education and Research, the Ministry of Culture and the Ministry of Social Affairs and was carried out by a joint team from the University of Tartu and Tallinn University of Technology.

4. In the past, entrepreneurship and innovation support were evaluated separately by specific objectives or individual grants, but this evaluation is the first time that the majority of the grants for promoting entrepreneurship from EU structural funds were analysed together¹. In the process, grants aimed directly at businesses (where companies are the applicants and recipients of the grant) and indirect support measures (impact on product development, productivity, export, job creation and increasing the knowledge-intensiveness of the economy in general) were evaluated. This provides a more comprehensive view and allows us to analyse the reciprocal effects of the measures and how systemic the measures are. Such an approach is also appropriate because 50% of R&D expenditure

¹ Entrepreneurship support for developing the rural economy is excluded.

in the Estonian government sector and close to 90% of entrepreneurship and regional development grants are covered from the structural funds.

5. The evaluation analyses the actions supported **starting from the beginning of the funding period (2014) until the end of 2018**.

6. As regards the results of the evaluation, it should be borne in mind that although the emergency situation established for containing the spread of the coronavirus did not fall within the evaluation period, it is bound to have an impact on supported actions in the future. As many projects had not yet ended as of late 2018 and results often lag behind the actual disbursement of the grant, the influence has not yet been completely realised. It is highly likely that the 2020 emergency situation will cause an economic shock and alter the influence of the grant; thus, it is wise to evaluate the impact of measures on the period before and after the emergency situation separately.

7. The evaluation questions cover the relevance, effectiveness, efficiency, sustainability, (combined) impact, reciprocal impact, implementation system, background data and future perspective of the actions evaluated. In the following, the overall assessments will be laid out first, followed by more detailed conclusions for each action/theme evaluated.

8. **All actions evaluated are relevant and in conformity with the objective in the strategy documents.**

9. **Indicators** set in most actions were relevant, but there were also some evaluated actions where the indicators were defined too narrowly for the scope of the supported actions (ASTRA (4.1.1) and RITA programmes (4.2.1), support for centres of excellence (4.1.4), support for research infrastructure of national importance (4.1.2), actions for developing export (5.1.3) and entrepreneurial awareness (5.1.4)) or where they were only somewhat relevant (labour market actions 3.1.1 and 3.1.2 and some of the regional development actions (5.4.1 and 5.4.3).

10. **Most of the actions evaluated are effective.** The target levels set have for the most part been achieved and in some actions (research centres of excellence (4.1.4) and development of sectoral research and development activity (4.2.1)), the target levels set for 2023 have also been achieved. There are problems with effectiveness in the following actions: supporting applied research in growth fields of smart specialisation (4.2.3), demand-side policies (4.2.5), support for research infrastructures of national importance based on the roadmap (4.1.2), creation of an early-stage to provide venture capital (5.2.1) and in part, regional development actions.

11. **Most of the actions are efficient**, meaning that the allocated funds will likely be sufficient to carry out the actions to the extent set as the objective. This is questionable in the case of demand-side policies (4.2.5).

12. For most actions, the loss of support would mean either a cutback or cessation of activities, and it would be a major challenge to find new sources of funding and the necessary state support.

13. For most actions, no distinctions are made between social groups (disabled persons, people of different gender, ethnicity and age) and no monitoring of these groups is conducted. Where appropriate and possible (it should be kept in mind that the evaluators could not access projects'

reports), the differences between social groups have been noted in the report and the appendix. Although the focus of entrepreneurship and innovation support will continue to be on companies and economic sectors, possibilities should be explored to devote more attention to ensuring that all social groups (including disadvantaged ones) have equal opportunity to take part in the supported actions (with adaptations made regularly to reduce obstacles).

14. The assessments given by the beneficiary undertakings themselves and the econometric analysis show that entrepreneurship and innovation support **has a positive influence on businesses' economic indicators. Still, it should be considered that the substance and magnitude of the influence varies greatly from one action to another.** If we regard the influence of the supported actions in aggregate, including **combined impact on the economy**, it becomes evident from the overall view of the perceived impact of quantitatively measurable actions that most of the entrepreneurship support from the structural funds exerts a simultaneous positive impact on both value added and employment growth. Exceptions in regard to the direction and scope of the influence of the actions are nevertheless noteworthy. To generalise, it can be said that the smart specialisation (4.2) and development of creative industries (5.3) measures tend to contribute to the growth of workforce productivity and added value, while measures that promote entrepreneurship and the entrepreneurial environment (5.1) tend to create jobs and thereby contribute to employment and economic inclusion.

15. Analysis of the combined impact of entrepreneurship and innovation support showed a positive overall influence on productivity. There was no influence on employment indicators across the measures; something that was to be expected given the high employment rate in recent years. However, this situation could change markedly if we analyse the influence of the measures in the future after the economic crisis caused by measures to contain the spread of the coronavirus. Thus, we need to consider that adequate conclusions can only be drawn at the end of the funding period regarding how the grant impacted the central objectives.

16. The influence of the grant has the strongest impact on areas of activity with higher growth potential, such as ICT, professional services, technical and research fields. The analysis of combined impact suggests that the influence arising from the grant favours structural economic changes oriented to long-term growth.

17. When it comes to the results of the evaluation, it is important to bear in mind that **the influence of many grants had not yet emerged at the time of the evaluation** because a significant part of the grant was approved only in recent years. In addition, the benefits from several of the grants will become visible after a delay of several years (e.g. large-scale R&D cooperation projects, trade fair support, contact network development actions, corporate development programme) At the same time, a number of measures have been implemented over multiple funding periods (e.g. state-funded cooperation structures) and can thus be assessed in light of previous results.

18. The reciprocal effect between the actions analysed is generally positive or neutral. **There is little duplication** (though it should be considered that the evaluation did not cover the rural development measures), and the purposefulness of separate support measures for specific sectors

is an important question to be considered. A problem seen by beneficiaries **is the complexity and fragmentation of the system of support measures**: companies and development personnel find it hard to grasp the number of actions and it is costly to administer them. For that reason, attention should be devoted to reducing the total number of actions and simplifying orientation in the support system. To this end, the possibility of reaching an agreement on the ministry coordinating entrepreneurship and innovation support and creating a joint support measures advisory council, which would include representatives from economic operators and universities, should be considered.

19. **With regard to the systemic aspects of the support measures, significant shortcomings include the low number and proportion of demand-side policies.** Demand-side innovation policy consists of stimulating innovation and development activity through the concerted management of public and private sector demand. Currently in this area, only a public procurement programme for supporting innovation and an R&D strengthening action (RITA programme) have been launched (and even these have had difficulty). In planning actions in the new period, the demand side should be developed and funded in a more targeted manner. One possibility for doing so is to create so-called mission-oriented RD&I programmes, where the state articulates the order (demand) and allocates resources and the private sector supplies innovative solutions.

20. **Developing demand-side policies will also be essential for exiting the economic crisis caused by the restrictions for containing the coronavirus established in spring 2020.** On one hand, developing demand-side policies would help the public sector find specific solutions for challenges posed by the crisis, such as public health and digital services in various fields. On the other hand, stimulating strong demand will create a market for innovative goods and services and motivate companies to increase investments in development and innovation. This would allow innovative companies to exit the current crisis, and it would also lay the groundwork for increased competitiveness following the economic recovery.

21. Due to the abundance of grants and services, **it is a challenge for economic operators to find the most suitable support or instrument for a company's needs and business activity.** To ease this problem, it is important to ensure expert preliminary counselling for economic operators seeking a grant with regard to suitability of various kinds of support and supported actions, which will require the creation of a central information gateway or "contact window" with competent consultants and functional information exchange between implementing units (e.g. in regard to companies' queries and contact details).

22. **At the level of measures and actions, entrepreneurship and innovation support has multifaceted objectives and impacts on the Estonian economy,** and this was taken into consideration in designing more detailed recommendations to further enhance the positive influence of supported actions.

23. In the case of the following actions under the measure "Increasing international competitiveness of Estonian R&D and participation in the Trans-European research initiatives" (4.1 – 4.1.1. (ASTRA programme), 4.1.2 (research infrastructure of national importance) and 4.14 (centres of excellence in research), the focus of the evaluation did not lie on evaluation influences of said

actions on employment, value-added and export, but rather the broader role of actions in creating preconditions for other measures and actions by growing capabilities related to R&D and bringing forth changes in culture and behaviour at R&D institutions.

24. The main positive impact of measure 4.1 is related to promoting multi-level cooperation and culture between R&D institutions and between R&D institutions and companies, and the influences on enterprise are manifested by way of creation of better access opportunities to research infrastructure and unique specialised competencies and knowledge through training courses or counselling.

25. The evaluation of the measure entitled "Increasing local socio-economic impact of the RD&I system and enhancing smart specialisation to develop growth areas (ICT + health + resources)" (4.2) was significantly influenced by the fact that the majority of the measure's actions were still in the implementation phase during the evaluation, and as a result of which it is still too early to evaluate the influences of the supported actions and projects on total employment, productivity and export, e.g. the projects supported from the RITA programme (4.2.1) and the smart specialisation applied research action (4.2.3) were mostly still unfinished. For this reason, the influences in the case of measure 4.2 were evaluated in greatest detail for the cooperation structure support action (4.2.4), support for which started at the start of the evaluated period (continuing the practices of the previous period).

26. Although the evaluation of the influences of the actions of measure 4.2 was made difficult by the fact that some of the actions were not directly targeted at promoting entrepreneurship and innovation, and in the case of the measure aimed at companies' R&D the influences show up over a longer period, previous studies with a narrower focus and more detail established² that in most smart specialisation growth areas and niches, companies' sales revenue and the average number of employees were larger than the average for Estonian companies. The value added per employee created by these companies in most growth areas was higher than the Estonian average and grew more than in Estonia as a whole. It has become evident that cooperation in the field of R&D generally takes place through relevant state support measures, which are overwhelmingly aimed at promoting cooperation between companies or between companies and R&D institutions, even though the economic indicators for companies engaged in cooperation with R&D institutions by each growth niche, such as value-added, revenue, export and workforce expenses, may not be the outcome of the cooperation, but rather a precondition for it.

27. To increase the positive influences of entrepreneurship and R&D measures and actions, it is necessary to consider the possibilities of moving in the direction of **integrated support measures** which are fewer in number but follow the logic of the company's life cycle and development stages and which provide incentives for changing the functioning of the measures as needed. For example, in regard to R&D actions, an integrated approach would mean consolidation of the current support schemes (units, SS applied research, product development grant and others) into a central measure

² Espenberg, S., Nõmmela, K., Karo, E., Juuse, E., Lees, K., Sepp, V., Vahaste-Pruul, S., Romanainen, J. 2018. Study on promotion of growth areas. University of Tartu, Tallinn University of Technology and Technopolis Group Eesti OÜ.

with the option of supporting different actions in relation to R&D, including cooperation, mobility, development of capabilities and much more.

28. It would also be worthwhile to design a support measure meant for **raising companies' innovation capability, awareness in the field of R&D and strategic management quality**, including technology monitoring, R&D and development of own products, entering global value chains, IP strategies, entering international R&D projects, including Horizon, CERN and other EU programmes, and applying for funding and implementing R&D projects as a lead partner.

29. On the basis of the results of the evaluation, it will be important to **continue developing the clusters support measure**, which would offer support to cooperative (both between individual companies and across the whole sector) development projects and grants (e.g. in relation to academic practices, industrial doctoral students, joint R&D and much more) pursuant to the particularities and ambitions of each sector, including ensuring greater flexibility in regard to the eligibility of the expenditures made.

30. In addition, it would be important to create an **integral entrepreneurship doctoral programme grant**, which would encompass support for university, PhD student and company, as such a grant system would comprehensively meet the needs of company/partner, university and doctoral student alike. In addition, measure 4.2.2 should enable participation of a broader range of organisations, including hospitals, clinics, technology development centres and others in the entrepreneurship doctoral programme format.

31. In the entrepreneurship support system, **the use of voucher-type grants should be continued**, as these give companies possibilities for relatively risk-free preliminary testing of developments. It will be important to preserve the current voucher system's low bureaucratic load and conditions for receiving support which give companies more courage to take risks.

32. **The network of county development centres is fully developed and functioning**. On-the-spot counselling has contributed to the development of enterprise and had a positive impact on the employment and productivity of the companies that received counselling.

33. Economic operators ascribe the importance of opportunities for finding partners in Estonia and other countries, and thus it is very **important to continue to create a network and actions to facilitate finding partners**. This was confirmed in the case of vastly different supported actions and target groups; therefore, it is worth considering it as a suggestion that applies to all of the actions and measures.

34. Although **financial instruments** have not played a very large role in the period in progress, more of them should be offered in future, as in the long term and due to a decrease in other support, the use of financial instruments is a more sustainable way of supporting companies than irrecoverable aid. In doing so, it is important to consider how the products and services could benefit companies that cannot (yet) use aid from commercial banks.

35. Support meant for **developing tourism** has had a positive influence on increasing the capability and scope of marketing and raising the quality of events (action 5.1.5), and there is also a

positive influence on employment (action 5.1.6) in comparison with companies that did not receive support. Many projects are still underway in the action development of tourist attractions of international interest and their supporting infrastructure (5.1.8), but positive results have been achieved in the development of economic indicators and the broader influence (including growth of attractiveness of the region).

36. Starting from early 2020, the measures related to the coronavirus outbreak have started exerting a negative, even crippling effect on global tourism. In this regard, attention must be paid to targeted support for tourism companies and finding new business models, including focusing on domestic and nature tourism in the coming years. These changes must be taken into consideration when dealing with diversifying the Estonian brand, which tourism operators deem very important, as they could proceed from this in marketing themselves and their actions.

37. In developing tourism, it will be necessary to consider the companies' particularities and if possible, this should be done in future in a coordinated fashion with other economic sectors with integrated measures that would help reduce the total number of actions and simplify orientation for economic operators in the support system, yet would also take the companies' needs into account more flexibly.

38. Support for **developing creative industries** has been used to develop a functional grant for creative companies, with the circle and competencies of creative companies growing. Combining support and services amplifies the results.

39. Support for the development of creative industries has contributed to an increase in productivity in three areas of activity: in regard to 5.3.1 and 5.3.3, support has had a positive influence on the value-added per employee and in the case of 5.3.5, turnover per employee. These actions were also seen to have a positive influence on equity capital and total assets.

40. The projects under action 5.3.3 have increased creative industries' export capability. On average, export revenue increased in the case of every other company that responded to the survey. A total of 68% of the companies that participated in the survey used the grant to launch export and 85% for exporting to new destination markets (the most common export countries were Germany, Finland, the US and France). A positive shift in the growth of export capability of beneficiaries was also noted by representatives of support structures, where the scope of the international network has expanded into nearby countries in Scandinavia and Europe (Finland, Germany, France) and to locations of internationally known galleries (such as New York, London, Berlin).

41. Most of the actions of funded projects are not aimed at closer cooperation between creative industries and R&D institutions or the public sector. Cooperation is still mainly taking place between creative industries companies and to a certain extent, with other economic sectors. Synergy with other fields has been created by business accelerators, sectoral development centres and the implementing unit and they have, to this point, encompassed architecture, audiovisual and content creation fields.

42. From the regional perspective, the impact of the support under measure 5.3 was not all that broad-based – the predominant part of the recipients of the support under the development of

creative industries measure and the participants in the supported actions (beneficiaries) are located in Harju and Tartu counties.

43. **Entrepreneurship and innovation support has increased regional disparities.** Earlier studies, too, have shown that the implementation of structural funds in Eastern Europe has increased regional disparities within countries: in the interests of convergence between countries, most of the entrepreneurship and innovation support has gone to companies in larger cities.

44. As there are no more county governments in Estonia and most local governments are still too small to organise entrepreneurship measures, the entrepreneurship development activity programmes should be redesigned in a more region-based manner, drawing on county development centres and proceeding from the positive experience gained from the Ida-Viru County programme and action 5.4.2 (“Regional initiatives to promote employment and entrepreneurship”). This would not mean the development of support that is different from one region to the next, but rather an approach that puts greater attention on the company’s life cycle in order to ensure development opportunities for undertakings with lower capabilities. Before the next funding period, local governments’ obligations, competence and funding in the entrepreneurship development field should be increased as well, the system for planning regional development should be re-organised and strategic counselling should be strengthened. Important focus should be placed on regions in regard to growing the knowledge-intensiveness of enterprise and smart specialisation, especially considering the ongoing green revolution and the faster restructuring of enterprise due to the coronavirus crisis, which will require universities to be more seriously involved in the adoption of regional resources (e.g. oil shale chemicals, battery metals and construction materials in Viru County, offshore wind farms, ship-building, combined with fish farming and other aquaculture on the west coast, processing of bioresources with higher value added in southern Estonia) for developing and implementing the programmes being created.

45. In general, the impact of the support under measure 5.4 on companies’ economic indicators has been indirect and may become evident even years later. The productivity of the companies that have received infrastructure support under action 5.4.3 has grown compared with the companies in the control group. The support for competence centres (5.4.1) and under the measure “Regional initiatives to promote employment and entrepreneurship” (5.4.2) on beneficiaries’ employment did not have a uniformly positive influence everywhere (for example, layoffs took place in the oil shale sector in Ida-Viru County, even though the turnover and employment of the local tourism cluster increased significantly thanks to marketing activity). In general, the effectiveness of the projects in measure 5.4 was significantly place-specific, depending greatly on local leadership, interest from the local governments and co-financing. Infrastructure support has increased employment (5.4.3), contributed to job creation and improved the availability of jobs (5.4.4). The measure actions indirectly support export by beneficiary companies through product development and studies conducted for that purpose (5.4.1 and partially also 5.4.2) and investments in infrastructure (5.4.3) primarily through the development of industrial areas.

46. In the opinion of undertakings that used the services of competence centres (5.4.1), the services helped their businesses boost product development capability and new business contacts

were established. Action 5.4.2 was rated very positively by the development centres, and the companies that took part in it saw it as having a positive influence on competitiveness, although no direct influence on turnover, R&D, profit, job creation and export was seen. In the opinion of most of the recipients, the influence of infrastructure (5.4.3) support on the region's entrepreneurial environment and development capability were significant. In the opinion of those who received support for establishing/developing tourist sites, it increased the number of visitors. In the opinion of beneficiaries of the support under action 5.4.4, it improved the availability of services in the case of better organised public transport systems. However, in some cases, the building of bicycle/pedestrian paths between small settlements has become "busy work" with no considerable influence on mobility or safety.

47. During the next funding period, consideration should be lent to the exclusion of starter support and a few other support measures (tourism, apartment renovation) in Harju and Tartu counties, where the market is sufficiently active and offers the necessary services, and the 30-40% higher tax revenue of local governments should allow the building of social infrastructure to be self-funded. The resources thus freed up could be used to significantly increase the availability of support measures (including financial instruments) outside Harju and Tartu counties. Particular attention should be paid to making better use of green energy and giving higher value-added to natural resources. To do so, regional integrated plans (such as the Ida-Viru programme) should be prepared.

48. In closing, an assessment for each evaluated action/theme is set out using the traffic-light method:

green: the action is necessary and effective

yellow: the action is necessary and effective but there are problems that if resolved would make it possible to achieve even better results

red: there are significant problems with the implementation and effectiveness of the action (this does not always mean that the action itself is not necessary and important – if such a situation is present, it has been explained separately in the analysis and the summary)

LABOUR MARKET

- Action 3.1.1 Developing, implementing and providing labour market services and auxiliary services for the work ability support reform target group to preserve jobs or find new work
- Action 3.2.1 Expanding labour market services to new target groups and providing new labour market services

ENTREPRENEURSHIP AND R&D

- Action 4.1.1 Institutional Development Programme for Research and Development Institutions and Higher Education Institutions (ASTRA)
- Action 4.1.2 Supporting the research infrastructure of national importance on the basis of the Road Map
- Action 4.1.4 Supporting the centres of excellence in research to strengthen international competitiveness and quality
- Action 4.2.1 Enhancing R&D capabilities (RITA)
- Action 4.2.2 Higher education scholarships in the growth areas of smart specialisation
- Action 4.2.3 R&D programme for smart specialisation in growth areas
- Action 4.2.4 State-funded cooperation structures

- Action 4.2.5 Demand-side policies, the state as a client for innovative solutions
- Action 4.2.6 Boosting start-up entrepreneurship
- Action 4.4.1 Identification of development needs and businesses' development activities
- Action 4.4.2 Research development activity voucher
- Action 5.1.1 Counselling at county development centres

ENTREPRENEURSHIP AWARENESS AND COMPETITIVENESS

- Action 5.1.2 Start-up assistance
- Action 5.1.3 Export development activities
- Action 5.1.4 Business awareness
- Action 5.2.1 Issuing insurance for loans, security and export transactions
- Action 5.2.2 Establishing an early-stage fund to provide venture capital

TOURISM

- Actions 5.1.5-5.1.8

CREATIVE INDUSTRIES

- Actions 5.3.1-5.3.7

REGIONAL DEVELOPMENT

- Actions 5.4.1-5.4.4

2. ABBREVIATIONS USED

Abbreviation	Explanation
EAS	Enterprise Estonia
EIF	European Investment Fund
EU	European Union
ERF	European Regional Development Fund
ETAg	Estonian Research Council
H2020	Horizon 2020
HTM	Ministry of Education and Research
ICT	Information and communication technology
KK	Competence centre
KOMP	Action 5.4.1: Developing regional competence centres
KOV	Local government
KuM	Ministry of Culture
MAK	County development centre
MEM	Ministry of Rural Affairs
MKM	Ministry of Economic Affairs and Communications
NS, SS	Smart Specialisation
PATEE	Action 5.4.2: regional initiatives to promote employment and entrepreneurship
PKT	Strengthening regional competitiveness
RA	Intermediate body
RM	Ministry of Finance
RTK	State Shared Services Centre
RÜ	Final beneficiary
TA	Research and development
TA&I	Research and development and innovation
TAK	Technology development centre
TalTech	Tallinn University of Technology
TAT	Conditions for granting support
TR	Performance framework
VKE	Small and medium-sized enterprises
ÜKP	Cohesion Policy

3. FOCUS OF THE EVALUATION

49. An overview of the actions in the focus is provided in Table 1. The results of the analysis conducted for evaluating the effectiveness of entrepreneurship and innovation support are set out more thoroughly as a separate document in an appendix to the final report.

Table 1. *The actions analysed in the evaluation, broken down into themes*

Priority axes, measures and actions	Theme
Priority axis 3: Improving access to the labour market and prevention of labour market drop-out	
Measure 3.1: Establishment and implementation of a scheme for supporting work ability	
Action 3.1.1: Developing, implementing and providing labour market services and auxiliary services for the work ability support reform target group to preserve jobs or find new work	labour market
Measure 3.2: Labour market services for ensuring better opportunities for participating in the workforce	
Action 3.2.1: Expanding labour market services to new target groups and providing new labour market services	labour market
Priority axis 4: Business with potential for growth and supportive research and development actions	
Measure 4.1: Increasing international competitiveness of Estonian R&D and participation in the Trans-European research initiatives	
Action 4.1.1: Institutional Development Programme for Research and Development Institutions and Higher Education Institutions (ASTRA)	entrepreneurship and R&D
Action 4.1.2: Supporting the research infrastructure of national importance on the basis of the Road Map	entrepreneurship and R&D
Action 4.1.4: Supporting the centres of excellence in research to strengthen international competitiveness and quality	entrepreneurship and R&D
Measure 4.2: Increasing the local socioeconomic impact of the RD&I system and smart specialisation for developing growth areas (ICT + health + resources)	
Action 4.2.1: Strengthening the sectoral research and development actions (RITA)	entrepreneurship and R&D
Action 4.2.2: Higher education scholarships in the growth areas of smart specialisation	entrepreneurship and R&D
Action 4.2.3: R&D programme for smart specialisation in growth areas	entrepreneurship and R&D
Action 4.2.4: State-funded cooperation structures	entrepreneurship and R&D
Action 4.2.5: Demand-side policies, the state as a client for innovative solutions	entrepreneurship and R&D

Priority axes, measures and actions	Theme
Action 4.2.6: Boosting start-up entrepreneurship	entrepreneurship and R&D
Measure 4.4: Support measure of undertaking's development plan to contribute to the development and export activities of businesses and increase their management capabilities	
Action 4.4.1: Identification of development needs and businesses' development activities	entrepreneurship and R&D
Action 4.4.2: Research development activity voucher	entrepreneurship and R&D
Priority axis 5: Development of small and medium-sized businesses; strengthening the competitiveness of regions	
Measure 5.1: Increasing entrepreneurship, stimulating the growth of business, developing the business environment	
Action 5.1.1: Counselling at county development centres	increasing entrepreneurial awareness and competitiveness of enterprises
Action 5.1.2: Start-up assistance	increasing entrepreneurial awareness and competitiveness of enterprises
Action 5.1.3: Export development activities	increasing entrepreneurial awareness and competitiveness of enterprises
Action 5.1.4: Business awareness	increasing entrepreneurial awareness and competitiveness of enterprises
Action 5.1.5: Increasing demand for tourism	development of tourism
Action 5.1.6: Tourism products development management	development of tourism
Action 5.1.7: Development of tourism enterprises business models	development of tourism
Action 5.1.8: Development of tourist attractions of international interest and their supporting infrastructure	development of tourism
Measure 5.2: Improving access to capital and credit insurance	
Action 5.2.1: Issuing insurance for loans, security and export transactions	increasing entrepreneurial awareness and competitiveness of enterprises
Action 5.2.2: Establishing an early-stage fund to provide venture capital	increasing entrepreneurial awareness and competitiveness of enterprises
Measure 5.3: Development of creative industries	
Action 5.3.1: Development of creative industries incubation	development of creative industries

Priority axes, measures and actions	Theme
Action 5.3.2: Development of support structures for creative industries	development of creative industries
Action 5.3.3: Development of export capacity of companies active in creative industries	development of creative industries
Action 5.3.4: Linking creative industries with other sectors (small-scale projects)	development of creative industries
Action 5.3.5: Linking creative industries with other sectors (large-scale projects)	development of creative industries
Action 5.3.6: Raising awareness of creative industries	development of creative industries
Action 5.3.7: Development of creative industries infrastructure and technological capacity	development of creative industries
Measure 5.4: Strengthening regional competitiveness	
Action 5.4.1: Development of regional centres of competence	regional development
Action 5.4.2: Regional initiatives to promote employment and entrepreneurship	regional development
Action 5.4.3: Investments to increase regional competitiveness (job creation)	regional development
Action 5.4.4: Investments in increasing regional competitiveness (improving the availability of jobs and services)	regional development

4. OVERALL ASSESSMENT

50. If we regard the influence of the supported actions in aggregate, including **combined impact on the economy**, it becomes evident from the consolidated view of the rated influence of the measures that most of the entrepreneurship support from the structural funds exerts a simultaneous positive impact on both value added and growth in total employment (figure 1, top right quarter). Exceptions in regard to the direction and scope of the influence of the actions are nevertheless noteworthy. To generalise, it can be said that the RDI and smart specialisation (4.2) and development of creative industries (5.3) measures tend to contribute to growth of workforce productivity and value added. The measures that promote entrepreneurship and the entrepreneurial environment (5.1) tend to create jobs and thereby contribute to employment and economic inclusion.

51. Additionally, regression analysis was used to analyse the correlation between support provided in different economic sectors (as defined by two-digit economic sector codes) and the total number of people employed in the sectors and the average labour productivity of the sector. The results showed that the ratio of entrepreneurship support received in the economic sector to added value generated is not positively correlated with a change in the number of employees working in the given sector. On the other hand, a positive correlation between the entrepreneurship support received by companies in the sector and the sector's average growth in productivity (labour productivity) was seen. Even so, as the support has not helped smaller sectors grow faster in the sense of employment or increase productivity faster, the support does not help develop economic activity more evenly over different economic sectors.

52. The growth in value added was highest in the action supporting development of creative industries incubation (5.3.1). The growth in value added per employee resulting from this support was an average of 2.8-fold. A significant impact on the growth of value added also came from the actions in the measures for the integration of creative industries (5.3.5) and state-funded cooperation structures (clusters and technology development centres, 4.2.4). No growth in employment resulted from these measure actions and this can be attributed to the purpose of the support: above all, to increase the added value of products and services and raise the resource-efficiency of economic activity.

53. The greatest positive impact on the growth of employment came from measure actions aimed at developing enterprise and entrepreneurial environment (measure 5.1). Of these, the strongest positive impact on the growth of employment came in turn from the action for managing the development of tourism products (5.1.6), which increased the number of employees by approximately 18%. A significant positive impact on the growth of employment also came from the actions for R&D activity voucher (4.4.2) and the counselling and developing of regional undertakings at county development centres (5.1.1). In the case of the former, the number of employees grew by an average of 12.5% and in the latter case, over 6.5%. Although the value-added per employee of supported companies did grow statistically significantly as a result of the R&D activity voucher and the counselling and regional undertaking development measures, no statistically significant impact

on growth of value-added per employee was seen in the case of the action aimed at tourism product development management (5.1.6).

54. A statistically significant positive impact on the growth of companies' sustainability also came from the creative industries measure (5.3) actions and the export-development-oriented actions in the measure for the development of enterprise, growth of enterprise and the entrepreneurial environment (5.1). Thanks to the actions of these measures, the capitalisation of companies saw (percentage of equity capital out of total assets) statistically significant growth. In the case of the R&D activity voucher (4.4.2), quantitative impact assessment shows the action has a statistically significant negative impact on the capitalisation of supported companies. This finding is to be expected when we consider the intensiveness and long duration of the R&D investments and the fact that the growth of value added achieved as a result of R&D becomes evident after a long latency period.

55. The impact of the actions in the regional development oriented measure (5.4.1, 5.4.2, 5.4.3) did not prove statistically significant, but this result was assessed in the context of the regionally extremely limited availability of qualified workforce, which is in turn amplified by the environment of low unemployment that characterised the evaluation period. The positive impact on productivity stemming from the measure actions promoting regional competitiveness (5.4.2 and 5.4.3) contributed to a positive impact on employment, but only after a certain latency period and on the condition that employees are mobile enough and prepared to move to higher-productivity companies, which in turn creates new jobs as result of the amplification effect.

