EUROPEAN CLUSTER COLLABORATION PLATFORM

Country factsheet

Portugal

An initiative of the European Union

Content

01

Introduction and economic policy context

EUROPEAN CLUSTER COLLABORATION PLATFORM

Strengthening the European economy through collaboration

1. Introduction and economic policy context

This document presents an overview of the cluster policy in Portugal. 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 for Portugal.

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 Portugal's cluster policy can help to address 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 made very significant financial resources available to tackle the threat of a prolonged downturn. This was carried out through the Recovery and Resilience Facility: 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 Portugal, clusters contributed to the drafting of the plan to mitigate negative sectoral impacts by informing on needs and feasibility whilst also presenting proposals for future directions, projects and initiatives.[1]

Portugal's recovery and resilience plan responds to the urgent need to foster a strong recovery and make Portugal future-ready. The reforms and investments aim to promote more sustainability, and resilience to better address the challenges and opportunities of the green and digital transitions. Clusters are mentioned in one of the reforms related to the promotion of research, development and innovation and innovative investment by companies through clustering strategies for collaborative innovation dynamics. 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 Portugal includes the promotion of clustering strategies and innovation dynamics, the collaborative approach to strengthen the R&D system, crucial in the development of applied research and in supporting business Innovation. Many of these opportunities can be accessed through the new Balcão dos Fundos platform which allows organisations to submit and monitor their applications for Portugal 2020 and Portugal 2030 European funding.

Out of the seven Portuguese regional operational programmes, six include references to clusters, mostly in the areas of RIS3 development and economic diversification, innovation and internationalisation of SMEs, and concerning specific regional clusters and sectors such as the tourism industry in the Algarve region or the blue economy on the Açores. On the national level, the operational programme COMPETE 2030 links to the Portuguese cluster policy and emphasises clusters as an important logic of intervention along with RIS3. Thematically, it focuses on R&I and SME

[1] AED Cluster Portugal (2021). AED Cluster Portugal contributes to the national Recovery Plan. Available under: https://www.aedportugal.pt/en/news/aed-cluster-portugal-contributes-to-the-national-recovery-plan/ (last access 27.01.2023).

competitiveness (RSO 1.1, 1.2, 1.3) but also decarbonisation and the diversification of energy production (RSO 2.1 and 2.2).

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

1) an overview of the industrial ecosystems and cluster landscape in Portugal
2) an overview of the national cluster policy and an insight into the regional cluster policy,
3) an assessment of the state of play of the national cluster policy and its capacity to address wider economic policy challenges mentioned in the European Semester Reports.

02

Industrial ecosystems and cluster landscape

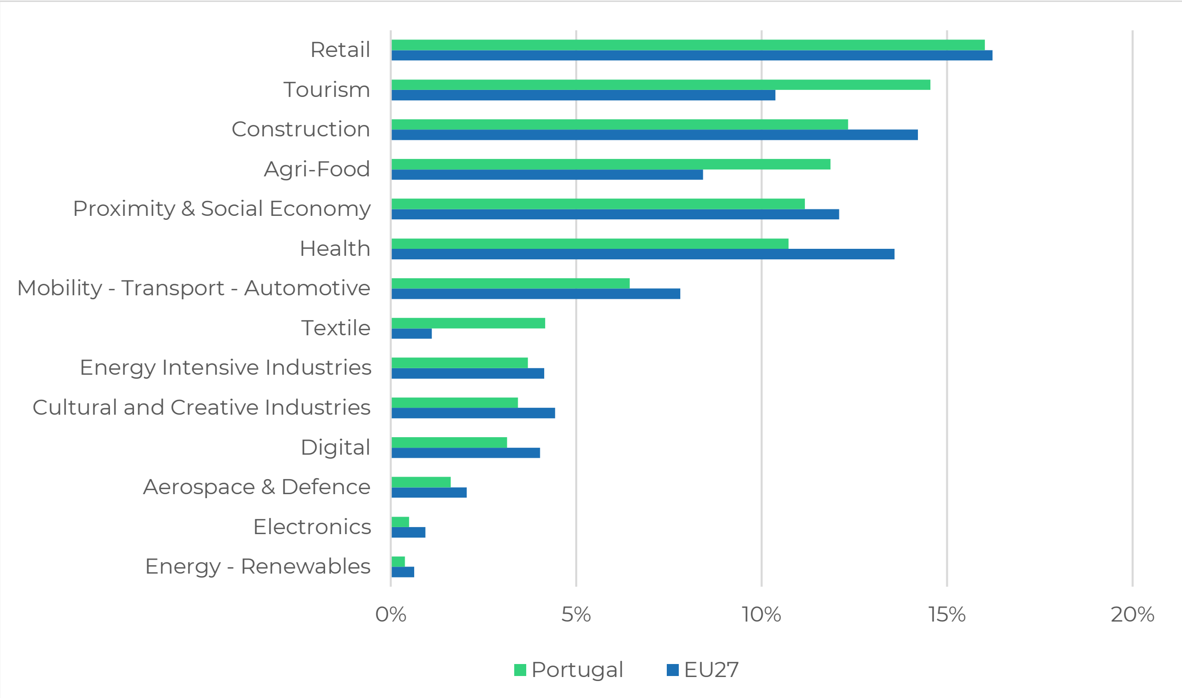
2. Industrial ecosystems and cluster landscape

