EUROPEAN CLUSTER COLLABORATION PLATFORM

Country factsheet

Lithuania

An initiative of the European Union

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Contents

European Commission

01

Introduction and economic policy context

1. Introduction and economic policy context

This document presents an overview of the cluster policy in Lithuania. Given the importance to contextualise the cluster policies (and related) analysed in the factsheets, a comprehensive outlook of the country in socioeconomic terms can be consulted in the European Semester Country Report 2023 for Lithuania. The European Semester was an instrument introduced to coordinate the EU Member States economic policies and address the economic challenges faced by the EU. Its goals are "to ensure sound public finances, to prevent excessive macroeconomic imbalances in the EU, to support structural reforms to create more jobs and growth, and to boost investment". Thus, it focuses on the following areas: business environment; financial and fiscal stability; green economy; public administration; labour market and skills; as well as social protection and cohesion. Chapter 4.2 provides an overview on how Lithuania's cluster policy could help to tackle the economic policy challenges identified in the European Semester country recommendations.

The COVID-19 pandemic has caused an unprecedented economic shock to the European and global economy. In response, policymakers at EU and national level have acted decisively and at short notice to make available very significant financial resources, notably through the Recovery and Resilience Facility, to tackle the threat of a prolonged downturn. National recovery and resilience plans have been drafted in each Member State to ensure a recovery that addresses the challenges identified in the European Semester. In Lithuania, clusters have not acted as a partner in drafting the plan and setting the strategic priorities, however National Recovery and Resilience Plan[1] mentions an establishment of five competence centres to support the creation of the infectious disease cluster. In addition to the COVID-19 pandemic, the ongoing Russian military aggression on Ukraine has also taken its toll on EU companies and industrial ecosystems, highlighting the significance of policy efforts in supporting SMEs and clusters.

The EDRF Partnership Agreement 2021-2027 in Lithuania also references the establishment of competence centres for the support of the infectious disease cluster.

Lithuanian ERDF OP: *Programme for the European Union Funds' investments in 2021-2027* mentions clusters mainly within priority 1: More Advanced Lithuania. The Programme supports innovation clusters and cooperation of companies, research organisations, public authorities, and business networks, which should lead to the benefit of SMEs.

In the following, a succinct overview of the cluster policy in Lithuania will be provided. The structure - of this factsheet generally encompasses:

1) an overview of the industrial ecosystems and cluster landscape in Lithuania,
2) an overview of the Lithuanian broad policies which provide policy interventions for the development of clusters in Lithuania,
3) an assessment of the state of Lithuanian cluster policy and its role in broader economic policy challenges mentioned in the European Semester Reports.

[1] Ministry of Finance of Republic of Lithuania. 2021. Lithuanian Recovery and Resilience plan. Available at: Ekonomikos gaivinimo ir atsparumo didinimo planas „Naujos kartos Lietuva" (lrv.lt)