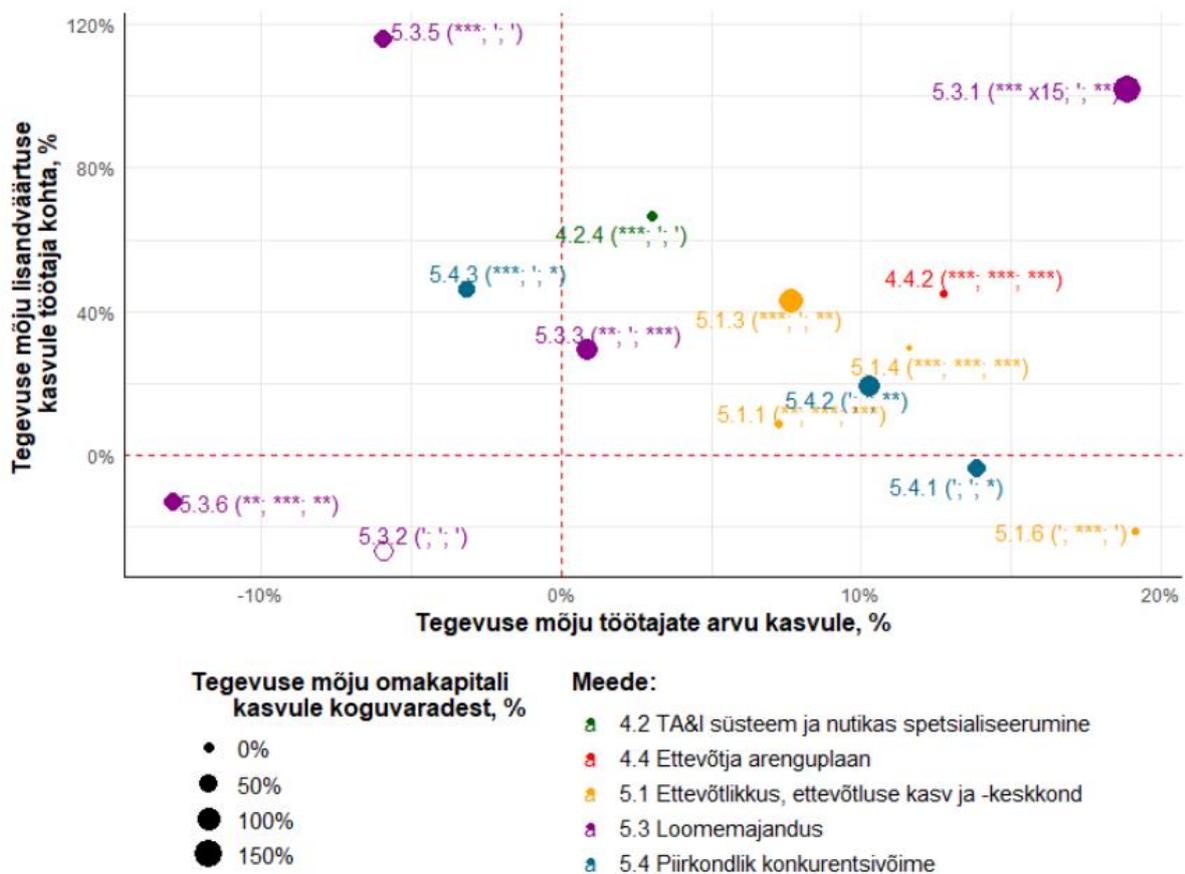


Figure 1. Overall view of the quantitative impact assessment of entrepreneurship and innovation support on the growth of value added per employee, employment and sustainability of companies defined as the share of equity capital of total assets.

Comments: The graph sets out point estimates of the impact of support on the growth of value added and employment; the size of the point represents the growth of the percentage of equity capital of total assets, achieved due to the impact of the grant. The action code to which each point corresponds is provided by each point estimate, along with the interpretation of the point estimates' statistical significance pursuant to value added, employment and capitalisation estimates. The statistical significance levels are as follows: * p-value <0.01, ** p-value <0.05, * p-value <0.1, ' p-value >0.1. Actions where the results for all three estimate axes are statistically insignificant are marked in addition with an empty circle. In the case of action 5.3.1, x15 signifies that the productivity growth percentage has been divided by 15 by the authors for the purpose of visualisation. Decomposition of regional influence is listed in the annex to the final report.



Figure 2. Estimated impact on percentage growth in value added per employee and in employment by support activities.

Comments: The solid line denotes the estimated average impact or point estimates of the 14 support activities (radar nodes). The dotted line marks the null-value or the statistical non-significance threshold.

****, **, * denotes statistical significance at 1%, 5% and 10% level.*

4.2.4 State-funded cooperation structures including clusters and technology development centres; 4.4.2 Research and development activity voucher; 5.1.1 Counselling and development of regional companies in regional development centres; 5.1.3 Activities to develop export, 5.1.4 Entrepreneurial awareness; 5.1.6 Management of tourism product development; 5.3.1 Developing creative industry incubators; 5.3.2 Developing support structures for creative industries; 5.3.3 Improving the export capability of companies operating in the fields of creative industry; 5.3.5 Integrating creative industries with other sectors (large-scale projects); 5.3.6 Raising awareness of creative industries related topics; 5.4.1 Developing regional competence centres; 5.4.2 Regional initiatives to promote employment and entrepreneurship; 5.4.3 Investments to improve regional competitiveness and jobs creation.

56. The **analysis of reciprocal impact and systemic quality** was based on the evaluation questions provided by the contracting authority.

- To what extent are the actions complementary and do they form an integral whole?
- Are there “gaps” in the system of supported actions (including at the regional level, where possible and expedient)?
- What actions would it be necessary and appropriate to merge in order to avoid duplication, reduce administrative burden and achieve availability and synergy?

57. The analysis consisted of two phases: in the first phase, the reciprocal impacts between actions were evaluated and in the second phase, the systematic nature of the actions at the level of the priority axes were evaluated. The inputs for the analysis were document analysis, data collected in the course of surveys and interviews and evaluators’ expert opinions. In analysing the reciprocal impact of actions, the reciprocal impact of each individual action was evaluated with respect to the other actions based on three categories – positive, negative and neutral reciprocal impacts, of which the first two fell into different sub-categories³.

58. The following is a summary of the most important conclusions based on the evaluation questions.

59. Analysis of the reciprocal impact showed that by and large, **the actions supplement each other and form an integral whole.**

- Of the types of reciprocal impacts, the positive reciprocal impacts set the tone – a number of actions facilitate other actions or synergistically increase each other’s effectiveness. Above all, the positive reciprocal impacts are manifested within the same measure and less so between measures.
- Negative reciprocal impacts are seen less often than neutral and positive ones. Above all, duplication comes up among different types, where one action overlaps with the content and/or target groups of another. For example, the sector-specific measures for supporting tourism and creative industries and various export-oriented actions (which can be promoted

³ The sub-categories of positive reciprocal impact were precondition, facilitation and synergy. The sub-categories of negative reciprocal impact were contradiction, duplication and complexity.

under actions 4.2.4, 5.1.1 and 5.1.3). In addition, interviews and questionnaires draw attention to the general complexity of the set of managed actions, in the case of which the large number of actions makes it hard to grasp for the target group and complicates implementation.

60. Analysing how systemic the actions are at the priority axis level, we see that the existing set of actions is generally comprehensive in regard to instruments on the supply side of innovation policy, **while a key lacuna concerns the minimal use of demand-side instruments.**

61. The development of the demand side is currently based on the measure related to public procurements that support innovation (4.2.5 "Demand-side policies, the state as a client of innovation solutions"). Unfortunately, its budget accounts for a mere marginal share of the total volume of support and it has not been possible to launch this action in the expected manner and volume. To a certain extent, the RITA programme (4.2.1) can also be viewed as a demand-side instrument, whose launch has also been slow and the monetary volume relatively limited considering the magnitude of the challenge.

62. To shape a more balanced innovation policy, it will thus be essential to **increase attention devoted to improving and expanding the functioning of demand-side instruments.** Among other things, more systematic so-called "**mission-oriented**" programmes or the development of similar **social challenge-based instruments** can be considered, as these allow interrelated RDI projects that test different development paths to be more systematically supported (so-called project portfolios).

63. A key lacuna when it comes to supporting innovation is also the lack of an R&D support measure that meets the needs of tech companies, which would allow companies in smart specialisation growth fields to carry out development projects independently without strictly regulated cooperation with R&D institutes. Despite instruments that in one way or another include R&D projects, there is currently a shortage of support oriented at R&D with sufficient capacity to cover the entire technology readiness level spectrum and above all, the "death valley" – that is, the post-prototyping development, scaling and production phase.

64. Other "lacunae" seen on the current support landscape tie in with the development of undertakings' innovation capacities and the deficits in these capacities in shaping trans-sectoral value chains and integrating a variety of fields. Addressing these deficits will require application of a different administrative burden to small and large projects, development of sector-based development programmes or development programmes in smart specialisation growth fields and ensuring flexibility at the operational programme level. The approach used should be based on key performance indicators or KPIs and a transition should be made towards more integrated support measures.

65. "Lacunae" and gaps are not the only problems when it comes to the level of systemic quality of the current set of actions. The large number of actions and the resulting complexity and fragmentation of the aggregate support and services can also be considered a bottleneck. Many of the undertakings surveyed in the course of the evaluation have noted that the current system of support is unwieldy for the undertaking and that it is difficult to navigate the system of support. This complexity is amplified in turn by sector-specific instruments for developing creative industries and tourism and the partial duplication of actions (e.g. in the support schemes aimed at R&D institutes and in regard to support for international marketing and export).

66. To prevent duplication and to address the “lacunae”, the following steps should be considered:

- To improve balance between demand- and supply-side instruments, it is necessary to **develop demand-side instruments and increase their share of the total volume of support**. Demand-side instruments (e.g. the programme of public procurements supporting innovation) are necessary for the functioning of the innovation system because they are used to create a market for innovative products, increase the capability of the public sector to articulate its needs, find real solutions to challenges in society and by doing all of the above, increase the competitiveness of businesses on international markets. A common solution for developing the demand side is R&D programmes that are focused on specific challenges or so-called “mission-oriented”, where the public sector invites undertakings to tender innovative solutions for challenges facing society.
- To allow companies to independently seek support for R&D projects in smart specialisation growth fields, without creating a cooperation framework with R&D institutes, **the R&D support measure should be re-designed**. Companies should be allowed to apply for support for carrying out development projects in a manner that does not force them to cooperate with R&D institutes within a rigid, predetermined framework.
- To avoid duplication and reduce administrative burden in priority axis 4, **development of institutional capabilities** of the various participants in the innovation system (e.g. R&D institutes, clusters and professional associations) should be a focus. Secondly, possibilities should be sought for the **creation of integrated measures** that would enable overlapping smaller actions (such as participation subsidies) to be merged.
- To reduce duplication of the actions in priority axis 5, implementation of the current sector-specific actions (above all, support aimed at creative industries and tourism sector development) could be considered in the framework of other support measures open to all sectors.
- Other “lacunae” seen on the current support landscape tie in with the development of undertakings’ innovation capacities, the shaping of trans-sectoral value chains and the integration of different fields. For this reason, consideration should be given to the application of different administrative burdens for small and large projects, development of sector-based development programmes or development programmes in smart specialisation growth fields and ensuring flexibility at the operational programme level, along with adopting a KPI-based approach and finally, moving towards more integrated support measures.
- Navigation in the support system would be partially improved by a more **effective and targeted information outreach effort** to ensure that information reaches the intended audience. For this to happen, it is important that the method for entering the system is as clear as possible for undertakings and that it is accompanied by effective counselling. To this end, it will be necessary to offer flexible **integrated services**, where support is adapted in cooperation between the support provider and the recipient pursuant to the company’s development level, sectoral specifics and needs.

5. ASSESSMENTS OF ACTIONS

67. This chapter provides a brief overview of the assessments made regarding the evaluated actions at the level of actions or themes broken down by evaluation criteria. As some actions are very closely related and contribute to the development of a specific sector or field, they have been given an overall assessment to reduce repetition of the results of the analysis. Such sectors and fields are tourism development, development of creative industries and regional development.

68. The results of the analysis conducted for evaluating the effectiveness of entrepreneurship and innovation support are set out more thoroughly as a separate document in an appendix to the final report. An overall assessment was given to each action using the traffic-light method:

- green: the action is necessary and effective
- yellow: the action is necessary and effective but there are problems that if resolved would make it possible to achieve even better results
- red: there are significant problems with the implementation and effectiveness of the action (this does not always mean that the action itself is not necessary and important – if such a situation is present, it has been explained separately in the analysis and the summary)

69. Themes (such as “Labour market”, “Entrepreneurship and R&D”, “Development of creative industries” and others) are differentiated by colour.



Action 3.1.1 Developing, implementing and providing labour market services and auxiliary services for the work ability support reform target group to preserve jobs or find new work

Certain sub-actions under action 3.1.1 are in the focus of the evaluation:

- support for starting a business
- services for supporting business
- wage subsidy
- adaptation of work areas and equipment
- compensation of training costs for the employer
- notification of and counselling for the employer

RELEVANCE
<p>The objective of the measure “Provision of labour market services to the work ability target group” is to preserve and improve the work ability of working-age people, including supporting employers in improving work conditions, increasing participation of people with decreased work ability on the work market, dissuading early retirement and ensuring the sustainability of the scheme for supporting work ability. This objective is directly related to the objectives set out in the relevant strategy documents (Estonia 2020, Welfare Development Plan 2016-2023, Labour Market Programme), above all, the high-level employment objectives. The objectives of the sub-actions evaluated strongly correlate with achievement of the objectives described in the conditions for providing support. The measure’s sub-actions are also necessary to help increase employment among people in a weaker position on the labour market.</p> <p>The indicators set in the conditions for providing support, such as working persons whose work ability was deemed partial and who have preserved their job 12 months after evaluation and non-working people whose work ability was assessed as reduced and who have become employed 12 months after the evaluation, tended to not be relevant in the context of assessing the efficiency of particular actions as these assess how people with decreased work ability are faring on the labour market, not how participants in the specific sub-action have fared on the labour market.</p>
EFFECTIVENESS
<p>Evaluating effectiveness is complicated as the contracting authority requested that the focus of the evaluation be placed on individual sub-actions, but the effectiveness indicator is an aggregate gauge of the entire measure. Looking at fulfilment of the output indicator for all of action 3.1.1 (“People with reduced work ability who have received services via the work ability reform”), we see that the expected result for 2018 was not exactly fulfilled; however, the difference between the actuality and expected level is very small (less than 1%). The service used most was wage subsidy; other services have seen much less use. Those who have participated more in actions are the unemployed from counties where a greater number of people are registered as having decreased work ability (Ida-Viru County, Harju County and Tartu County). The participants in the measure’s sub-actions were 53% female and 47% male. At the same time, during the period from July 2016 to the end of 2018, the numbers of men and women with decreased work ability registered with the Unemployment Insurance Fund was practically equal – men accounted for 51% and women, 49%. Thus, participants were distributed fairly evenly among men and women. There was a major gender difference in participants in the business support service, where there were 2.5 times more women than men, and the office and equipment customization service, where the share of men was 3.67 times greater among service recipients.</p> <p>The participants in the services are from regions where a greater number of people with decreased work ability are registered, which means that the actions were aimed at the right places. These regions are Ida-Viru County (during the period 2016-2018, 24.8% of people with decreased work</p>



ability were registered there and 36.3% of service participants were from this region). A second region is Harju County (during the period 2016-2018, 24.5% of people with decreased work ability were registered there and 17% of service participants were from the same region).

The employers who responded to the survey and were interviewed said that the services meant for recruiting people with decreases work ability were very beneficial for employers, as they helped to reduce the employer's risks and expenses related to hiring people with decreased work ability. Still, receiving possible support was not the most important condition for hiring people with decreased work ability – the readiness of the organization to support youths with decreased work ability where necessary and the general values were much more important.

Action 3.1.1 also included granting support for going into business for people with decreased work ability – for the survey respondents and interviewed entrepreneurs, the Unemployment Insurance Fund support was the most important. The support recipients said that without support from the Unemployment Insurance Fund, it would not have been possible for them to go into business at all or at least not in the same extent.

The sub-actions of action 3.1.1 contribute to promoting equal opportunity as the actions are directly aimed at the most vulnerable target groups on the labour market, above all people with reduced work ability. This allows them to participate on the labour market on conditions that consider their work ability.

EFFICIENCY

The budgets for measure actions have been sufficient to achieve the objectives. The required amounts have not been paid in most actions, but in the course of evaluating effectiveness, it emerged that results were achieved in spite of this. As the unemployment rate has been very low (4.5-4.7% in the period 2016-2018), the number of potential participants in actions has also been lower. It has also made it possible to focus more on so-called complicated clients.

RECIPROCAL IMPACT

Action 3.1.1 does not have a particular reciprocal impact on the other evaluated measures. The action is meant to improve the labour market situation for Estonian inhabitants (above all, those with decreased work ability). For this reason, a certain positive reciprocal impact can be seen in actions related to increasing employment – for example, "Regional initiatives to promote employment and entrepreneurship" (5.4.2). No negative reciprocal impact was identified. The sub-actions under the action do not overlap with other actions, as the target group for the action (people with reduced work ability) is very different from other evaluated actions. The sub-actions evaluated are strongly linked with several other services that the Unemployment Insurance Fund offers to people with lower work ability. For example, the interviews described cases where people with decreased work ability have used the service that involves working with a support person.

SUSTAINABILITY

For employees with a decreased work ability continuing in their post depends on the employee and their ability to perform the work. In about 53.3% of cases (survey results), the employees continued working after the support ended. Of the entrepreneurs that received the support for going into business, 97.8% of the ones that responded were continuing their activity as of 2020. The emergency situation declared in spring 2020 due to the SARS-CoV-2 virus outbreak and the related problems for the economy. Some of the new entrepreneurs operate in the entertainment or restaurant sector, which saw a nearly 100% drop in sales volumes. Thus, these people currently find it hard to plan future work far in advance.

IMPACT

The support has a strong positive impact on both the workforce productivity at supported companies as well as the number of employees working at the company. The estimated positive

impact on jobs at supported companies is about 40%. We can therefore conclude that the support granted under action 3.1.1 were impactful. It can thus be said that the support granted in the context of action 3.1.1 helped fulfil the objective of improving access to the job market and reducing exclusion from the labour market.

IMPLEMENTATION SYSTEM

The entrepreneurs who responded to the survey and were interviewed were generally satisfied with information received about support – 68% “agreed” or “agreed somewhat” with the statement that there is enough information about support or that it is easy to find information about the support. Seventy-three per cent of respondents agreed or agreed somewhat with this statement. Respondents also rated the process of applying for the support as simple: 72% of respondents “agreed” or “agreed somewhat” with this statement. The conditions for granting support were deemed reasonable by those surveyed. In the case of wage subsidies, one aspect that was criticized was that the support had to be repaid if the employer ended the employment relationship before two years had passed or, in the case of contracts for a specified term, before the end of the term, as it could happen that the employee cannot cope with the duties of employment. The employers who responded to the survey were not satisfied with the fact that the decision on the support had to be received before the employment contract could be concluded. Health topics are very personal and sensitive and it may happen that the candidate does not dare provide information about the health problem at the job interview; therefore, the employer does not know that the candidate is eligible for support.

FUTURE PERSPECTIVE

The survey and interviews took place at a time when Estonia was in an emergency situation due to the spread of the SARS-CoV-2 virus. This caused employers to have greater uncertainty about the future of their business. In the longer term view, a greater focus could be placed on developing serviced systematically. For entrepreneurs, the most important thing is the system for dealing with people with decreased work ability – employers feel that they are left alone with their problems after the wage subsidy or other actions aimed at people with decreased work ability come to an end. The Unemployment Insurance Fund and Ministry of Social Affairs interviews also revealed that the support offered currently are “label-oriented”, meaning that the support is granted based on whether the person belongs to some group (decreased work ability). Actually, the services offered could be based on clients’ needs.

In subsequent periods, there should be greater focus on the regions with more severe problems with employment. It will remain very important to address the needs of people with decreased work ability – especially with an eye to preventing loss of work ability in the first place.



Action 3.2.1 Expanding labour market services to new target groups and providing new labour market services

Certain sub-actions under action 3.2.1 are the focus of the evaluation:

- support for starting a business
- services for supporting business
- my first job
- support for minor children working
- my first job in Estonia

RELEVANCE
<p>The objective of action “Provision of labour market services to ensure better opportunities for participating in employment” is to increase the work-related opportunities for participants and their participation in the workforce. The objective of the measure is directly related to the objectives set out in several relevant strategy documents (Estonia 2020, Welfare Development Plan 2016-2023, Labour Market Programme), above all, the high-level employment objectives, considering that the sub-actions of the action are aimed precisely at youths to help them enter the job market. A second major target group is older people – to help them continue on the labour market. The objectives of the sub-actions of the action are related to both the general objective of the action and the objectives of the conditions for granting support. Yet it is important to keep in mind that the general objective of the action encompasses more actions than are the focus of the evaluation. The sub-actions of the action are necessary for the target groups to help them enter the labour market.</p> <p>The output and performance indicators (“number of participants who received active labour market services”, “participants who are employed six months after receiving labour market services”) are relevant for evaluating effectiveness.</p>
EFFECTIVENESS
<p>In general, the action has been successful as the expected levels of output and result indicators were mostly achieved as of 2018. An exception was the service “My first job”, where the number of participants was around 16% lower than expected. Yet the general labour market situation has strongly supported the movement of people to work. According to the official Unemployment Insurance Fund statistics, the unemployment rate in the years 2015-2018 was lower than 5%, which means that there has generally been a workforce shortage and people themselves have found it easier to find employment on the labour market. This, however, means that fewer people who could take part in the service make their way to the Unemployment Insurance Fund.</p> <p>There were more women (55.4%) than men (44.6%) among the participants in the service, even though the numbers of men and women in the target group registered with the Unemployment Insurance Fund were practically equal during the same period: for example, in the younger age bracket, unemployed males accounted for 49% and females, 51%. Thus, more women than men are able to access the services. Broken down by county, we see that larger regions (Harju County and Tartu County) and regions with higher unemployment (Ida-Viru County) made more use of the services. In these counties, a greater number of younger and older people are listed as registered; consequently, use of services was more widespread in these regions where the problems related to workforce are more acute.</p> <p>Most of the survey respondents said they would have hired young people and minors in the absence of the support as well, as the support was applied for during a period characterised more by a workforce shortage than unemployment – companies needed workers. At the same time, the</p>



interviewed employers and survey respondents both said that the important factor was not so much whether some kind of support was provided for a potential hire, but rather the new hire's desire to work, skills and learning ability. Still, the support made it possible for young people to be hired at lower risk and expense for the employer – training people with less work experience is associated with higher costs for the entrepreneur. The support also helped offer young employees a more competitive wage.

The sub-actions of action 3.2.1 contribute to promoting equal opportunity in society, insofar as attention is devoted to groups (youth, minors, older people and beneficiaries of international protection), who require more support for entering and continuing to compete on the job market.

EFFICIENCY

The action's budget has been sufficient for achieving the objectives. The required amounts have not been paid in most sub-activities, but in spite of this, the results were mostly achieved. It could be assumed that the existing funds will also be enough to achieve the target level of the operational programme output indicator (the number of participants who have received active labour market services) set for 2023.

RECIPROCAL IMPACT

The sub-actions in action 3.2.1 do not have a major reciprocal impact with the other evaluated actions. The action's sub-actions are meant to improve the labour market situation for Estonian inhabitants (above all, younger and older inhabitants). For this reason, a certain positive reciprocal impact can be seen in actions related to increasing employment – for example, "Regional initiatives to promote employment and entrepreneurship" (5.4.2) and "Investments to increase regional competitiveness (job creation)" (5.4.3). No negative reciprocal impact was identified. The sub-actions under the action do not overlap with other actions, as the target group for the action (young unemployed and jobseekers of pension age) is very different from other evaluated actions.

SUSTAINABILITY

The emergency situation declared in spring 2020 due to the SARS-CoV-2 virus outbreak and the related problems for the economy. Some economic operators are not sure whether they can offer employees work in the same volume and they must therefore consider layoffs. Respondents say that whether employees continue work after the end of the support period depends on the employee's own interest and future plans. Young people often wish to leave work as changes have taken place in their lives or they simply want to continue their career trajectory. The hiring of minors is a seasonal activity.

IMPACT

It turned out that the support has a strong positive impact on both the workforce production in supported companies as well as the number of employees working at the company. The positive impacts are non-sensitive (robust) to the inclusion of various control variables. The estimated positive impact on jobs at supported companies is around 40%. It can thus be said that the support granted in the context of action 3.2.1 has been impactful and helped fulfil the set objective by improving access to the job market and reducing exclusion from the labour market.

IMPLEMENTATION SYSTEM

A total of 85% of the respondents said they "agreed" or "agreed somewhat" that the process of applying for the support was simple. The employers said that the procedure for applying for support was reasonable and comprehensible; if problems arose, it was always possible to contact an Unemployment Insurance Fund consultant who could help in quickly finding solutions to the problems. Although the support recipients said that the conditions for the support were reasonable – 86% of the survey respondents "agreed" or "agreed somewhat" with the statement – it emerged in the course of the survey and interviews that the concern for employers was the

requirement that the decision on support be received before signing the employment contract with the employee. They were also dissatisfied with the condition that the employee had to be at work for at least two years – cases where the employee’s motivation for performing the work was not as great as claimed in the job interview. A problem seen in the case of the support for employment of minors was the total amount (the employer was required to pay at least 1000 euros of gross earnings to employees aged 13-16), which may be hard to reach as minors sometimes do not wish to do that much work, also smaller companies are not interested in employing enough minors to reach the aforementioned total amount.

FUTURE PERSPECTIVE

The survey and interviews took place at a time when Estonia was in an emergency situation due to the spread of the SARS-CoV-2 virus. This caused employers to have greater uncertainty about the future of the companies.

The results of the evaluation indicate that in subsequent periods, there should be a greater focus on the regions experiencing the most severe problems with employment. Young people also continue to be in the focus. Regardless of the phase of the economic cycle, young people, particularly those who do not work or study, are the target group of various measures. It is particularly important to find ways to motivate these young people to take part in the labour market and make the transition from schoolwork to the labour market smoother.



Action 4.1.1 Institutional Development Programme for Research and Development Institutions and Higher Education Institutions (ASTRA)

ACTION 4.1.1

RELEVANCE
The action “Institutional Development Programme for Research and Development Institutions and Higher Education Institutions” (ASTRA programme) contributes directly to fulfilling the objectives of the Research, Development and Innovation strategy, competitiveness plan and enterprise growth strategy. The action has a clear connection with the objectives of measure 4.1, due to which the measure action is relevant and necessary. Still, from the perspective of supporting entrepreneurship and innovation, this is an action that creates the necessary preconditions in R&D institutes and higher education institutions, and thus the action could be considered moderately relevant in the context of this more narrow evaluation (which does not mean that the actions are not relevant for achieving other objectives). The use of the only output indicator – the number of companies engaging in cooperation with the research institutes receiving support – is questionable, as is measurement on the established conditions, because this output indicator does not reflect all of the supporting sub-actions of the integrated action and the impact of all of them for achieving it. The narrow definition of the cooperation as formal cooperation agreements also tends to be questionable, as it is difficult, if not impossible, to establish direct causative connections between the actions supported from ASTRA and the cooperation agreements concluded.
EFFECTIVENESS
As of the end of 2018, the 2023 target level of the output indicator in the list of measures was 77.6% achieved – the R&D institutes that had received support reported cooperation with 582 companies (77.6% fulfilment of the 2018 target level). The number of companies engaged in cooperation with universities has grown but the growth in the monetary dimension of cooperation tends to be modest, as they have likely constrained themselves to purchasing services with a smaller volume and are not taking major risks. The impact and benefits obtained from ASTRA are indirect, due to which it is hard to assess the quantitative or qualitative impact of the measure’s actions on companies. The main positive influence is related to promoting cooperative relations and culture between R&D institutions and companies. The ADAPTER web platform for cooperation is seen as one of the most important new activities in the ASTRA programme in the entrepreneurial cooperation and related R&D area, through which companies have been able to contact R&D institutes with questions that otherwise might not have reached R&D institutions and as a result of which cooperation agreements have been concluded. Cooperation is limited on one hand by the sectoral extent of cooperation – it tends to be quite limited with a low income base – and another challenge is finding common ground between research and enterprise, as there may not be demand in Estonia for knowledge supplied by R&D, and entrepreneurial partners of centres of excellence tend to be from outside Estonia.
EFFICIENCY
Four per cent of the budgetary funds of the ASTRA projects were directly meant for strengthening cooperation with companies, and this has managed to nearly fulfil the output indicator’s target level for 2023. This points indirectly to the efficiency of projects in regard to implementing actions oriented at enterprise and cooperation. Nevertheless, ASTRA must be seen as a more general support measure for developing basic capabilities; the actions supported by it contribute directly and indirectly to achieving the target level of the output indicator.
RECIPROCAL IMPACT
The action has a positive reciprocal impact, creating preconditions for other measure actions (particularly in 4.1) and facilitating their implementation. All of the actions in measure 4.1 are integrated with each other and create a precondition for cooperation between R&D institutions

and companies. In addition, ASTRA facilitates the implementation of support measures oriented at R&D (above all, through the ADAPTER platform).

SUSTAINABILITY

In the case of R&D institutes with less cooperation experience and networks, there may be a risk, once ASTRA ends, of losing out both in the volume of budgetary resources and not being able to maintain the output indicators' target values. At the end of the current funding period, some of the actions, in the absence of support, may end at the current volume, including e.g. technology transfer, yet there are actions that at least some institutions will attempt to continue after the end of the ASTRA support, e.g. preservation of entrepreneurial specialists' jobs. It will be a challenge to find new sources of funding to cover workforce expenses that have been funded thus far from ASTRA. To sum up, ASTRA programme actions are essentially seen as more institutional actions over an unspecified term rather than specific time-limited structural change projects. In the context of the RDI strategies' investment pledges (1% of GDP), the R&D institutions have not assumed that the volumes of activity support and other state-budget funding will not grow. Non-fulfilment of the investment pledges in the future could jeopardise the sustainability of actions supported from structural funds because in such a case, R&D institutes would lack their own funds for continuing, in at least the same volume, actions that have become successful.

IMPACT

The action has a positive impact on the development of cooperative relations between R&D institutes and companies. It would not be appropriate to evaluate quantitatively the impact of the action on employment, export and productivity as the focus of the action is on R&D institutes. The impact on the situation of disabled persons and people of different gender, ethnicity and age in action 4.1.1 will not be evaluated. According to representatives of R&D institutes, the projects are carried out without differentiating between anyone or placing anyone in an unfavourable situation.

IMPLEMENTATION SYSTEM

For beneficiaries, one problem that came up was changes in the conditions of the ASTRA action over time in the course of implementation, which resulted in shifting away from the originally designed flexible approach – a bottleneck in the output indicator is accounting for and delimiting the qualifying cooperation partners, attributing budgetary funds used to specific output indicators, defining the proportion contribution of the actions to promoting cooperation with companies. In the case of three intertwined actions – ASTRA, centres of excellence and support for research infrastructure – an area of concern is requirements in relation to the public procurements system, as expenses of the same type are not summed up at the level of supported projects, but rather at the level of R&D institute.

