EUROPEAN CLUSTER
COLLABORATION PLATFORM

Country factsheet

Ireland

An initiative of the European Union

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Content

01

Introduction and economic policy context

1. Introduction and economic policy context

This document presents an overview of the cluster policy in Ireland.

Given its 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 for Ireland 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 provides an overview on how Ireland's cluster policy can help to tackle the economic policy challenges identified in the European Semester country recommendations.

As a consequence of the COVID-19 pandemic, European as well as global economies have been subject to severe output losses 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[1], to tackle the threat of a prolonged downturn. These 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. Irish clusters are not mentioned in the National recovery and resilience plan. 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 ERDF Partnership Agreement 2021-2027 for Ireland makes a reference to clusters. The support of clusters is included as a key investment area for ERDF support under the policy objective "A more competitive and smarter Europe by promoting innovative and smart economic transformation and regional ICT connectivity".

Consequently, cluster support is mentioned in two of Ireland's ERDF Operational Programmes (OP) 2021-2027. The Northern and Western Regional OP 2021-2027 mentions that a platform for future cluster development initiative will be provided under RSO1.3.1 (Provide appropriate infrastructure and key staff resources to deliver innovative solutions including support programmes to support entrepreneurship, start-ups and scaling companies.). The continued development of current industry clusters, particularly in the high value industries of "Technology and Knowledge Intensive" economy is another mentioned objective. The Southern, Eastern & Midland Regional OP 2021-2027 mentions the importance of clusters to maximise the development of international business linkages at EU level and beyond under the same specific objective.

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

[1] Ireland's National Recovery and Resilience Plan 2021, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2021)698848 (last accessed 28.11.2022).

1) an overview of the industrial ecosystems and cluster landscape in Ireland
2) an overview of the national cluster policy and an insight into the regional cluster policy,
3) an assessment of the state of Irish cluster policy and its role in broader economic policy challenges mentioned in the European Semester Reports.

02

Industrial ecosystems and cluster landscape

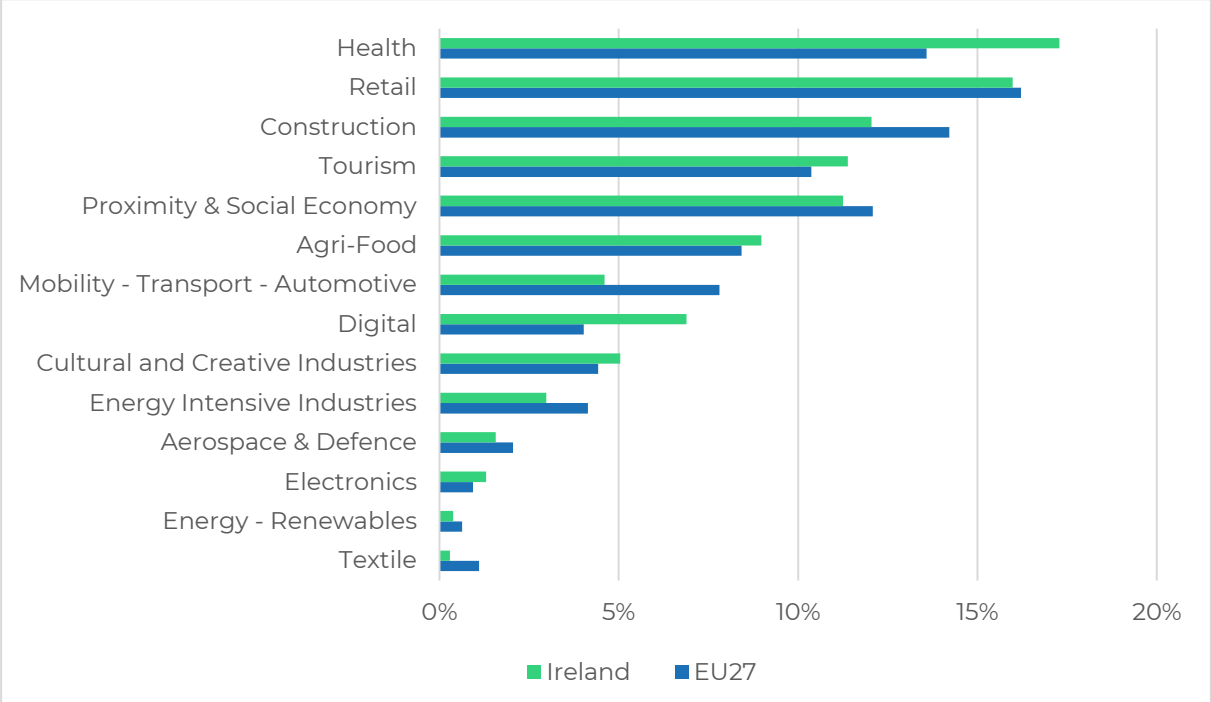
2. Industrial ecosystems and cluster landscape