02

Industrial ecosystems and cluster landscape

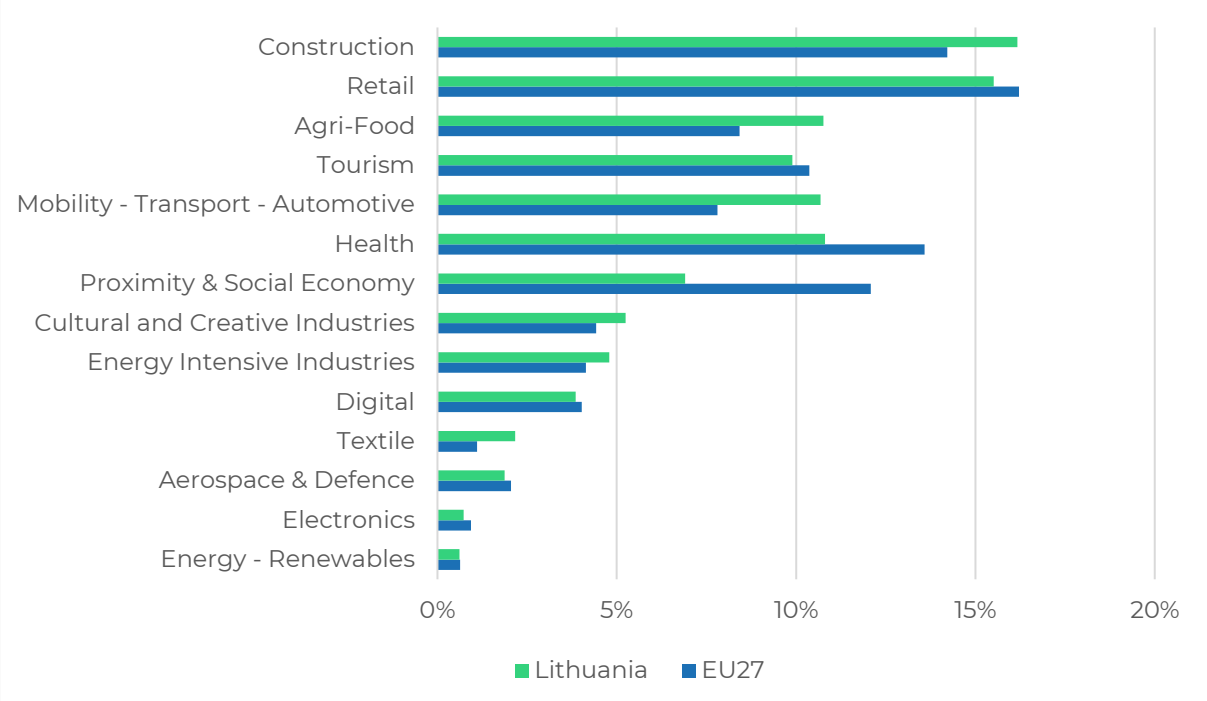
2. Industrial ecosystems and cluster landscape

2.1 Employment in the 14 industrial ecosystems

As part of its Industrial Strategy (March 2020), the European Commission has identified 14 industrial ecosystems that encompass all players operating in a value chain.[2] The classification of the 14 industrial ecosystems have been calculated by aggregating NACE 2 -digit activities, following the methodology established in the European Commission.[3] This means that the data provided below can differ from other publications by the European Commission that do not consider the industrial ecosystem classification.

In the following figure, the employment share of Lithuania and the EU27 in each industrial ecosystem is shown relative to the number of all employed persons in the 14 industrial ecosystems. The ecosystems are ordered, from top to bottom, according to the amount of employment in the country. When the bar for the country is higher than that of the EU27, it indicates that the country is more specialised in that ecosystem. Here, the three main ecosystems by employment for Lithuania are "Construction", "Retail" and "Agri-Food". Lithuania exhibits employment shares above the EU27 average in a number of ecosystems (namely "Construction", "Agri-Food", "Mobility – Transport – Automotive", "Cultural and Creative Industries", "Energy Intensive Industries" and "Textile") which shows the relative strength of Lithuania in these industrial ecosystems.

Figure 1: Employment across the ecosystems



Source: ECCP (2023), own elaboration based on data from Eurostat

[2] see here for more information https://clustercollaboration.eu/in-focus/industrial-ecosystems (last access 09.01.2024).
[3] see European Commission (2022): Annual Single Market Report, SWD(2022).

2.2 Regional agglomerations

Economic activity is not equally distributed across regions in the EU but tends to agglomerate in certain places. In this context, an Agglomeration is defined as the concentration of a certain industry, sector or ecosystem in a certain geographical area. The following section provides an analysis of, first, the sectoral agglomerations and, second, the ecosystem agglomerations in the regions. Agglomerations are operationalised through the employment-based Location Quotients (LQ), measuring the relative specialisation of one region compared to the EU level, as well as the employment size.

If the LQ for a given activity-region combination is above 1.5, it is considered a specialisation agglomeration, and if the activity accounts for at least 1 % of total employment in the region, it is considered regionally relevant.[4] The following tables shows the total number of regionally relevant specialisation agglomerations in the country and identifies the top five most specialised of these agglomerations. The first table focuses on the 88 NACE 2-digit activities or sectors, totalling 16 in the country across 13 NACE 2-digit sectors. On the other hand, the second table is based on the 14 ecosystems, which total 4 in the country across four industrial ecosystems.