FUTURE PERSPECTIVE

Beneficiaries expect the continuation of activity support that is just as comprehensive, which would allow more flexibility in adapting actions and the budget to the changing environment. Such an approach would allow the fragmentation of actions to be reduced and through central coordination, a needs-based budgetary and action-based response.

The continuation of the ADAPTER format is also deemed necessary. It could be continued in the direction of face-to-face counselling and internationalisation, in which regard the awareness of companies and R&D institutions could be raised. For a more integrated approach and to create synergy, the state could integrate ADAPTER with other state initiatives that require the state to initiate and maintain a cooperation platform.

Conceivable output indicators for the ASTRA support measure include use of indicators related to excellence of research, internationalisation and quality of doctoral studies (e.g. industry doctoral programme), which allow the R&D institutes' development leap to be measured. In addition, one possibility in the case of entrepreneurship contracts is to view not the number of companies with which contracts have been concluded but the volumes of the contracts.



Action 4.1.2 Supporting the research infrastructure of national importance on the basis of the Road Map

RELEVANCE
The action “Supporting the research infrastructure of national importance on the basis of the Road Map” contributes directly to fulfilling the objectives of the Research, Development and Innovation strategy, competitiveness plan and enterprise growth strategy. The action has a clear connection with the objectives of measure 4.1, due to which the measure action is relevant and necessary. Still, from the perspective of supporting entrepreneurship and innovation, this is an action that creates the necessary preconditions, thus the action could be considered moderately relevant in the context of this more narrow evaluation (which does not mean that the actions are not relevant for achieving other objectives). The use of the only output indicator – number of researchers working in institutions with improved research-related infrastructure – and measurement on the established conditions is justified. The impact of infrastructure on research cooperation, entrepreneurial cooperation and development of research competences can be measured and seen in performance indicators such as joint publications prepared with the support of the infrastructure, entrepreneurship contracts concluded, etc.
EFFECTIVENESS
As of the end of 2018, the 2023 target level of the output indicator in the list of measures had been 56% achieved – i.e. 410 researchers were working with improved infrastructure. The main positive impacts on enterprise were manifested through creation of better access conditions to research infrastructure (e.g. through self-service) and promotion of multi-level cooperation. The main benefit for companies was open research infrastructure, unique professional competence and knowledge through expert support (trainings) or new technological possibilities for counselling. Comprehensive services have been developed in the context of some projects. One curtailing factor is the matter of state aid (if the limit set on the volume of research infrastructure economic activity is exceeded), which keeps labs from making full use of their service provision potential for fear of sanctions. Based on technological peculiarities, one factor that impedes cooperation and co-use is the relatively fast obsolescence of equipment. The problem here is the narrow definition of infrastructure support in the support measures (it would be necessary to also support constant calibration, accreditation and certification), which would reduce the positive impact on enterprise.
EFFICIENCY
The monetary volume of the measure action is sufficient for achieving the set objective and outcome. At the same time, the “supplemented research-related infrastructure” is a very general definition and the supplementation of infrastructure is in essence an ongoing process that should not end after the balance of the support funds is used up.
RECIPROCAL IMPACT
The action has a positive reciprocal impact, creating synergy and preconditions for other measure actions and facilitating the implementation of actions in other measures, such as the RITA programme (4.2.1). Most research infrastructure projects contribute to the fulfilment of objectives in measure 4.2 through their relationship with smart specialisation growth fields and the furthering of these fields.
SUSTAINABILITY
Although supported infrastructure has been developed in the context of the support measure in regard to objectives of fixed-term projects, infrastructure is intrinsically an indefinite-term field that needs constant investments and should not be planned in the form of fixed-term projects. It is a constant challenge to procure supplies and expendable materials (and find sources of funding for them) needed for implementing fixed assets and keep them running as well as for calibration,

accreditation and certification of infrastructure elements. In addition, covering workforce expenses of R&D employees will be a potential challenge. In the context of the R&D strategies' investment pledges (1% of GDP), R&D institutions have not assumed that the volumes of activity support and other state-budget funding will not grow. Non-fulfilment of the investment pledges in future could jeopardise the sustainability of actions supported from structural funds because in such a case, R&D institutes would lack their own funds for maintaining infrastructure that has proved successful and continuing R&D activity in at least the same volume.

IMPACT

It would not be appropriate to evaluate quantitatively the impact of the action on employment, export and productivity as the focus of the action is on R&D institutes. In the case of this action, too, the number of beneficiaries during the period evaluated is insufficient for a quantitative evaluation. The impact on the situation of disabled persons and people of different gender, ethnicity and age in action 4.1.2 will not be evaluated. According to representatives of R&D institutes, the projects are carried out without differentiating between anyone or placing anyone in an unfavourable situation.

IMPLEMENTATION SYSTEM

Similarly to the ASTRA programme, when it comes to implementation of the research infrastructure support, a need for greater flexibility is seen for making decisions during the project period pertaining to the funding of actions and the lifecycle map for projects. A problem related to the rules on public procurements and state aid has also been raised. Although beneficiaries say that there is enough information on the support, that the application process is relatively simple and the conditions and implementation of the support measure have been simplified, they see a need for piloting such support measures to eliminate potential inconsistencies and shortcomings that became evident in the conditions for granting support under action 4.1.2.

FUTURE PERSPECTIVE

Although the supported infrastructures were developed in the context of the support measure in regard to objectives of fixed-term projects, infrastructure is intrinsically an indefinite-term field that needs constant investments. The research infrastructure support is seen as being more clearly focused in future. Among other things, the supported projects could tie in more clearly with measures for centres of excellence or other measures that fund research using infrastructure.

In the future view, one prospective development area is moving from infrastructure development to (support) services covering the mapping of demand, target groups and the integrated services provided to them and offering an integral value proposition.

The state aid issue needs to be resolved, as it sets constraints on R&D institutes in terms of offering value propositions to companies.



Action 4.1.4 Supporting the centres of excellence in research to strengthen international competitiveness and quality

RELEVANCE
The action “Supporting the centres of excellence in science to strengthen international competitiveness and quality” contributes directly to the fulfilment of the objectives of the Estonian Research, Development and Innovation strategy, competitiveness plan and enterprise growth strategy. The action has a clear connection with the objectives of measure 4.1, due to which the measure action is relevant and necessary. Still, from the perspective of supporting entrepreneurship and innovation, this is an action that creates the necessary preconditions (the impact on cooperation with companies is manifested indirectly through the transfer of results of supply-based fundamental and applied research conducted at centres of excellence, supported and amplified by other support measures), and thus the action could be considered moderately relevant in the context of this more narrow evaluation (which does not mean that the actions are not relevant for achieving other objectives). The output indicator of the action – number of publications by researchers at the centre of excellence during the calendar year (WoS+ERIH A) – is relevant, yet qualitative characteristics could also be considered as a metric for evaluating impact, including the use of visibility/influence metrics for R&D activity (e.g. citations).
EFFECTIVENESS
One of the main positive impacts of the support measure for centres of excellence in research is the concentration of a critical mass of top-level researchers, which leads to sectoral capability and achieves the top level of R&D activity, which in turn leads to visibility of sectoral R&D activity and related structures and a rise in awareness in Estonia and on the international arena. By the end of 2018, the 2023 target level of the output indicator of the measures had been achieved – 913 publications (114% fulfilment of the 2018 target level). In the case of centres of excellence in research, these are largely R&D fields and actions whose impact on business is manifested over a longer period of time, e.g. seeking long-term solutions for climate and energy issues. Today, the topic of enterprise in the actions of centres of excellence of research are limited to disseminating results, i.e. public relations activity, which may benefit the companies, but the projects themselves do not have entrepreneurial orientation.
EFFICIENCY
Considering that the output indicator’s target level set for 2023 has now been achieved with eligible expenses that were compensated in the amount of 32% from obligations assumed, the monetary volume of the action is sufficient for achieving the set objective and output and maintaining the measure until the end of the financing period.
RECIPROCAL IMPACT
The action has a potentially positive reciprocal impact, creating synergy with other measure actions and facilitating the implementation of actions and the achievement of objectives in other measures. Above all, centres of excellence in research facilitate the implementation of the actions and the fulfilment of objectives of actions in measure 4.2. In the case of the centres of excellence support measure, one of the largest gaps seen is the lack of funding necessary for scaling prototypes – there is no development grant or proof of concept support – and this keeps the knowledge created at the centres of excellence from being applied in industry. However, the Estonian Research Council has started piloting a similar measure using state budget resources.
SUSTAINABILITY
The greatest potential challenge for centres of excellence in research is to find new sources of funding for covering workforce expenses that have been funded thus far from the centres of excellence in research support measure. In the context of the R&D strategies’ investment pledges (1% of GDP), R&D institutions have not assumed that the volumes of activity support and other



state-budget funding will not grow. Non-fulfilment of the investment pledges in the future could jeopardise the sustainability of actions supported from structural funds because in such a case, R&D institutes would lack their own funds for maintaining infrastructure that has proved successful and continuing R&D activity in at least the same volume.

IMPACT

It would not be appropriate to evaluate quantitatively the impact of the action on employment, export and productivity as the focus of the action is on R&D institutes. In the case of this action, too, the number of beneficiaries during the period evaluated is insufficient for a quantitative evaluation. The impact on the situation of disabled persons and people of different gender, ethnicity and age in action 4.1.4 will not be evaluated. According to representatives of R&D institutes, the projects are carried out without differentiating between anyone or placing anyone in an unfavourable situation.

IMPLEMENTATION SYSTEM

The focus groups held in the course of the evaluation did not point out any observations that varied substantially from other measures when it came to the implementation system and organisational aspects. The implementation system related to support aimed at R&D institutions and conformity to the conditions for support challenge the administrative capacity of the recipients. As a result, they have often elected to request support for simpler but not always the most optimal actions. In addition, representatives of R&D institutes say that the use of solely external evaluators in the case of the centres of excellence in research and other support measures is of questionable value, as the evaluators may lack background knowledge on the local conditions or needs, the level of Estonian research and the basic principles for the evaluation for always making the best choices in the case of a support measure with such a significant volume and role.

FUTURE PERSPECTIVE

Although the supported centres of excellence were developed in the context of the support measure in regard to objectives of fixed-term projects, this is intrinsically an indefinite-term R&D activity stemming from public interest, and funding should also continue in the future from state budgetary or other EU funds (framework programmes). Since, given the present evaluation's focus, one factor that hindered cooperation between R&D institutions and companies was the limited number of science and research groups who were capable of working with companies, one possible solution is to support the outgrowth of research groups oriented to applied research who would be able to service companies with specific interests.



Action 4.2.1 Enhancing R&D capabilities (RITA)

RELEVANCE
<p>The action “Strengthening sectoral research and development actions” (RITA programme) contributes directly to fulfilling the objectives of the Estonian RDI strategy, competitiveness plan and enterprise growth strategy. The action also has a clear connection with the objectives of measure 4.2, due to which the measure action is relevant and necessary. Still, from the point of view of supporting entrepreneurship and innovation, the action is assessed as moderately relevant and makes only an indirect contribution to entrepreneurship and innovation: the main focus of the measure lies on R&D institutes and government institutions and only one action with a 5% share of the obligations assumed under the RITA projects is rather indirectly aimed at supporting development of capability for cooperation with companies. This does not mean that the actions are not relevant for achieving other objectives.</p> <p>The output indicator for the measure’s activity – number of research advisors and coordinators in government institutions – is moderately relevant, as support is provided for other actions whose impact is amplified by the research advisers already recruited. The contribution of RITA to the achievement of the target level for the performance indicator of “the share of companies that engaged in innovation-related cooperation with universities and other higher education institutions out of all companies surveyed” is also questionable as the RITA action does not unconditionally carry over directly to innovation-related cooperation.</p>
EFFECTIVENESS
<p>In connection with the output indicator, the target level set for 2023 – the creation of 12 research adviser positions in ministries – has been achieved. Some problems substantively ensuring effectiveness is caused by rapid staff turnover among the advisers, which is due to the fact that advisers are recruited actively by other organisations and the expected growth in capabilities is thus hard to ensure by creating a single position. Although the fulfilment of the action-specific output indicators set out in the conditions for granting the support has been effective, one potential problem concerns the temporarily limited capability of R&D institutes (due to the accumulation of actions under different measures) and limited resources for carrying out additional and high-quality R&D projects.</p> <p>RITA involves actions whose impact on enterprise (and among other things on economic indicators such as turnover and profitability) and innovation tends to be indirect (other than the direct income from specific T1 (support for strategic R&D) and T2 (support for knowledge-based policy planning) contracts) and depends on the implementation of specific research results. This impact, however, can be assessed in the future only after the end of specific studies.</p>
EFFICIENCY
<p>The monetary volume of the action is sufficient for achieving and maintaining the set objective and output throughout the structural funds eligibility period under study.</p>
RECIPROCAL IMPACT
<p>Considering the specific nature of R&D activity, there is a synergistic impact between measures and actions focused on R&D and R&D institutions – between RITA and e.g. measure 4.1 and action 4.2.3. The rise in R&D policy and policy coordination capabilities through the RITA action will potentially facilitate the design and implementation of demand-side policies in the future, e.g. in carrying out procurements supporting innovation (4.2.5).</p>
SUSTAINABILITY

As most RITA actions, including RDI policy monitoring, knowledge-based policy design, development of the Estonian Research Information System, etc., can be seen as long-term and strategically important public sector functions, the continuation of RITA actions must be supported by sector ministries' state budget resources or other funding, including EU finding.

IMPACT

It would not be appropriate to evaluate quantitatively the impact of the action on employment, export and productivity as the focus of the action is on government institutions and R&D institutes. In the case of this action, too, the number of beneficiaries during the period evaluated is insufficient for a quantitative evaluation. The impact on the situation of disabled persons and people of different gender, ethnicity and age in action 4.2.1 will not be monitored or evaluated.

IMPLEMENTATION SYSTEM

As RITA mainly constitutes support for internal public sector actions under the aegis of ETAg, (sub-actions 3, 5, 6) and commissioning studies through different procurements (sub-actions 1, 2, 4), no significant or unique problems arose in the course of the evaluation of the implementation system. The main criticism expressed was related to minor confusion in relation to regulations at different levels that came up in the course of implementation of various studies/analyses (sub-actions 1, 2 and 4) (e.g. regulations vs. contracts) and their interpretation: whether in the view of R&D institutes, T1 studies are enterprise contracts or something else (such as contracts for services), what kinds of data might customers request from R&D institutes in regard to performance of contracts, etc.

FUTURE PERSPECTIVE

Most RITA actions should be viewed as long-term and strategically important public sector functions and their financing from structural funds should be seen as a seed investment: continuing RITA actions from sectoral ministries' state-budget funds will be a critical future challenge. Already now, the share of support services related to the development of entrepreneurship and innovation capabilities has been increased more directly in the framework of RITA. The importance of development advisers would grow even more in future if national strategies and development plans began to prepare based on sector-based and trans-sectoral considerations and if there were a desire to pursue further development of cooperation between R&D institutes and companies.



Action 4.2.2 Higher education scholarships in the growth areas of smart specialisation

RELEVANCE
<p>The action “Higher education scholarships in the growth areas of smart specialisation” contributes directly to fulfilling the objectives of the Estonian RDI strategy, competitiveness plan and enterprise growth strategy. The action also has a clear connection with the objectives of measure 4.2, due to which the measure action is relevant and necessary (with certain caveats in regard to the existing format of the entrepreneurship doctoral programme). Still, from the point of view of supporting entrepreneurship and innovation, the action could be assessed as only moderately relevant: the main focus is on university students and R&D institutions (scholarships for students in first/second- and third-tier students in SS fields) and the more direct and potentially more rapidly manifesting contribution to entrepreneurship and innovation was covered only in the entrepreneurship doctoral programme scheme. Based on the objectives of the action and the two actions supported, the output indicator – number of students receiving scholarship in SS fields – is relevant. At the same time, the entrepreneurship doctoral programme’s format has not turned out perfectly in broader combination with instruments because doctoral student places are also supported from state and other funds and there is a lack of a clear need for an additional measure that would have additional restrictions.</p>
EFFECTIVENESS
<p>In the case of support for the first and second tier of higher education, we see that although the drop in the number of students in several curriculum groups has been staunched, and the number of students has in fact grown in ICT and pure science subjects, the decrease has continued in the equipment, production and technology curriculum group, and this has led to a shortage of engineers on the labour market. The 2018 target level of the output indicator of the measures had been 94% achieved – 8018 scholarship recipients. The 2023 target level had been 57% attained. During the period 2016-2018, an average of 2284 students per year received a scholarship in the speciality (first and second tier of higher education), one-third of whom were female.</p> <p>The main challenge for the action related to achieving the target level of the output indicator for the third tier of higher education – an additional output indicator set out in the conditions for granting support – above all, in relation to the entrepreneurship doctoral programme. In addition, the low demand for the entrepreneurship doctoral programme was due to the narrow design profile of the measure in the current period (support is limited to partners that are enterprises and SS fields) and the increasingly tighter oversight by R&D institutes to ensure that the doctoral study is actually being carried out in research cooperation with companies. In connection with the entrepreneurship doctoral programme, the representatives of the R&D institutes that participated in the evaluation do not see the support scheme as having significantly contributed to closer cooperation between companies and R&D institutes.</p> <p>Another bottleneck of the entrepreneurship doctoral programme considered was the fact that there are not many trustworthy companies with R&D-related interest in cooperation and an oversight capability that would be prepared for cooperation with universities in the form of entrepreneurship or industry doctoral programmes. The entrepreneurship doctoral programme format enabled the companies that participated in the action to provide their doctoral students with additional financial support, make their development activity more effective and launch export on a new target market. Further progression of the cooperation has also been curtailed by the narrowly tailored intervention logic of the support measure – it does not allow support to be allocated to enterprise-side supervisors or R&D institutes for funding research.</p>



EFFICIENCY
Considering that the output indicator's target level set for 2018 has been 94% attained and the quota allocated to first and second tier students has been more than 95% used up in the 2017/2018 academic year and the 2019 autumn semester, the monetary volume of the action is sufficient for achieving the set objective and output and maintaining it throughout the entire structural funds eligibility period.
RECIPROCAL IMPACT
Action 4.2.2 has a positive reciprocal impact, creating synergy with other actions in the measure and facilitating the implementation of other measures. For example, the DoRa (4.1.3), ASTRA doctoral schools (4.1.1) and SS field scholarships (4.2.2) actions are complementary in regard to target groups and actions (R&D, mobility, etc.). By involving the scholarship recipients in R&D activity and ensuring a future generation of engineers, the scholarships support the consistent development of research infrastructure (action 4.1.2) and the development of centres of excellence in research (4.1.4). There is also a potential tangent with the SS applied research programme (4.2.3) as the doctoral students supported may be involved in projects that are carried out in the context of applied research activity.
SUSTAINABILITY
As the entrepreneurship doctoral programme is currently a formally undefined concept for R&D institutes, they are also unable to assess the sustainability of such a cooperation format in the absence of state support. Proceeding from the current format of the entrepreneurship doctoral programme, the University of Tartu lacks the capability to maintain a similar measure in operation, although there are a few positive examples where a company itself funds the creation of a new doctoral study place and the doctoral student's cooperation with the company – this is similar to the TalTech industrial doctoral programme's format. In the broader sense, it has nevertheless been observed that cooperation with companies took place before this support measure and will take place after the end of the support period, yet this is more a matter of case-based cooperation than a systematic programme and sub-form of doctoral study.
IMPACT
It would not be appropriate to evaluate quantitatively the impact of the action on employment, export and productivity as the focus of the action is on R&D institutes and students. In the case of this action, too, the number of beneficiaries during the period evaluated is insufficient for a quantitative evaluation. Although the impact on the situation of disabled persons and people of different gender, ethnicity and age in action 4.2.2 will not be evaluated, we can note that two-thirds of the recipients of the scholarships are male, which can be attributed to the greater popularity of the equipment, IT and science specialities among men. In granting the entrepreneurship doctoral programme scholarship, R&D institutes have not taken into account the regional dimension or the needs and opportunities of different social groups, as this has not been set as an objective in the support measure.
IMPLEMENTATION SYSTEM
The R&D institutes' representatives say the design of the action is a problem – it is too supply-centred and fails to address enterprise-side demand and coverage of R&D costs, which narrows the range of partners that can potentially be involved. The conditions for the entrepreneurship doctoral programme are also too restrictive, as cooperation with hospitals, clinics and technology development centres and many organisations is not supported; this being necessary in, for example, the healthcare technologies field. The entrepreneurship doctoral programme is limited only to SS growth fields, which reduces the potential range of partners/companies. A bottleneck when it comes to implementation of the current entrepreneurship doctoral programme support

measure has been the timing of competitions from the perspective of the R&D institutes' academic calendar – the scholarship competition could be announced by the R&D institutes only after studies had begun and the students' projects had been approved and this curtailed the development of new cooperative relations as a result of the action.

FUTURE PERSPECTIVE

The representatives of the R&D institutes said that in the future, a more demand-based support scheme could be used in regard to the entrepreneurship doctoral programme, where, similarly to the Danish model for example, each industrial doctoral programme place is created based on the company's needs. One opportunity to address this would be the creation of an integrated grant that would encompass support for university, PhD student and company, as such a grant system would comprehensively meet the needs of company/partner, university and doctoral student alike. A review of the smart specialisation scholarships should also be considered, including, among other things, in which curriculum groups and specific curriculum is it necessary to motivate studying and what are the specialities where the lack of specialists is increasing and where the need for specialists is growing, but whose popularity has waned and which would also need the establishment of a state-funded specialisation scholarship. It will be necessary to expand the scope of smart specialisation during the next funding period, including the addition of an interdisciplinary view and additional non-technological disciplines that nevertheless support innovation.



Action 4.2.3 R&D programme for smart specialisation in growth areas

RELEVANCE
<p>Through supporting applied research and product development projects, the action “R&D programme for smart specialisation in growth areas” contributes directly to fulfilling the objectives of the Estonian RD&I strategy, competitiveness plan and Entrepreneurship Growth Strategy. The action has a clear connection with the objectives of measure 4.2, due to which the measure action is relevant and necessary. The output indicators for the action – “Number of companies with which universities and research institutions have engaged in cooperation in the course of applied research and product development in growth areas” and “Private investments in conformity with state support for innovation or research and development projects (millions of euros)” – are relevant. The contribution of the action to achieving the target level of the output indicator – percentage of private sector’s R&D spending (% of GDP) – is also relevant. From the perspective of supporting entrepreneurship and innovation as well, the action can be considered relevant.</p>
EFFECTIVENESS
<p>By 2018, universities and research institutes had engaged in cooperation with nine companies in the context of the action (9% of the 2018 level) and 1.52 million euros in private investments had been raised (19% of the 2018 target level). Although the issuing of support has accelerated in the interim, it will be a challenge to achieve the action’s output indicators by 2023. The impact of action 4.2.3 in the current funding period is hard to evaluate at the present time, as most of the supported projects are only in the implementation phase and the actual impact of such R&D projects will become clear after more time has passed and also depends on follow-up activities (product development, design, marketing and export).</p> <p>It was not yet possible to realise the cooperation potential between R&D institutes and companies during the early period of the action, which coincided with the evaluation period – something that is connected to a longer-term problem spanning multiple funding periods. It has been a major challenge to reconcile the expectations of entrepreneurs and researchers and their vision of the cooperation project in both the time axis and the solution being developed. Despite this, entrepreneurs have commented that without the smart specialisation applied research support measures, cooperation and outsourcing R&D service would not have taken place in the supported volume (including growth in a later period not within the scope of the application). Thus, the support has justified itself and is influential in contributing to cooperation, especially in the form of longer-term cooperative ties and projects, even though a large share of the projects launched at the start of the period were built on earlier contacts and relationships between companies and R&D institutes. Over time, the support measure has nevertheless enabled companies to establish contact with representatives from various scientific disciplines and research groups and as a result, the companies’ development activity and areas have broadened and thereby, their product profile has become broader as well. The support scheme has also contributed to closer cooperation with both local and foreign companies.</p> <p>Cooperation between Estonian companies and foreign universities is a key separate question; it was relegated to the backdrop in the smart specialisation applied research programme as well as in the overall vision for R&D and innovation policy. On the other hand, the small scale of knowledge-intensive product development projects is a problem, due to which progress towards the end result is slow. Similarly, entrepreneurs do not see enough of a point in cooperative R&D activity and investments if the development activity is not accompanied by even larger investments (with support) in marketing and sales.</p>



EFFICIENCY
It is complicated to give an assessment on the efficiency of the support measure, as the needs of smart specialisation growth fields for funding volumes and R&D commissioned by companies are very different. Companies that responded to the survey said the volume of support has been sufficient for carrying out the activities. Companies also found that without the measure, they would not have been able to undertake their development due to a dearth of resources.
RECIPROCAL IMPACT
Action 4.2.3 creates synergy with other actions and facilitates the implementation of other actions, for example, the applied research programme supports the objectives supported by the innovation vouchers and development vouchers measure (4.4.2). The smart specialisation applied research programme also has a link with the energy and resource-efficient measure. In the case of the applied research support, a synergistic connection with the technology development centre support measure can be noted.
SUSTAINABILITY
In regard to the smart specialisation applied research, entrepreneurs have noted that after the end of the support under this action, they would continue cooperation with R&D institutions and scholars on either new projects or follow-up research planned to be funded from other sources, probably from outside the company, including Horizon 2020, European Horizon or venture capital, if they run up against limits on self-financing and the aim is to use product development to take a dynamic leap forwards in terms of growth. In other words, the applied research and product development supported in the context of the action are traditional key activities in the RD&I process, and companies with any innovation ambitions must engage in it. It will also require a certain amount of state support to mitigate the risks.
IMPACT
It is not possible to evaluate quantitatively the impact of the action on employment, export and productivity as the number of beneficiaries in the period evaluated is insufficient for this. This was also a programme where, due to the specific nature of R&D activity, the impacts become expressed over a longer period of time (at the end of the current funding period) and as of 31 December 2018, only eight R&D projects had ended. The impact on the situation of disabled persons and people of different gender, ethnicity and age in action 4.2.3 will not be monitored or evaluated, as the focus is on R&D activities.
IMPLEMENTATION SYSTEM
The reason for the slow launch of the support measure on one hand was the initially low attractiveness in the eyes of entrepreneurs and furthermore, some entrepreneurs did not know to look for the support in the Archimedes Foundation's package of measures. In general, entrepreneurs are satisfied with the implementation system for smart specialisation applied research. The Archimedes Foundation has taken an understanding attitude towards entrepreneurs; they are treated as partners in cooperation. Criticisms are related to restrictions of the support measures – entrepreneurs feel that it does not favour cooperation with foreign R&D institutes or due to the specific nature of some fields (e.g. e-health), cooperation with other organisations (e.g. for carrying out clinical trials with hospitals, clinics and family medicine centres) or cooperation between companies in the framework of trials (such as involving a third-party partner who has the necessary capabilities and competences). Another thing that companies found questionable with regard to smart specialisation applied research and product development was the establishment of a different self-financing rate, which will require harmonisation in the future.
FUTURE PERSPECTIVE

In the future, a continuing need is seen for support for R&D research aimed at companies, including major companies, as companies are not seen as ready to contribute a larger share of their own capital to development activity. In addition to the need to review smart specialisation growth areas, final beneficiaries say that an area of improvement in the future design of measures is the definition of target groups that need support and target groups that are a priority for the Estonian economy (such as companies with a medium level of export potential) and the mapping of their situation and development needs, as a result of which it would be possible to design a limited number of support measures to support various activities. One possibility in regard to R&D activity would be an integrated approach to the design of the support measure, where the current support schemes would be merged into a central measure with the option to support different actions in relation to R&D (e.g. cooperation, mobility, development of capabilities and much more).

A need is also seen for supporting R&D-oriented networking events that would raise companies' awareness of service providers and broaden their own social capital. In addition, the smart specialisation applied research support measure could more strongly support projects led by joint consortia of Estonian companies and foreign and Estonian universities, which would allow Estonian universities to expand and grow their knowledge base.



Action 4.2.4 State-funded cooperation structures

<p>RELEVANCE</p>
<p>Through support for clusters and technology development centres, the action “State-funded cooperation structures” contributes directly to fulfilling the objectives of the Estonian RD&I strategy, competitiveness plan and Entrepreneurship Growth Strategy. The action has a clear connection with the objectives of measure 4.2, due to which the measure action is relevant and necessary. The output indicators for the action – “Number of companies in growth areas that have received support and belong to the technology development centres and clusters”, “Supported companies that have introduced a new product or service for the market,” and “Supported companies that have introduced a new product or service for a company” – are relevant. From the perspective of supporting entrepreneurship and innovation as well, the action can be considered relevant.</p>
<p>EFFECTIVENESS</p>
<p>The target levels set for 2023 for the output indicators of the action are nearly 100% achieved. One of the primary positive impacts of the cluster measure for companies is expressed in the networking of companies and establishing contacts, which has enabled promotion of export. The clusters that participated in the evaluation say that they have used the support to carry out joint export-oriented marketing throughout the entire value chain that they feel they would have been unable to achieve in the absence of support. It should be emphasised that the clusters’ joint activities, primarily in development activity supporting the sector, also have a more distant benefit horizon, and in the medium to long term perspective, these activities are important for the sector. A few clusters have developed a certain capability to coordinate R&D and applied research, although limitations are imposed by the support allocated (including the self-financing level, which is higher than for other R&D measures), as a result of which technology, product or process innovation is not dealt with at the cluster level as a consortium-type joint activity.</p>
<p>In general, technology development centres have succeeded in integrating different, somewhat more capable companies with R&D institutes and long-term and strategic R&D activity. At the same time, inhibiting factors for cooperation between technology development centres and companies in general include companies’ low capability to independently fund R&D (commissioning services from the technology development centres) and prepare R&D projects, and participation in technology development consortia in the framework of the technology development centres programme. For this reason, the range of companies able to cooperate with technology development centres has been limited mainly to companies who have prior cooperation experience, awareness of the programme requirements and sufficient resources for R&D activity. The main value of the technology development centre format for companies related to technology development centres has been the long-term stable funding of R&D activity: financial leverage and hedging of financial risks. The cooperation taking place at technology development centres is important for companies, primarily for prototyping and testing ideas.</p>
<p>The level and capabilities of companies vary from one region to the next, and thus the impact of the technology development centres and clusters also varies by region in Estonia. The sector’s specific nature also impacts the geographical coverage of the cluster or technology development centre. On the basis of data used for quantitative analysis, most of the companies benefiting from state-funded cooperation structures are operating in regions with active economies, primarily Harju County (66%) and Tartu County (21%). The companies supported are, on average, bigger and more established on the market and older companies, i.e. the measure has tended to support</p>

the activity of more capable companies and been less able to involve new companies in R&D activity. Various areas of economic activity are fairly proportionally represented among the beneficiaries.