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 Figure 1, the employment share of Portugal and 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. For Portugal, the three main ecosystems by employment are Retail, Tourism and Construction. Out of them, however, only Tourism is a relative strength with the employment share significantly above the EU27. Other ecosystems in which Portugal shows a relative strength, are Agri-food and Textile. By contrast, Construction, Proximity & Social Economy, and Health all have high employment shares in absolute terms but rank below the EU27 average.

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 09.01.2023).
[3] see European Commission (2021): Annual Single Market Report, SWD(2022)351.

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 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 56 in the country, while the second table is based on the 14 ecosystems, which total 10 in the country.

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

Region	# of aggl.	Agglomeration 1	Agglomeration 2	Agglomeration 3	Agglomeration 4	Agglomeration 5
PT11: North (Portugal)	9	C15 - Manuf. of leather products	C14 - Manuf. of wearing apparel	C13 - Manuf. of textiles	C31 - Manuf. of furniture	N82 - Business support activities
PT15: Algarve	8	I55 - Accommodation	A02 - Forestry & logging	F41 - Construction of buildings	I56 - Food & beverage services	N82 - Business support activities
PT16: Centre (Portugal)	6	C23 - Manuf. of other non-metal mineral products	A02 - Forestry & logging	A01 - Crop & animal production	C25 - Manuf. of fabricated metal products	N82 - Business support activities
PT17: Lisbon Metropolitan Area	9	N82 - Business support activities	N80 - Security, investigation activities	T97 - Households as employers act.	I55 - Accommodation	M70 – Head office activities
PT18: Alentejo	7	A03 – Fishing and aquaculture	A02 - Forestry & logging	C11 – Manuf. of beverages	A01 - Crop & animal production	N82 - Business support activities
PT20: Azores	9	A02 - Forestry & logging	I55 - Accommodation	A01 - Crop & animal production	F41 - Construction of buildings	T97 - Households as employers act.
PT30: Madeira	8	I55 - Accommodation	A02 - Forestry & logging	A01 - Crop & animal production	F42 – Civil engineering	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. This more concentrated agglomeration can at least partially be linked to the methodology of measurement of the 14 industrial ecosystems. On a general level, Portugal's employment strength in the industrial ecosystems Tourism, Agri-Food, and Textile compared to the EU27 average (see Figure 1) is also reflected in the regionally relevant sectoral agglomerations and regionally relevant ecosystem agglomerations of the different regions.

For instance, the region North (PT11) has regionally relevant sectoral agglomerations such as manufacturing of leather products (C15), wearing apparel (C14) and textiles (C13) and Textiles as a

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[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).

regionally relevant ecosystem which underlines the region's strength in this sector. Other regions (e.g., Algarve) have regionally relevant sectoral agglomerations such as accommodation (I55) and food and beverage services (I56) which is reflected in their regionally relevant ecosystem agglomeration (Tourism). A number of regions (e.g., Alentejo) have a regionally relevant ecosystem agglomeration in the ecosystem "Agri-food". Simultaneously these regions have regionally relevant sectoral agglomerations in sectors such as manufacturing of beverages (C11), crop and animal production (A01), forestry and logging (A02) and Fishing and aquaculture (A03).