Table 1: Number of regionally relevant sectoral agglomerations and Top 5 agglomerations by region (NACE)

Region	Number of agglomerations	Agglomeration 1	Agglomeration 2	Agglomeration 3	Agglomeration 4	Agglomeration 5
LT01: Capital Region (Lithuania)	7	J63 – Information service activities	C31 – Manuf. of furniture	H49 – Land transport and transport via pipelines	M73 – Advertising & market research	J62 – Computer programming, consultancy and related activities
LT02: Central and Western Region (Lithuania)	9	C31 – Manuf. of furniture	C16 – Manuf. of wood products	C14 – Manuf. of wearing apparel	H49 – Land transport and transport via pipelines	C10 – Manuf. of food products

Source: ECCP (2023), own elaboration based on data from Eurostat

As mentioned at the beginning of this Chapter, the NACE 2-digit activities have been aggregated to the 14 EU industrial ecosystems following the methodology established by the European Commission. Table 2 provides an overview of the regional distribution of industrial ecosystem agglomerations. Overall, there are fewer numbers of ecosystem agglomerations compared to the regionally relevant sectoral agglomerations by NACE 2-digit sectors. This more concentrated agglomeration can at least partially be linked to the methodology of measurement of the 14 industrial ecosystems. Additionally, particularly the ecosystem agglomerations shown in Table 2 are heavily skewed towards small regions with a less diversified economy due to the methodology used.

For the Capital Region (LT01), the sectoral agglomerations include “J63 – Information service activities” and “J62 – Computer programming, consultancy and related activities”. This is reflected in the top ecosystem agglomeration of this region “Digital”. The second ecosystem agglomeration of this region "Cultural and Creative Industries” aligns with the sectoral agglomeration “M73 – Advertising & market research”. For Central and Western Lithuania (region LT02), “Textile” and “Agri-Food” account for the

[4] for more information on the methodology please see the methodology note: https://clustercollaboration.eu/in-focus/policy-acceleration/country-factsheets-on-cluster-policies-and-programmes (last access 09.01.2024).

ecosystem agglomerations. This is reflected in the sectoral agglomerations of the region through the sectors “C14 – Manuf. of wearing apparel” and “C10 – Manuf. of food products” respectively.

Table 2: Regionally relevant ecosystem agglomerations

Region	Number of agglomerations	Agglomeration 1	Agglomeration 2
LT01: Capital Region (Lithuania)	2	Digital	Cultural and Creative Industries
LT02: Central and Western Region (Lithuania)	2	Textile	Agri-Food

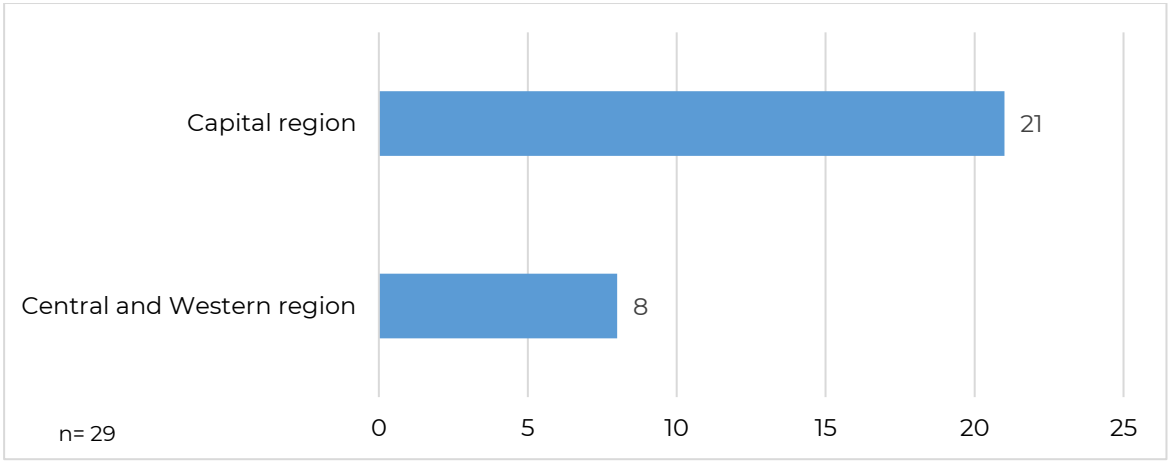
Source: ECCP (2023), own elaboration based on data from Eurostat.