EFFICIENCY

In the opinion of the clusters' leaders, the support allocated has been sufficient at the co-financing volumes, i.e. finding additional co-financing in order to obtain a greater amount of support is considered somewhat unlikely or complicated. Still, they felt that the existing financial volumes tend to enable joint marketing at the cluster level and participation at trade fairs yet are insufficient for joint R&D activity.

The representatives of technology development centres said that the technology development centres' support cycle across structural funding periods has been sufficient to commercialise the results of successful R&D. In regard to the supported technology development centres and their projects' volumes, recipients have succeeded in dealing with both creating innovative technologies and resolving companies' problems by way of improving and applying existing technologies.

RECIPROCAL IMPACT

The clusters' support measure supplements the 4.4.1 action – the entrepreneur development programme – which facilitates participation in cluster activities. The clusters in turn leverage export-oriented activity by supporting the export development actions (5.1.1 and 5.1.3), which in essence partially overlap. In the case of the technology development centre support measure, a synergistic connection cannot be seen with the applied research measure where there is potential to further develop the ideas generated in technology development centres or clusters using the smart specialisation applied research scheme or another support scheme, yet there is some risk of duplication of actions. Both demand-side policies (4.2.5) and technology development centres and clusters increase each other's effectiveness. The demand-side policies create a market for innovative products, while technology development centres and clusters develop companies that are able to supply the products.

SUSTAINABILITY

The clusters' representatives said that in the absence of state support for clusters, the first to feel the sting would be the joint marketing activities that have been developed – while they could be carried out using other support provided by Enterprise Estonia, most of the activities would receive less funding or the realisation of the results of the actions would take more time.

The technology development centres see the main challenge as finding the stable basic funding that the technology development centre support scheme has offered thus far. In the future, the sustainability of the technology development centres' independent functioning is determined by specialisations and the emphases set out in the business models. As a result, the technology development centres' capabilities are different and it is predicted that some of today's technology development centres may disengage from the R&D activities, disappear or be incorporated into universities, as the narrowness of the scope of the technology development centres' competences limits the service provision of companies and the number and volume of applied research projects aimed at companies by technology development centres may decrease, as in general companies cannot come up with the funds they need to channel into such R&D activity. As a potential external funding source, participating in EU-supported projects jointly with companies and managing such projects is considered a challenge due to companies' low capabilities. For this reason, it will be necessary to raise companies' awareness and capabilities to apply for funding from the Horizon programme and as a lead partner, carry out projects in Horizon Europe and other EU programmes.

IMPACT

The econometric impact assessment highlights the action's statistically significant positive impact on the workforce's productivity. Compared with the control group (controlling for various factors impacting both support and the performance indicators), the value added per employee at the supported companies is an average of 67% higher and the turnover per employee is an average of 46% higher. Due to the support, productivity increased among companies operating in Harju County in particular, varying from the growth of productivity at companies elsewhere in Estonia in terms of turnover and value added indicators by 19 and 41 percentage points, respectively, in comparison with the control group companies.

Looking at the assessments of the impact of the support on employment, however, we see that although the annual change in the percentage of employment at the Harju County-based companies that received support has seen statistically significant growth due to the support, the same dynamics are not seen in the other employment assessments. This means that the companies that benefit from the support have not hired significantly more employees compared with the control group. At the same time, based on the availability of observation periods, the impact assessments take into account only short-term impacts and the strong growth in value added achieved thanks to the support is indicative of structural changes at the beneficiary companies, and this in turn lays preconditions for the creation of new, higher value added jobs over a longer period of time. In addition, it is partly expected that the action lacks a short-term impact on employment because even though the conditions and procedure for developing and supporting clusters related to the action reveal that the area of application is oriented to fulfil Estonia's entrepreneurship objectives for 2014-2020, the regulations for the action set forth the primary objective of growth of value added and revenue and growth of the cluster partner's international competitiveness in smart specialisation growth areas.

The quantitative impact assessment also highlights the fact that, in comparison with the control group, the action lacks a short-term positive impact on the likelihood of companies exporting and the intensiveness of export revenue among companies operating either in Harju County or outside Harju County. This stems from the time-intensive nature of developing high value-added development processes, which are expressed in terms of export growth only after a significant latency period.

The impact on the situation of disabled persons and people of different gender, ethnicity and age in action 4.2.4 will not be evaluated. At the level of individual projects, social groups have been taken into account where possible, e.g. improving the opportunities for people with diminished work ability to work in high-tech positions, although there was no deliberate aim to consider the social equality aspect in the supported activities, nor has the situation been actively monitored. The impact of technology development centres on regional development has been expressed through cooperation with county development centres, offering a variety of services, or through enabling remote work, which arises from the specifics of ICT as a horizontal theme. The geographic reach of technology development centres has also been impacted by the sector's specifics, e.g. in the case of the software niche, the impact has tended to be urban on the Tallinn-Tartu axis, yet rural-oriented in the timber industry.

IMPLEMENTATION SYSTEM

Although the centralisation of bureaucracy can be discerned at the cluster or technology development centre level and this has reduced some of the administrative burden for companies, there is still a perceived need to review the number and level of detail of the documents and data

requested, e.g. in relation to documented proof that events were organised or participated in, which is burdensome for companies and also increases the risk of aid ineligibility for technology development centres and clusters. An area of concern identified is the strict linking of expenditures with the activities set out in the regulations, as a result of which, in the absence of flexibility, it has proved a challenge for some clusters to make full use of the support funds.

The efficient functioning of technology development centres has been hindered by changes to the conditions for granting support over two support cycles – 10 years – where the focus has varied between excellence in research and profitable operating activity. The beneficiaries have not been unequivocally clear on the expectations set for technology development centres – whether the support for partner companies or the technology development centres' business activity, the development of a certain field, the creation of competence centres or something else.

FUTURE PERSPECTIVE

Although the clusters have strongly emphasised both the internationalisation aspect and R&D activity, the expectations are that the eligibility of expenditures made will become more flexible. Greater flexibility in regard to supporting activities and eligibility of expenses is needed to be able to take into account the needs, opportunities, challenges and ambitions of the clusters that arise from the specific nature of the smart specialisation growth areas. Currently, the clusters feel that the range of supporting activities and eligible expenses is narrowly limited and defined at the level of the conditions for granting support and that this does not allow the clusters to develop more ambitious activities (such as prototyping or attaining a higher level of technological readiness or preparing international R&D projects (such as Horizon Europe) and incurring expenditures in the field of internationalisation in relation to lead partnerships or joining consortia). In other words, there are certain expectations in regard to the further development of the cluster measure which would foresee possibilities to speed up and leverage the evolutionary development of clusters, allowing cooperative R&D and innovation projects (between companies and above the company level) to be supported throughout the scale of technological readiness.

The expectations of entrepreneurs and professional associations are that the functioning of technology development centres will be made more open to different parties to promote the role of technology development centres with an applied focus as R&D consortia, which would serve in smart specialisation growth fields as thematic joint initiatives for consolidating R&D capabilities and resources. In the future perspective, a need is seen for state support for cooperative R&D, as the small size of most Estonian companies and low capitalisation set limits on launching R&D activity at the individual company level. For this reason, the participants in the evaluation did not see an option that support similar to today's measures would *not* be continued in future.



Action 4.2.5 Demand-side policies, the state as a client for innovative solutions

<p>RELEVANCE</p> <p>Through support for innovative procurements⁴ and raising awareness about demand-side policies, the action “Demand-side policies, the state as a client for innovative solutions” contributes directly to fulfilling the objectives of the Estonian RD&I strategy, competitiveness plan and Entrepreneurship Growth Strategy. The action also has a clear connection with the objectives of measure 4.2, due to which the measure action is relevant and necessary. The action’s output indicators – “Number of companies offering innovative solutions” and the publicity-related metric “Number of participants in actions (number of target group representatives)” – are relevant. More narrowly from the perspective of entrepreneurship and innovation support, the action can be considered relevant, as the focus of the action lies on bringing innovation solutions to markets.</p>
<p>EFFECTIVENESS</p> <p>This is one of the most problematic actions under measure 4.2 – the 2018 target level for neither output indicator was fulfilled. It has not been possible to launch the support measure in the desired form during the funding period, as a result of which the resources allocated for the action have been cut significantly.</p> <p>Entrepreneurs have observed that, conceptually, this is a necessary measure, which could have a positive impact on the business environment. A few of the companies that took part in the action noted in the questionnaire that the measure has helped create better cooperation with both Estonian R&D institutions, other Estonian companies and public sector organisations. Several of the companies that benefited from the measure said that the measure allowed them to either scale up planned development activities or launch their own development activities. The monetary volume of the projects has also been sufficient for carrying out the activities. At the same time, a few of the projects supported thus far have lacked a clear model and logic in the smart specialisation perspective (individual projects from museums’ IT solutions to smart asphalt development), as a result of which the activities should be considered as still being in the pilot stage.</p>
<p>EFFICIENCY</p> <p>Although the beneficiaries so far – i.e. the companies – feel that the monetary volume of the projects has been sufficient for carrying out activities, for the support recipients (above all, local governments) the relatively high self-financing level has been an obstacle, as a result of which few projects have been launched (9 projects altogether) and the achievement of the action’s objectives has been curtailed.</p>
<p>RECIPROCAL IMPACT</p> <p>Action 4.2.5 will potentially create synergy with other actions and facilitate the implementation of other actions. The “innoprocurments” support scheme is supplemented by the RITA programme (action 4.2.1), in the context of which increasing ministries’ R&D capabilities also contributes to the promotion of innovation procurement capabilities, as both support schemes are above all demand-side innovation policy instruments.</p> <p>Indirectly, the implementation of the “innoprocurments” measure action is facilitated by action 4.2.3 (R&D programme in smart specialisation growth areas), although a synergistic effect can also be discerned between them through coverage of the supply and demand side. Similarly, the</p>

⁴ The term “innohange”, a portmanteau word from Estonian words for innovation and procurement, is also used as a synonym.

innovation support scheme also ties in with the action “State-funded cooperation structures (e.g. clusters and technology development centres)”. While the technology development centre and cluster support schemes create conditions for developing supply-side capabilities, the innovative procurements support scheme contributes to development of demand-side potential, thus ensuring the integrity of the measure actions.

SUSTAINABILITY

As of 31 December 2018, only nine projects have been supported, of which only two have ended, and it is therefore hard to give an assessment on the sustainability of the supported projects and actions. Considering the fact that the recipients are local governments, foundations, executive-branch institutions or other state institutions that use innovation-supporting public procurements to try to resolve socioeconomic problems and thus the beneficiary is the public sector in the broader sense, preconditions have been created for sustainability of the outcomes of the supported activities.

IMPLEMENTATION SYSTEM

From the standpoint of the intermediate bodies, the demand-side policies support measure has not yet got off the ground due to the logic of high-risk projects and the bureaucracy and conflicts in rules in the public procurement system as well as the lack of flexibility of the measure (e.g. in regard to levels of support). Low awareness is also a factor, primarily at the local government level. Although Enterprise Estonia has organised information events and other support activities for this measure, it has not been sufficient for raising awareness or changing the risk-taking culture. The participation of smaller local governments in the measure is also complicated by the high self-financing requirement, as similarly to small and medium-sized enterprises, smaller local governments have less funds for investing in innovation activities.

IMPACT

The impact on the situation of disabled persons and people of different gender, ethnicity and age in action 4.2.5 will not be monitored or evaluated, as the focus of the action is on innovation and R&D activities. It is not possible to evaluate quantitatively the impact of the action on employment, export and productivity as only nine projects have been launched and only two have ended; in other words, the number of beneficiaries in the period evaluated is insufficient for a quantitative impact assessment.

FUTURE PERSPECTIVE

In the case of innovation-supporting public procurements (and more broadly, demand-side innovation policy), the measure should be developed so that it has enough flexibility and proactive support to lead to the first success stories in innovative public procurements (counselling, training, publicity), which would in the future allow the measure’s support element (irrecoverable aid) to be scrapped and move towards counselling and publicity. Linking state enterprises’ R&D expenditures to the support measure or organising thematic calls for projects should be launched so that beneficiaries would have a clearer understanding of what and why the public sector is procuring; lowering the self-financing rate from 50% to 20-30% should be considered, which would promote participation of local governments; and a separate analysis should be carried out for redesigning the public procurements and demand-side measures system, taking into account growing expectations with regard to supporting innovation and climate neutrality.



Action 4.2.6 Boosting start-up entrepreneurship

RELEVANCE
<p>The action “Boosting start-up entrepreneurship” – aka the Startup Estonia programme – contributes directly to fulfilling the objectives of the Estonian RD&I strategy, competitiveness plan and Entrepreneurship Growth Strategy. The action also has a clear connection with the objectives of measure 4.2, due to which the measure action is relevant and necessary. The output indicators for the action – “Supported companies that have introduced a new product or service for the market” and “Number of companies receiving aid” – are relevant. More narrowly from the perspective of entrepreneurship and innovation support, the action can be considered relevant, as the focus of the action lies on boosting start-up entrepreneurship and bringing innovative solutions to markets.</p>
EFFECTIVENESS
<p>The 2018 target levels for the action have been achieved; the 2023 target level has also been 85.5% achieved in regard to number of companies receiving aid. As this was not one project but an agile catalyst for developing a start-up community, it is hard to predict the results and impact of the programme. One of the impacts of the programme was the development of the start-up sector and market. In essence, the programme has allowed start-ups to access the market, capital and above all, workforce, including benefiting from foreign specialists through the start-up visa programme.</p> <p>The main benefit of the Startup Estonia programme for start-ups is the existing and functioning ecosystem, very easy-to-find information, the possibility to make oneself visible, e.g. through the start-up database, and the good preconditions for networking and making contacts, all of which has helped start-ups find partners and capital. Through the Startup Estonia programme, contacts with local and foreign companies have developed. Many start-up companies have also been able to start exporting products and/or services (e.g. to Germany, Czechia, the Netherlands, Denmark). From the regional perspective, the development of start-ups outside major population centres has been impacted more by the ecosystem and existing preconditions – access to services, mentors, workforce and much more – rather than by Startup Estonia.</p>
EFFICIENCY
<p>The programme’s budgetary resources are sufficient for fulfilling the action’s objectives. The effectiveness of the measure has been increased in turn by the fact that unlike many other measure actions where there is a definite list of supported activities, flexibility is built into Startup Estonia, as is the possibility to experiment or re-focus on new areas or fields, such as the start-up visa, which was introduced later and was not included in the initial action plan.</p>
RECIPROCAL IMPACT
<p>Potentially, Action 4.2.6 has a facilitating effect on other actions in the measure and creates synergy with other actions. Actions oriented at boosting start-ups contribute to making SMEs more oriented to growth and export and achieving the objective of measure 5.1. The start-up support scheme supports the implementation of action 4.2.3 “R&D programme for smart specialisation in growth areas” and action 4.2.4, “State-funded cooperation structures (for example, for clusters and technology development centres)”, as the start-ups are among the potential cooperation partners who can start carrying out joint development and marketing activities through cooperation structures or applied research in the field of smart specialisation. In addition, the support scheme leverages the implementation of action 4.2.5 “Demand-side policies (the state as a client of innovative solutions)” as the start-ups will bring new innovative products and services to market, and the state can contribute to the creation of these as a client for</p>



innovative solutions. The smart specialisation framework strives to prevent duplication and the Startup Estonia programme does not develop any growth field or niche that is covered by other support measures and actions.

SUSTAINABILITY

The objective of the programme is to develop an ecosystem that is sustainable and would not need support in its current form during the next funding period. The programme is designed so that the activities carried out would be handed over to market participants at some point (some of the activities and niches have been taken over by the private sector). In the opinion of the programme implementers, the question when it comes to the future perspective is which programme niches or activities in particular could be handed over to the private sector. In the last few years, the focus has shifted from supporting start-ups to providing services to them for developing support organisations' capabilities or networking, and the programme therefore also needs to be customised in the future perspective. The sustainability of Startup Estonia is increasingly dependent on the thematization of the areas of activity, on one hand as influenced by the smart specialisation framework but also by the activities commissioned by respective ministries in the various fields. If the budget is reduced, it will be difficult to achieve the more ambitious objectives set in the new strategy and it is highly likely that the new planned or existing activities would have to be abandoned.

IMPACT

It is not possible to evaluate quantitatively the impact of the action on employment, export and productivity as the number of observations in the database on beneficiaries by each year evaluated is insufficient for this purpose.

The situation of social groups in Startup Estonia has not been factored in directly and the impact of the programme on them has not been monitored. Interest in the start-up sector in cities has developed as an impact of the programme's implementation, primarily on the Tartu-Tallinn axis, in order to create regional centres for start-ups. In the regional perspective, the development of start-ups outside major population centres has been impacted more by the ecosystem and existing preconditions – access to services, mentors, workforce and much more – and not so much by Startup Estonia.

IMPLEMENTATION SYSTEM

Setting output indicators in the current form, which is not strictly dependent on the specific logic of the measure, has made it possible to modify activities. At the same time, questions have come up with regard to the implementation due to the need to separate Enterprise Estonia (the final beneficiary) from KredEx (implementer). To reduce administrative burden and duplication, these functions could be handled by a single institution.

FUTURE PERSPECTIVE

In developing the ecosystem, no need is seen for financial support in the form of grants or another format. In general, there is a perceived need to shift emphases to monitoring the sector – to mapping problem areas, trends and developments in the fields. The expectations of start-ups in connection with the Startup Estonia programme are related to representing interests in the domestic and international arena so that there would be an umbrella organisation to raise awareness of the problem areas in the sector. In the future, the start-up community's expectations tie in with the need to deal with training future personnel, introducing a regional dimension for the programme and shifting the focus to the "silver economy", which mainly provides services to older people and creates jobs for older people (50+) through retraining so that they can enter the start-up sector.

Action 4.4.1 Identification of development needs and businesses' development activities

RELEVANCE
Action 4.4.1 is oriented to fulfil the sub-objective of "Knowledge-Based Estonia 2014-2020" entitled "R&D functions in the interests of the Estonian society and economy", supporting companies in developing higher value added goods and services in cooperation with universities and R&D activities and devoting attention to increasing value added in traditional economic sectors; the objectives are also linked to the Estonian competitiveness plan. The performance and output indicators are logically interconnected. As the action is meant for supporting long-term strategies, the impact of the action will show up over a longer period of time, but due to the project level selection criteria, the outputs, outcomes and impacts are logically linked.
EFFECTIVENESS
Due to delays in launching operations, the achievement of output indicators has taken place more slowly than planned. The support service and development centre investment support had been received by three companies as of the end of 2018 and 115 companies in the business development programme, which makes up 30% and 79% of the 2018 target level, respectively. After adapting the conditions for the support in 2018, the number of applications has been at the expected level and presumably this will allow the target levels to be fulfilled by the end of the period.
EFFICIENCY
The action's resources and support amounts can be considered generally sufficient for achieving the objectives of the action: the companies who received the support have mainly been able, using the development plan and support amount, to move to a new level or activity model. The most important potential obstacles to achieving the objectives of the company's development plan, as identified by the companies, have been not the limited resources but rather the unpredictability of the development work, which requires the support programme to be flexible; and also the definition of eligible expenses, which depending on the specifics of the field may limit the realisation of the company's development plans using the support.
RECIPROCAL IMPACT
The company development programme is essentially an "integral solution", in the course of which, pursuant to the company's development plan, suitable sources of financing are found with the help of a client account manager for supporting the realisation of the plan, including using the company development programme support, various other types of support and if necessary, the possibilities of the private market. Thus, there are tangents and synergy with most of the support oriented at companies (including support meant for smart specialisation growth fields).
SUSTAINABILITY
Among companies that received support, the support has created preconditions for the companies reaching a new development level. Discontinuation of the support would impact the possibilities of Estonian companies to move to a new value generation level and thereby increase competitiveness, such as on foreign markets.
IMPACT
According to the results of quantitative analysis, over 70% of the companies benefiting from the company development programme are operating in Harju County and close to 11% in Tartu County. Fewer than one-fifth of beneficiaries are located outside these two regions. More than 72% of beneficiaries are in the processing industry. The cumulative growth rate in the number of employees at the beneficiary companies during the support period significantly outstripped (more than eightfold) the median value of the companies in the control group. The difference in the median cumulative growth rate values was statistically significant between beneficiaries and

control-group companies when it came to yield on assets as well, but this was mainly in connection with narrower groups of companies with major differences in profitability and was not distributed evenly across the sample. The quantitative indicators did not attest to the (short-term) impact of the support on workforce productivity – the growth in the productivity of the workforce at supported companies broken down by value added, turnover and profit did not vary from that of the control group’s growth indicator during the observation period. This result was largely to be expected, as the measure’s objective was to support the long-term growth strategy, which first and foremost increases investments in production capability and human capital, followed by impact on productivity with a considerable latency period. As the predominant share of beneficiaries operate (for the most part) on international markets and in competition-oriented processing industry, the impact on productivity is strongly correlated with foreign demand (something that is beyond the control of the company). To sum up, the effectiveness of the action on growth of employment and human resources can be considered significant; on the other hand, there was no short-term impact on workforce productivity. Assuming that additional human resources are involved for the purpose of raising growth in strategic value, we can expect the support to have a positive impact on productivity in the next 3-5 years.

Companies see participation in the development programme as a catalyst to undertake planned development activities more rapidly and ambitiously, as doing so could be of critical importance to maintaining and/or increasing the company’s competitive edge. In the case of the support service and development centre’s investment support, receiving support comes up as a significant argument for a corporate group deciding to set up its headquarters and direct the corresponding investments to Estonia in particular.

IMPLEMENTATION SYSTEM

The companies’ general view of communication with the final beneficiary tends to be positive, and in the case of longer-term cooperation, the final beneficiary’s development towards a more client-centred service is valued. The conditions for the support are generally seen as reasonable and the evaluation process as transparent.

From the standpoint of the support recipient, the reporting burden for the projects is a major problem. The entrepreneur expects less reporting detail (e.g. budget and expenses) and greater flexibility during the project period when it comes to changes to project circumstances (e.g. accepting minor budgetary changes without an additional need for approval).

FUTURE PERSPECTIVE

Companies expect the reporting burden to decrease for the support recipient, reducing the level of detail required in reporting and considering greater flexibility for acceptance of minor changes.

Companies also expect a comprehensive and easily understood information system so that the company could independently obtain information regarding support subject to conditions that are suitable for it. In addition to the relevant website, client account managers must continue to provide counselling for determining the company’s development needs and opportunities. Companies also expect continuing support for establishing business contacts, including abroad. Industrial enterprises have highlighted the need for large-scale investments in equipment as a problem related to developing innovative goods and services, and these investments sometimes exceed the current limit in the support conditions.

Action 4.4.2 Research development activity voucher

RELEVANCE
<p>Action 4.4.2 was developed based on the objectives and priorities of the structural funds operational programme and contributes to fulfilling the 2014-2020 objectives of the Estonian RD&I strategy, competitiveness plan and Entrepreneurship Growth Strategy. The actions are related to the objectives of the Estonia 2020 competitiveness plan.</p> <p>The output and performance indicators are generally in conformity with the objectives of the action, although the performance indicators prevent direct assessment of how the supported cooperation supports increasing the competitiveness of Estonian SMEs.</p>
EFFECTIVENESS
<p>The 2018 target level of the action's output indicators has been achieved in regard to "private investments in conformity with state support for innovation or R&D related projects". By 2018, 440 companies had received assistance, which is more than the level planned for 2018 (285). The fulfilment of the 2023 target level (850 supported companies) can be considered realistic.</p>
EFFICIENCY
<p>As a whole, the action's resources can be considered sufficient for achieving the objectives of the action, but the support amounts for the vouchers – especially in the case of the innovation voucher – need to be reviewed. Due to the relatively low support amounts on the vouchers, companies are not always able, using the development voucher, to reach the stage of having a working product or service or prototype. This is why companies mentioned the need for a measure that would support the next development stage and be suitable for an SME. The necessary development leap for entering the company development programme, especially as viewed from the position of a new or early-stage SME, may prove too high and/or the high expected performance indicators of the development programme may be too risky. Such a need could also be covered by the possibility to apply for the development voucher support amount to be increased or to apply a second time; changes in the voucher amount and the number of times that the voucher can be applied for are being introduced.</p>
RECIPROCAL IMPACT
<p>The research development vouchers are meant for providing companies with their first taste of innovation work, which could lead to the next level in the development of a product, service or process. A voucher-type support with a relatively low volume and reporting burden does not directly duplicate and is not in any other sort of negative conflict with other support measures. Thus, the innovation voucher and development voucher make up a logical and low-risk road head for development activity, where the activity carried out using the voucher is combined with another type of support (e.g. start-up support 5.1.2 or the development programme for more advanced companies 4.4.1 and support for smart specialisation growth fields 4.2.3, various product development support and export development support).</p>
SUSTAINABILITY
<p>The final beneficiary has highlighted the need to develop the conditions of the development voucher so that the change in the company's behaviour would be longer-lasting and the support would be oriented to more knowledge-intensive activities and business results with a greater expected impact (e.g. developing a working prototype); the analyses conducted in the course of the evaluation support this direction.</p>
IMPACT
<p>On the basis of the beneficiaries' experience and the support impact assessments, the vouchers can be considered necessary measures for supporting innovation development activity for SMEs. Use of the voucher has reduced R&D activity related risks for the company: the support has given</p>

the necessary impetus to undertake development activities immediately and subject the potential of the development idea to preliminary testing. The innovation voucher has also been used to carry out activities that are not so much innovative but necessary for preserving today's market position and existing contracts (such as certification of products).

Close to one-half of the beneficiaries (48%, n=103) surveyed in the course of the evaluation have increased their cooperation with Estonian R&D institutes. The primary cooperation partners for companies during 2015-2017 were universities, engineering offices and technology development centres. Cooperation with foreign R&D institutes is low; companies often lack the necessary capability in regard to contacts and knowledge; also, in the case of foreign cooperation, the support amount has been perceived as low. The most important problems for companies are related to the limited nature of support amounts, the fact that accepted cooperation partners do not meet the definition and obstacles related to the requirement of eliciting three bids. The final beneficiary is known to be dealing with changes in the corresponding conditions.

Quantitative analysis shows that the action has a statistically significant positive impact on both workforce productivity and in general on employment. Workforce productivity varied by over 40% between companies in the supported group and the control group, in favour of the former. From the regional perspective, productivity at supported companies grew the most compared with the control group among companies operating in Harju County. Even so, regional differences in the impact of the support were achieved in higher productivity compared with the control group in the case of two indicators (the difference between companies operating in Harju County and elsewhere in Estonia was nearly 33 percentage points), in the case of the value added indicator, the differences were smaller (in favour of Harju County companies by only nine percentage points).

The impact on the number of employees as a logarithmic indicator was 12% and as the gross cumulative growth rate for employees, an average of 14% over the support period. The visible and rapid growth in productivity and employment can be in part attributed to the fact that many of the beneficiaries are relatively young and growth-oriented companies and operate in fast-developing sectors, including professional, research and technical areas of activity and ICT. As the growth in workforce productivity has taken place in parallel to the growth in employment, the companies' value added has risen as a result of the action, which, alongside the short-term impact, also leads to a cumulatively leveraged long-term positive impact on human resource value and productivity in the future. Although in general, export results in research and development activities show up after a latency period, the quantitative impact assessments of the action show that there is a statistically significant positive impact compared with the control group companies in both the likelihood of the supported companies exporting and the higher growth of export income intensity. At the same time, the results of quantitative analysis reveal a short-term negative impact on performance indicators related to the companies' sustainability. The latter finding is to be expected considering the resource-intensiveness that characterises research and development, which, in the active development process phase, can put pressure on companies' finances but in the long term pays off in the form of the effectiveness achieved through higher value added.

IMPLEMENTATION SYSTEM

The experiences of support recipients with the final beneficiary and the implementation system are generally positive. The vouchers are seen as a type of assistance with a relatively low reporting burden. At the same time, for small companies and those with little application experience, the reporting burden is still considerable.

FUTURE PERSPECTIVE

Innovation and development vouchers provide a way for companies to engage in preliminary development trials that are relatively risk-free, and thus the voucher-type support has an important role in the business support system and should continue. In future developments, it will be important to preserve the current voucher system's low bureaucratic load and more lenient conditions for receiving support, which give companies more courage to take risks compared to the company development programme, for example.

The role of Enterprise Estonia as the broker of contacts between companies and research and development institutes should continue and increase, especially at the international level, which companies view as hard to access for finding cooperation partners.



Action 5.1.1 Counselling at county development centres

<p>RELEVANCE</p> <p>The action “Counselling at county development centres” is relevant for achieving the objectives of the Operational Programme for Cohesion Policy Funding 2014-2020 and the Estonian Entrepreneurship Growth Strategy 2014-2020 because county development centres are seen, above all, to empower regional entrepreneurs. The function of county development centres is to distribute information to new and early-stage companies in the respective region, provide counselling at the first-tier level and raise business awareness. The work that county development centres do with new and early-stage companies is important due to the fact highlighted in the Estonian Entrepreneurship Growth Strategy 2014-2020: going into business is often considered a decision a person was forced into by circumstances, not related to seizing business opportunities. The action has a direct connection with the objectives of measure 5.1, due to which the measure action is relevant and necessary.</p>
<p>EFFECTIVENESS</p> <p>The target level of the action’s output indicator (number of counselling sessions at county development centres) has been exceeded: A total of 20,000 counselling sessions were planned for 2018 and by the end of 2018 the actual total was 21,727 counselling sessions. The target level for the performance indicator specified in the conditions for granting support (survival rate of companies counselled at county development centres) was also exceeded – the survival rate was planned to be 75% higher than the Estonian average by 2018 and the achievement rate by the end of that year was 87.7%. The direct objectives of action 5.1.1 do not include a social dimension or such target groups and the evaluators do not have information otherwise. A check of the county development centres’ websites showed a readiness to communicate with Estonian-, Russian- and English-speaking people.</p> <p>The interviewees said counselling at county development centres helps people planning to go into business and going concerns to get an overview of which services, support and financial instruments are suitable and their application conditions. Applicants for start-up assistance make up a separate target group. In their case, an assessment is given on the feasibility of the activities and capability for implementing a project; the entrepreneurs said they generally consider this a good solution. For small and medium-sized companies, the effectiveness of the county development centres activity is also shown by the fact that the county development centre network was awarded the title “Friend of Enterprise 2019” by the Estonian SME association.</p>
<p>EFFICIENCY</p> <p>As a whole, the action’s resources are sufficient for achieving the objectives and output of the action. The amended target level for the action’s output indicator is 20,000 counselling sessions per year in 2018 and as of the end of 2018 close to 21,727 counselling sessions have been held. The new target level for 2023 is 40,000 counselling sessions; based on the result for the evaluated period, the budgets of the action for achieving this target level should be sufficient. In the opinion of the interviewees, possible obstacles to the efficiency of counselling are the complexity of the system of support and services, the time consuming nature of the evaluation of applications and reports and the limited human and time resources of the applicants for the support and services.</p>
<p>RECIPROCAL IMPACT</p> <p>Counselling at the county development centres is a precondition for applying for start-up assistance (5.1.2) because the obligatory preliminary counselling for projects planned by entrepreneurs takes place at county development centres. The counselling provided at county development centres has synergy in regard to developing business awareness with other actions</p>



in the same measure: Business awareness (5.1.4) and regional initiatives to promote employment and entrepreneurship (5.4.2). In addition, counselling and business awareness development at county development centres makes it easier for companies to use other services and support: expanding labour market services to new target groups and providing new labour market services (3.2.1), research development activity voucher (4.4.2), actions for developing export (5.1.3), increasing demand for tourism (5.1.5), issuing insurance for loans, security and export transactions (5.2.1), establishing an early-stage fund to provide venture capital (5.2.2), development of export capacity of companies active in creative industries (5.3.3).