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 Figure 1, the employment share of Ireland and the EU27 on average 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. The figure shows that "Health" is the leading industrial ecosystem in terms of employment, accounting for approximately 17% of the employment of all ecosystems. The fact that "Health" industrial ecosystems, along with "Tourism", "Agri-Food" and "Digital," have shares higher than the respective EU27 averages indicates the country's strength in these areas.

Figure 1: Employment in 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 09.01.2023).
[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.[4] The following tables show the total number of regionally relevant agglomerations in each region 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, while the second table is based on the 14 ecosystems, which total three in the country.

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
IE04: Northern and Western (Ireland)	6	C21 - Manufacture of basic pharmaceutical products and pharmaceutical preparations	C32 - Other manufacturing	C26 - Manufacture of computer, electronic and optical products	C31 - Manufacture of furniture	I55 - Accommodation
IE05: Southern (Ireland)	6	C21 - Manufacture of basic pharmaceutical products and pharmaceutical preparations	C32 - Other manufacturing	C26 - Manufacture of computer, electronic and optical products	C31 - Manufacture of furniture	I55 - Accommodation
IE06: Eastern and Midland (Ireland)	4	K64 - Financial services	K65 - Insurance, pension funding	J62 - Computer programming, consultancy	I55 - Accommodation	-

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 1 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. This more concentrated agglomeration can at least partially be linked to the methodology of measurement of the 14 industrial ecosystems.

Looking at the results, the Northern and Western (IE04) as well as the Southern region (IE05), the regionally relevant sectoral agglomerations are based on manufacturing like manufacturing of basic pharmaceutical products (C21), other manufacturing (C32), manufacture of computer, electronic and optical products (C26), manufacturing of furniture (31 and accommodation (I55). The strength of the Irish pharmaceutical sector and accommodation is also reflected in the employment ecosystems "Health" and "Tourism" (see Figure 1). The regions both have a regional ecosystem agglomeration in "electronics" which can be explained by the sectoral agglomeration of manufacture of computer,

[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 09.01.2023).

electronic and optical products (C26). For the Eastern and Midland (IE06) region, which includes the country's capital, sectors such as financial, insurance, pension funding, and computer programming, consultancy are among the most relevant sectoral agglomerations (NACE). This is also partially reflected in the region's only regionally relevant ecosystem agglomeration "Digital" in Table 2 and in the strength of the employment ecosystem "Digital" (see Figure 1).

Table 2: Regionally relevant ecosystem agglomerations

Region	Number of ecosystem Agglomerations	Agglomeration 1
IE04: Northern and Western (Ireland)	1	Electronics
IE05: Southern (Ireland)	1	Electronics
IE06: Eastern and Midland (Ireland)	1	Digital