2.3 Cluster organisations & interregional cooperation

Cluster organisations in the regions

There are 29 cluster organisations registered on the ECCP located in Lithuania. With 21 cluster organisations, the majority of them are located in the Capital region (LT01), while 8 cluster organisations are from Central and Western Lithuania. The following figure shows the presence of cluster organisations in the different regions.

Figure 2: Cluster organisations profiled on the ECCP



Source: ECCP (2023). Note: the data for the analysis was extracted on 21/12/2023.

SMEs (78%, EU: 83%) followed by research organisations (12%, EU: 8%) and large enterprises (11%, EU: 9%) constitute the majority of member organisations of Lithuanian cluster organisations with profiles on the ECCP. These organisations span eleven of the fourteen industrial ecosystems (see list below)[5]. The ecosystem “Digital” constitutes the largest number of Lithuania cluster organisations, with the maturity based in the capital region, which aligns with the concentration of employment in this ecosystem. Lithuanian clusters also show notable representation in the "Agri-food" and "Mobility – Transport – Automotive" ecosystems, each with two organisations. On the other hand, the "Construction" and "Retail" sectors, despite being among the largest industrial ecosystems in terms of employment, have minimal or no representation among Lithuanian clusters. In contrast, the

[5] Note that cluster organisations profiled on the ECCP can be allocated to multiple industrial ecosystems. Hence, the number of cluster organisations with by industrial ecosystem can exceed the total number of cluster organisations in the country.

"Health" and "Renewable Energy" ecosystems feature prominently, with a significant number of clusters focusing on these areas, highlighting a disparity between the sectors most covered by Lithuanian clusters and their respective employment figures.

- Digital (9 cluster organisations)
- Health (6 cluster organisations)
- Renewable Energy (3 cluster organisations)
- Energy Intensive Industries (3 cluster organisations)
- Electronics (3 cluster organisations)
- Aerospace & Defence (2 cluster organisation)
- Agri-food (2 cluster organisations)
- Creative & Cultural Industries (2 cluster organisations)
- Mobility-Transport-Automotive (2 cluster organisations)
- Construction (1 cluster organisation)
- Textile (1 cluster organisation)

Interregional cooperation

In the 2014-2020 funding period[6], the European Cluster Partnerships and the INNOSUP-1 initiative have been launched by the European Commission to encourage clusters from Europe to intensify collaboration across regions and sectors. Lithuanian cluster organisations have been involved in thirteen consortia of the European Strategic Cluster Partnerships out of which three partnerships were focusing on internationalisation (ESCP-4i), seven partnerships were on cluster management excellence (ESCP-4x) and one partnership was on smart specialisation (ESCP-S3). Consortia partners came from 12 different states (PL, FI, EE, SE, AT, FR, DE, ES, DK, BG, PT, LV). Four Lithuanian cluster organisations participated in the INNOSUP-1 initiative with partner organisations coming from 18 countries (BE, UK, ES, RS, IE, LU, EE, NL, DE, EL, PL, FR, DK, AT, PT, SI, FI, SE).

In the 2021-2027 funding period, the Single Market Programme supports clusters as part of the Joint Clusters Initiatives (Euroclusters) for Europe's recovery. From Lithuania, three cluster organisations are part of three Euroclusters with partner from seven countries (IT, HU, GR, ES, FR, PL, BE). These three Euroclusters are CREATHRIV-EU, EPICENTRE and SUAVE. Collectively, they cover four industrial ecosystems. While CREATHRIV-EU operates in the "Cultural and Creative Industries" and SUAVE in the "Agri-food" ecosystem, EPICENTRE covers the industrial ecosystems "Digital", "Agri-food" and "Health".[7]

[6] Many of the programmes of the 2014-2020 funding period have been terminated by December 2023. However, the collaborative projects that were funded may continue to operate.
[7] https://clustercollaboration.eu/euroclusters (last access 31.03.2023).

03

National cluster policy, programmes and initiatives

3. National cluster policy, programmes and initiatives

In this section we provide an overview of the existing Lithuanian cluster policies.

