EUROPEAN CLUSTER COLLABORATION PLATFORM

Country factsheet

Finland

An initiative of the European Union

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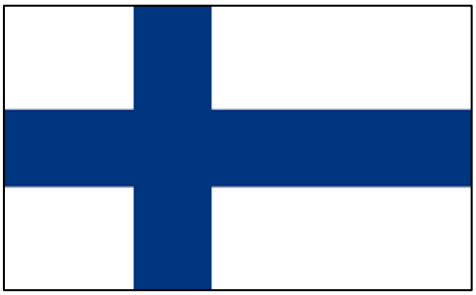
Introduction and economic policy context

1. Introduction and economic policy context



This document presents an overview of the cluster policy in Finland. To contextualise the cluster policies (and related) analysed in the factsheet, a comprehensive outlook of the country in socioeconomic terms can be consulted in the European Semester Country Report for Finland 2023.

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; and social protection and cohesion. Chapter 4.2 of this factsheet provides an overview on how Finland's cluster policy could help to address the economic policy challenges identified in the European Semester country recommendations.

Despite the somewhat limited shock that the COVID-19 pandemic had on the Finnish economy, the country has taken multiple measures to deter the impacts. These are set under the Sustainable Growth Programme, drafted by the Finnish government, which utilises the Recovery and Resilience Facility funding and is structured around four pillars of green transition, digitalisation and data economy, employment and skills, and social and health services. The clusters have been included in the programme, especially in terms of innovation, research and skills. The drafting of the programme included several stakeholder hearings and consultations that also included organisations from the industrial clusters. 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 the Finnish National recovery and resilience plan, clusters are explicitly mentioned:

- as a potential contributor to the green transition (i.e. as innovation clusters),
- the creation of competence clusters by cooperation among RDI actors in order to support sustainable growth and digitalisation,
- improving quality, effectiveness and productivity of health and social services through expertise cluster,
- the support of water (services) cluster, amongst others the Water Cluster Finland.

In addition to the COVID-19 pandemic, the ongoing Russian military aggression against Ukraine has also taken its toll on EU companies and industrial ecosystems, highlighting the significance of policy efforts in supporting SMEs and clusters.

The Partnership Agreement 2021-2027 in Finland does not make a direct reference to clusters. However, innovative ecosystems are addressed in order to lead to a smarter economy and sustainable urban development. The largest share of the Partnership Agreement will be directed at improving skills and innovation.

The Innovation and Skills Operational Programme (EU investments 1.934 million EUR) will be implemented across all Finnish regions[1]. It mentions clusters under Priority Axis 1 (Innovative Finland), Specific Objective 1 (Improving the growth and competitiveness of SMEs), under Priority Axis 2 (Climate-neutral Finland), Specific Objective 2 (Promoting energy efficiency measures and reducing greenhouse gas emissions), and under Priority Axis 7 (Finland for a just transition), Specific objective:

[1] Except for the Åland Islands, which have a dedicated Åland Structural Funds Programme 2021-2027.

Regionally equitable transition from peat abandonment. From the 14 Regional Just Transition Plans there are six mentioning clusters in different capacities and roles.

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

1) an overview of the industrial ecosystems and cluster landscape
2) an overview of the national policies that support cluster development,
3) an assessment of state of play of the national cluster policy and its capacity to tackle wider economic policy challenges mentioned in the European Semester Reports.