Table 2: Regionally relevant ecosystem agglomerations

Region	# of ecosystem agglomerations	Agglomeration 1	Agglomeration 2	Agglomeration 3
PT11: North (Portugal)	1	Textile	-	-
PT15: Algarve	1	Tourism	-	-
PT16: Centre (Portugal)	3	Agri-Food	Textile	Energy-intensive industries
PT17: Lisbon Metropolitan Area	1	Tourism	-	-
PT18: Alentejo	1	Agri-Food	-	-
PT20: Azores	1	Agri-Food	-	-
PT30: Madeira	2	Agri-Food	Tourism	-

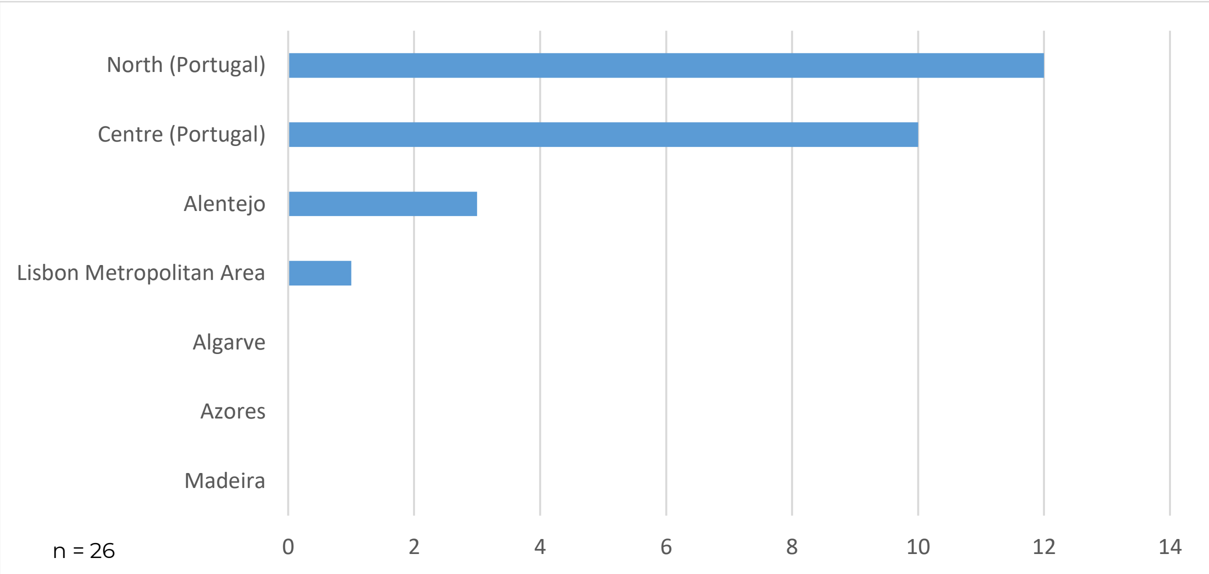
Source: ECCP (2023), own elaboration based on data from Eurostat.

2.3 Cluster organisations & interregional cooperation

Cluster organisations in the regions

There are 26 cluster organisations registered on the ECCP in the country. The majority of these registered cluster organisations are located in the region North (12 cluster organisations) followed by Centre (10 cluster organisations) and Alentejo (3 cluster organisations). In the Lisbon Metropolitan Area one cluster organisation is profiled on the ECCP. The regions Algarve, Azores and Madeira do not have any cluster organisations profiled on the ECCP. 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 (81%, EU: 83%) followed by research organisations (9%, EU:8%) and large enterprises (9%, EU: 9%) constitute the majority of member organisations of Portuguese cluster organisations with profiles on the ECCP. From a thematic perspective, these Portuguese 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 shows that certain Portuguese strengths in terms of employment in ecosystems like Agri-food are linked to clusters. However, there is also a certain mismatch as, for example, the Digital ecosystem is overrepresented in the cluster landscape while Tourism and Construction are underrepresented relative to their weight in the overall economy (see Figure 1).

- Digital (5 cluster organisations)
- Renewable Energy (4 cluster organisations)
- Agri-food (3 cluster organisations)
- Mobility-Transport-Automotive (3 cluster organisations)
- Electronics (3 cluster organisations)
- Construction (2 cluster organisations)

- Aerospace & Defence (2 cluster organisations)
- Energy Intensive Industries (2 cluster organisations)
- Textile (2 cluster organisations)
- Creative & Cultural Industries (1 cluster organisation)
- Health (1 cluster organisation)
- Proximity & Social Economy (1 cluster organisation)

Comparing the distribution of cluster organisations across ecosystems with the agglomeration data, it is striking that out of the particularly strong ecosystems Agri-food, Tourism, and Textile in employment share (Figure 1), one – and the strongest of them: Tourism – is completely absent from the cluster landscape. Other ecosystems like Digital and Energy-Renewables as well as Mobility-Transport-Automotive and Electronics have a comparatively strong cluster presence in relation to their employment shares and sectoral agglomerations.