The breakdown is presented in the form of a table, with the first column showcasing information on the aspects which constitute the policy (beginning with 'Policy Objectives', following with 'Policy Focus', etc.). The second column represents the case of Lithuanian broad policies which also addresses the cooperation of companies, industries and R&D actors as well as the development and creation of clusters in the country. This factsheet showcases the new broad policy in Lithuania labelled as "Program for the European Union funds' investments in 2021 – 2027".

Within the table the text presented in bold (black) depicts standardised categories across country factsheets (56 in total for 2023), which are applied for comparative purposes. This is followed by a complementary descriptive text to provide more insights about the cluster policy in Lithuania.

Table 3: Overview of Lithuanian cluster policy

Policy type:	Broad policy
Policy name:	Programme for the European Union funds' investments in 2021–2027
POLICY OBJECTIVES 	**Strengthening cooperation between companies or industry and RTDI actors** **Increasing competitiveness and boosting scale up of SMEs** **Supporting internationalisation activities** **Fostering R&D activities, technology development and implementation** **Fostering innovation and strengthening innovation ecosystems** **Promoting entrepreneurship, start-ups and spin-offs** **Promoting employment and upgrading skills and competences** **Strengthening the network of cluster organisations/cross-clustering** **Increase supply chains resilience**
	The Program for the EU Funds' Investments 2021-2027 plan to ensure the long-term economic and social well-being of the Lithuanian population and strengthen the resilience of country's economy. Among other things, the Program provides support to innovation clusters, encourages cooperation between companies, research organisations and public authorities and supports the creation of business networks. The Program also focuses on supporting the participation of SMEs in

Policy type:	Broad policy
Policy name:	Programme for the European Union funds' investments in 2021–2027
	international research and development initiatives with the aim to strengthening business positions in international value chains, supports international networking of SMEs and their involvement in partner networks of R&D, strengthen the growth of advanced clusters based on high added value, encourages the participation on international programs in Baltic Sea Region, prepares other international R&D projects and supports participation in them. In order to increase the competitiveness of scientific and educational institutions and business enterprises, the Programme increases the involvement of SMEs and industries in R&D clusters and international value chains. Special attention and support is given to cooperation of clusters in the Baltic Sea Region. In addition, the Program strengthens the membership of clusters in international networks in order to support the involvement of exporting SMEs in international network chains and strengthen their positions in them.
POLICY FOCUS	**Cross-sectoral**
	The Program is not focused on a specific sector, but the goal is to strengthen the resilience and competitiveness of the entire Lithuanian economy and ensure the long-term economic and social well-being of the population.
RESPONSIBLE AUTHORITIES	**In charge of drafting and implementation** **Provides funding** **Oversees the implementation**
	The Ministry of Finance of the Republic of Lithuania is, within the framework of the implementation of the Program, the governing authority, the control institution, the entity receiving payments from the Commission and, where applicable, the entity or entities receiving payments from the Commission in cases where technical assistance is provided. The executor of the accounting function in cases where this function is not entrusted to the management body, but to another entity, is the Central Project Management Agency.
BENEFICIARIES	**SMEs** **Cluster organisations** **Research organisations**

Policy type:		Broad policy
Policy name:		Programme for the European Union funds' investments in 2021–2027
		Academic institutions **Start-ups** **Large firms** **NGOs** **Technology centres** **General population**
		The Program targets SMEs, large companies, innovation cluster organisations, technology centres, research and innovation institutions, centres of innovation and technology transfer, innovation and technology centres of SMEs, scientific and study institutions, innovation support organisations, consulting organisations, and the general population.
INSTRUMENTS 	Financial	**Funding collaboration initiatives** **Support to R&D projects, SMEs becoming cluster members, etc.** **Supporting market entry (e.g. testing, proof-of concept, prototyping, demonstration projects)** **Financing start-ups**
	Technical assistance	**Infrastructure: coworking spaces, offices, incubation and accelerator spaces, research centres, technology parks etc.** **Support for hard skill development: knowledge transfer, intellectual property, entrepreneurship, export advice, market intelligence** **Support for soft skills development: coaching, management training, upskilling/reskilling** **Support for networking and partnership building (at national and/or international level)** **Marketing activities: advertising, communication, events, fairs, and so on**