02

Industrial ecosystems and cluster landscape

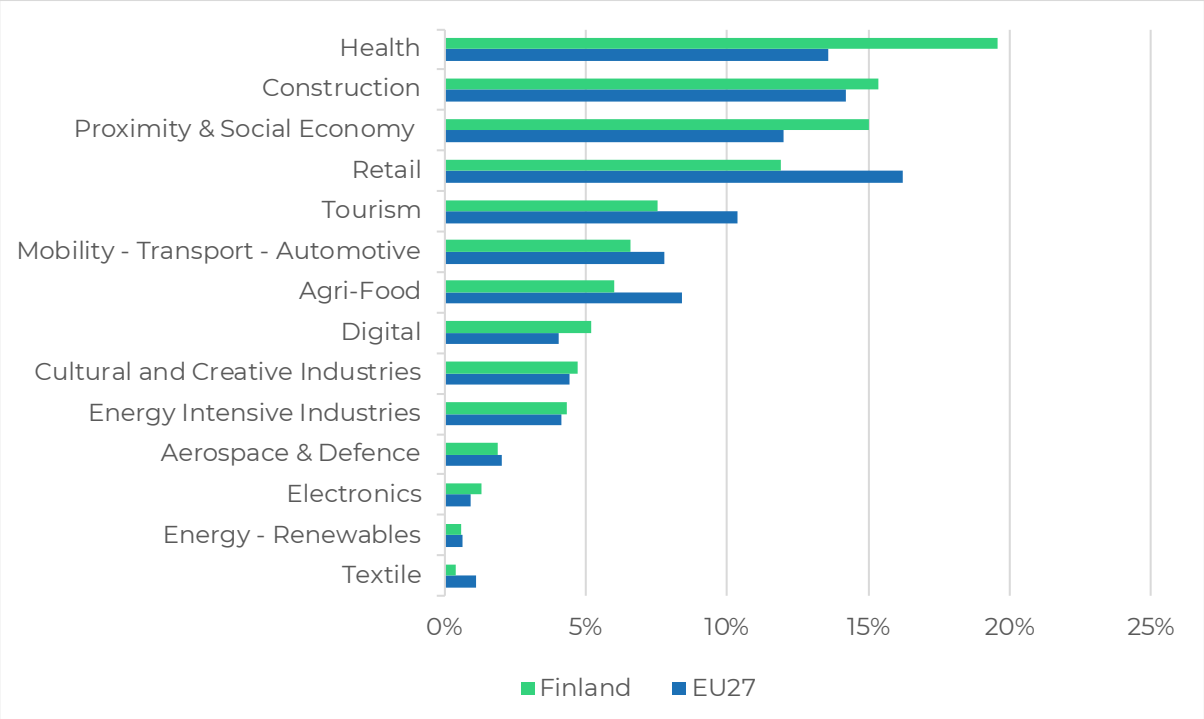
2. Industrial ecosystems and cluster landscape

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 Finland and the EU27 in each industrial ecosystem is shown relative to the number of 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. Figure 1 shows the share (in %) of employed persons in each industrial ecosystem in comparison to the EU27. In Finland, the three most employed ecosystems are Health, Construction and Proximity & Social Economy. In these industrial ecosystems as well as in Digital ecosystem, Finland has employment shares notably higher than the EU27.

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 25.01.2024).
[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 an agglomeration, and if the activity accounts for at least 1 % of total employment in the region, it is considered a regionally relevant agglomeration. Table 1 shows the total number of regionally relevant agglomerations in each region in the country and identifies the top five most specialised. The first table focuses on the 88 NACE 2-digit activities or sectors, totalling 37 in the country, while the second table is based on the 14 ecosystems, which total 5 in the country.

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

Region	# of agglomerations	Top 1	Top 2	Top 3	Top 4	Top 5
FI19: West Finland	7	A02 - Forestry & logging	C17 - Manuf. of paper products	C28 - Manuf. of machinery & equipment	Q88 - Social work without accommodation	Q87 - Residential care
FI1B: Helsinki-Uusimaa	9	J58 - Publishing activities	N78 - Employment activities	J62 - Computer programming, consultancy & related activ.	C26 - Manuf. of electronic & optical products	Q88 - Social work without accommodation
FI1C: South Finland	5	C17 - Manuf. of paper products	Q88 - Social work without accommodation	Q87 - Residential care	F41 - Construction of buildings	C28 - Manuf. of machinery & equipment
FI1D: North and East Finland	7	A02 - Forestry & logging	C16 - Manuf. of wood products	C24 - Manuf. of basic metals	C26 - Manuf. of electronic & optical products	Q87 - Residential care activities
FI20: Åland Islands	9	H50 - Water transport	H51 – Air Transport	A02 – Forestry and Logging	Q88 - Social work without accommodation	F41 – Construction of buildings