SUSTAINABILITY

Companies have generally deemed counselling at county development centres necessary for growing entrepreneurship, promoting entrepreneurial growth and development of the business environment. In the absence of the services provided at county development centres, including counselling, people planning to go into business and operating companies would lose the opportunity to get information and a preliminary assessment from consultants who are aware of the particular aspects and challenges of the business environment in the region. Counselling was also considered effective and the results would be made longer lasting if the company could be approached in an integrated fashion, i.e. if it could be provided with support and services together.

To ensure high-quality counselling, it is important to enable county development centre consultants to constantly get up-to-date information on the situation of the economy and possible changes in services and support.

IMPACT

Quantitative impact analysis shows that as a result of the counselling, the supported companies had a statistically significant increase in productivity, employment and export indicators compared with the control group companies. The growth in the number of employees and productivity as a result of the support were of the same magnitude. Logarithmic growth of the number of employees was 7% and the cumulative growth rate was over 9%. The growth in workforce productivity was between 8-10%. The impact on the growth of export income intensity was 3%. In the regional perspective, the impact of the support on productivity and export indicators was higher to a statistically significant extent among companies operating outside Harju County. At the same time, higher growth in employment achieved as a result of the support was noteworthy among the companies operating in Harju County in particular.

The quantitative impact assessment attests to the positive, statistically reliable and proportional impact of the support on both employment and workforce productivity. As the support has been distributed in dispersed fashion over various economic areas of activity, it can be presumed that the positive impact is broad-based and stable over time.

IMPLEMENTATION SYSTEM

The overall assessment from the companies as to communication with county development centres tended to be positive. For example, at counselling sessions related to applying for start-up assistance by companies who have not previously applied for support, new and early-stage companies highlighted the consultants' assistance in explaining the requirements and the changes to requirements, preparing the necessary documentation, highlighting deficiencies in the application and communication with the final beneficiary. A problem mentioned by entrepreneurs was the change to a different consultant during the consultation process and the lack of documents in languages other than Estonian. Primary and general information is provided at the Ida-Viru Enterprise Centre (website in Estonian, Russian and English) and the Harju County Entrepreneurship and Development Centre (website in Estonian and Russian).

The final beneficiary of action 5.1.1 was Enterprise Estonia until late March 2019, and starting from April 2019, the State Shared Services Centre. The county development centres have had good cooperation with both Enterprise Estonia and the State Shared Services Centre and the county development centres have been the county-level distributors of information on supports and services provided by the latter institutions.

FUTURE PERSPECTIVE

The companies that have taken part in counselling see the role of county development centres in the future as intermediaries of information on various services and supports for companies and also as consultants. This is valued above all in the case of a stable relationship with long-serving consultants or specific consultants. In the rapidly changing and complex economic environment and a situation where the competitiveness of companies is decreasing as a result, county development centres have a particularly important role in getting the information on support and services to specific target groups. It is also important from the regional aspect and for the availability of services to offer business-related information as close as possible to the places where people live and companies operate. Thus, county development centres continue to play an important role in developing entrepreneurial awareness, the business environment and the economy.

Action 5.1.2 Start-up assistance**RELEVANCE**

The action "Start-up assistance" is relevant for achieving the objectives of the investment priority set forth in the European Regional Development Fund regulation and the start-up assistance contributes to the fulfilment of objectives of the Estonian Entrepreneurship Growth Strategy 2020, which sets forth financial assistance for going into business. It is justified to offer start-up assistance due to the fact that the early phase in a company's life cycle is one of the phases that requires the most additional resources. Start-up assistance creates a precondition for increasing the number of new and early-stage companies, including exporting companies, and for job growth. The action has a clear connection with the objectives of measure 5.1, due to which the measure action is relevant and necessary. The output and performance indicators are in conformity with the objectives of the action, allowing the growth of economic results of operating companies to be evaluated. In 2019, the conditions for achieving the performance indicators of start-up assistance were made more flexible (time for hiring employees, salary level, revenue, export requirement) so that they would be within the reach of more companies.

EFFECTIVENESS

Demand and need for start-up assistance is shown by the fact that by the end of 2018 the number of companies that received support was 339, which is more than half of the target level planned for 2018 and the final target level for the budget period (2023) (474 companies received start-up assistance). Of the companies that received start-up assistance, 112 were registered in the countryside and 227 were registered in cities and towns. Going by statistics prepared on the basis of public databases, the management boards of the companies that received start-up assistance had 400 men and 150 women. The direct objectives of action 5.1.2 do not include a social dimension and its target groups and the evaluators do not have information to assess the social dimension.

Companies have viewed start-up assistance as necessary support for starting out and the early growth phase for SMEs. Interviewees said the start-up assistance has allowed them to reduce the risks of starting and operating a business in the early growth phase and has provided a quicker way of creating jobs, expanding product selection, bringing new products to market and growing production capacity. Asked to look back, the operating companies said that start-up assistance did not directly impact the decision to found the company because at the time the assistance was applied for, a company had to be in the early phase of activity and possess growth potential so that a multi-annual financial forecast – a requirement in the application process – could be submitted.

As of the end of 2018, close to 240 companies that received start-up assistance have created approximately 670 new jobs. Furthermore, the survival rate of the companies that applied for and received start-up assistance has been high, with only a few companies being dissolved. Thus, it can be concluded on the basis of the job creation and survival rate of the supported companies that the action has been effective.

Still, there is a regional aspect in the use of start-up assistance because close to one half of the recipients (157) operate in the capital region: this fact is also noted in the 2018 monitoring report. The lowest number of users of start-up assistance – two – are on the island of Hiiumaa and the total for seven counties is fewer than 10.

EFFICIENCY

Given that the target level for the output indicator for allocating the start-up assistance was originally 474 recipients by 2023 and it is planned to increase the budget in 2020, it should definitely be possible to achieve the target level of this output indicator.

As regards the size of start-up assistance (a maximum of €15,000), the interviewees noted that this was not the stimulus for founding the company but was generally sufficient as additional funding alongside the companies own funds to contribute to the development of the company in the early growth phase (e.g. purchase of equipment, acquisition and development of software, covering workforce expenses).

RECIPROCAL IMPACT

The impact of start-up assistance is closely interconnected with counselling at county development centres (5.1.1) because the quality of applications and the length of their processing depend greatly on the counselling received. Start-up assistance as support for starting and operating a company in the early growth phase has synergy with the growth and expansion phase support, primarily innovation and development voucher (4.4.2), which allows various needs to be met at the company, such as workforce expenses and equipment, products and services development and intellectual property protection: recipients of start-up assistance have used the innovation voucher the most often of any other support measures (24 companies) and 18 companies have received the development voucher, nine of which received both types of voucher. Broad-based, start-up assistance has synergy with actions aimed at a narrower field as well: for example, developing the export capability of companies operating in creative industries fields (5.3.3), a possibility that has been used by five companies that received start-up assistance; one user of start-up assistance has additionally received support under the development of creative industries infrastructure and technological capability (5.3.7). Start-up assistance also has a reciprocal leverage impact, with financial instruments such as the start-up loan (5.2.1).

SUSTAINABILITY

The interviewees said that start-up assistance allowed supported companies to make the necessary development leap and move to the next growth phase. In the context of decreasing EU structural support, it was considered necessary for start-up assistance to continue, if necessary, combining it with the start-up loan. At the same time, the potential emergent risks of the long-lasting results of start-up assistance were noted.

In the opinion of the entrepreneurs that used start-up assistance, the fact that expenses have to be incurred before the support is transferred was a problem – this could lead to the need to take out a loan and additional financial obligations. Companies in the early growth phase that used start-up assistance considered a potential problem to be the obligation to create and maintain jobs – the interviewees noted that the jobs created using the support could later be lost. The above risks could be caused by the company's internal strategic planning and rapid changes in the external entrepreneurial environment as well as by other (foreign) economic factors.

IMPACT

Due to the fact that a small number of companies was supposed to meet the conditions for using start-up assistance as of the end of 2018, it was not possible to conduct a (comparative) analysis of the companies that used start-up assistance and the comparison group for economic results (productivity and other indicators) and as a result, the impact of the start-up assistance could not be evaluated.

Close to one half of the companies that received start-up assistance are registered in the capital region and thus the impact of the support economy is somewhat limited.

IMPLEMENTATION SYSTEM

It was possible to apply for start-up assistance on a rolling basis, which allows the application to be submitted at a suitable time for the company. The interviewees noted the relatively high administrative burden related to the application process and reporting on the start-up assistance. Considering the maximum size of start-up assistance during the current budgetary period (€15,000), applicants and recipients for start-up assistance want a shorter and simpler application process, including standard forms for all of the documents required.

As the business environment in Tallinn is more favourable to new companies and there were also predominantly many recipients of start-up assistance in the capital city during this period, something that could be considered in the next EU budget is to make the rather abstract internationalisation condition set forth in the start-up assistance regulation more concrete (e.g. retain the export requirement for Tallinn companies). Having a single, unequivocally defined condition would also reduce the administrative burden on parties.

The final beneficiary of the action was Enterprise Estonia until late March 2019. Starting from April 2019, the State Shared Services Centre (RTK) took over. There could be an attempt to avoid such final beneficiary changes during implementation of the action, since it requires extra resources from all parties, all the more so as in this case, two-thirds of the action's volume was in the implementation stage. Each change in the implementing scheme is accompanied by a change in information field and in the exchange of information and communication culture, where the various parties lack a common understanding of the essence of the matter in the beginning and there is also a lack of agreements on mutual interaction. Although the situation was temporary for the entrepreneurs, getting used to it required additional resources (additional communication and time), primarily from entrepreneurs, since they are from outside the (administrative) system.

FUTURE PERSPECTIVE

The obligation of creating new jobs and maintaining them, which was added to the condition of the companies' economic growth, was considered complicated by the applicants and support recipients because of (a) the use of subcontracting, (b) the possibilities of digitalisation and business models stemming from them and (c) the founding of companies based on the sharing economy model. Taking the circumstances into account is something that could be discussed with both users of start-up assistance and stakeholders (the Estonian SME association, employers, contractors, start-up assistance recipients) before the start of the next period.

If this start-up assistance is used to develop regional business, the conditions for support should be more favourable for rural areas far from the capital region, considering the business environment and economic development in rural areas, or capital region companies should be expected to produce higher economic results.

Start-up assistance is also seen as part of the support system, where start-up assistance is provided in a lower volume and the application and administration is easier, plus the so-called growth support comes in a higher volume, which may be more complicated and resource-intensive for entrepreneurs to apply for and administer.

Action 5.1.3 Export development activities**RELEVANCE**

The objective of action 5.1.3 is in harmony with the central objectives of the measure and the goals set out in the development plans, contributing to support for entrepreneurship and export potential and competitiveness through support and services oriented at training, counselling and networking. The output indicators for export development activities are generally in harmony with the measure objective and are relevant and interconnected. Measurement of the output indicator "Number of services" is more of a mechanical affair, giving an overview of the services available to entrepreneurs but not directly reflecting how the entrepreneurs themselves relate to the services. The outputs, outcomes and impact are connected to each other. Still, the impact of the action on export can be seen more in the long-term perspective (development of cooperative relations is a long-term process).

EFFECTIVENESS

As regards export development activities, the 2018 target level for the output indicator "Number of companies that have used export development and exporter external market counselling services" has been exceeded. The new target level set for 2023, 8353 companies to receive counselling, has been 45% fulfilled based on the 2018 attainment level.

Export development activities have helped entrepreneurs through the creation of export potential and business competence contacts and sharing of information (including counselling). Creation of the network in particular is a benefit that overlaps with the beneficiaries' goals and the input provided in the assistance. A company's export-oriented activities are long-term, due to which achieving export is generally a long process – the primary benefits in the supported activities lie in increasing interest in a product or service or brand and intermediating communication with contacts. The activities lay the groundwork for finding a network of contacts, increasing entrepreneurship ambitions (through trainings) and introducing products or services. Companies used the support to successfully expand export above all in Europe (including Germany, Great Britain, Poland, Czech Republic, Georgia and Scandinavian countries) and Russia, which are attractive regions due to the proximity of markets. The activities of the study participants that expanded export to these countries were also related to the export of intermediate goods or finished goods.

The potential scope of the benefits nevertheless depends largely on the prior and follow-up activity on the part of the companies (e.g. preparations for participating at a trade fair but also readiness to maintain the contacts created). The beneficiaries felt that receiving the support or services contributed to some extent to an increase in economic indicators (including value added, turnover, profit, rise in the number of employees, export volume) or that the indicators remained the same; still, the indicators could also depend much on the specific profile of the company's activity and export practices. The main motivation for participating in activities is ultimately related to developing the network and increasing interest, and the export boost is an outcome of the above. Above all, cooperation between foreign companies (partners) was boosted by the assistance – finding partners opened doors for the exchange of information, experiences and human resources. Cooperation with other institutions or organisations (including the public sector, research and development institutes) depends largely on the company's needs and does not stem so much from the assistance itself.

The evaluation results obtained from quantitative analysis generally corroborated the positive impact of the support, including on workforce productivity (both value added and turnover per

employee), the financial health of the company (measured in terms of ratio of equity capital to total assets) and exporting (both the exporting indicator variable and intensity of exporting).

EFFICIENCY

The action's budget can be considered sufficient for achieving the general objectives of the action. In the opinion of the beneficiaries, the support is generally sufficient to fulfil the objectives set in projects. The objective of the supported activity is very specific, which explains the high rating ascribed by respondents. The primary objective for participating in the activity is to establish relations with the customer base and partners, which the activities support. The beneficiaries feel that the timeframe for fulfilling these objectives is sufficient, but not sufficient for assessing the impact on economic indicators. At the same time, several beneficiaries note that one-time support or participation in the services offered may not be sufficient – the company's activity must be constantly highlighted in order to increase visibility and establish relationships.

RECIPROCAL IMPACT

Action 5.1.3 has a positive, facilitating reciprocal impact in regard to several other actions associated with the development of entrepreneurship (increasing information), seeking competitiveness (directing funds to product development and also growing partners' interest and trust in Estonia and Estonian business). A potential duplicating reciprocal impact can be observed in regard to action 5.3.3, where the qualification criteria and motivations of creative industries operating in different fields may overlap with action 5.1.3.

SUSTAINABILITY

Insofar as the sub-activities of action 5.1.3 are meant for increasing competence, exchanging information and supporting the creation of direct contacts, sub-actions provide input for sustaining long-term results. On one hand, the activities promote the intermediation of entrepreneurs' skills and knowledge, which is seen to have a long-term impact on the entrepreneurs' entrepreneurship and export competence. At the same time, the intermediation or referral of contacts is the basis for cooperation negotiations, which may be an extended process but can also lead to long-term cooperation and have a positive effect on economic indicators. The benefit promoted by the action (mainly the creation of a network) is a precondition for entrepreneurs' sustainable activity, due to which the actions themselves can be considered activities that promote companies' sustainable (export) development. Many beneficiaries have also continued export-oriented activity later on using their own funds.

IMPACT

Quantitative analysis confirms the positive impact of the action on export (especially on the share of exporting companies, the intensity of exports and labour productivity). The activities supported directly help boost export activity, which may not, however, show up in a noteworthy increase in employment but rather in the growth of labour productivity. The entrepreneurs say that the benefit received from the support lies above all in expanding the network and introducing their company's activity; the support is also "sensitive" towards the entrepreneurs' own actions – much depends on communication between the entrepreneurs and possible partners, the nature of export practice – and the impacts on economic indicators become evident in the long term, as the development of export is an activity with a latency period.

IMPLEMENTATION SYSTEM

The objective of action 5.1.3 is clearly defined, which has made the process of applying for, receiving and implementing the assistance more transparent for the entrepreneurs. The activities carried out for developing export require consistent investment, and so a one-time aid payment (without the entrepreneur contributing their own funds) may not provide the necessary impetus for growing export. Decreasing the support may increase competition, but, above all, the

companies that are operational and have a strong network will gain from this. Many beneficiaries feel that continuing assistance is necessary for supporting enterprise.

FUTURE PERSPECTIVE

As the development of export is often time-consuming, it is important to offer entrepreneurs a sense of assurance that export development activities are known in advance and the conditions are clear and remain valid for a longer time, which would allow the companies' activities to be planned more. Short-term changeable support instruments hinder competition and the implementation of activities, due to which the support should be part of a constant process (in order to ensure sustainable export).

Action 5.1.4 Business awareness



RELEVANCE
<p>Action 5.1.4 “Business awareness” contributes directly to the fulfilment of the objectives of the Estonian Entrepreneurship Growth Strategy 2014-2020, as it is aimed at creating business awareness growth and new companies as well as increasing the share of ambitious and innovative enterprise. The action has a clear connection with the objectives of measure 5.1, due to which the measure action is relevant and necessary. Training courses intermediated by Enterprise Estonia have an important role in helping new and early-phase companies gain basic knowledge and make use of mentors as well as intermediating top-level knowledge regarding technological changes and changes in the business environment.</p> <p>Output and performance indicators are in conformity with the objectives of the action.</p>
EFFECTIVENESS
<p>As of the end of 2018, the target level for the output indicator has been exceeded as the target level for business awareness courses, competitions, information days, etc. is 250 in 2023 and the target level for companies and individuals participating in the activities is 10,000 in 2018 and 14,000 in 2023. According to Enterprise Estonia data, the number of companies and individuals participating in activities as of the end of 2018 was 13,060.</p> <p>The business ideas competition and the Ajujaht competition, which serves as an incubator, have made the greatest contribution to founding new start-ups with ambitious business ideas. Enterprise Estonia’s training courses and other activities such as the business model practicum, strategy practicum, product development and marketing training courses and strategy and digitalisation courses support the development of new and early-stage companies and older companies. A separate development programme has been set up for SMEs. During the period evaluated (2014-2020), 420 entrepreneurs took part in it and it has been carried out on 12 occasions.</p>
EFFICIENCY
<p>The monetary volume of the action is sufficient for achieving the set objective and output target level. As the target level for the output indicator of business awareness is 250 training courses, information days and other events, in which 14,000 individuals and entrepreneurs should have taken part by 2023, and the figure was 13,000 by the end of 2018, the action’s budget will allow the target level to be achieved.</p>
RECIPROCAL IMPACT
<p>As the action promotes raising business awareness, founding new companies and the growth of new knowledge in companies in different phases of their activity, there is synergy with other actions meant for SMEs. The target group of co-users of business awareness and support and services under other measures consists mainly of new and early-stage companies and companies in the rapid growth phase. The latter include companies that have used R&D support and services under Priority Axis 4, such as the businesses’ development programme (4.4.1) and the innovation and development voucher (4.4.2).</p> <p>Although the same types of services (e.g. training course, mentor clubs) are provided through Enterprise Estonia (5.1.4) and in county development centres (5.1.1), no direct duplication can be noted. These services are meant for different client groups: The services intermediated by Enterprise Estonia to major clients and key clients and the county development centre services are first-tier services above all for companies with regional reach.</p>
SUSTAINABILITY

The training courses, counselling programmes, competitions and other services are seen by participating entrepreneurs as being of good calibre. Respondents noted that they have a good proportion of theory and practical (independent) work, their content is up to date and relevant, the Estonian lecturers and supervisors are of very good calibre with top-class foreign lecturers and have a sufficient duration.

The knowledge obtained from trainings and counselling programmes (e.g. mentor programme) are used in the company and considered beneficial from the standpoint of the company's development. The companies that have used the services and support assign the highest ratings to the benefits in the company's early development phase. Thus, the results of the provision of services can be considered long-lasting and in general sustainable.

IMPACT

Econometric impact assessment showed that compared with the control group, the growth in employment among beneficiaries was an average of 12% higher and the value added per employee was 25-30% higher. From the regional aspect, the highest employment and productivity growth difference achieved due to the support was in Harju County and the difference outside Harju County was marginal. This suggests that the action is effective in raising both employment and productivity. As growth has taken place simultaneously across both output indicators, this suggests that employment and value-added growth are complementary and gives reason to suppose that the positive impact of the support on the economy is structural and long-term.

At the same time, the quantitative impact assessment did not find that the supported companies' export indicators grew faster than those of the companies in the control group. A statistically significant negative impact on the supported companies' export indicators may indicate that the growth in value added achieved through the support arose within the time period under observation based on internal demand, which, in the long term, upon entering foreign markets that have a demand for higher value added, may show up in the faster growth of supported companies' export indicators. Econometric impact assessment of performance indicators related to sustainability shows that while the support has a positive impact on the companies' yield on assets, the action does not have a positive impact on capitalisation. As a large share of companies in the analysis sample operate in classic capital-intensive areas of activity, this finding could stem from production factors related to growth of labour productivity, which may burden companies' capitalisation in the short term.

In addition, the very popular business competition Ajujaht and TV coverage on Ajujaht may raise general awareness about starting a business and achieving success in business.

The focus of action 5.1.4 is not on the social dimension and the evaluators do not have information to assess the social dimension.

IMPLEMENTATION SYSTEM

It is justified to differentiate between shorter (e.g. information seminars) and longer content activities (e.g. mentor programme, product development and other training courses) as they have different objectives and are aimed at different target groups. Shorter courses and seminars are aimed at a broader target group, primarily for raising general business awareness. Longer courses and programmes are meant to help successful new and early-stage companies and operating entrepreneurs achieve better economic results and be more competitive on the international market.

From the aspect of regionality and availability of services, the locations of the companies could also be considered for assembling one of the target groups of the business awareness measure, i.e. entrepreneurs in regions far from Tallinn, and if possible training courses could be held in Tartu and Pärnu. Enterprise Estonia has prepared training courses, counselling programmes and study materials in Russian as well for Ida-Viru County and Tallinn.

In developing the services, the more successful entrepreneurs who used support and services consider integrated solutions more efficient, i.e. the possibility of taking part in a variety of trainings and simultaneously receiving support for implementing the knowledge obtained from training courses. New, early-stage and rapid-growth stage companies consider this especially important. For example, entrepreneurs felt that simultaneously with the product development trainings, support could be made possible for hiring a designer/product developer to develop a specific product.

FUTURE PERSPECTIVE

Entrepreneurs would have better access to training courses and counselling programmes if they were held in Tartu and Pärnu, for example. In a region where a large share of the population is Russian-speaking (Ida-Viru county and the capital region), it would be more efficient to enable Russian counselling programmes, training courses and study materials; Enterprise Estonia has made the relevant preparations. In the opinion of the directors of larger and more successful companies, companies also need Enterprise Estonia to provide on-demand trainings at the company's location. Developers of more complicated products with specific requirements would like case-based services, e.g. when applying for certificates outside Estonia.

They put a premium on inviting top experts from countries that are outstanding in a given field (such as Denmark and product design) to Estonia as lecturers so that high-level knowledge and experience would be available in a variety of fields. This is the most important for companies in the early phase and small companies who lack resources to participate in training courses abroad.

From the standpoint of increasing business awareness and founding and sustaining successful new companies, it is important that the Ajujaht competition continue and that, if resources exist, all participants have the chance to take part in the programme for as long as possible.

Continuing to support business awareness is important for enabling new and fast-growing companies to participate in training and counselling programmes and for increasing the competitiveness of companies. For achieving the latter goal, it is more efficient to see the company as a whole, enable various services and support if necessary (as an integrated service), checking back on how the company is doing from time to time and taking into account the company's development phase.

Actions 5.1.5-5.1.8

The main objectives of tourism development are to ensure Estonia's competitiveness and international attractiveness as a tourist destination and the competitiveness of tourism services and products as well as to create travel motivation for visiting Estonia and lengthening the time that tourists spend in Estonia. Four activities are intended to develop tourism.

- increasing tourism demand (5.1.5)
- tourism products development management (5.1.6)
- development of tourism enterprises' business models (5.1.7)
- developing tourism attractions of international interest and their supporting infrastructure, including supporting international family-oriented tourism and developing the network of small harbours (5.1.8)

As the activities will be used to develop one specific sector and the activities are closely connected to one another, they have been given an overall assessment.

RELEVANCE
<p>Actions 5.1.5-5.1.8 proceed from the objectives and priorities of the structural funds operational programme and contribute to the fulfilment of the Estonian Entrepreneurship Growth Strategy 2014-2020 and the primary goals and sub-goals of the Estonian national tourism development plan 2014-2020. The actions also have a direct link to the Estonia 2020 competitiveness plan. The objectives of the actions are in conformity with the objectives of measure 5.1 and contribute to strategic objectives arising from both the operational programme and sectoral development plans.</p> <p>The output indicators that measure the results of tourism development are appropriate and relevant. A positive aspect is that the indicators are divided into sub-categories, which gives a more comprehensive and integral idea of the extent of the impact of the actions.</p>
EFFECTIVENESS
<p>The fulfilment of indicators set for the tourism development actions is successful and the target levels for the end of the period have been achieved or are getting very close (i.e. they have been carried out according to plan given the 2018 achievement and target level) in the case of the action's output and performance indicators. Looking at the 2018 target and achievement levels, the indicator "Support for major international events" was not fulfilled, but in actuality, the support and projects have been carried out in the planned volume (the projects were completed successfully as of 2019).</p> <p>In addition to increasing marketing capability and the marketing scope, increasing demand for tourism (action 5.1.5) has had an impact on increasing the quality of events (i.e. entrepreneurs can use the support to contribute to organising events or improving publicity for the events, such as higher quality sound or visual equipment, website development), making events more appealing to and professional for the visitor. In the case of companies that took part in the tourism product development management action (5.1.6), a positive impact on the number of employees was seen. In 2018, an average of 1.2 times more people worked at supported companies than at the companies in the control group. Yet the quantitative data analysis failed to establish that there was a positive impact on the productivity of the workforce or the company's ratio of equity capital to total assets, although the extent of the impact may emerge more precisely when company-level</p>

data for 2019 and 2020 become available. Many projects are still underway in the action development of tourist attractions of international interest and their supporting infrastructure (5.1.8), but positive results have been achieved in the development of economic indicators and the broader influence (including growth of attractiveness of the region).

EFFICIENCY

In general, the results planned in the allocated budget have been achieved and it is likely that the set objectives will be attained by the end of the period. In one of four actions (5.1.7), resources have been expended and efforts made, but the desired results have not been achieved. The reason for this is that the conditions set initially were too strict and restrictive for entrepreneurs. The conditions were relaxed in late 2019 and the final beneficiary is working to fulfil the objectives of action 5.1.7 by the end of the period. At the same time, it appears this will prove to be a major challenge because compared with the outset, less time and fewer funds are left for the action.

The beneficiaries' primary objectives have centred on expanding their network and the reputation of their company. The supported activities serve these goals, even though it is hard to predict the impact on other indicators (including number of visitors and economic impact) in the short term and attribute it to participation in the activity as a one-off, the development of tourism is an action whose impacts become visible after a delay, and the effects of participating in the action become manifested as a result of consistent follow-up activity by the entrepreneurs. Respondents said that the supported activities improved the quality of the activity (including the quality of events) by way of increasing cooperation with international and local cooperation partners (intermediation of competence and equipment, expansion of network). Without the support, many respondents said that their activity would not have taken place – it would have been smaller in scale (fewer participants, shorter in duration).

RECIPROCAL IMPACT

There are positive and synergistic reciprocal impacts between the tourism development actions, and the actions support one another in developing Estonia as an attractive destination and in developing internationally competitive tourism products and services. There is a positive facilitating impact in regard to many other actions (above all, in Priority Axis 5). To a certain extent, there is a duplicating impact with action 5.4.3 (investments to increase regional competitiveness – job creation), as both actions develop tourist attractions, but there are no direct conflicts with other actions.

SUSTAINABILITY

The objective of the activities meant for developing tourism is to create a network and channel information to entrepreneurs. Thus, the sub-actions provide input for the continuation of long-term results in the company's plan. This however presupposes sustainable follow-up activities on the part of the entrepreneurs (e.g. continuous operation on the same markets, repeated and active participation in the same events). In parallel, beneficiaries recommend contributing to diversifying Estonia's brand for tourism operators, which provides an indirect input in boosting the activity of all tourism companies.

IMPACT

Support meant for developing tourism has had a positive influence on increasing the capability and scope of marketing and raising the quality of events (action 5.1.5), and there is also a positive influence on employment (action 5.1.6) in comparison with companies that did not receive support. Many projects are still underway in the action development of tourist attractions of international interest and their supporting infrastructure (5.1.8), but positive results have been

achieved in the development of economic indicators and the broader influence (including growth of attractiveness of the region).

IMPLEMENTATION SYSTEM

Beneficiaries say that the reporting obligation related to applying for assistance is considerable (there is much reporting and it is complicated and requires additional consultation for many companies). This could also mean that some entrepreneurs who lack the knowledge or possibilities to manage the administrative process of applying for the support may be bypassed. The substantive work with the final beneficiaries is considered by the beneficiaries to be very good – satisfaction with the actions is high. At the same time, beneficiaries are looking for more extensive feedback from the evaluators, which would give them input in the later application process – this is necessary to be competitive with others in applying for the support and to minimise the administrative time outlay that sometimes means companies are left out of the running for support. The tourism development actions have a latency period, so it will be possible to assess more precisely the impact on the supported activities (in the sense of visits and economic impact) only in the long-term perspective.

FUTURE PERSPECTIVE

Beneficiaries see the benefit of the actions as the possibility to introduce their company and create a network. At the same time, this does not necessarily become evident in the growth of the number of visitors (and by that means, economic indicators). In some cases, the potential of the input obtained from supported actions may go unused due to the entrepreneurs' own passivity (success hinges on active communication with the contacts established). Entrepreneurs note that the actions of all tourism operators would be supported by diversification of the Estonian national brand for entrepreneurs' areas of activity, which could be used in individual (marketing) activity to introduce both the individual company and Estonia.