Policy type:		Broad policy
Policy name:		Programme for the European Union funds' investments in 2021–2027
	Explanation	Instruments such as investments and grants are planned so that it is possible to achieve important goals for Lithuania and the Community as a whole. These support measures will be used to ensure the long-term economic and social well-being of the population, as well as to strengthen the resilience and competitiveness of the Lithuanian economy. The Program mainly provides tools such as: support for the creation of innovation clusters (which connect companies, research organisations and public authorities) and business networks; support for the development of skills needed for advanced specialisation, industrial transformation, entrepreneurship and adaptation of companies to changes; support for research and innovation implementation processes; measures supporting technology transfer and cooperation between companies, research centres and universities with a focus on the low-carbon resilience of the economy, climate change and adaptation; support for digitaliation of SMEs (including e-commerce, e-business and online business processes, digital innovation centres, living laboratories, internet entrepreneurs and ICT start-ups); support for SMEs business development and internationalisation (including investments in production, incubation, support of young and spin-off companies and start-ups); measures to support the efficient use of energy by SMEs or large companies and demonstration projects implemented in them and support for the use of intelligent energy systems and solutions by businesses and households. The program also supports the improvement of the education system, healthcare and infrastructure in the country with financial and non-financial instruments.
HISTORY	**Period**	**Limited period**
	Ending year *(for policies with limited period)*	2027
	Starting year	2021

Policy type:		Broad policy
Policy name:		Programme for the European Union funds' investments in 2021–2027
	Explanation	The Programme is implemented for a limited time period until 2027.
BUDGET	**Overall**	EUR 7.5 billion[8]
	Annual	Not mentioned in the sources.
	Source of funding	ERDF, Cohesion fund, ESF+
POLICY EVALUATION	**Availability**	**no policy evaluation**
	Results	No data available
POLICY ALIGNMENT WITH THE EU PRIORITIES		**Green economy** **Digitalisation** **Resilience**

Source: ECCP (2023).

[8] Ministry of Finance of Republic of Lithuania. 2022. The European Commission Approved Lithuania's Plans for EUR 7.5 billion Investments. Available at: https://finmin.lrv.lt/en/news/the-european-commission-approved-lithuanias-plans-for-eur-7-5-billion-investments

04

State of cluster policy and its role in broader economic policy challenges

4. State of cluster policy and its role in broader economic policy challenges

4.1 The state of cluster policy

This section presents an overview of the state of play of Lithuanian cluster policy in the form of a qualitative assessment across four categories of analysis – policy scope, continuity of cluster policies, evidence of performance, and the range of cluster support instruments. Please refer to the **Annex** for the detailed overview of the categories and the scoring system. The table below presents an overview of the **state of play of Lithuanian cluster policy** for 2023.

Table 4: State of play

Lithuania	State of play
POLICY SCOPE	Absence of cluster policy
	Broad policy
	Sectoral policy
	National and/or regional cluster policy
CONTINUITY	No cluster-specific policy available
	Cluster policy established recently
	Cluster policy established between over 2 and 10 years
	Cluster policy established over 10 years ago
EVIDENCE OF PERFORMANCE	No evaluation and / or monitoring available
	Existence of evaluations of past policies
	Existence of monitoring or an ongoing / interim evaluation
	Existence of monitoring and ex-ante or ongoing / interim evaluation
CLUSTER SUPPORT INSTRUMENTS	No instruments for cluster development
	Financial support for cluster development in the broader and / or sectoral policy
	Financial or technical support for cluster development in dedicated cluster policy
	Financial and technical support for cluster development in dedicated cluster policy

Source: ECCP (2023).

The text below provides a **qualitative description** of the state of play of the cluster policy in Lithuania.

Policy scope

At the moment, only broad policies and strategies provide policy interventions for the development of clusters in Lithuania. The Lithuanian Innovation Development Programme and the Program for the European Union funds' investments in 2021–2027 emphasise stimulation of innovation and the development of clusters, as well as their internationalisation and integration into global value chains.