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 ecosystem agglomerations than the regionally relevant sectoral agglomerations by NACE sectors[4]. The high share of employment (see Figure 1) in the industrial ecosystems Health, Construction, Proximity & Social Economy as well as Digital are reflected in the regionally relevant sectoral agglomerations and regionally relevant ecosystem agglomerations throughout the different Finnish regions. For instance, almost all Finnish regions have regionally relevant sectoral agglomerations in sectors such as social work (Q88) or residential care (Q87). On the same note, regions of South Finland (FI1C) and North and East Finland (FI1D) have regionally relevant ecosystem agglomerations in Health. For the capital region of Helsinki-Uusimaa, relevant sectoral

[4] This is to be expected since aggregating - and therefore averaging - NACE 2-digit activities into larger industrial ecosystems dull the variability in the specialisation signals.

agglomerations such as computer programming (J62) or manufacturing of machinery and equipment (C28) emerge, which is well reflected in the region's ecosystem agglomerations (Digital and Electronics). On the other hand, sectoral agglomeration in the construction of buildings (F41) that was present in Helsinki-Uusimaa, South Finland, and Åland Islands in the 2022 version of the Finnish factsheet[5] is only present in Åland Islands in the current version.

Table 2: Regionally relevant ecosystem agglomerations

Region	Number of ecosystem agglomerations	Agglomerations 1	Agglomeration 2
FI19: West Finland	0	-	-
FI1B: Helsinki-Uusimaa	2	Digital	Electronics
FI1C: South Finland	0	-	-
FI1D: North and East Finland	2	Electronics	Health
FI20: Åland Islands	1	Tourism	-

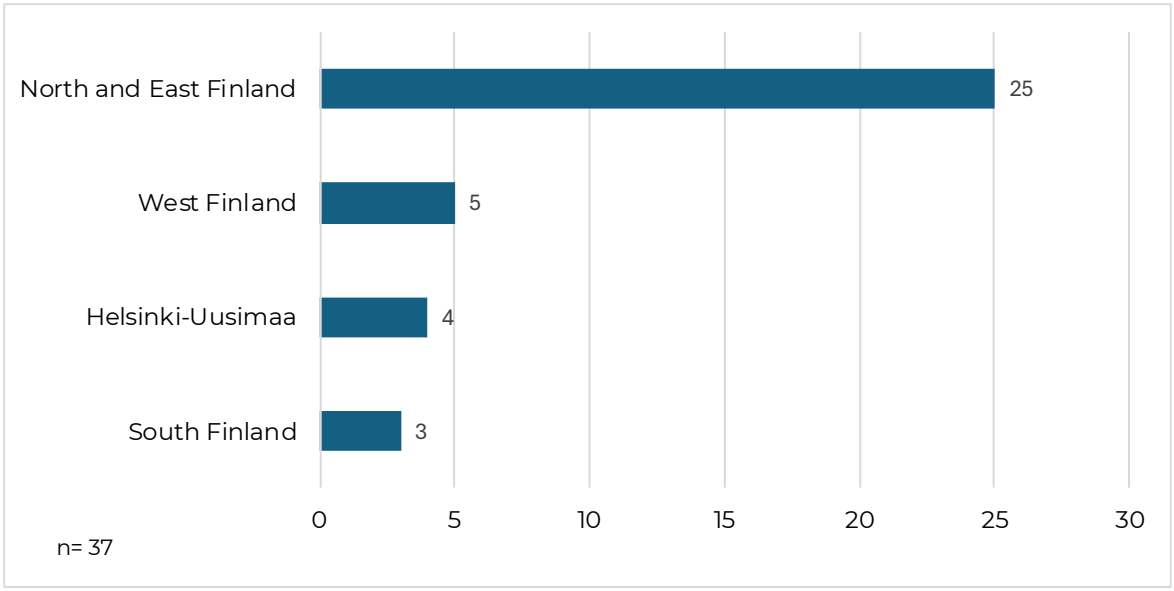
Source: ECCP (2023), own elaboration based on data from Eurostat.

2.3 Cluster organisations & interregional cooperation

Cluster organisations in the regions

As shown by Figure 2 below, there are 37 cluster organisations registered on the ECCP in the country, 25 of which are located in North and East Finland. Five cluster organisations are based in West Finland followed by four cluster organisations in Helsinki-Uusimaa and three in South Finland.