In developing tourism, it will be necessary to take into account the specific nature of the companies in the field and thus important to devote attention to this in the future as well when developing support and services to promote entrepreneurship. If possible, this could be done in the future in a coordinated fashion with other economic sectors with integrated measures that would help reduce the total number of actions and simplify orientation for economic operators in the support system as well as take the companies' needs into account more flexibly.



Action 5.2.1 Issuing insurance for loans, security and export transactions

RELEVANCE

The objective of action 5.2.1 is in conformity with the first objective of Priority Axis 5 of the Operational Programme for EU Cohesion Policy Funding 2014-2020, whereby SMEs are more competitive and their export has increased. The action also supports the objectives of the Estonia 2020 competitiveness plan to increase productivity and increase the relative importance of Estonian export in world trade. The action is indirectly directed at achieving the Estonian Entrepreneurship Growth Strategy 2014-2020 sub-objectives "Estonian entrepreneurs are active exporters" and "Estonian companies efficiently produce products and services with high value added".

One of the measure's output indicators is the growth of employment at supported companies, but this is not a relevant indicator, as companies that contribute to job growth are not given preference when it comes to offering products and services. No starting level and target level were set for the indicator. The indicator will be measured only at the end of the period. At the same time, the intermediate body does not know how the indicator could even be evaluated for the given action, as the information on companies that use loans or sureties is considered a business secret. In addition, it is not possible to directly or unequivocally correlate the growth of employment with a loan or surety and thus the result could only be indirectly associated with the set indicator.

In general, the impact of the action on SMEs' competitiveness or export growth can be seen only years later, as some of the loans and sureties are long-term.

EFFECTIVENESS

The effectiveness of the action by the end of 2018 was lower than planned for both financial and performance indicators. Due to problems and a delay that occurred during implementation, only 25% of the funds were paid out during the evaluated period. The target level of the only output indicator showing the number of companies that received support was reduced by more than threefold during the evaluation period, as it was not possible to foresee the obstacle during the planning phase. The interim target level set for 2018 was attained, however.

After the actions were launched and the target level was reduced, the parties were optimistic that the new objectives will be achieved by the end of the period. Use of the budget by the end of the period depends on demand from the target group and whether products that meet the action's conditions and are acceptable for the target group can be offered. During the period, products can be changed even more or new products may be added, but in this case, it should be considered that it will take quite a long time for them to reach market.

To improve the effectiveness of the action, there must be greater clarity at the European level whether and on what conditions structural funds can be used as financial instruments.

EFFICIENCY

The evaluators did not receive enough data on administrative costs and the volumes of sureties, insurance and loans issued up to this point to be able to conduct a detailed evaluation. As of the end of 2018, the implementation of the action was problematic and it was not possible to offer the developed financial products in the planned volume; the efficiency of the action has been low so far. The supply of one product was terminated at the request of the European Commission, and

the target group and condition of one product was expanded so that it would better meet the needs of SMEs.

The evaluation of the efficiency of the action is also hindered by the fact that neither the budget nor the volumes are set in place, but rather depend on market demand. The more of the budget used up for the action during the period the better. By the end of 2019, approximately 39% of the funds had been used.

RECIPROCAL IMPACT

Action 5.2.1 has a facilitating impact on action 4.2.6 (boosting start-up entrepreneurship), 4.4.1 (identification of development needs and businesses' development activities), 5.1.1 (counselling at county development centres) and 5.1.2 (start-up assistance).

SUSTAINABILITY

To a certain extent, the products offered in this action will last beyond the end of the period, as the loans and sureties repaid will be reinvested into offering the same products. Still, upon discontinuation of the financial instrument, KredEx will not be able to assume the entire risk and there would be a noteworthy impact on SMEs if the products disappeared from the market.

IMPACT

As data on those benefiting from the action are not disclosed publicly due to business secrets, it was not possible to evaluate quantitatively the impact of the action on employment, export and productivity. As the performance and output indicators of the action are below the planned level, the action's broader impact has been lower than expected. At the same time, thanks to the supported activity, it has been possible to deal with increasing companies' awareness of the possibilities for risk mitigation in a more purposeful manner.

The impact on the situation of disabled persons and people of different gender, ethnicity and age in the action will not be monitored or evaluated.

IMPLEMENTATION SYSTEM

The information on the use of financial services, including loans and sureties, is a business secret and the recipients of services or products are not disclosed. Thus, the evaluators were not able to elicit service recipients' assessments of the implementation system or feedback on the impact of the products. On the basis of data from an earlier evaluation, 40% of companies considered the availability of KredEx loans and sureties bad, somewhat bad or lacking, 46% of the companies did not need the services and thus could not assess their availability and 14% of companies considered their availability good or somewhat good. In the opinion of entrepreneurs, the main obstacles for the use of loans and sureties were insufficient collateral; difficulty and/or excessive time outlay for raising additional funds, high interest rates and the company's insufficient economic indicators for obtaining a loan. On the basis of a success report prepared in 2019, the availability of products has improved but demand for them has not increased proportionally.

KredEx also has difficulty assessing total demand for the products, as data are not gathered on this aspect and the bank is often the place where the products are first introduced. The KredEx representative says demand is highest for products that offer a guarantee. The market failure is also the most significant there. Demand for loan products is more modest than initially planned.

In offering products, KredEx sees a need to engage in more cooperation and publicity in banks during the rest of the period in order to better get the message out to the target group about the

products. In the years ahead, KredEx plans to create new products and supplement or change existing products based on market demand.

FUTURE PERSPECTIVE

More financial-instrument-type products should be offered in the future due to a decrease in other types of support, as this is a more sustainable way of supporting companies than irrecoverable aid.

In the opinion of the representative of the intermediate body, there will be demand for similar financial instruments on the market in the future as well. However, offering similar products in the new period will require fewer and more specific guidelines for implementers and it will be necessary to set various requirements and conditions compared with other measures and support.

If activity is continued in future, it would be wise to consider not evaluating applications at the bank and instead letting the final beneficiary take more risks if needed, as these products and services could be of greater benefit for companies that cannot (yet) use aid from commercial banks.



Action 5.2.2 Establishing an early-stage fund to provide venture capital

RELEVANCE
<p>Providing venture capital is one of the objectives of the Estonian Entrepreneurship Growth Strategy 2020 for replacing direct subsidies with this type of financial market service in the future. The goal is also to simultaneously develop the venture market and by offering venture capital, to integrate the provision of a business accelerator service and other related services.</p> <p>The objective of the action is to contribute to the rapid growth and competitiveness of companies on the world market and make venture capital available for companies to finance ambitious higher-risk business projects.</p> <p>The action currently has one output indicator (number of companies using venture capital) and there are no performance indicators.</p>
EFFECTIVENESS
<p>The target level of the output indicator for 2018 was to issue venture capital to 21 companies, and the 2023 target level is 62 companies that have used venture capital. Venture capital began to be provided to companies in 2018 and as of the end of 2018, venture capital had been issued to nine companies, of which five are micro-enterprises. If the provision of venture capital continues at the same pace, it will be possible to attain the target level of the output indicator.</p> <p>At the end of 2018, there were three limited partnerships providing venture capital with initial funding from the ERDF and by the start of 2020, two were left in the AS SmartCap portfolio.</p> <p>The main target group for venture capital is early-phase (tech) companies with high and rapid international growth potential. The growing number and success of start-ups in Estonia was an important consideration in increasing the provision of venture capital. Compared with providing only venture capital, providing venture capital with an accelerator service will likely help start-ups, early-phase and rapid development phase companies reach effectiveness more quickly.</p> <p>Even so, the emergence of partially state-funded venture capital funds on the venture capital market probably resulted in distortion of competition.</p>
EFFICIENCY
<p>A 2016 financing agreement resulted in the creation of a venture capital fund of funds called EstFund, which has 60 million euros in initial capital. The management system of the venture capital-providing funds envisions four disbursements in the current budgetary period pursuant to the volume of venture capital issued so far, which can be considered optimal.</p> <p>Use of venture capital depends on market demand and the general state of the economy. Funds that provide venture capital are governed by private law and operate as limited partnerships (ÜÜ); their transactions are not publicly disclosed. It is therefore not possible to assess whether the existing resources are sufficient to achieve the output indicator's target level.</p>
RECIPROCAL IMPACT
<p>The creation of an early-phase fund of funds for providing venture capital has a positive combined impact with other support and services funded from the ERDF. If a company that raises venture capital uses support and services from other measures, greater benefits can be expected for the company. If a company that uses venture capital is a new or early-stage company, it can apply for start-up assistance (5.1.2) and use the innovation and development vouchers (4.4.2). In 2018, one</p>

limited partnership (Superangel One), in cooperation with Startup Estonia (4.2.6), established a business accelerator called Alpine House; the provision of both venture capital and an accelerator service is listed in the Estonian growth strategy as an objective. Users of venture capital can also participate in trainings intermediated by Enterprise Estonia (5.1.4).

SUSTAINABILITY

Demand for venture capital is impacted by the general state of the economy as well as the availability of other financing instruments (including grants and other state assistance packages and other financial services).

In using venture capital, the company will above all consider how expensive venture capital might prove for the company (compared with other financial services), i.e. the amount of venture capital funding and the reclassification of the company. In addition, the company analyses the potential intervention in company management that venture capital may entail.

IMPACT

The effectiveness/impact of companies that used venture capital cannot be evaluated, as data on the users of venture capital is not made public. An opportunity to use venture capital opened up for companies in 2018, the last year of the evaluation period (2014-2018), and there were nine users of venture capital in that year.

IMPLEMENTATION SYSTEM

The European Commission has delegated administration of venture capital to the European Investment Fund (EIF). Under a financing agreement, the European Investment Fund, KredEx and the Ministry of Economic Affairs and Communications created a venture capital fund of funds called EstFund, which has 60 million euros in initial capital. Based on the agreement, the venture capital is managed by the subsidiary of KredEx, AS SmartCap. AS SmartCap is in turn the manager of the state venture capital fund Early Fund II. Early Fund II invested into three venture capital funds: UÜ United Angels Co-Investment Fund I, agreement concluded in late 2017; UÜ Tera Ventures Fund II, agreement concluded in mid-2018; UÜ Equiti United PE I, agreement concluded in mid-2018; the last of these is no longer part of the AS SmartCap portfolio as of 2020.

All venture capital funds have the obligation to raise private capital.

The implementation scheme levels are reduced and are probably optimal in the case of provision of state venture capital if this is done directly from the AS SmartCap managed state venture capital fund, Early Fund II. This would allow the conditions for providing risk capital to be changed flexibly, pursuant to the state of the economy (and market situation).

FUTURE PERSPECTIVE

Some entrepreneurs consider the most correct route to be providing venture capital (and other financial services) instead of support, as this ensures more equal competition between companies. Even so, it is generally presumed that venture capital (and other financial measures) with initial state funding would be more cost-effective compared with completely private venture capital.

A very important factor in the use of venture capital is the state of the economy and future outlook, which in the case of a downturn will generally decrease demand for private venture capital; a general drop in total demand was accompanied by a decrease in demand for (private) venture capital during the last recession (2008-2009).



Actions 5.3.1-5.3.7

The general objective of measure 5.3 is to promote closer engagement between the cultural sector and business. Measure 5.3 includes seven actions:

- development of creative industries incubation (5.3.1)
- development of support structures for creative industries (5.3.2)
- development of export capacity of companies active in creative industries (5.3.3)
- linking creative industries with other sectors (small-scale projects) (5.3.4)
- linking creative industries with other sectors (large-scale projects) (5.3.5)
- raising awareness of creative industries (5.3.6)
- development of creative industries infrastructure and technological capacity (5.3.7)

As the actions are have strong interconnections, they have been given an overall assessment.

RELEVANCE
<p>The objective of measure 5.3 is in conformity with the objectives of the competitiveness plan and the Estonian Entrepreneurship Growth Strategy, contributing to the creation of a competitive environment by growing entrepreneurship, export capability and the added value of products/services. The objective of the measure is in conformity with the objectives of the sectoral development plans (“Development plan for the Ministry of Culture’s area of administration up 2019-2022” and “Basic principles of cultural policy up to 2020”) – it integrates the creative industries with other sectors and increases the economic capability of creative industries.</p> <p>The actions support the achievement of the general objective of the creative industries development measure 5.3.</p> <p>The funded projects are in conformity with the measure’s objective. The cooperation projects implemented at Enterprise Estonia’s own initiative are consistent with the objective but encompassed only individual creative industries fields (design, architecture).</p> <p>The output indicators for actions in the creative industries development measure are in conformity with the measure’s objective and are relevant. The wording of the output indicator for action 5.3.1 could be corrected (instead of “Number of new companies receiving support”, “Number of new companies receiving non-monetary assistance”). In its current form, it refers to monetary support, which is something that the beneficiaries do not receive under this action. A shortcoming of the output indicator for action 5.3.7 (“Number of new companies receiving non-monetary assistance”) is its somewhat narrow interpretation in regard to solely the scale of the project.</p> <p>The outputs, outcomes and impact expected from the actions are interconnected, yet manifestation of the impact of the actions is a long-term process.</p>
EFFECTIVENESS
<p>Implementation of the creative industries development measure has predominantly taken place successfully. Thresholds for the output indicators set for 2018 have been achieved in Development of creative industries incubation (5.3.1), Development of support structures for creative industries (5.3.2), Linking creative industries with other sectors (large-scale projects) (5.3.5) and Raising awareness of creative industries (5.3.6). Small-scale projects between creative industries companies and businesses in other sectors did not launch in the expected manner. This action was ended in late 2018, and the unused funds were channelled into other actions. It is still too early to</p>

assess the effectiveness of the development of creative industries infrastructure and technological capacity action. The first call opened later than for the other actions and involved large investments, which in most cases will be ready by the end of 2020 or later.

The creative industries incubation development actions have allowed the operating incubation centres and accelerators to increase their competences, bring in foreign experts and develop a format of services suited to the target group's needs. The action has promoted the inception of new accelerators and has helped to create ecosystems suitable for the sector and thereby increased Estonia's international reputation. The incubators and accelerators that have received support have in turn enabled the creative industries (beneficiaries) taking part in the action to develop; carry out planned activities and consolidate. Premises for performing work and sale of products have been made possible. According to the interviewed centre representatives, the interest among new and early-stage creative industries and the range of beneficiaries have been increased through the supported activities, as the actions and the experts involved are attractive to the companies, and the services are partly subsidised by the state. The surveyed beneficiaries who participated in the incubation and accelerator activities considered the services necessary for the most part and highlighted the competence and professionalism of the mentors. Participation in an incubation/accelerator has been like a springboard, helping the new and early-stage companies pass through various growth phases faster and more painlessly and develop their product/service, ultimately making them commercially viable.

The support for creative industries support structures has been instrumental in allowing the development centres to exist as centres, as the support has been the main income source for the centres. At the same time, the support has also had an influence in shaping the organisation – employees were recruited, competences were raised, the capability for offering services to a larger number of beneficiaries grew, new services were launched and piloted. The development centres have used the support to expand the local and international network and offered different development and export programmes, seminars and joint projects to the target group. The actions have contributed to the development of the field and promoted cooperation primarily within the sector and to a certain extent above the sectoral level as well. The representatives of the support structures noted a positive shift in the growth of beneficiaries' export capability and the share of exporting companies, which is associated precisely with outbound activities. Through the supported activities, the extent of the international network has expanded to nearby countries in Scandinavia and Europe (Finland, Germany, France) and to locations of internationally known galleries (such as in New York, London, Berlin). Feedback from the beneficiaries of the development centres made frequent mention of the increased network of partners, growth of knowledge in the field of enterprise and export and improvement in product and service quality. In the best success stories, the supported actions culminated in the conclusion of agreements between beneficiaries and an international corporation or agent. The interviewed beneficiaries considered valuable the experience they gained from participation at trade fairs under the aegis of the development centres. They said that their own funds would not have been enough to participate in the trade fairs; the thresholds for creative industries export support were not considered affordable.

The projects under 5.3.3 have increased the export capability of the creative industries sector. According to nearly all of the survey respondents (91%), the project helped increase their company's competitiveness, and in the opinion of more than half, it helped to increase turnover (77%), value added (60%) and profit (57%). Export turnover increased in the case of an average of

one in two respondents who exported finished products or services. A total of 68% of the companies used the support for launching export and 85% used it to export to new destination markets. A total of 40 different countries were named as new export destinations added as a result of the support, with Germany, Finland, the US and France mentioned most often.

Cooperation mainly takes place between creative industries and to a certain extent with companies with other sectors, cooperation in the R&D activity field is scant and cooperation with local governments is merely at a formal level. In many cases, cooperation within the field has taken place at an international level (e.g. practical training and internship programmes abroad, study trips, festival and conference visits, prestigious and competent foreign consultants). In particular, accelerators and sectoral development centres (design, architecture, audiovisual) have created synergy with other fields, skilfully uniting creativity, technology and industry. The final beneficiary has had a key role in initiating intersectoral cooperation projects. During the period 2014-2018, Enterprise Estonia initiated three large-scale projects (Disainibuldooser, PuitAit, The CEA eGovernance). The projects have been successful and necessary initiatives in the eyes of the beneficiaries, yet the fact that the range of beneficiaries in creative industries was limited solely to design, architecture and content creation businesses can be considered a shortcoming.

EFFICIENCY

Based on the measure's budget, the ERDF funds used and the outcomes achieved, it is likely that the forecasts for the output indicators of actions 5.3.1-5.3.3 and 5.3.5-5.3.7 will be fulfilled during this funding period.

The representatives of the support structures supported say that there have been enough funds for reaching the results set out in their project applications. A positive aspect is that the limited funds have forced applicants to think through their activities very carefully, yet on the other hand, this has also caused support recipients to skip many activities and carry out only the minimum programme. For example, it has not been possible to recruit enough mentors or the limited budget has kept beneficiaries from being able to channel the desired amount of funding into their own activities. The interviewees consider the actions related to attending foreign trade fairs very costly – to achieve sufficient impact, they would have to visit to trade fairs consistently (i.e. many years at the same fair). Thus, the amount of support, one-time cash injections in the form of supported projects and the low financial capability of the target group kept support recipients from setting more ambitious objectives and attaining better results.

In the opinion of the support recipients, the timeframe was generally considered sufficient for implementing project activities and fulfilling objectives. In some cases, it was found that two years was too short a time for a new company/brand to enter a new market.

As a result of the survey conducted among recipients of support under action 5.3.3, the project objective was fulfilled in 69% of cases. In one-fifth of the cases, the project objective was not fulfilled and 11% of respondents said they were unable to assess the attainment of objectives. Of the respondents, 71% said the funds allocated as support were sufficient to achieve the objectives and one-fifth said the amount of support was insufficient. It was noted that entering export markets was a years-long, constant process and if sources of funding other than the support could not be found, the process would be left unfinished or the desired result would not be achieved. The intermediate body and final beneficiary said recipients of the export support at the start of the period included companies who were not in a development phase and at a growth potential to be able to come up with the necessary amount of their own funding in addition to the support.

The change introduced in the measure regulation in 2016 on the level of the recipient's annual revenue allowed the support to be focused on the right target group (companies with growth potential).

Of the respondents who received support under action 5.3.3, 60% said that the time for using the support for export development was sufficient, while one-third said there should have been more time. A longer period would have allowed for more time to prepare the actions and more sustainable activity. Cultural and national aspects were also noted in responses – gaining trust in some countries takes significantly more time. A change introduced in the regulation in 2018 extended the eligibility period for action 5.3.3 from 12 months to 24 months.

RECIPROCAL IMPACT

As the general objective of the measure was to integrate the potential of the creative industries with enterprise, the measure has a positive facilitating and synergistic impact on other business and innovation actions: the smart specialisation growth area development measure (action 4.2.6 Boosting start-up entrepreneurship); the measure for promoting growth of entrepreneurship (action 5.1.2 Start-up assistance and action 5.1.4 Business awareness); the regional competitiveness measure (action 5.4.2 Regional initiatives to promote employment and entrepreneurship and action 5.4.3 Investments to increase regional competitiveness (job creation)).

A duplicating reciprocal impact can be noted with the measure for promoting growth of entrepreneurship (action 5.1.1 Counselling at county development centres and 5.1.3 Export development) and the smart specialisation growth area measure (action 4.2.6 Boosting start-up entrepreneurship).

The actions under the creative industries development measure have a positive synergistic impact on each other. The actions in the measure are logically structured and make up an integral whole. The measure has seven activity areas, the benefits of which are aimed at companies operating in creative industries and related fields and which are in different development phases. The actions are multifaceted and aimed through three intervention methods at individual applicants, creative industries support structures and entrepreneurship support structures.

In Priority Axis 5, it is mainly the creative industries development actions that complement other measures. To a certain extent, the services offered by the county development centres and Enterprise Estonia duplicate the services offered by creative industries support structures (development and mentor programmes, counselling services, various training courses, joint visits to trade fairs, etc.). At the same time, the Enterprise Estonia services have a broader spectrum and are meant to supplement or leverage support structures' services. The connection with the regional competitiveness measure is weak or incidental under the current conditions. Although creative industries development actions help in all respects the growth of SMEs and exports, they do not purposefully promote the growth of economic activity in rural areas.

SUSTAINABILITY

As a major emphasis in the funded projects has been placed on substantive activities and building networks, in most cases, the outcomes will continue to last after the end of the projects. The awareness and ambitions of creative industries have grown. Capability of and means for implementing the activities are the main shortcomings.

The centres themselves rate their capability higher; they know the needs of companies in their field and are capable of supporting them. Projects have often provided a boost for new activities. New support has been sought for carrying out these projects, although they have not always received funding. The representatives of the support structures consider it regrettable that the evaluation methodology does not take into account the fact that the actions have been successful and maintain continuity. All of the representatives of support structures interviewed say that the current predominantly project-based funding scheme is not sustainable. For the support structures, use of structural funds support means that the activities are supported over a limited time period (up to 24 months). The limited financial capability of the recipients and heavy dependency on project-based funding often leads to a lack of funds for continuing the activities once the funding ends. If alternative cover is not found to replace the support, the activities are halted – the continuity of the activities is cut off and the organisation's activities suffer. The intermediate body sees one solution to this in providing stage-by-stage funding for longer-term development projects, i.e. an action plan is drawn up for every year and as long as the conditions are met by the support recipient, the funding continues. In this manner, the continuity of activities is ensured over a longer period and support is no longer distributed in a fragmented manner; on the other hand, the number of recipients is highly likely to decrease.

According to the representatives of support structures, they would not have carried out activities without state support. The centres lacked their own funds to do so and creative industries companies, especially new ones, would not have been able to afford the full price of the services. The survey conducted among recipients of support under action 5.3.3 revealed that 63% would have carried out the activities even in the absence of support. It cannot be confirmed that such a large percentage of respondents indicates that projects are having a deadweight effect, as the respondents mainly said that the actions would have been realised over a significantly longer period, and in some cases in a smaller volume with certain caveats. Most of the companies (92%) have continued the activities for which the support was applied for even after the support ended. Eighty per cent of the companies are continuing activities from their own funds, 9% have received new support and 3% are continuing activities using loans or other means. Three of the 35 respondents did not continue the activities started with the support and one of the companies was dissolved.

The impact of the reduction of support on support structures depends on the extent to which the institutions are supported from the state or local government budget or the extent of their own revenue. Already now, being deprived of funding has forced centres to lay off personnel and forgo certain activities, but there are also organisations that have wound up their activities in Estonia for this reason. The decrease in support has some impact on creative industries, too, that have benefited from the services provided by development centres in the past or are potential future beneficiaries. A risk is seen for activities pertaining to the internationalisation of creative industries and export in particular. A positive impact on the decrease in support can be considered the fact that only the strongest and most adaptable centres and creative industries will survive.

IMPACT

In the course of quantitative analysis, the impact of the support on all central objectives was evaluated (e.g. productivity, export, employment). A statistical positive impact of the support on companies' productivity became apparent from actions 5.3.1, 5.3.3 and 5.3.5. In the case of the first two, value added per employee grew, and in the case of 5.3.5, turnover per employee. The growth of value added per employee in 5.3.1 was an average of 2.8-fold. It could also be seen that

in actions with a positive impact on workforce productivity, there was also a positive impact on the capitalisation of the company (share of equity capital in total assets).

The impact assessments regarding companies' export activity were conflicting: the impact on export income per employee was negative but the impact on export intensity was positive (the reason for this may have been the fact that the negative impact on export per employee was impacted by the results for individual companies).

Impact on employment was not an objective of the creative industries development measure. The results of the analysis also show that the support did not have a noteworthy impact on the number of employees.

As a result of the evaluation, it can be said that cooperation in the field of R&D activity has been low. Although support for activities led to opportunities for cooperation with R&D institutes in the area of product development in a few cases (e.g. components of natural cosmetics, safe assemblies), they are the exception, where the need is project-based and has emerged in the course of activities. A total of 26% of the companies that received export development support (n=35) said they had launched or continued R&D using the support.

IMPLEMENTATION SYSTEM

All of the parties interviewed in the study (representatives of support structures, creative industries, intermediate body and final beneficiary) consider support for the creative industries as a separate measure to be very positive and effective. It has allowed the activities to be implemented systematically and in a broad-based manner.

Positive aspects mentioned in the course of the evaluation:

- applying for the support generally does not exceed the means of the company and is optimally structured; the experience is positive. The application process was considered complicated more by the creative industries that applied for export development support
- the self-financing rate is within the means for the majority. Accelerators said it was an obstacle (there are other accelerators on the market that impose no self-financing minimum)
- there is enough information on the measures and it is easily available
- application for export support on a rolling basis, which allows the support to be applied for based on needs
- intervention methods are logically connected to the actions, support is aimed at both creative industries and support structures
- the final beneficiary has been supportive, understanding and assistive in the process of application, carrying out activities and reporting. This does not mean that the applicants had no problems at all or that they were satisfied with the solutions; it is more that they understand the shortcomings that stem from the system

Problem areas mentioned in the course of the evaluation:

- the system does not fit well with the specifics and potential of all sub-fields. This problem came up when applying for export support for sectoral support structures and creative industries
- the system requires very broad-based goals to be set, as opposed to focusing on regional development activity. This problem came up when applying for regional support structures

- the system did not favour sustainability of the projects. If the applicant had previously successfully carried out the same kinds of activities and demand remains strong for activities, the project receives a lower score because it lacks innovativeness
- it is hard to plan activities in a changing environment where the funding and timeframe are limited. This problem came up when applying for support for long-term, large-scale infrastructure and information technology development projects and export support for creative industries
- when evaluating applications and reports, the sector's specific characteristics should be the basis, with more experts included on committees who would be able to point to inconsistencies in the application or on the positive side, who would understand the potential in the company's profile, the importance of the planned activities and rationale for the expenses. This problem came up when applying for export support for sectoral support structures and creative industries
- too little feedback regarding applications. There is a desire for more substantive feedback, including for companies that have received a positive funding decision. In the case of doubt or upon being denied funding, companies want more dialogue and the possibility to explain the costs. This problem came up in the case of several projects
- the time at which the support was received and the planning of cash flows. The delay between carrying out activities and the receipt of support is up to half a year. There are situations where making payments has been delayed even more due to problems on the state IT infrastructure end. The conditions for granting support allow support to be pre-paid in justified cases but applying for it is time-consuming and requires a guarantee from a credit institution, which is practically unavailable. This problem came up in the case of infrastructure development projects, new and early-stage incubators and accelerators and institutions where the budget is mainly project-based
- the restrictive criteria for eligible expenses and the re-evaluation of previous decisions during the project as a result of follow-up audits. This problem came up in the case of several projects
- duration of proceedings, reporting, need for evidence and volume of meetings, which means additional work for the institutions' active personnel and not just for the project manager. Above all, recipients expect the main emphasis in processing reports to be on the evaluation of the substance of the activities, rather than checking whether every cent is properly accounted for in the costs. This problem came up in the case of several projects

FUTURE PERSPECTIVE

The representatives of creative industries and support structures said that in distributing support in future, there would have to be greater consideration of the specifics and potential of the entrepreneurs in the sector and more flexibility in setting objectives for the support and use of the support. The intermediate body says an alternative method of funding is conceivable but requires the support recipient to be ready to assume the entire risk (i.e. if the objectives are not fulfilled by the recipient themselves, the support must be repaid in full).

A number of centres expressed their readiness and desire to take part in international projects and programmes but said that there were not enough own funds and alternative financial instruments for this. Bridge financing, loans and guarantees would be the mechanisms that allow centres to increase their international reach.

A large share of the interviewees surveyed said that the creative industries should provide for a continued opportunity to apply for support separately from other sectors. There were fewer respondents (mainly business clients) who said that separating the creative industries was not

expedient and who preferred promoting integration across all fields. The intermediate body felt that progress was being made in the period underway in the direction of horizontal support schemes and that sector-based support was decreasing. This evaluation also showed that it would be expedient to consider moving some actions (such as creative industries export capability, development of knowledge and skills) to general, more comprehensive measures open to all sectors. This would reduce the duplication of actions (including administration expenses for the support) and make it easier to orient in the support system. Preliminary counselling by a qualified consultant should be provided to companies applying for support to help them determine whether the various support and supported activities are suitable and find the support or instrument most suitable for the company's needs and development stage. Integrating the creative industries sector with other economic sectors will require concerted and systemic activities to be continued in the next period. The potential is high but underused – as the 2014-2020 period has shown, the projects have been successful but they were initiated by the final beneficiary (or sectoral development centres) with practically no initiative from the companies themselves. At the same time, certain activities and intervention methods, such as the development of support structures (incubation and development centres together or as a separate action, development of infrastructure), are best kept sector-specific because the culture and creative industries sector has specific needs and market failures, which has also been shown by the experience from the 2014-2020 structural funds budget period. It is important that there be no interruption of continuity and the effective support network which has been the object of investment in the previous and current budgetary period.

Most centres say that their funding model would become more stable and sustainable in the future and they see activity-based funding playing a major role. They believe that project-based funding should remain in place in the future only for carrying out innovative development projects, which would give centres the possibility to experiment more boldly with new ideas without the operation of the entire centre being placed in jeopardy as a result. The interviews revealed that the centres' budgets have very different structures – sectoral development centres receive activity support from the state and some regional centres receive support from the local government, and the capability of the centres to earn their own funds is also very different. Such situation puts the applicants for support in a very unequal position not only from the standpoint of carrying out the projects, but also from the aspect of the functioning of the centre. Unfortunately, the broader impacts must be taken into consideration here, i.e. being deprived of support means inequality for the companies in the region or sector. On the other hand, it is understandable that in conditions of limited support resources, it is hard to ensure support for all sectors and regions. In the new budgetary period, where support will decrease, even less support will be available for activities, or the self-financing rate will have to be increased. In light of this, a greater focus must be placed on the period about to start on raising the economic capability of the support structures, growing strategic management and ensuring territorial uniformity.