Continuity

Despite the lack of a national cluster policy, Lithuania implemented several measures and broader programmes that directly fostered the creation of collaboration initiatives and strengthened existing clusters. European programmes and initiatives such as the smart specialisation (RIS3), whose main policy objectives are also addressed in the LIDP, and Horizon 2020 also strongly contributed to the development of cluster-related policies. The Ministry of Economy and Innovation adopted the "Concept of Lithuanian Cluster Development" in 2014 (revised in 2020) which is the official concept paper for the development of clusters. The Concept promotes the benefits and targets of cluster development. The expansion of clusters may be promoted through state or municipal budgets, using EU funds or other international financial assistance measures. The document also mentions the importance of a favourable business environment for the development of international world-class innovation clusters. However, it does not provide any concrete policy interventions as opposed to the LIPD which is much more precise in this regard.

Lithuanian Innovation Development Programme and Program for the European Union funds' investments in 2021–2027 are the current policies aimed at the development of clusters in Lithuania. In addition, the national cluster policy is currently in the development stage. According to the Lithuania Cluster Network Association, although the national cluster policy is currently only in the development stage, it can already be stated that it will attempt to directly reflect the concept of clusters in Lithuania and the standards set for clusters not only in Lithuania but in the EU.

Evidence of performance

There is no official national evaluation of cluster-relevant policies. However, a 2016 OECD Review of Innovation Policy in Lithuania refers to the "Valley Programme" which aimed in developing centres of science, studies and business. The valleys that emerged out of this programme were strongly centred around education and research institutions and lacked active involvement and interest of the business sector. The report points out that at this point a final evaluation is difficult, as high-tech valleys usually take a long time to fully develop. An evaluation has also been conducted for the "Inno-vouchers LT" scheme in 2017. An overall positive impact on SMEs engagement in R&D and on cooperation between science and business was observed. However, there was no significant impact on productivity nor on competitiveness indicators.

Cluster support instruments

The Lithuanian Innovation Development Programme offers different financial and technical support instruments on the national level. Clusters directly benefit from innovation consulting services, international business networking and financial support for cooperation activities, as well as from support investment in the acquisition of innovative technologies and equipment. As part of the Program for the European Union funds' investments in 2021–2027, instruments such as investments and grants are planned to support cooperation, innovations and cluster development.

4.2 Cluster policy's potential impact on challenges identified in the European Semester Report

Cluster policy can provide important support to broader economic policy efforts. This section shows how Lithuanian clusters (can) play a role in addressing the challenges identified in the European Semester Report for the country. To this end, the European Semester 2023 country report for Lithuania[9] has been analysed across policy areas relevant to cluster policy. The results point to a series of issues where cluster policy could play an important role in tackling the country's economic challenges.

The table below also outlines how Lithuanian cluster organisations are already addressing the challenges outlined in the European Semester Reports in the absence of a dedicated cluster policy. Developing a dedicated cluster policy could further strengthen and focus the activities of Lithuanian cluster organisations towards broader economic policy challenges.

Table 5: Contribution of Lithuanian clusters to the challenges identified in the European Semester Report

Policy area	Challenges	Cluster activity
INNOVATION 	• Provide sustainable sources of public R&D funding. • Consolidate research resources. • Promote private R&D investments. • Improve national policies to attract and retain talent.	The programme for the European Union funds investment emphasises the importance of a strong **innovation ecosystem**. The programme also encourages cooperation between companies, research organisations and public authorities to strengthen the innovation ecosystem. To this end, the programme provides support to innovation clusters. Clusters can indeed play an important role in facilitating the transfer of technology.[10] In that regard, the various Lithuanian cluster organisations are strongly focusing on facilitating R&D projects. For instance, the Photovoltaic Technologies Cluster FETEK has conducted projects for opening access to R&D infrastructure[11] or international innovation projects in the field of photovoltaic and renewable energies.[12] Moreover, the literature points out that the presence of clusters is positively linked to higher investments for research and development both in the public and especially the private sector.[13]
SKILLS 	• Green skills needed for the green transition should be promoted more	Regarding skill development, the programme for the European Union funds investment aims to improve **skills** and **competences**, in which clusters have the potential to offer a significant contribution. Research underlines the role of clusters in developing the skills of the workforce and attracting skilled workers to a