Figure 2: Cluster organisations profiled on the ECCP



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

In terms of organisation types, SMEs (79%, EU: 83%) followed by large enterprises (11%, EU: 9%) and research organisations (10%, EU:8%) constitute the majority of member organisations of Finnishcluster

[5] See ECCPfactsheet_Finland_2022_final.pdf (clustercollaboration.eu).

organisations with profiles on the ECCP. From a thematic perspective, these Finnish cluster organisations are operating in the industrial ecosystems[6] [a]s below. Since not all cluster organisations on the ECCP provided this information and clusters can operate in multiple ecosystems, the number of cluster organisations with an allocated industrial ecosystem does not correspond to the overall number of cluster organisations in the country.

- Digital (7 cluster organisations)
- Agri-food (6 cluster organisations)
- Renewable Energy (6 cluster organisations)
- Aerospace & Defence (2 cluster organisations)
- Health (3 cluster organisations)
- Mobility-Transport-Automotive (4 cluster organisation)
- Creative & Cultural Industries (1 cluster organisation)

Interregional cooperation

In the 2014-2020 funding period[7], 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. Finnish cluster organisations have been involved in seven consortia of the European Strategic Cluster Partnerships, out of which four partnerships were focusing on internationalisation (ESCP-4i) and three partnerships were on cluster management excellence (ESCP-4x). Consortia partners came from 12 different EU Member States (AT, CZ, DE, EE, ES, FR, IT, LT, NL, PL, PT, SE). Four Finnish cluster organisations participated in the INNOSUP-1 initiative with partner organisations coming from 18 countries (BG, CH, DE, EE, ES, HU, FR, GR, IE, IT, LT, PL, PT, RO, TR, UK, SE, SI).

In the 2021-2027 funding period, the Single Market Programme supports clusters as part of the Joint Cluster Initiatives (Euroclusters) for Europe's recovery. From Finland, three clusters are part of three Euroclusters with partners from nine countries (IT, DE, ES, PL, NL, FR, CZ, SE, PT). These Euroclusters are AIBC Eurocluster, CircInWater and PIMAP4SUSTAINABILITY. Collectively they cover six industrial ecosystems: "Mobility – Transport – Automotive" and "Digital" (AIBC Eurocluster), "Renewable Energy" and "Agri-Food" (CircInWater) and "Energy Intensive Industries" and "Health" (PIMAP4SUSTAINABILITY).

[6] Since not all cluster organisations on the ECCP provided this information, the number of cluster organisations with an allocated industrial ecosystem is lower than the overall number of cluster organisations in the country. ECCP (2023). Data for the analysis was extracted on 21/12/2023.
[7] 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.

03

National cluster policy, programmes and initiatives

3. National cluster policy, programmes and initiatives

In this section we provide an overview of the existing Finnish policies relevant for clusters on a national level.

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 and third column represents the case of a Finnish national cluster-related policy.

The Finnish authorities are currently preparing a new cluster-related policy outline and the strategy for 2024-2028. The current policy outline described in the 2020-2023 strategy is valid until the end of 2023. The updated strategy will be finished in early 2024.

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 policies in Finland.

Table 3: Overview of Finnish cluster policy

Policy type:	Broad policy	Broad policy
Policy name:	Innovative Cities and Communities	(Updated) National Roadmap for Research, Development and Innovation
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 resilience and sustainable economy and other solidarity-based initiatives**	**Strengthening cooperation between companies or industry and RTDI actors** **Increasing competitiveness and boosting scale up of SMEs** **Supporting internationalisation activities** **Enhancing the visibility of clusters** **Fostering R&D activities, technology development and implementation** **Fostering innovation and strengthening innovation ecosystems** **Supporting the creation of new cluster organisations**