**Actions 5.4.1-5.4.4**

Estonian regional development is supported by the actions of measure 5.4 for strengthening regional competitiveness, the general objective of which is to increase employment and entrepreneurial activity outside the Tallinn and Tartu urban areas. The support allocated under the measure covers contributions to the objectives of four actions:

- 1) Developing regional competence centres (5.4.1)
- 2) Regional initiatives to promote employment and entrepreneurship (5.4.2)
- 3) Investments to increase regional competitiveness (job creation) (5.4.3)
- 4) Investments to increase regional competitiveness (improving the availability of jobs and services) (5.4.4)

A total of 209 projects with a combined budget of 158,169,495 euros were funded from the measure in 2018, with a total of 131,670,104 euros in support allocated.

RELEVANCE

In measure 5.4, conformity to the strategic objectives of the Estonian regional development and regional business environment and the objectives of the implementation plans was evaluated. The main objective of measure 5.4 – growth of employment and entrepreneurship activity outside the capital region and Tartu urban areas – directly supports two main objectives of the Competitiveness Plan (on which the Operational Programme for Cohesion Funds is based): 1) to raise the employment rate among 20-64-year-olds to 72% by 2015 and 76% by 2020, and 2) to raise productivity per employee to 73% of the EU average by 2015 and 80% by 2020, with a sub-objective to raise the level of R&D investments to 3% of GDP. This also conforms to the sub-objective of the Estonian Entrepreneurship Growth Strategy 2014-2020 to increase entrepreneurship among Estonian inhabitants and the ambitions of companies.

The main objective of measure 5.4 contributes directly to fulfilling the general objective of the Estonian regional development strategy 2014-2020 – to shape, in given regions, an integral living and business environment that promotes competitiveness and that also supports the sectoral objective of the Estonia 2020 competitiveness plan to reduce the long-term unemployment level to 2.5%.

The objective of action 5.4.1 – to develop strong regional competence centres based on regional development prospects – supports the objective of making more skilful use of region-specific resources in the regional development strategy; the objective of action 5.4.2 is in conformity with the broader objectives of the regional development strategy; the objective of 5.4.3 contributes to the regional development strategy's goal of developing an integral living and business environment that promotes competitiveness and making more skilful use of region-specific resources; the objective of 5.4.4 contributes to the regional development strategy's goal of developing an integral living and business environment that promotes competitiveness and making more skilful use of region-specific resources as well as the objective of ensuring stronger cohesion and development capability of the regions.

The relevance of the supported projects was evaluated on the basis of the purposefulness and desired outcomes of the actions.

In the case of action 5.4.1, the basis was the objectives of the competence centres. The evaluation found that all supported projects conformed to the objectives. The evaluation of the purposefulness of the projects in action 5.4.2 was based on the growth of entrepreneurial activity and employment and contribution to business awareness among the (county's) youth. It was found that the projects were predominantly in line with the measure's objectives. In the case of action 5.4.3, the basis for the evaluation was the contribution to the growth of employment. Of the projects supported under 5.4.3, it was found that 46% were in conformity with the objective, 31% were only slightly in conformity with the objective and 23% were to some degree non-conformant with the objective. In the case of action 5.4.4, the basis for the evaluation was the contribution to improving the availability of jobs and/or services. The evaluation found that 65% of the projects in the action conformed to the objective and 35% conformed only partially.

The relevance of the output indicators was assessed on the basis of their comprehensibility, logic, measurability and suitability using the scale: relevant, somewhat relevant, not very relevant.⁵ The relevant indicators of the actions in measure 5.4 are "Number of companies that received non-monetary assistance" (TR) (the weakness of this indicator was related to defining the companies that receive assistance, as participation of the company in the actions has very different weight) (5.4.1), "Number of companies that participated in and obtained benefits from the actions" (although it is problematic to define companies that benefited due to different participation) (5.4.2) and "Number of educational institutions that participated in the action" (5.4.2). The indicator "Growth of employment in supported companies", which is a performance indicator, tends to not be relevant as action 5.4.1 is not used to hire people. In the case of companies that received non-monetary assistance, the impact of assistance on the growth of employment is often indirect (5.4.3). The indicator "Number of clients who use the services of regional competence centres" (5.4.1), which is more of a performance indicator, tends to not be relevant as funds are not received from the measure for providing services and it is the outcome of competence previously built up. In the same way, the indicator "Number of companies that received non-monetary support" (TR) (5.4.3) tends to not be relevant as an output indicator. If only the companies that received funding were measured, then it would be an output indicator. The indicator "Growth of employment in companies that received support (full-time equivalent)" (TR) tends to not be relevant as it is a performance indicator and it is hard to assess indirect job creation (5.4.3). The indicator "Number of problem areas resolved in regard to connection possibilities in operating areas" is partially relevant but it needs to be specified what is ultimately being measured, i.e. how a "problem area" is defined. The performance indicator for measure 5.4, "Growth of GDP created outside Harju and Tartu counties by 0.3 percentage points of Estonian GDP" is more of an impact indicator. It is also hard to determine the causal connection between the supported activities and regional GDP growth (deadweight effect).

The outputs, outcomes and impact of the actions in measure 5.4 are not clearly and logically interlinked. There is no systemic nature to the indicators, as impact indicators are not defined. The performance indicator is also more of an impact indicator (see the table in the appendix). It should be considered that this is largely due to the fact that the European Commission framework and the definitions provided therein must be followed for setting the indicators.

Action 5.4.1 generally takes into account the needs and possibilities of social groups based on competence (e.g. the activities of the Competence Centre in Health Promotion and Rehabilitation). In addition, other competence centres have also carried out activities that support the coping needs

⁵ See also the illustrative logic of system of indicators in the appendix to the final report (separate document).

of older people. Action 5.4.2 develops youth entrepreneurship and preconditions for hiring people with lower work ability. The support programmes contain activities that take into account the needs and possibilities of young people (93% of the programmes), people with lower work ability (33%), older people (13%) and minorities (13%). The programmes do not include special activities aimed at women, but development of entrepreneurship among women is often supported indirectly, such as by training courses geared to the participants' profile. Many support programmes also include sector activities that primarily tie in with the areas of enterprise preferred by women (such as childcare etc.). Action 5.4.3 takes into account the implementation of inclusive (universal) design principles for social groups' needs, and action 5.4.4 creates possibilities for connecting children, older people and the disabled.

EFFECTIVENESS

The interim evaluation of effectiveness is based on the status as at 31 December 2018. Action 5.4.1 supports 11 projects in progress with a total of 3,988,555 euros. Action 5.4.2 has 32 ended projects (€2,514,630) and 38 projects still in progress (€2,964,153). Action 5.4.3 has 23 ended projects (€13,390,663) and 82 projects still in progress (€93,107,311). Action 5.4.4 has six pedestrian/bike paths and one public transport terminal construction (€5,256,064). A total of 14 pedestrian/bike paths and two public transport system developments are underway (€10,448,728).

Attainment levels of output indicators in measure 5.4 (%) (31 December 2018)⁶

Measure	Output indicator	Fulfilment of the objective set in the regulation (%) ⁷	Fulfilment of the objective set in projects ended (%)	Fulfilment of objectives set in projects in progress (%)
5.4.1	Number of companies receiving non-monetary assistance (TR).	100 (80)	-	70
	Growth in employment in companies that received support (full-time equivalent)	16 [29] ⁸	-	27
5.4.2	Number of companies that participated in and obtained benefits from actions	100	100	94
	Number of educational institutions that participated in the action	100	100	100
5.4.3	Number of companies that received non-monetary support (TR)	100 (79)	100	28
	Growth in employment in companies that received support (full-time equivalent)	26 (27)	34	3
5.4.4	Number of problem areas resolved in regard to connection possibilities in operating areas	100 (78)	93	54

Evaluating effectiveness on the basis of 2018 interim objectives, we see that the supported projects in three areas of activity were effective. Action 5.4.3 has not been sufficiently effective.⁹

⁶ Fulfilment of the projects' objectives was assessed on the basis of the reported results.

⁷ In brackets: Rate of fulfilment (%) of the new target level specified in the Government of the Republic Order No. 83 **93** (19 March 2020).

⁸ In square brackets: Rate of fulfilment (%) of the new target level specified in the regulation amended in 2019.

⁹ The interim objectives were evaluated on the basis of target levels in the list of measures.

All of the projects in the competence centres action (5.4.1) are still underway. The employment objective has (thus far) been achieved in two out of 11 projects (5.4.1) and the objectives of assisting companies have been fulfilled in four projects (5.4.1) and not fulfilled in seven projects (5.4.1). In ended projects in the county support programme action, the objective was 41% unfulfilled with regard to companies that benefited and 17% unfulfilled with regard to participating educational institutions. In projects in progress, the objective of companies that benefited is unfulfilled in 47% of projects, and in regard to participating educational institutions, unfulfilled in 35% of projects. In the employment area of the investments action (5.4.3), the objective of companies that benefited is unfulfilled in the case of 17% of projects, and the objective of employment growth is unfulfilled in 70% of projects. In projects in progress, the objective of companies that benefited is unfulfilled in the case of 83% of projects, and in regard to employment growth, unfulfilled in 94% of projects. In the availability of services and jobs action (5.4.4), the objective is unfulfilled in one ended project and in 56% of projects in progress. To sum up, it can be noted that at the project level, effectiveness is somewhat low in the case of ended projects in actions 5.4.2 and 5.4.3.

Action 5.4.1 requires the fulfilment of five central functions at supported competence centres. Support for knowledge-intensive enterprise takes place above all at the Kuressaare and Põlevkivi competence centre; elsewhere it tends to be weak. All competence centres channel knowledge into regional companies, but this is often not realised in developments; rather, it is limited to the use of equipment, analyses and counselling. The competence centres' support in launching high value-added innovations at the companies of the region has thus far tended to be limited. The competence centres offer companies services, participation in projects and information on development possibilities. The entrepreneurs' assessment of the competence centres' activities/services is moderately positive: the quality of services is considered good and there is preparedness to participate in the competence centres' activities in the future as well and/or use the (paid) services of the centres. Developing cooperation between companies, networking of companies is considerable at the Kuressaare and Väimela competence centres and limited elsewhere. Cooperation between R&D and public sector institutions has not yet been all that efficient. The significant obstacles are the fact that the Estonian R&D system is centred on fundamental research, universities' low interest in RDI activities at competence centres and the scant (financial) capacity and motivation in companies (interviews and expert knowledge).

The county development centres that received support would have carried out all of their activities (5.4.2) even without support, albeit on a smaller scale. They would have made cuts to youth-oriented programmes in particular. There would have been problems with other activities as well. If the companies had been required to come up with more of their own funding, the small businesses would not have been capable or motivated to do so. The level of contribution and capacity of local governments are quite different, too. In the absence of the support, the activities in the employment growth area of the investments would have been carried out in full by around 50% of companies, and in part by 35% of the supported companies. In the absence of the support, the activities in the availability of jobs and services area of the investments would have been carried out in full by around 10% of companies, and in part by 50% of the supported companies. Thirty per cent of the support recipients would not have built pedestrian/bike paths and 10% could not say whether the activities would have been carried out. The importance of the support for developing infrastructure projects is very great for companies, and they would not have carried out these actions even in part without the support. The local governments, foundations and non-profits would predominantly have carried out activities only partially.

EFFICIENCY

Assessed by the attainment percentages of the objectives' target levels and the percentage of the funds used, the funds allocated to the actions in measure 5.4 have been sufficient for fulfilling the objectives. Taking into account the set interim objectives and the fulfilment of forecasts for the projects ended and in progress, it can be said that the resources allocated to actions 5.4.2 and 5.4.4. are sufficient for fulfilling the objectives. The funds allocated for action 5.4.1 are somewhat sufficient for fulfilling the objectives. The funds allocated for action 5.4.3 are likely sufficient for fulfilling the objectives. Due to the logic of action (5.4.3) and the projects, not all results can be evaluated in regard to the employment objective immediately after the end of the project.

The likelihood of achieving the employment objectives set out in the regulations for measure 5.4 tends to be moderate. The other objectives set out in the regulations have been fulfilled. The fulfilment of the new objectives set out in the Government of the Republic Order No. 83 of 19 March 2020 is also moderate regarding employment (actions 5.4.1 and 5.4.3).¹⁰ Fulfilling the forecasted employment objectives for projects/activities is less likely. Effectiveness varies in the case of other (forecasted) objectives. The projects under action 5.4.1 are all still in progress.

The representatives of competence centres (action 5.4.1) consider the state funding for the centres' activities to generally be sufficient. In the opinion of some of the development centres' representatives, the support in action 5.4.2 could be twice as large. At the same time, some feel that the support in action 5.4.2 should be increased in regions that lack specialised programmes (Ida-Viru County and south-eastern Estonia). The funds in action 5.4.3 are considered sufficient by 74% of respondents, 11% say they are insufficient and 15% could not say. In the opinion of 78% of respondents, the funds are sufficient for achieving the objective of the projects in action 5.4.4, while around 10% were confident that they would not be sufficient.

RECIPROCAL IMPACT

The actions in measure 5.4 contribute to fulfilling the general objective of the measure – increasing regional competitiveness. The actions of measure 5.4 are complementary with other measures, primarily those of Priority Axes 4 and 5 (see chapter 8.7 of the appendix). Action 5.4.1 – regional competence centres – have a positive reciprocal impact with a number of other actions (e.g. 4.2.3, 4.4.1, 5.1.2) and synergy with others (e.g. 4.1.1, 4.1.2, 4.1.4). Action 5.4.2 (Regional initiatives to promote employment and entrepreneurship) also has a noteworthy positive reciprocal impact with a number of other actions, as the county support programmes being carried out are aimed at, besides the thematic emphases, improving the general regional business environment. The incubation and product development area of action 5.4.3 contributes to identifying the companies' development needs, supporting the companies' development activities (4.4.1), developing creative industries incubation (5.3.1) and developing initiatives to promote regional employment and entrepreneurship (above all, activities in support programmes for developing tourism and public relations and industrial areas). The actions have a reciprocal impact on effectiveness in the case of support for clusters (4.2.4) and support for start-ups (4.2.6). The actions also have synergy with the development centres' counselling activities (5.1.1) and developing companies supported with the start-up support (including export development action 5.1.3) (5.1.2). Positive synergy can also be seen with the tourism sector support actions (via the tourist site infrastructure and tourist product development area), above all by developing tourism product development management and tourist operators' business models. Action 5.4.4 has a mainly neutral reciprocal impact in regard to other

¹⁰ Government of the Republic Order, "Approval of 'List of structural support measures for the 2014-2020 period'", <https://www.strukturifondid.ee/et/oigusaktid/meetmete-nimekiri>

measures being evaluated. The potential negative reciprocal impact with other measures in action 5.4 depends mainly on the quality with which the activities are carried out.

The actions in measure 5.4 are not integrated or systemically integrated with each other. At the same time, the actions potentially have connections to each other at the strategic level. For example, the support programmes in the tourism sector (5.4.2) and infrastructure developments in the tourism sector (5.4.3). The actions in measure 5.4 do not duplicate each other, although some overlaps can be found with rural development measures. The four areas of action 5.4.3 are weakly interlinked.

In measure 5.4, it would be possible to merge infrastructure actions 5.4.3 and 5.4.4. For example, 5.4.4 could be added to the actions of 5.4.3 as an area. The expedience of such a reshuffle will depend largely on which themes will be the focus of both actions (whether support for public transport systems will become a priority etc.). The emphases of the themes can be changed in action 5.4.3. More attention should be paid to themes that have not received as much support.

SUSTAINABILITY

All of the heads of the competence centres feel that the centres will continue to exist after the end of the support (action 5.4.1) but say that actions will be pared back. The functioning of competence centres would be ensured by cutting costs, obtaining more support from partners, increasing service revenue and procuring additional projects. The heads of the competence centres say that the state support for offering development activity and vital services could be preserved in the future. After state support ends, the problems for the competence centres would be recruiting employees, bringing in new knowledge and a dramatic cutback in the volume of development activity. Stronger integration with universities is important – without this, the competence centres would have limited possibilities for development. In 2018, the support under action 5.4.1 made up an average of 52% of the budget of the competence centres. During the period 2016-2018 (comparison between 2016 and 2018), that percentage dropped by approximately 15%.

The participants in action 5.4.2 have, after participating in the development centres' support and development programmes, continued/developed participation using the originally planned own funds and less frequently using new support. The sustainability of actions 5.4.3 and 5.4.4 is very high according to support recipients. A total of 87% of recipients say that the number of companies in industrial fields has grown. Ninety percent of the recipients say that tourism attractions are still being developed/are ready and open to visitors. Ten per cent of the respondents said the results of the support would not last.

IMPACT

In general, the impact of the support under measure 5.4 on companies' economic indicators has been indirect and may become evident even years later. The average productivity of beneficiary companies under action 5.4.1 grew by approximately 2% during the period 2014-2018, but quantitative impact analysis showed that the growth of productivity among beneficiary companies was not statistically significant in comparison with the control group. Of the companies that benefited from the action, 18.6% are from Tallinn and 11.7% from Tartu, i.e. outside the competence centres' target area, 10.8% are from Saaremaa, 6% from Jõhvi and Kohtla-Järve, 4.8% from Võru Rural Municipality, 3.9% from Põlva Rural Municipality, 3.6% from Otepää Rural Municipality, 3.6% from Rae Rural Municipality, 3.3% from the city of Pärnu and under 3% from Haapsalu and Mulgi Rural Municipality.

The average productivity of the beneficiary companies under action 5.4.2 grew by approximately 9% in the period 2014-2017. The actions have had a positive impact on the productivity of the

beneficiary companies. The productivity of the companies that have received support under action 5.4.3 has grown compared with the companies in the control group.

The number of employees at beneficiary companies under action 5.4.1 decreased by 2.8% in the period 2014-2017 due to the employment rate decreasing in the oil shale sector (16.1%). The number of employees at beneficiary companies at all other competence centres has grown, especially the ones that used Kuressaare Competence Centre (8.1%). Quantitative analysis did not indicate that the actions had a positive impact on employment. The number of employees in companies that benefited under action 5.4.2 grew by 8.8% during the period 2014-2018. Of the support recipients under action 5.4.4, 73% said the support has increased employment in the region, as compared with 40% of recipients of support under action 5.4.3. Of the support recipients under action 5.4.4, close to 84% said the support has contributed to job creation in the region, as compared with 20% of recipients of support under action 5.4.3. Seventy per cent of the support recipients under action 5.4.4 said that the infrastructure established with the help of the support has improved the availability of jobs in the region. Statistically, the number of employees in companies that benefited (5.4.1, 5.4.2) has not grown compared with the control group.

The actions do not directly support export at the companies that benefited from the measure. Indirectly, the companies' export activities are supported by product development and studies conducted for that purpose (5.4.1 and partially 5.4.2 as well). Export in companies that benefited under action 5.4.1 grew by 6.6% during the period 2014-2018. In the case of action 5.4.2, the impact of the support on export in beneficiary companies has tended to be weak, as the county support programmes are mainly not oriented at growth of export in companies. The investments in infrastructure under the regional competitiveness support measure (5.4.3) provide indirect support for export in companies, primarily through developing industrial areas.

Entrepreneurs that used the services of competence centres said that their company developed product development capability and new business contacts were established as a result of the services. At the same time, competence centres service tended to produce no direct impact on turnover, job creation and export growth. Companies that participated in action 5.4.2 see it as having a positive influence on competitiveness, although no direct influence on turnover, R&D, profit, job creation and export was seen. In the opinion of 77% of the respondents, action 5.4.3 support had a significant impact on the region's entrepreneurial environment. In the opinion of 59% of the respondents, the impact of action 5.4.3 support on the development capability of companies in the region is significant. The revenue of tourism sector companies in local governments that received support for the tourism area under action 5.4.3 grew an average of 120% in the period 2014-2018. Close to 80% of the recipients of support for establishing and developing tourism sites said that the development of a tourism site raised the overall number of visitors to the region. In the opinion of 90% of beneficiaries of the support under action 5.4.4, the infrastructure has improved the availability of services in the region.

IMPLEMENTATION SYSTEM

In regard to actions 5.4.1 and 5.4.2, support recipients feel the principles for distribution of support are understandable and that in general they support the achievement of the measures' objectives. As a whole, the system for applying for support is also deemed predominantly reasonable. In the case of both actions, respondents praise the principle that in general, support is guaranteed. In the case of action 5.4.2, the comprehensiveness and eligibility of payroll expenses are seen as good qualities. A problem area seen in action 5.4.3 is that sometimes four areas of activity compete for a

common pool of funds. Applying for support was considered by the applicants to be fairly appropriate.

At the level of the final beneficiary, the project selection process in regard to measure 5.4 was seen as predominantly efficient and no noteworthy changes were deemed necessary. The applicants' assessment of the project selection process likewise tends to be positive. The applicants who received support and where there is no direct competition for support (5.4.1 and 5.4.2) tend to give higher marks to the project evaluation and selection process in terms of its transparency. Occasionally, the applicants saw the project selection process for infrastructure support (5.4.3 and 5.4.4) as problematic, as decisions were made on the state level in spite of a selection having been made locally. A problem area for the infrastructure projects is low cooperation with local governments, especially the making of joint investments. In action 5.4.3, some deficiencies are also seen based on the measure's design. A problem area in regard to the development of urban centres is the fact that socioeconomic activities are (so far) not very integrated with the city centres (material space). Not very many of the supported industrial areas (including ones established in the past) have been taken into re-use. When it comes to tourism, there is a need for more integrated projects that would also include marketing and take into account the broader impact of actions. A problem area in action 5.4.4 mentioned was the quality and short-term nature of the selected projects: for instance, instead of modernising public transport systems, easily designed pedestrian/bike paths were preferred, although their impact on mobility and enterprise is marginal.

The processing of projects was rated positively by the recipients and no significant changes are recommended. Above all, they advise improving the system for procurements under actions 5.4.3 and 5.4.4 and more efficient and substantive counselling. A total of 14% of the recipients of support under action 5.4.3 are very content with the processing. A total of one-fifth of respondents expressed some dissatisfaction with application processing. Twenty per cent of the recipients of support under action 5.4.4 were very content with application processing and 80% were mostly content.

Most of the support recipients under 5.4 consider the timeframe set for the projects to be mostly appropriate, other than competence centres, for whom the timeframe is mostly too short. The period for using the support under action 5.4.3 was deemed appropriate for achieving the objectives by 60% of respondents. Close to 37% said the time could have been longer as large construction projects were not completed so quickly. Of the recipients of support under action 5.4.4, 89% considered the time sufficient.

The reporting system is considered by the users to be predominantly logical and relatively easy to understand. In general, satisfaction is high with the new electronic reporting system.

As of 31 December 2018, six cooperation projects with entrepreneurs have been supported in the competence centres measure. All of the projects submitted have received funding. Action 5.4.2 is open to all applicants and there is no competition for resources. A total of 108 projects were funded under action 5.4.3, with 48 projects not funded. In action 5.4.4, the respective figures were 23 and 12.

The final beneficiary deems the quality of applications relatively good and by region, relatively consistent. In places, execution of the regional competitiveness support infrastructure projects is a problem, and this is the case with construction procurements.

Obstacles to applying for the support are more clearly highlighted in the case of infrastructure investments actions. In the opinion of the recipients of support under action 5.4.3, the main obstacles are the lack of self-financing (56%), excessive bureaucracy (51%), lack of objects of investment (26%), lack of ideas (18%), too low maximum support amount intensity (13%) and low awareness of the regional competitiveness support (13%). In the opinion of the recipients of support under action 5.4.4, the main obstacles are lack of suitable objects of investment (40%), lack of self-financing (30%), excessive bureaucracy (30%), low awareness of the regional competitiveness support (20%) and too low maximum support amount intensity (10%). In the case of infrastructure investments, 8% of recipients considered the level of self-financing necessary for applying for support too high. A total of 75% saw the self-financing level as appropriate.

In the opinion of beneficiaries of competence centre services, project-based support, investments in infrastructure and equipment, trainings and development of counselling services for companies in the regions are important for developing the regional business environment and reducing the regional GDP gap in Estonia. In the opinion of the recipients of support under action 5.4.3, the most efficient state intervention methods are investments in infrastructure and equipment (80%), project-based support (54%) (most foundations), development of counselling services for companies in the regions (36%), training courses (34%) and permanent support (28%). In the opinion of the recipients of support under action 5.4.4, the most efficient state intervention means are investments in infrastructure and equipment (70%), permanent support (40%), project-based support (40%) (most foundations), development of counselling services for companies in the regions (40%) and training courses (20%).

FUTURE PERSPECTIVE

The obstacles to regional business development (outside Harju County) on the basis of the complete set of interviews, data analysis, the above survey results and the economic crisis that started in spring 2020 are as follows:

1. Major companies are laying off: oil shale energy is not being generated, a major question mark has been placed on the realisation and processing of shale oil. Kunda cement plant was shut down, Rakke Nordkalk may do so soon, as a large share of their output was used in desulphurisation filters at power plants. Problems in addition to the global crisis include (1) cheap imports from Russia and Belarus which are taking over the local (Baltic) market, (2) growing carbon taxes and (3) Estonia's thus far rigid policy on value offers and making exceptions. If large-scale local refining industry is shut down plant after plant, that means export will disappear, balance of payments will worsen and unemployment will grow in the natural resources extraction regions, in some of which a separatist sentiment could grow if the crisis deepens.
2. Companies outside Tallinn and Tartu regions cannot get loans as they are unable to put up real estate as collateral. Only few regional companies have made major investments in recent years and thus the growth of value added and employment is slow, and raw material (grain, fish, wood, stone, peat) is being imported in unrefined form in significant quantities.
3. A significant obstacle to developing the regional business environment and reducing the regional GDP gap in the 2020+ period is the lack of corresponding strategy or strategies at the state level and a weakness in this regard at the regional level, i.e. although some elements of Estonia 2035+ do exist in them, they have not been introduced to the general public. As of 2019, a predominant share of county strategies and action plans do not address the development of business. The contribution of the local government level to business development is limited.

4. In particular, RD&I support has not penetrated outside of Harju and Tartu counties. At the same time, there is a particularly great need for innovation due to restructuring. The reason is deficient capability in some places and lack of human contact with RD&I service providers (university, businesses). ADAPTER and the low-bureaucracy innovation voucher do exist, but local entrepreneurs (including Russian-speaking ones in Ida-Viru County in particular) are not aware of them.
5. The quality of RDI & entrepreneurship services in various regions often hinges significantly on specific people. The network of county development centres is functional, but it is not clear to what extent local governments want to fund development work, as a result of which the level of development work is very uneven in places. As a whole, the capability of local development institutions is not sufficient, especially for entrepreneurs whose business is operational. Since administrative reform was carried out, most counties no longer have effective structures for coordinating local governments' development activities.

Recommendations for developing regional enterprise in the near future, taking into consideration the potential economic impacts of the coronavirus crisis, are as follows:

IMMEDIATE

1. Apply health assessment diagnostics for large companies. Use the major client account managers at Enterprise Estonia and county development centres' specialists and knowledge for this. Evaluate large employers (international groups) in a case-based manner before they experience difficulty or if they make changes to their strategies, negotiate the potential incentives with the companies.
2. Consider Enterprise Estonia setting up specialised teams in larger regions in Tartu (southern Estonia), Pärnu (western Estonia) and Jõhvi (north-eastern Estonia) in addition to the regional investor service staff, to prepare regional investment plans (e.g. the Ida-Viru measure) and directly involve county development centres, local governments and potential partner companies (subcontractors, providers of raw material and services) in the activities.
3. Significantly increase industrial investments that give significant value added to (bio) resources and mineral resources. In order to fulfil the goals of the Operational Programme for Cohesion Policy Funding, the Estonia 2020 competitiveness plan, the Estonian Regional Development Strategy 2014-2020 and the Estonian Entrepreneurship Growth Strategy 2020, consider the use of concessions, tax incentives and value offers for companies that create significant new employment or enhance resources; integrated industrial developments (e.g. the Ida-Viru County Industrial Area development) could be used across Estonia.
4. Increase availability of financial instruments for companies, as capital is in shortest supply in peripheral regions due to lack of collateral.
5. Resolve problem areas that arise for companies that wish to expand (creating new jobs) in regard to infrastructure such as roads, power grid connections and other networks. Also establish or renovate roads and streets that are important for developing enterprise.
6. Strengthen local governments' strategic development counselling, restructure the entire system for (regional) strategic development planning (it is currently often a formality that is not adhered to).

THE 2020+ PERIOD

1. Regional competitiveness support measures are to be focused on restructuring principal sectors of the economy: growth of knowledge intensiveness and technology exchange. In the regions, put the focus on growing entrepreneurship knowledge-intensiveness,

implementing industry 4.0 solutions and (smart) specialisation. This would require universities to be much more seriously devoted to contributing to the use of corresponding regional resources.

2. Proceed from the existing specialisation and competence in the broader region and organise regional and sector-based division of labour in a manner similar to the division of labour at many county development centres. Strengthen the (conventional) innovation and new technology transfer capability in the context of regional smart specialisation: for example, plastic on Hiiumaa, boat construction on Saaremaa, offshore wind farms, fish and shellfish farming and other coastal resources in western Estonia, traditional culture services in Viljandi County, wood house and furniture in southern Estonia, IT and software in Tartu agriculture and bio-energy in central and southern Estonia, metals used in batteries, fine oil shale chemicals, phosphate rock and clay and lime minerals in Lääne and Ida-Viru counties.
3. Better-functioning, longer-term, consistently monitored schemes such as competence centres and county development centres. Instead of sticking to a predetermined action plan, focus more on growing human capital and effectiveness (new activities and services, networking, partnership). Contribute to the development of a network-based innovation system made up of county development centres, vocational schools, university colleges and competence centres that would train employees and organise technology transfer. Describe the minimum services standard that must be ensured in the region and county.
4. In cooperation with county development centres, regional competence centres and regional colleges and vocational education centres, create points of contact (the knowledge houses proposed by academician Urmas Varblane), i.e. at least 2-3 people per county with full information on RD&I measures (necessary to ensure training and network with universities and companies). It is probably not reasonable to create full positions everywhere; this would be an additional function and mission for the on-duty consultants. The function of the contact point and effectiveness of its work would be measured by the number of contacts created and projects launched. The contact point must be proactive.
5. Support entrepreneurship studies integrated with the innovation system and prepare a new generation of local (small) businesses (among other things, putting importance on increasing women's level of activity in business). Organize training courses for employees based on the companies' needs; at the same time, the entrepreneurs themselves need to be trained and networked with. A cluster measure type regional expansion of regional specialisation joint activities could be considered.
6. The city centres measure is important for strengthening local identity and the environment for interaction. While the support is used to create preconditions for the use of buildings at centres, there is not enough seed capital and long-range action plans to shape the environment.
7. In the case of infrastructure measures, the focus should be on increasing the speed of the passenger rail service on the main lines (hourly train from Tartu and from Jõhvi to Ülemiste).
8. Allocate resources for achieving the regional strategic business objectives only in the context of regional cooperation between local governments. Apply the 50/50 principle that was previously working to enable county development centres to engage in ad hoc organisational work (i.e. without applying separately).