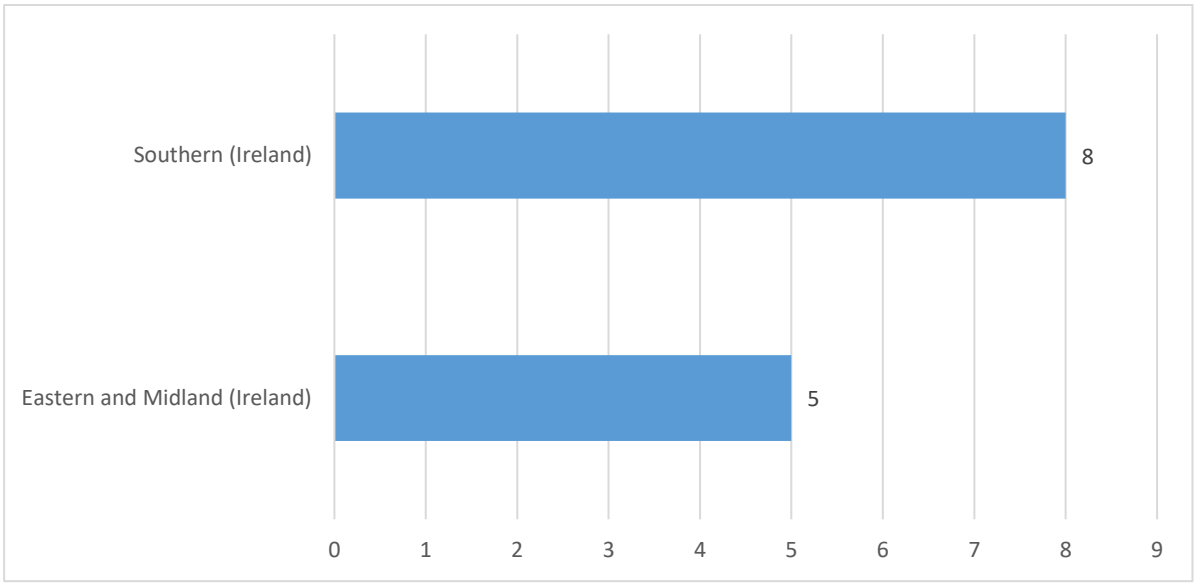
Source: ECCP (2023), own elaboration based on data from Eurostat

2.3 Cluster organisations & interregional cooperation

Cluster organisations in the regions

There are 13 cluster organisations registered on the ECCP in the country. The majority of these cluster organisations are based in the region "Southern" (8 cluster organisations). 5 cluster organisations are located in Eastern and Midland while no cluster organisations are located in the "Northern and Western" region. 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.

The majority of member organizations of Irish cluster organizations with profiles on the ECCP are composed of SMEs (66%, EU: 83%), followed by large enterprises (24%, EU: 9%) and research organisations (10%, EU: 7%). From a thematic perspective, these Irish cluster organisations are operating in the following industrial ecosystems. 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. The following list also underlines the Irish strength in terms of employment in the digital sectors that was outlined before and is also reflected by the Irish ECCP registered cluster organisations. The absence of health clusters (at least on the list of clusters that provided the information on their industrial ecosystem to the ECCP) is also worth mentioning because "Health" stands as the largest Irish employment sector.

- Digital (2 cluster organisations)
- Agri-food (2 cluster organisations)
- Aerospace & Defence (1 cluster organisation)
- Construction (1 cluster organisation)

Interregional cooperation

The European Cluster Partnerships have been launched by the European Commission to encourage clusters to intensify collaboration across regions and sectors. Irish cluster organisations have been involved in three consortia of the European Strategic Cluster Partnerships of which two partnerships were focusing on internationalisation (ESCP-4i) and one on cluster management excellence (ESCP-4x). Consortia partners came from 10 different EU member states (FR, IT, BE, DE, ES, TR, HU, DK, UK, PL). Six Irish cluster organisations participated in the INNOSUP-1 initiative, with partner organisations coming from 19 countries (ES, NL, DE, PL, PT, UK, RS, LU, EL, LT, FR, IT, DK, HU, SE, RO, BG, TR, FI). [5]

In the 2021-2027 funding period, the Single Market Programme supports clusters as part of the Joint Cluster Initiatives (Euroclusters) for Europe's recovery. No cluster organisation from Ireland is part of a Eurocluster.

[5] 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

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National cluster policy, programmes and initiatives

3. National cluster policy, programmes and initiatives

In this section we provide an overview of the existing Irish cluster policies on a national. 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 columns represent the case of an Irish broad policy.

Within the table the text presented in bold (black) depicts standardised categories across country factsheets (56 in total for 2022), which is applied for the comparative purposes. This is followed by a complementary descriptive text to provide more insights about the cluster policy in Ireland.

Table 3: Overview of Irish cluster policy

Policy type:	Broad policy	Broad policy
Policy name:	Science Foundation Ireland (SFI) Science, Technology and Innovation policy	Enterprise 2025
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 employment and upgrading skills and competences** **Promoting entrepreneurship, start-ups and spin-offs**	**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 cluster excellence and professionalisation of cluster management**