Policy type:	Broad policy	Broad policy
Policy name:	Innovative Cities and Communities	(Updated) National Roadmap for Research, Development and Innovation
	Promoting employment and upgrading skills and competences	**Promoting resilience and sustainable economy and other solidarity-based initiatives** **Promoting employment and upgrading skills and competences** **Strengthening the network of cluster organisations/cross-clustering** **Cluster analysis and support for policymaking**
	The Innovative Cities and Communities concept supports the research, development and innovation activities of university cities and towns, while implementing sustainable urban development in line with the EU's objectives. The aim of project funding is to strengthen the expertise within and between cities and to develop innovation platforms that are significant on an international level.	The national roadmap for RDI, developed in 2020 and updated at the end of 2021, outlines several measures directed at enhancing the Finnish RDI environment. In Finland, the term "ecosystems" is more frequently used than clusters. The roadmap is an important pillar for the development of innovation ecosystems in Finland.
POLICY FOCUS	**Cross-sectoral**	**Cross-sectoral**
	The strategy adresses RDI activities in several sectors. Not only the private sector but also the public sector is covered.	The strategy adresses RDI activities in several sectors. Not only the private sector but also the public sector is covered. The education sector is an important pillar. Business R&D activites are adressed independent from the sector.
RESPONSIBLE AUTHORITIES	**In charge of drafting** **In charge of implementation** **Provides funding** **Oversees the implementation**	**In charge of drafting** **In charge of implementation** **Provides funding** **Oversees the implementation**

Policy type:	Broad policy	Broad policy
Policy name:	Innovative Cities and Communities	(Updated) National Roadmap for Research, Development and Innovation
	The Innovative Cities and Communities activities are coordinated by the Council of Tampere Region, which agrees upon harmonised funding procedures with the Ministry of Economic Affairs and Employment and is responsible for the national and international visibility of urban development. The national steering group monitors, guides, and coordinates the implementation of the Innovative Cities and Communities programme and the national Innovation and Skills Networks theme. The funding is provided by the Regional councils.	The Ministry of Education and Culture is the responsible authority behind the roadmap. The roadmap was adopted by the Finnish government in 2020 and updated in 2021.
BENEFICIARIES	**SMEs** **Research organisations** **Academic institutions** **General population** **Large firms**	**SMEs** **Cluster organisations** **Research organisations** **Academic institutions** **Large firms** **NGOs** **Technology centres** **General population** **Policy makers**
	The innitiative addresses a variety of actors that all can benefit from the implementation of the strategy.	The roadmap addresses a variety of actors that all can benefit from the implementation of the strategy. All institutions related to research are central part of the roadmap's objectives but also businesses, including cluster

Policy type:		Broad policy	Broad policy
Policy name:		Innovative Cities and Communities	(Updated) National Roadmap for Research, Development and Innovation
			organisations (in the Finnish sense addressed by ecosystems development) profit from achieving the roadmap's objective.
INSTRUMENTS 	Financial	-	**Funding collaboration initiatives** **Support to R&D projects, SMEs becoming cluster members, etc.** **Financing networking events** **Innovation: voucher, support to hire PhDs, cooperation with R&I actors**
	Technical assistance	-	**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)**
	Explanation	The policy supports activities in the following field: • Smart and sustainable urban solutions, wellness and health technology, and new learning environments and digital competence solutions • Carbon neutral circular economy, and sports business • Green electrification	The roadmap outlines different measures (in total 36) that are divided into the main pillars of the plan: Competence, new partnership models, innovative public sector. These measures show which activities especially the Ministry of Culture and Education will perform to achieve the goals of the strategy.

Policy type:		Broad policy	Broad policy
Policy name:		Innovative Cities and Communities	(Updated) National Roadmap for Research, Development and Innovation
		• Innovative industries and life sciences etc.	
HISTORY	**Period**	**Limited period**	**Limited period**
	Ending year *(for policies with limited period)*	2027	2030
	Starting year	2021	2020 (updated in 2021)
	Explanation	The ecosystem agreements are funded jointly by the EU, the Finnish State and the cities, and the projects receive funding mainly from the European Union's Innovation and Skills in Finland 2021–2027 programme.	The roadmap was adopted in 2020 and its objectives are directed at the year 2030.
BUDGET	**Overall**	174.5 million EUR	The roadmap does not specify a dedicated budget. The measures presented will be mainly executed by the responsible ministry.
	Annual	-	-
	Source of funding	The bulk of the funding is ERDF funding for sustainable urban development and other public funding, with a total of approximately EUR 140 million available for the 2021–2027 programming period. The Finnish Government allocated a total of approximately EUR 21.6 million in funding from the Innovation and Skills in Finland programme to the implementation of ecosystem agreements for 2022 and nearly EUR 13 million for 2023.	There is no main source of funding. The different measures are not always connected to a certain kind of funding but rather depict which steps are necessary to achieve the objectives. Different actors are addressed (e.g. R&D businesses, higher education institutions, Academy of Finland, Business Finland etc.)