6. CONCLUSIONS AND RECOMMENDATIONS

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
Recommendations across all themes and actions						
1.	Chapter 2 of the appendix to the final report	In asking for feedback from the organisations that were supported and that participated in supported activities, it emerged that the contact persons of the participants are not there, the person who was up to date with the topic has left the organisation, no longer remembers the specific action and is thus unable to provide feedback on it.	The data needed to evaluate the effectiveness of the actions are not available in full. On one hand, this makes it more complicated to carry out external evaluations, but even more important, the intermediate bodies and final beneficiaries lack a real-time overview of the functionality of the actions being carried out.	Make the gathering of feedback from the companies participating in the actions (beneficiaries) systematic. The system must take into account the particularities ¹¹ of the actions, but it is also important to ensure that the data are gathered using a uniform methodology and concentrated in one database. ¹²	Intermediate bodies and final beneficiaries	Start of the next funding period (if possible, earlier).

¹¹ For example, the feedback gathering period and thoroughness vary from one action to another – for example, in the case of short trainings, it is collected in brief and immediately after the training course, while in the case of trade fair visits and larger R&D projects, sometime later, when the first (initial) impacts on the company's economic results might have become apparent.

¹² The same recommendation has also been made in the plan for raising efficiency (Report on the plan for raising efficiency: entrepreneurship, innovation. 2017/2018. Available online: <https://www.mkm.ee/sites/default/files/tohustamiskava.pdf>), proposal 1.3 (more extensive implementation of performance management system in the field of entrepreneurship and innovation and automation of reporting).

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
2.	Chapter 2 of the appendix to the final report	There are several databases on the companies and organisations that have received support and benefit from the measures, each with a different level of detail and logic. ¹³	As there are several databases and they are structured in a different manner, it is harder to get an overview of the data, it is time-consuming to merge data and it is more complicated to check the sources and accuracy of data.	<ul style="list-style-type: none"> • If the current system of multiple databases is preserved, the support recipients and beneficiaries should be identified consistently in different data collections (e.g. by registry code) and in the case of various codes, the existing (e.g. Statistics Estonia) classifiers should be used. • Agree on uniform methodology for collecting data, definitions and names used for codes. • In creating the codes, whole number codes should be used instead of alphabetic labels. • When consolidating data, run error checks to detect data entry errors as early as possible. • Record the data entry person and entry date/time for each data record. 	Intermediate bodies and final beneficiaries	Start of the next funding period (if possible, earlier).
3.	Chapter 2 of the appendix to the final report	External evaluators have no access to the applications and reports	The data necessary for evaluating the effectiveness of actions are not available in full,	Make available to the evaluator all of the	Intermediate bodies and final beneficiaries	Start of the next funding period.

¹³ The same topic has been mentioned in the plan for raising efficiency (Report on the plan for raising efficiency: entrepreneurship, innovation. 2017/2018. Available online: <https://www.mkm.ee/sites/default/files/tohustamiskava.pdf>), proposal 1.3 (more extensive implementation of performance management system in the field of entrepreneurship and innovation and automation of reporting).

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
		of the companies that received support.	which makes it hard to prepare for interviews, keeps the information obtained from interviews from being checked against the reports and prevents obtaining a full picture of the evaluated activity.	applications and reports on the action being evaluated.		
4.	Chapter 2 of the appendix to the final report	It has taken much time to determine which data can be accessed and how it can be accessed.	In the limited timeframe for evaluation, responses to some evaluation questions for some actions has been delayed or has been complicated by problems accessing the data.	In the phase of preparing for obtaining the evaluation, prepare an overview of which data exist and are available for external evaluators.	Intermediate bodies and final beneficiaries	Start of the next funding period.
5.	Chapters 5.6, 5.10, 5.11, 5.12 of the appendix to the final report	Due to the abundance of support measures and support providers and information sources, it is a challenge for economic operators to find the most appropriate support or instrument for the company's needs and business activity.	The support measures must be better systematised, encompassing for example the support measures' user journey, which would indicate the support that is appropriate to the company's development phase or the support's value-chain-based logic.	Ensure that experts provide preliminary counselling for economic operators seeking support and with regard to the suitability of various kinds of support and supported actions, which will require the creation of a central information gateway or "contact window" with competent consultants and the functional exchange of information between final beneficiaries (e.g. in regard to companies' queries and contact details). ¹⁴	Final beneficiaries	Start of the next funding period (if possible, earlier).

¹⁴ The same recommendation has also been made in the plan for raising efficiency (Report on the plan for raising efficiency: entrepreneurship, innovation. 2017/2018. Available online: <https://www.mkm.ee/sites/default/files/tohustamiskava.pdf>), proposal 2.1 (reorganise the functions of institutions promoting entrepreneurship and innovation – the state support system must be client-centred).

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
6.	Chapters 5.3, 5.10, 5.11, 6 and 7 of the appendix to the final report	Entrepreneurs place importance on opportunities for finding partners in Estonia and abroad.	Actions meant for creating and developing a network contribute to the success of companies.	Continue actions for promoting creation of the network and finding partners.	Intermediate bodies and final beneficiaries	Start of the next funding period.
7.	Appendix to the final report (all chapters)	Much of the support goes to larger population centres: Tallinn (and Harju County more broadly) and Tartu as well.	The support reinforces the better competitiveness of larger population areas compared with smaller places, which exacerbates peripheralization.	<ul style="list-style-type: none"> • Improve availability of financial instruments (including possibilities for bridge financing) for entrepreneurship support organisations and companies operating in peripheral regions. • Prioritise the criteria of job creation and/or preservation in regard to granting support outside larger cities and towns, including setting as a goal greater evenness between women and men in the workforce and reducing the gender pay gap. 	Intermediate bodies and final beneficiaries	Start of the next funding period.
8.	Chapter 8.5 of the appendix to the final report	There are many errors in the procurement procedures; there is a risk of recovery claims.	The public procurement legislation and regulations are increasingly complicated.	Simplify procurement procedures, consider organisation of procurements or standardisation by State Shared Services Centre.	Ministry of Finance	Start of the next funding period
9.	Chapter 8 of the appendix to the final report	There are few ambitious and innovative development ideas.	Large procedural costs and fear of repayments leads to good and ambitious development ideas being left aside.	<ul style="list-style-type: none"> • Simplify the rules for measures. • Simplify procurement procedures in the Public Procurement Act. 	Ministry of Finance	Start of the next funding period.

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
10.	Chapter 8 of the appendix to the final report	EU measures have tended to increase regional differences within Estonia.	There are too few resources for expanding and restructuring production.	Direct more RD&I and production investments into declining counties.	Ministry of Economic Affairs and Communications, Ministry of Rural Affairs	Start of the next funding period (if possible, earlier).
Labour market						
11.	Chapters 3.1, 3.2 of the appendix to the final report	Regions farther from the major centres have received less support.	More attention should be devoted to regions far from cities and towns because it is even more important to support job creation here than it is in larger communities.	Prioritise the criteria of job creation and/or preservation in regard to granting support outside larger cities and towns, including setting as a goal greater evenness between women and men in the workforce and reducing the gender pay gap.	Intermediate bodies and final beneficiaries	Start of the next funding period.
12.	Chapters 3.1, 3.2 of the appendix to the final report	Support has positive effect on employment of companies	Support has helped to include vulnerable groups to the job market.	Continue support and services from the actions 3.1.1 and 3.2.1.	Ministry of Social Affairs, intermediate bodies and final beneficiaries	Start of the next funding period.
Entrepreneurship and R&D						
13.	Chapter 5.12 of the appendix to the final report	The focus of some of the current support is too general and does not take into account the particular qualities of sectors, regions and/or growth areas. Support measures and their implementation are fragmented, which is a problem as the funds intended for support are underused, the actions have partially ended as	More flexibility would be needed in the conditions for the support measures. The priority target groups who need support and the ones most important for the Estonian economy should be defined to a greater extent in the design of the support measures, and their situation and development needs must be mapped. This also includes the development of sector-based development programmes or development programmes in	<ul style="list-style-type: none"> Move in the direction of integrated support measures that are fewer in number but follow the logic of the company's life cycle and different development stages and which provide incentives for changing the functioning of the measures as needed. For example, in regard to R&D actions, an integrated approach would mean 	The Ministry of Economic Affairs and Communications, Ministry of Education and Research and other ministries that shape the support measures intended for R&D and entrepreneurship	Start of the next funding period.

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
		resources ran low, but not as a result of demand and impact.	smart specialisation growth areas.	<p>consolidation of the current support schemes into a central measure with the option to support different actions in relation to R&D, including cooperation, mobility, development of capabilities and much more.</p> <ul style="list-style-type: none"> • Output indicators should be articulated and set for new or amended support measures, allowing flexibility in regard to activities. 		
14.	Chapters 5.1, 5.2, 5.3 of the appendix to the final report	Various support measures have been designed for R&D institution with different rules and requirements that have led to fragmentation of actions (e.g. 4.1.2 for acquisition of research infrastructure, yet 4.1.1. for developing capabilities and services).	The fragmentation of actions does not allow a response to be made to changing circumstances in terms of either the actions or budget.	<ul style="list-style-type: none"> • Reduce the fragmentation of actions and better integrate supported activities (e.g. infrastructure project and centres of excellence in research) for developing infrastructure and (support) services as a whole at R&D institutes, including though central coordination at the level of R&D institutions, which allows mapping of demand and target groups in the R&D institutions, the public sector and the business landscape as well as the provision of comprehensive value offer. 	Ministry of Education and Research	Start of the next funding period.

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
				<ul style="list-style-type: none"> Create an integrated ASTRA-type support measure allocated on the basis of institution (excluding cooperative activities between R&D institutes such as ADAPTER) with a fixed amount of support for a development leap and criteria, incorporating all of the support meant for R&D institutes through defining some of the broader supported activities but featuring greater flexibility in the budgeting, substantive activities and supported activity areas so that they would not be predetermined for years. 		
15.	Chapters 5.1, 5.2, 5.6, 5.7, 5.10, 5.11 of the appendix to the final report	R&D-related planning and management on the entrepreneurs' end (including preparing R&D projects) is limited, there is not enough human resources and the companies' directors' R&D-related ambitions and awareness regarding cooperation opportunities are low, as	The research results see little use in business, and cooperation between companies and R&D institutions (including technology development centres) is low. Due to companies' low R&D capability, it will be a challenge in the future to take part and manage EU-supported projects as well. Cooperation potential in supporting innovation on the EU programme front and linking the	Design a support measure meant for raising companies' innovation capability, awareness in the field of R&D and strategic management quality, including technology monitoring, R&D and development of own products, entering global value chains, IP strategies, planning investments in technology, entering international R&D projects,	Ministry of Education and Research, Ministry of Economic Affairs and Communications	Start of the next funding period (if possible, earlier).

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
		a result of which companies are not inclined to contact R&D institutes.	research conducted at R&D institutes with business, including commercialisation of research, are the areas that most require realisation.	including Horizon, CERN and other EU programmes, applying for funding and implementing R&D projects as a lead partner.		
16.	Chapters 5.3, 5.6, 5.10, 5.11 of the appendix to the final report	There is currently a shortage – in both action 4.2.3 (smart specialisation applied research) and action 4.1.4 (centres of excellence in research) – of support oriented at R&D with sufficient capacity to cover the entire technology readiness level spectrum and above all the “death valley” – that is, the post-prototyping development, scaling and production phase.	The knowledge base created in centres of excellence and smart specialisation applied research, a lack of funding necessary for scaling prototypes – there is no development grant or proof of concept support – and this keeps the knowledge created at the centres of excellence from being applied in industry. Thus, there is a need for this kind of R&D support oriented at companies, as the risks are (still) too high for private investors.	Design an R&D support measure that the companies could apply for to carry out development projects but which does not force them to cooperate with R&D institutes within a rigid, predetermined framework. In addition, set a lower self-financing level for the development programmes of entrepreneurs with high-risk activities.	Ministry of Economic Affairs and Communications, Ministry of Education and Research	Start of the next funding period (in regard to the company development programme, in 2021).
17.	Chapter 5.1 of the appendix to the final report	The ADAPTER web platform for cooperation is the most direct activity contributing to fulfilment of the number of business contracts through support from the ASTRA programme and through which companies have been able to contact R&D	The ADAPTER platform has had a positive impact on promoting cooperation between R&D institutions and companies and intermediating contact between researchers and companies. The platform needs further development, which is a financial burden for R&D institutes. At the same time, ADAPTER has potential to create a more	Continue developing the ADAPTER platform in the direction of face-to-face meetings and foreign companies, e.g. so that the state could integrate ADAPTER with other state initiatives such as regional cooperation and development activities or value offer to foreign investors through business diplomacy channels.	Ministry of Education and Research (in cooperation with other ministries)	Start of the next funding period.

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
		institutes with questions that otherwise might not have reached R&D institutions and as a result of which cooperation agreements have been concluded.	integrated approach and synergy.	A development area for ADAPTER is also improving the ease of use of the website and improving the search engine with the most popular keywords on industry topics.		
18.	Chapter 5.2 of the appendix to the final report	Based on technological peculiarities, one factor that impedes cooperation and co-use is the relatively fast obsolescence of equipment.	The problem here is the narrow definition of infrastructure support in the support measures, which reduces the positive impact expressed on enterprise, as it is not enough to merely support acquisitions or the modernisation of infrastructure, but it would also be necessary to support constant calibration, accreditation and certification and there are not enough resources to cover these costs.	In the context of action 4.1.2, it is also necessary to cover costs related to calibration, accreditation and certification of infrastructure elements. When it comes to implementation of the research infrastructure support, ensure greater flexibility for making decisions during the project period pertaining to funding actions and the lifecycle map for projects.	Ministry of Education and Research	Start of the next funding period.
19.	Chapters 5.1, 5.2, 5.4, 5.6, 5.7, 5.11 of the appendix to the final report	Finding common ground between research and enterprise is a challenge: expectations of entrepreneurs and researchers and their visions of cooperation projects in the time period and the solution being developed are different. The research system does not bring	There is a need for more harmonisation of the expectations and visions of R&D institutions and entrepreneurs, which will require a bridge to be built between academia and business through creating the relevant institutions and/or positions.	Continue the measure of supporting professional associations' development advisers (as part of the RITA programme). The importance of development advisers will grow even more in the future if national strategies and development plans begin to be prepared based on sector-based and trans-sectoral considerations and if it is desired to pursue further	Ministry of Education and Research	Start of the next funding period.

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
		entrepreneur and researcher together at the substantive level – there is a lack of a link that would connect academia and business.		development of cooperation between R&D institutes and companies.		
20.	Chapter 5.5 of the appendix to the final report	The entrepreneurship doctoral programme's format has not succeeded in broader combination with instruments because there is a lack of a clear need for an additional measure that would have additional restrictions. The action's design is too supply-centred and does not address business-side demand and the issue of covering R&D costs.	Entrepreneurship doctoral programme places should be created in line with the needs of a specific company and the format should allow support to be allocated to both the business-side supervisor and the R&D institutions for carrying out research. There is also a need to relax restrictions, which would also favour further promotion of cooperation.	Create an integrated grant that would encompass support for university, PhD student and company, as such a grant system would comprehensively meet the needs of company/partner, university and doctoral student alike. In addition, enable participation of a broader range of organisations, including hospitals, clinics, technology development centres and many others in the entrepreneurship doctoral programme format.	Ministry of Education and Research	Start of the next funding period.
21.	Chapter 5.7 of the appendix to the final report	In the case of the clusters' support measure, the financing volumes to this date have enabled joint marketing and participation at trade fairs, but there are not enough resources for cooperative activity in regard to R&D. A close	Due to the restrictions in the conditions for granting the support and lack of flexibility, clusters and technology development centres have failed or will fail to carry out some activities in the future from which companies would derive benefits, e.g. in connection with the innovation themes and activities where there is a high	Continue developing the clusters' support measure, which would offer support to cooperative (both between individual companies and across the whole sector) development projects and different grants (e.g. in relation to academic practices, industrial doctoral students, joint R&D and much more)	Ministry of Economic Affairs and Communications	Start of the next funding period.

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
		eye has also been kept on project expenses to ensure that they are related to actions defined in the regulation, which has led to underuse of funds due to lack of flexibility.	risk of failure of an innovation project and having to repay the support.	pursuant to the particularities and ambitions of each sector, including ensuring greater flexibility in regard to eligibility of the expenditures made.		
22.	Chapter 5.11 of the appendix to the final report	The conditions for the research development activity voucher require more flexibility: the accepted criteria for R&D partners and the requirement for eliciting three bids do not meet companies' needs. The support amounts are low as well, compared with the objectives of the support.	In the case of research development activity vouchers, the analysis corroborates the position of the final beneficiary that the support amounts and conditions valid during the evaluation period are in need of adjustment.	Progress toward the corresponding changes should be made.	Ministry of Economic Affairs and Communications	Start of the next funding period.
Increasing entrepreneurial awareness and competitiveness of enterprises						
23.	Chapter 5.1 of the appendix to the final report	On-the-spot counselling has contributed to the development of enterprise and had a positive impact on the employment and productivity of the companies that received counselling. County development centres have the best knowledge of the	The network of county counselling centres is fully developed and functional.	Continue provision of the first-tier counselling service near the places of residence and business of service users (persons considering going into business, new and early-phase and operating companies, foreign investors).	State Shared Services Centre, county development centres	Start of the next funding period.

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
		business environment in various regions.				
24.	Chapter 5.2 of the appendix to the final report	The application process for start-up assistance may, considering the small amount of support, become disproportionately long and complicated.	Simplicity and comprehensibility of the application process has an impact on applicants' satisfaction with the implementation system.	Develop standard forms of all documents needed to apply for support.	Ministry of Economic Affairs and Communications, State Shared Services Centre, county development centres	As soon as possible.
25.	Chapter 5.2 of the appendix to the final report	Start-up assistance is used primarily in Harju County (including Tallinn).	The start-up assistance supports, to a limited extent, the development of business and the economy in various regions and above all, rural areas.	In setting forth the requirements and conditions for start-up assistance, consider the regional business environment and state of the economy and its distinctive aspects compared with the capital region and the city of Tartu.	Ministry of Economic Affairs and Communications, State Shared Services Centre, county development centres	As soon as possible.
26.	Chapter 5.3 of the appendix to the final report	To continue to grow business awareness and increase business competitiveness, it is necessary to enable knowledge and counselling in various fields (including repeat support for entrepreneurs in different interconnected activities).	A one-time training (in one field) and/or counselling programme may not necessarily give entrepreneurs enough resources to take business activity further.	Treat companies integrally and if possible, based on this approach, provide them with scheduled or planned services and support, if necessary, doing so comprehensively, while monitoring effectiveness and taking into account the company's development phases.	Enterprise Estonia	As soon as possible.
27.	Chapter 5.3 of the appendix to the final report	The trainings and counselling programmes were held	Offering training courses only in Estonian reduces access to	Enable counselling programmes, trainings and study materials in Russian as	Enterprise Estonia	As soon as possible.

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
		during the evaluation period (2014-2018) in Estonian. Services have been piloted in Russian at Enterprise Estonia.	training in regions with a large Russian-speaking population.	well, especially in Ida-Viru and Harju counties.		
28.	Chapter 5.6 of the appendix to the final report	Venture capital has been offered on the Estonian financial market since 2018 and this has developed into a multi-level implementation system.	Considering that entrepreneurs are cautious about venture capital and the short-term nature of this service, use of the service is only in an early phase. Currently, venture capital (with state participation) takes place on the private market.	Considering the state of the economy, enable (more favourable) state venture capital.	Ministry of Economic Affairs and Communications, KredEx	As soon as possible.
29.	Chapter 8 of the appendix to the final report	The working-age and general population is declining below the region's critical replacement level in peripheral regions.	Restructuring causes jobs to vanish and new jobs are not being created outside larger cities (Tallinn and Tartu) as there is no investing.	Establish regional loan guarantees and tax incentives for companies that create new jobs (include ones that reduce the gender wage gap) and enhance resources.	Ministry of Economic Affairs and Communications	Start of the next funding period (if possible, earlier).
Tourism						
30.	Chapter 6 of the appendix to the final report	For tourism to develop, it will be necessary to contribute to developing and introducing the Estonian brand.	Introducing individual companies is beneficial above all in the company's individual plan, but such an individual company (such as a hotel or attraction) is not "the face of Estonia". Estonia needs its own brand that companies could rely on for marketing themselves and their activities.	Continue developing the Estonian brand and creating brochures that introduce Estonia as an attractive travel destination. At tourism fairs, devote attention to introducing the Estonian state (alongside specific companies).	Ministry of Economic Affairs and Communications, Enterprise Estonia	Start of the next funding period.
31.	Chapter 6 of the appendix to the final report	Development of tourism has distinctive features and at the same time, entrepreneurs have a	In developing tourism, it will be necessary to take into account the specific nature of the companies in the field.	Tourism development must be continued, taking into account the sector's specific nature, with measures	Ministry of Economic Affairs and Communications, Enterprise Estonia	Start of the next funding period.

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
		hard time finding support due to the large number of business and innovation support measures.		integrated into other economic sectors, as this would simplify orientation for economic operators in the support system yet would also take the companies' needs into account more flexibly.		
Creative industries						
32.	Chapters 7.3, 7.5 of the appendix to the final report	Regions farther from the major centres have received less support.	Companies outside the major population centres find it hard to compete for the support and regional inequality is high.	Increase the regional thrust of the actions by creating a separate activity area or additional evaluation criteria that would take this into account.	Ministry of Culture	Start of the next funding period.
33.	Chapter 7.4 of the appendix to the final report	Allocating support in a fragmented manner through several calls for projects.	The sustainability of support structures and activities is curtailed, as activities are supported during a short period of time and when the project ends, there may not be enough resources to continue activities (both support and the company's own funds).	Extend the eligibility period, support the activities of support structures over a longer period of time (give support for a longer period so that longer-term plans could be made).	Ministry of Culture	Start of the next funding period.
34.	Chapter 7.6 of the appendix to the final report	For the most part, development of a support network has taken place in a piecemeal fashion.	It is not possible using solely the action to ensure equal development of sectoral/regional development centres, as the resources are limited and competition is stiff.	Make the funding model for development centres more activity-oriented; support measures should be left only for carrying out innovative development projects.	Ministry of Culture	Start of the next funding period.
35.	Chapter 7.2 of the appendix to the final report	The creative industries development measure has increased creative industries' access to	The support network for creative industries is fully developed and functional. The interest and circle of beneficiaries of creative	Continue supporting creative industries in a manner that would better promote integration with other sectors.	Ministry of Culture	Start of the next funding period.

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
		support from structural funds, while trans-sectoral cooperation has not launched in the expected manner.	industries has increased. The competences of creative industries have grown.			
36.	Chapter 7.3 of the appendix to the final report	The activity areas and intervention methods are diverse.	The package of support mainly allows support to be given to creative industries in different development phases and with varying risk appetite. Combining support and services leverages the results.	Continue to develop the support measure such that it would be better geared towards the company's needs and development phase (e.g. a development programme-based approach).	Ministry of Culture	Start of the next funding period.
Regional development						
37.	Chapter 8.7 of the appendix to the final report	The impact of implementing the measures on raising regional competitiveness is not efficient enough.	The cohesiveness of the actions is lacking in places.	It will be important to devote attention to continuing to shape the actions so that they are better integrated among the measure's actions, both between the different measures and within action 5.4 (including the activity areas in action 5.4.3). Attention should also be devoted to reducing duplication of ministries' measures for supporting regional development (i.e. regional development measures in Estonia in general).	Ministry of Finance	Start of the next funding period.
38.	Chapter 8.2 of the appendix to the final report	Support in action 5.4.2 has not had an impact on the growth of	The selection of activities or projects does not meet expectations in regard to this objective.	Design (in the programmes) activities that would contribute more efficiently to the establishment and	County development centres, Ministry of Finance	Start of the next funding period (if possible, earlier).

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
		employment in supported companies.		expansion in the counties of processing companies that generate greater value added.		
39.	Chapter 8 of the appendix to the final report	The value chain has gaps or is not fully developed.	Natural resources are exported from Estonia in unrefined or relatively unrefined form, as a result of which value added and owner's income remains low.	Develop activities for promoting investments in resource processing using value offers and concessions.	Ministry of Economic Affairs and Communications, county development centres, Estonian Investment Agency	Start of the next funding period (if possible, earlier).
40.	Chapter 8 of the appendix to the final report	The impact of the regional competitiveness investments on employment is marginal.	Regional competitiveness support investments were too focused on social projects, and the impact on changing the economy was limited.	Exclude use of the regional development support for establishing social infrastructure and funding sites of limited significance for business development.	Ministry of Finance	Start of the next funding period.
41.	Chapter 8 of the appendix to the final report	R&D capability is low at competence centres, and networking with companies at some competence centres is scant; in places it is not possible to fulfil (all of) the functions with sufficient success.	Outside larger population centres, companies have low knowledge intensiveness; universities are not interested in developing competence centres. The limited amount of support keeps competence centres from acting as regional engines of entrepreneurship and development.	Strengthen cooperation with R&D institutes and provide finance and human resources for competence centres' longer-term action plans. In the absence of resources, the reappraisal of the function of competence centres should be considered (including in light of potential ending/reduction of state support) because currently it will not possible to efficiently fulfil all of the functions with the same or a smaller budget.	Ministry of Finance, county development centres	Start of the next funding period (if possible, earlier).
42.	Chapter 8 of the appendix to the final report	The local governments have low interest and capacity for developing entrepreneurship.	As local governments are not required by law to deal with enterprise, they devote little attention to it, which is	Establish entrepreneurship development as a legal function of local governments.	Ministry of Finance	Start of the next funding period (if possible, earlier).

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
			expressed among other things in how much investment reaches local governments (especially in peripheral regions). The leadership position in some local governments has been held by local politicians who have been in office for 20 years and whose leadership method and attitudes do not support entrepreneurial development.	Amend the Local Government Organisation Act. <ul style="list-style-type: none"> Establish the position of professional public services director, which is subject to evaluation. The mayor is a political position. 		
43.	Chapter 8 of the appendix to the final report, comparison of county strategies and action plans	County strategies are not consistent with the action plans.	Strategies are not taken into consideration and strategic documents are of low quality.	<ul style="list-style-type: none"> Increase local politicians' and development personnel's training volumes and networking. Make expert assessments obligatory for strategies and action plans. 	Ministry of Finance	Immediately.
44.	Chapter 8 of the appendix to the final report	There are deficiencies in development planning.	County strategies and regional competitiveness support plans practically omit more skilful use of region-specific resources.	<ul style="list-style-type: none"> Those preparing county strategies and regional competitiveness support plans need to be trained and advised. 	Ministry of Finance, Ministry of Economic Affairs and Communications, Ministry of Rural Affairs	Start of the next funding period (if possible, earlier).
45.	Chapter 8 of the appendix to the final report	Local governments' entrepreneurship development and project management capability is uneven.	They lack resources for hiring enough good-quality development specialists and project writers.	<ul style="list-style-type: none"> Decrease the share of application-based measures. Simplify reporting and application procedures. <p>Ensure sufficient training for local governments' development specialists when it comes to implementing new measures.</p>	Ministry of Finance	Start of the next funding period (if possible, earlier).

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
46.	Chapters 8.2, 8.5 of the appendix to the final report	The execution of projects and development measures does not ensure fulfilment of strategic objectives (growth of employment and population).	<ul style="list-style-type: none"> • Projects with too small an impact are being carried out. • There is a lack of cooperation between local governments, and the structure of many activities is not sufficiently fleshed out. 	<ul style="list-style-type: none"> • Integration and broader regional cooperation for developing industry and tourism – fund only integrated programmes, not individual sites (a good example is how Ida-Viru County combined entrepreneurship measures). • In the case of regional competitiveness support, designate regional cooperation and at least the county dimension as one criterion for granting support. • Replace the orientation towards applications and individual projects by making it more programme-oriented (similarly to 5.4.2) and design actions to be supported (in programmes) that would contribute more efficiently to the growth of employment in counties. 	Intermediate bodies and final beneficiaries	Start of the next funding period
47.	Chapter 8.5 of the appendix to the final report	The regional competence centre investment projects are dominated by social and "essential" sites.	A problem area for the infrastructure projects is low cooperation with local governments, especially the making of joint investments.	<ul style="list-style-type: none"> • In the regional competitiveness support programme, set regional cooperation and at least the county dimension as a 	Ministry of Finance	Start of the next funding period.

No.	Reference to chapter of the report	Finding	Conclusion	Recommendation	Addressee	Recommended deadline for implementation
				<p>critterion for granting support.</p>		
48.	Chapter 8.1 of the appendix to the final report	<p>The outputs, outcomes and impact of the actions in measure 5.4 are not clearly and logically interlinked. The criteria are not systemic, as the impact indicators are not specified and the existing indicators are partially performance indicators in the sense of the measure actions in the measure. The set performance indicator is likewise more of an impact indicator in terms of its content. Efficient choice of criteria and logical systematic design will allow the effectiveness and impact of the supported activities to be viewed in a coherent fashion.</p>	<ul style="list-style-type: none"> Evaluation of the results of the projects/activities is thus often indirect, and monitoring of the connections between the activities, results and impact is often deficient. 	<ul style="list-style-type: none"> Measure the effectiveness of the measure at the impact level in all four of the actions under measure 5.4. It is important to more clearly define the output indicators for the actions. The operational programme defines only the performance indicators for a number of the actions and they cannot be changed. The design of a domestic system of separate output, performance and impact indicators could be considered. 	Ministry of Finance	Start of the next funding period (if possible, earlier).
49.	Chapter 8.5 of the appendix to the final report	<p>The volumes of visitors have not seen considerable growth in western and southern Estonia.</p>	<p>Tourism development activities are fragmented and there is little marketing and cooperation.</p>	<p>Place more emphasis on promotion of marketing for tourism destinations (in the case of industrial areas as well) and develop preferably</p>	Ministry of Finance, Enterprise Estonia	Start of the next funding period

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				more integrated projects with a greater impact.		
50.	Chapter 8.5 of the appendix to the final report	In some cases, there is opposition to city centre projects from residents and political groups.	The population and entrepreneurs are not included in the planning of city centre projects very often; there is a dearth of information.	Make the involvement of the population and companies in the process a condition for granting support for city centre development activities.	Ministry of Finance	Immediately.
51.	Chapter 8 of the appendix to the final report Pilm 2019	Few new services have been added in city centre projects.	The projects were drawn up without sufficiently considering social factors, the ownership structure of buildings and the owners' interests.	Devote more attention to social activities in the conditions for granting support to city centre development activities: cafes, activities for the public.	Ministry of Finance	Start of the next funding period.