Policy type:	Broad policy	Broad policy
Policy name:	Science Foundation Ireland (SFI) Science, Technology and Innovation policy	Enterprise 2025
	Strengthening the network of cluster organisations/cross-clustering **Increase supply chain resilience** **Promoting social and sustainable economy and other solidarity-based initiatives**	**Supporting the consolidation of existing cluster organisations** **Promoting entrepreneurship, start-ups and spin-offs** **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** **Increase supply chain resilience**
	The objective of Science Foundation Ireland (SFI) is to fund research in STEM, (i.e., areas of science, technology, engineering, and mathematics) to promote competitiveness, foster innovation, and increase employment in Ireland. This is done through partnerships and collaboration with international and national enterprises, funding SFI research centres, providing infrastructure grants to higher education institutes, and promotion of STEM awareness programs such as “Science Week.”	The Enterprise 2025 project has set its priorities on: • increase the emphasis on developing our Irish-owned enterprises embedding resilience in our enterprise base, enhancing productivity and delivering quality jobs including supporting companies to navigate their way through Brexit • harness the distinctive characteristics of our foreign and Irish owned enterprise mix through collaboration and clustering • place a spotlight on innovation and talent and leverage our strengths in disruptive technologies so that we achieve our ambition with more enterprises developing new products, services and solutions to compete effectively against international competition

Policy type:	Broad policy	Broad policy
Policy name:	Science Foundation Ireland (SFI) Science, Technology and Innovation policy	Enterprise 2025
		• realise the full potential of our regions through investments in place-making developing places that are attractive for business investment and for people to live and work • develop our international relationships and strengthen economic diplomacy to raise Ireland's visibility, protect Ireland's reputation and provide opportunities for our enterprises supported by the Global Footprint 2025 initiative
POLICY FOCUS 	**Sectoral**	**Cross-sectoral**
	The SFI focuses on STEM research and innovation-scientific and engineering research.	The Program is not focused on a specific sector, the goal is to strengthen the resilience and competitiveness of the Irish economy by increasing the emphasis on Irish-owned enterprises.
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**
	The Industrial Development (Science Foundation Ireland) Act passed by the Irish Government in 2003 established the SFI. The SFI is led by board members and an executive team who is in charge of overseeing implementation.	The Department of Enterprise, Trade and Employment is responsible for the drafting, funding, and implementing the policy.
	SMEs	**SMEs**

Policy type:		Broad policy	Broad policy
Policy name:		Science Foundation Ireland (SFI) Science, Technology and Innovation policy	Enterprise 2025
BENEFICIARIES		**Research organisations** **Academic institutions** **Start-ups** **Large firms** **Technology centres** **General Population**	**Cluster organisations** **Research organisations** **Start-ups** **Technology centres** **General population**
		SFI enables the growth of STEM in Ireland by supporting and funding researchers in higher education institutes who collaborate with multinational companies (MNCs), Small-and-Medium-Sized Enterprises (SMEs), and Start-Ups. SFI also establishes SFI research centres across Ireland and provides grants to higher education institutions to improve their infrastructure. SFI also supports programming on TV that promote STEM.	The policy focuses on Irish-owned enterprises (SMEs and Start-Ups).
INSTRUMENTS	**Financial**	**Funding collaboration initiatives** **Support to R&D projects, SMEs becoming cluster members, etc.** **Financing networking events**	**Funding collaboration initiatives** **Support to R&D projects, SMEs becoming cluster members, etc.** **Financing start-ups**
	Technical assistance	**Support for hard skill development: knowledge transfer, intellectual property, entrepreneurship, export advice, market intelligence**	**Support for hard skill development: knowledge transfer, intellectual property, entrepreneurship, export advice, market intelligence**

Policy type:		Broad policy	Broad policy
Policy name:		Science Foundation Ireland (SFI) Science, Technology and Innovation policy	Enterprise 2025
		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** **Infrastructure: coworking spaces, offices, incubation and accelerator spaces, research centres, technology parks etc.**	**Support for soft skills development: coaching, management training, upskilling/reskilling** **Support for networking and partnership building (at national and/or international level)**
	Explanation	SFI provides funding through a variety of streams for collaborative research, as well as conferences and symposia, and provides grants to higher education institutions to upgrade their infrastructure. SFI also links and fosters collaboration between researchers and companies that are working on similar projects.	Enterprise 2025 provides funding through various streams. • The Regional Enterprise Development Fund (REDF), the Regional Action Plans and Regional Skills Fora have been put in place to stimulate greater interaction (ranging from €50,000 to €5 million per project in four streams). The second phase of the Regional Enterprise Development Fund of €60 million aimed at harnessing regional strengths, leveraging under-utilised assets and stimulating collaboration toward the achievement of a well-defined objective. • Establishment of a €500 million challenge based disruptive technologies innovation fund, working with research funding bodies, to stimulate development and deployment of disruptive innovative technologies and applications, on a commercial basis, targeted at tackling national and global challenges.
	Period	**Unlimited period**	**Limited periode**