Policy type:		Broad policy	Broad policy
Policy name:		Innovative Cities and Communities	(Updated) National Roadmap for Research, Development and Innovation
POLICY EVALUATION	**Availability**	**-**	**in progress**
	Results	-	The roadmap and its measures will be monitored regularly with a set of different indicators. The indicators are available on the website of the Ministry of Education and Culture and the progress towards the objectives can be followed online.
POLICY ALIGNMENT WITH THE EU PRIORITIES		**Green economy** **Digitalisation** **Resilience**	**Green economy** **Digitalisation**

Source: ECCP (2023).

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 on the state of Finnish 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. below presents an overview of the **state of Finnish cluster policy** for 2023.

Table 4: State of play

Finland	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 the cluster policy in Finland.

Policy scope

In Finland, clusters are supported through broader innovation policies focussing on ecosystem development. There is no specific sector focus and clusters are not a central part of the strategy. The focus lies on strengthening cooperation. The approach laid down in the strategy is meant to be implemented by national/regional development agencies. The Finnish authorities are currently preparing a new cluster-relevant strategy for 2024-2028.

The current RDI roadmap addresses innovation ecosystems which is the term more frequently used than clusters in Finland. Innovative Cities and Communities (2021-2027) project is yet another Finnish example of focusing on innovation ecosystems. It aims to strengthen the expertise within and

between cities and to develop innovation platforms that are significant on an international level. The initiative is based on 16 regional ecosystems of innovation, located in major and some of the mid-sized cities.

Continuity

Programme based regional development policy in Finland dates back to 1989. The current structure has been laid in 2008 when the Finnish ministry of Economy was reformed (official: Ministry of Economic Affairs and Employment). The law on regional development was set in 2014 (356/2014).

In Finland, the term "cluster" is not as frequently used as in other European countries. Instead, "innovation ecosystem" is the term that is more relevant to Finnish policy making. Ecosystems are understood as interactions between various actors, constituting a structure and an interactive process at the same time.[8] At the moment, there is no dedicated cluster policy available at national level. The broad policy incorporates cluster development as a part of the priority on business life and RDI support. The roadmap on RDI foresees strengthened ecosystem development.

As a part of that, ecosystems agreements with selected cities have been signed in 2021 that foresee to build innovation ecosystems. Here, the government concludes “ecosystem agreements” with university towns “regarding the strategic allocation of public and private RDI funding to strengthen globally competitive ecosystems”.[9] These urban ecosystems are further complemented by the national innovation and skills network and together form the Innovative Cities and Communities programme.[10] Overall, this approach follows a new policy rationale, representing a “shift from the programme to the contractual mode of operations”.[11]

A parallel, but recently discontinued approach focused on supporting leading Finnish corporations to develop their ecosystem of supplier companies, research institutions and public actors.[12] A related approach is continued in the “challenge competitions” for global companies leading Finnish ecosystems.[13]

Evidence of performance

An evaluation of past support policies to clusters, funded under the 2014-2020 OP, is available. Overall, it is found that specific policy areas of the programme have been successful in providing individual funding and guiding the local clusters to the targets of the national strategy. The only notable concerns raised have been regarding the long-term continuity of the strategy, although this was evaluated in 2018 before the total impact of the previous programme was fully explored. The implementation of the RDI roadmap is regularly monitored with a set of indicators, accessible online.

Cluster support instrument

The broader policy sets out that in order to strengthen cluster development, actors from research and business need to stronger cooperate. A dedicated support instrument is not developed. Also, in the RDI roadmap, different measures that impact ecosystem development are outlined. Again, a dedicated support instrument is not developed.

[8] For more information see: https://publications.vtt.fi/julkaisut/muut/2021/Collaborating_for_a_Sustainable_Future.pdf (last accessed 26.01.2024).
[9] See https://tem.fi/en/ecosystem-agreements (last access 11.03.2024)
[10] See https://tem.fi/en/-/boost-from-eu-funding-for-urban-innovation-agreements-and-area-innovation-networks (last access 1.03.2024)
[11] Sotarauta et al. 2022, p. 11.
[12] See https://www.businessfinland.fi/en/for-finnish-customers/services/funding/growth-engines (last access 23.05.2024).
[13] See https://www.businessfinland.fi/en/for-finnish-customers/services/funding/funding-for-leading-companies-and-ecosystems (last access 23.05.2024).