[9] https://economy-finance.ec.europa.eu/document/download/e4c23a8f-f159-49e5-a666-f9145391c512_en?filename=LT_SWD_2023_615_en.pdf (last access 02.05.2024)
[10] Fioravanti, V.; Stocker, F.; Macau, F. (2023).
[11] https://fetek.lt/en/photovoltaic-technology-clusters-open-access-rd-infrastructure-pvplius/ (last access 02.05.2024)
[12] https://fetek.lt/en/infinite-cell-international-cooperation-for-the-development-of-cost-efficient-kesterite-c-si-thin-film-next-generation-tandem-solar-cells/ (last access 02.05.2024)
[13] ECCP (2022).

Policy area	Challenges	Cluster activity
		region.[14] In addition, one can point out the activities of the Lithuanian Social Innovation Cluster[15] which has a strong focus on the educational system as well as the development of skills. More generally, as cluster organisations act as intermediaries between companies and research and educational institutions, they can also be seen as part of the training and educational infrastructure in the innovation ecosystem.[16]
GREEN  TRANSITION	• Stronger protection for biodiversity • Making progress towards a circular economy, particularly in the industry. • Stepping up energy efficiency measures, particularly in the industrial sector	In order to support the **green transition** of the country, the programme for the European Union funds investment 2021-2027 aims to support the technology transfer between companies, research centres and universities with a focus on low-carbon resilience of the economy and climate change and adaptation. As facilitators of technology transfer, clusters are assigned an important role in supporting the green transition. As facilitators of technology transfer, clusters are assigned an important role in supporting the green transition. Clusters in Lithuania are addressing the recommendations mentioned by the European Semester Report. For instance, the cluster AgriFood Lithuania is conducting a cross-regional project that aims at implementing energy efficient practices in food processing value chains.[17] Studies also show that clusters can play a vital role in the green transition of the economy[18] and it can be underlined that cluster organisations have a positive influence on the green transition, not least because they facilitate exchange between different actors, disseminate relevant knowledge and practices and deepen environmental awareness among stakeholders.[19]

Source: ECCP (2023)

[14] Hsu, M.-S et al. (2014).
[15] https://klaster.lt/en/klateris/lietuvos-socialiniu-inovaciju-klasteris/
[16] European Expert Group on Clusters (2020).
[17] see https://www.agrifood.lt/en/eenova-energy-efficiency-in-regional-food-processing-value-chains/ (last access 30.04.2024)
[18] Lis, A. & Mackiewicz, M. (2023); ECCP (2021).
[19] Hatch et al. (2017).

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Annex

Table 6: Analytical framework for the state of cluster policy

Criterion	Description	Categorical variables
Policy scope	assessment whether the country has a dedicated cluster policy, or cluster creation and/or development is targeted through broader policies, e.g. foreign trade policies, labour and social policies or specific sectoral policies, e.g. industrial policy tourism policies, agriculture policies	**absence of cluster policy** **existence of broader policies** **existence of specific sectoral policies** **existence of targeted cluster policies**
Continuity of cluster policies	assessment of the duration and experience of the country in carrying out cluster policies. This criterion assesses only existence of targeted cluster policies and not broader policies or sectoral policies	**absence of policies supporting cluster development** **cluster policy established recently (within the last 2 years)** **cluster policy established between over 2 and 10 years** **cluster policy established over 10 years ago**
Evidence of performance	assessment whether there are evaluations of past and ongoing policies and a monitoring system in place. The existence of monitoring and evaluation mechanisms determines the degree of policy development in the country	**no evaluation and / or monitoring available** **existence of evaluations of past policies, e.g. ex-ante** **existence of monitoring or an ongoing / interim evaluation** **existence of monitoring and ex-ante or ongoing / interim evaluation**
Cluster Support Instruments	assessment whether the policies provide any instruments to support the policy implementation, being these financial and/or technical support	**no instruments for cluster development** **financial support for cluster development in the broader and / or sectoral policy** **financial or technical support for cluster development in dedicated cluster policy** **financial and technical support for cluster development in dedicated cluster policy**

Source: ECCP (2023).