Policy type:		Broad policy	Broad policy
Policy name:		Science Foundation Ireland (SFI) Science, Technology and Innovation policy	Enterprise 2025
HISTORY	**Ending year** *(for policies with limited period)*	-	2025
	Starting year	2000	2015
	Explanation	SFI was originally created in 2000 as a sub-board of Forfás to administer the Ireland Technology Foresight Fund. It was established as a separate entity with the Industrial Development (Science Foundation Ireland) Act passed by the Irish government in 2003. In 2013, The Act was amended to include oriented basic research and applied research.	The policy was designed for ten years from 2015-2025.
BUDGET	**Overall**	Data unavailable	Data unavailable
	Annual	EUR 208.3 million (2021)[6]	Data unavailable
	Source of funding	Science Foundation Ireland is funded by the Government of Ireland through the Department of Jobs, Enterprise and Innovation. SFI also partners with international funding agencies in the UK and US. The budget is set to be increased to EUR 376 million by 2025.[7]	Enterprise 2025 is funded by the Government of Ireland through the Department of Enterprise, Trade and Employment.

[6] Science Foundation Ireland. Annual Programmes Plan 2021. https://www.sfi.ie/research-news/publications/SFI-Annual-Plan-2021.pdf (last access 13.09.2022). No overall budget numbers are given in the Annual Programmes of 2022 and 2023.

[7] Science 2020. Ireland's main science funder plans for budget boost. https://www.science.org/content/article/ireland-s-main-science-funder-plans-budget-boost (last access 07.12.2023).

Policy type:		Broad policy	Broad policy
Policy name:		Science Foundation Ireland (SFI) Science, Technology and Innovation policy	Enterprise 2025
POLICY EVALUATION	Availability	**in-itinere**	**Ongoing monitoring and evaluation**
	Results	The Irish Government Economic and Evaluation Service conducted a spending review of the SFI research grants in 2019. Expenditures between 2012 and 2017 were analysed. SFI represented 23.4% of the Irish government's expenditure on R&D (2017). The review found that there were increased collaborations between researchers and firms of all sizes, private sector funding of research, and career opportunities and pathways for postdoctoral researchers. While the review found that SFI's funding and programs may have improved the quality of research as demonstrated in academic journal citations and subject rankings, the review could not draw overall conclusions about the effectiveness of the funding for SFI overall. However, individual program evaluations were referenced in the review that demonstrated a stronger conclusion about the effectiveness of the programs.	Evaluation of the 2017/2018 funded projects under the Regional Enterprise Development Fund within the periode until 2025 and an evaluation of the Seed & Venture Capital Scheme are part of the Enterprise 2025 program. The policy states the importance of continuous evaluation of the initiatives, including ex-post, interim and ex-ante to monitor, adapt and follow through on support to realise economic impact over the longer term.
POLICY ALIGNMENT WITH THE EU PRIORITIES		**Green economy** **Digitalisation** **Resilience**	**Digitalisation** **Resilience**

Source: ECCP (2023)

04

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

EUROPEAN CLUSTER COLLABORATION PLATFORM

Strengthening the European economy through collaboration

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 play of Irish 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 Irish cluster policy** for 2023.

Table 4: State of play

Ireland	State of play
POLICY SCOPE	Absence of cluster policy
	Broad policy
	Sectoral policy
	National and/or regional cluster policy
CONTINUITY	**No dedicated cluster 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 Ireland.

Policy scope

In regard to the policy scope and approach, the cluster policies of Ireland are characterised by broad policies that are focused on science, technology and innovation as well as enterprises.

Continuity

Engagement with cluster-based policies in Ireland stretch back to 1992, in which the Culliton report underlined the importance of competitive business environments for the development of enterprise. On this basis, research on Ireland-specific business environments in 1997 by diverse researchers noted how Irish clusters deviated from benchmark Porterian-styled clusters and therefore were subject to less attention to cluster-driven economic activity. Since the 2000s, a concerted effort to support clusters took place from local economic and enterprise development organisations and the Irish State agency. Ireland's Economic Recovery Plan pledges to establish a comprehensive National Clustering Policy and Enabling Framework, aiming to maximize the influence of current and forthcoming clusters within Ireland. Although recent initiatives show promise, there remains a limited exploration of the potential for utilizing cluster policy to support innovation.