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 Finnish 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 Finland[14] 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 Finnish 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 Finnish cluster organisations towards broader economic policy challenges.

Table 5: Contribution of Finnish cluster policy to the challenges identified in the European Semester Reports

Policy area	Challenges	Cluster policy
INNOVATION 	• Increasing R&D spending • Strengthening collaboration between universities and industry	The 'Innovative Cities and Communities' programme has the promotion of research-industry cooperation at its heart. As a proto-cluster programme, it can support nurturing local innovation ecosystems in university towns. Furthermore, the overall R&I investment support in Finland got a considerable boost through the RRF. Programmes like the Challenge Competitions under Finland's R&I policy can help to channel this funding to where it can have its greatest effect. A recent success has been the establishment of the Bio and Circular Cluster North Savo by the Savonia University of Applied Sciences in cooperation with University of Eastern Finland, Natural Resources Institute Finland, and Savo Vocational College. Its goals include the scale-up of new technologies and their international commercialisation.[15] Clusters like the Bio and Circular Cluster are currently project-financed and would benefit from a more long-term financing system offered by a future national cluster policy.
SKILLS 	• Addressing labour and skills shortages, in particular to support the green and digital transition • Increasing enrolment numbers	The Finnish (updated) National Roadmap for Research, Development and Innovation includes trainings in hard and soft skills. Moreover, the Innovative Cities and Communities focuses on strengthening and updating local cometences by developing innovation and skills networks.[16] Generally, the positive role of clusters in the recruitment of skilled labour and in the development of skills and abilities in the workforce is pointed out. For instance, positive links between cluster organisations

[14] https://economy-finance.ec.europa.eu/document/download/bdc5aba0-1299-40f8-b242-6c449170117e_en?filename=FI_SWD_2023_626_en.pdf (last access 23.05.2024).
[15] https://www.savonia.fi/en/articles/bio-and-circular-cluster-north-savo/ (last access 23.05.2024).
[16] https://tem.fi/en/innovative-cities-and-corporations (last access 11.03.2024).

Policy area	Challenges	Cluster policy
	in higher education to meet current and future skills demand	and regional competitiveness in dimensions such as the share of human resources in science and technology are found.[17] Moreover, industrial clustering is found to be a central factor in attracting professional human resources and which further underlines the role of clusters for skill development.[18] As an example, the EnergyVaasa cluster is organizing the cooperation of leading energy companies with six universities in the Energy Academy to connect students and graduates with the energy innovation ecosystem.[19] A national cluster policy could facilitate similar skill development arrangements with clusters at the core across Finland and its innovation ecosystems.
GREEN TRANSITION	• Speeding up the circular economy transition • Deployment of renewable energy investments and increased energy efficiency • Strengthening the capacity for carbon removal	Cluster organisations facilitate and accelerate innovation processes and can hence be understood as catalysts of transformation processes.[20] With regards to the Twin Transition, one can highlight that the Finnish policies at hand both are focusing around those topics. With regards to the Green Transition and the recommendations from the European Semester Reports, one can mention the agreement between the Finnish state and 16 urban areas on strengthening innovation activities in current topics such as the decarbonisation, green electrification or the circular economy and clean solutions.[21] The cluster strategy of East and North Finland is already closely linked to the regions Smart Specialisation Strategy focusing on the transition to circular industrial ecosystems.[22] The integrated regional approach allows for effective cross-clustering and networking. A dedicated cluster policy at the national level could bring similar benefits for clusters across Finland.

Source: ECCP (2023)

[17] ECCP (2022).
[18] Hsu, M.-S et al. (2014).
[19] https://www.vaasa.fi/en/energyacademy/ (last access 23.05.2024).
[20] ECCP (2021).
[21] https://tem.fi/en/-/agreements-between-state-and-cities-to-speed-up-innovations-in-carbon-reduction-digitalisation-and-wellbeing (last access 11.03.2024).
[22] https://elmoenf.eu/2021/03/04/reinforcing-cluster-collaboration-in-east-and-north-finland/ (last access 23.05.2024).

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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).