Evidence of performance

The Irish Government Economic and Evaluation Service conducted a spending review of the SFI research grants in 2019. Expenditures between 2012 and 2017 were analysed. SFI represented 23.4% of the Irish government's expenditure on R&D (2017). The review found that there were increased collaborations between researchers and firms of all sizes, private sector funding of research, and career opportunities and pathways for postdoctoral researchers. While the review found that SFI's funding and programs may have improved the quality of research as demonstrated in academic journal citations and subject rankings, the review could not draw overall conclusions about the effectiveness of the funding for SFI overall. However, individual program evaluations were referenced in the review that demonstrated a stronger conclusion about the effectiveness of the programs.

Cluster support instruments

SFI funds research in STEM in diverse sectors to promote competitiveness, foster innovation and increase employment in Ireland. This is carried out through partnerships and collaboration with international and national enterprises, funding SFI research centres, providing infrastructure grants to higher education institutes, and promotion of STEM's projects for example in "Science Week" programmes. The Enterprise 2025 programme has different funding streams like the Regional Enterprise Development Fund.

4.2 The role of clusters in economic policy

Cluster policy can provide important support to broader economic policy efforts. This section shows how Irish cluster organisations can indeed play a role in tackling the challenges identified in the European Semester Report for the country. To this end, the European Semester 2023 country report for Ireland[8] has been analysed across policy areas relevant to cluster policy. The results point to a series of issues where cluster policy can play an important role in tackling the country's economic challenges. The report mainly points out recommendations regarding the green transition as well as labour productivity by addressing mismatches as well as investing in digital and green skills.

The table below also outlines how Irish cluster organisations are already contributing to 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 Irish cluster organisations towards broader economic policy challenges.

[8] https://economy-finance.ec.europa.eu/system/files/2023-06/ip231_en.pdf (last access 12.01.2024).

Table 5: Contribution of Irish clusters to the challenges identified in the European Semester Reports

Policy area	Challenges	Cluster activity
SKILLS	• Green skills needed for the green transition should be promoted more	Regarding **skill development**, Enterprise 2025 addresses the evolving demand for a highly skilled and adaptable workforce. The programme addresses specifically the increased demand for new skills post-Brexit. According to the policy, investments in higher education and further education and training are crucial, as is the work of the Regional Skills fora, as enterprises are attracted to locations that offer access to a highly skilled workforce. Research underlines the role of clusters in developing the skills of the workforce and attracting skilled workers to a region.[9] For instance, the advanced technologies in manufacturing (atim) cluster focuses on empowering business leaders, and employees with the skills and competencies required to deliver transformative change.[10] 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.[11]
GREEN TRANSITION	• Improving permitting, planning and grid connection procedures to accelerate the roll-out of renewables • Lack of finance for waste management	In order to support the **green transition** in the country, the Science Foundation Ireland formulate specific area regarding the green transition to which they can contribute to by funding scientific work and generating new scientific insights. These areas of contribution are, reducing industrial emissions through decarbonisation and producing and storing renewable energy as an example. These initiatives are not only an important part of Irish Green Deal but also have the chance of creating new jobs, better health of the population as well as access to more affordable energies. Furthermore, the Science Foundation Ireland targets to foster innovation in the field of sustainable waste management. As facilitators of technology transfer, clusters are assigned an important role in supporting the green transition. Clusters in Ireland are addressing the challenges mentioned by the European Semester Report. As an example, one can point out to the activities of the Construction Cluster Ireland (CCI) which focuses on green technologies, renewable energy targets, and sustainable practices to decrease the

[9] Hsu, M.-S et al. (2014).
[10] https://atim.ie/ (last access 23.05.2024)
[11] European Expert Group on Clusters (2020).

Policy area	Challenges	Cluster activity
		impact of climate change within the construction sector[12]. Studies also show that clusters can play a vital role in the green transition of the economy[13] 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.[14]

Source: ECCP (2023).

[12] https://www.cc-ireland.ie/ (last access 23.05.204)
[13] Lis, A. & Mackiewicz, M. (2023); ECCP (2021).
[14] 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)