According to the Portuguese government, 16 of the ECCP-registered cluster organisations are recognised as Competitiveness Clusters under the Portuguese cluster policy (under the Regulation attached to Order No. 2909/2015 of March 23):

Table 3: Portuguese Competitiveness Clusters on the ECCP

Region Norte	Region Centro	Region Alentejo
Cluster AEC, Arquitetura, Engenharia e Construção	Associação para o Pólo das Tecnologias de Informação, Comunicação e Electronica TICE.PT	AEDCP- Cluster Português para as Indústrias de Aeronáutica, Espaço e Defesa
Cluster Têxtil: Tecnologia e Moda	Chemical, Petrochemical and Refining Cluster	ASSOCIAÇÃO CLUSTER PORTUGAL MINERAL RESOURCES
Fórum Oceano - Associação da Economia do Mar (Association of Maritime Economy)	Cluster Habitat Sustentável	
Health Cluster Portugal	Associação Pool-Net - Portuguese Tooling & Plastics Network	
MOBINOV - Automotive Cluster Association		
PFP - Plataforma Ferroviaria Portuguesa		
Portugal Foods		
Portuguese Shoes Cluster		
PRODUTECH - Production Technologies Cluster		
Wine and Vine Cluster		

Source: Government of Portugal

Interregional cooperation

In the 2014-2020 funding period[5], the European Cluster Partnerships have been launched by the European Commission to encourage clusters from Europe to intensify collaboration across regions and sectors. Portugal cluster organisation have been involved in 30 consortia of the European Strategic Cluster Partnerships, out of which 18 partnerships were focusing on ESCP-4i (internationalisation), 11 partnerships in ESCP-4x (cluster excellence) and one partnership was focusing on ESCP-S3 (smart specialisation). Consortia partners came from 22 different EU member states (AT, BE, BG, CZ, DE, DK, EL, ES, FI, FR, HU, IT, LT, LV, NL, PL, RO, RS, SE, SK, TR, UK). Nine Portugal

[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.

cluster organisations participated in the INNOSUP-1 initiative with partner organisations coming from 21 countries (AT, BE, CZ, DE, DK, EE, EL, ES, FI, FR, IE, IS, IT, LT, LV, NL, NO, PL, SE, SI, UK).

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 Portugal, seven clusters are part of seven Euroclusters with partners from 16 countries (AT, BE, BG, CZ, DE, DK, ES, FI, FR, GR, IT, LV, NL, PL, SE, SK). These Euroclusters are EuroBoosTEX, GEMSTONE, IKAT, MedBan, PIMAP4SUSTAINABILITY, POLREC, Silicon Eurocluster and xBUILD-EU. Collectively, they cover 13 out of 14 industrial ecosystems ("Proximity and Social Economy" is not covered).

03

National cluster policy, programmes and initiatives

3. National cluster policy, programmes and initiatives

In this section we provide an overview of the existing Portugal cluster policies 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 column represents the case of the Portugal national cluster policy. As no independent regional cluster policy exists in Portugal, no regional example is showcased.

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 Portugal.

Table 4: Overview of Portuguese cluster policy

Policy type:	National cluster policy
Policy name:	Clusters de Competitividade (Competitiveness Clusters)
POLICY OBJECTIVES	**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 consolidation of existing cluster organisations** **Promoting entrepreneurship, start-ups and spin-offs** **Promoting employment and upgrading skills and competences** **Enhancing territorial cohesion (through RIS3)** **Strengthening the network of cluster organisations/cross-clustering** **Cluster analysis and support for policymaking**

Policy type:	National cluster policy
Policy name:	Clusters de Competitividade (Competitiveness Clusters)
	In 2017, with the support of the IAPMEI, the Portuguese Agency for Competitiveness and Innovation, under the Ministry for Economy and Digital Transition, the Government accredited, for a period of 6 years, 20 cluster organisations as Competitiveness Clusters, through the Programme Interface, aimed at bringing together academia, research and industry. The Programme Interface is the instrument used to allocate funds provided by the various Operational Programmes. There are currently 18 Competitiveness Clusters active. As a definition, Competitiveness Clusters are described as platforms that aggregate knowledge and skills and play a central role in the industrial policy and economy, having made a remarkable contribution to strengthening the country's competitiveness. Such a role includes a strong focus on innovation and technology transfer, digitalisation, identification and training of providers, strengthening the link between start-ups and industrial enterprises, internationalisation, circular economy and energy efficiency. The Government and 18 Competitiveness Clusters signed the Sectoral Pacts for Competitiveness and Internationalisation (*Pactos Setoriais para a Competitividade e Internacionalização*) to increase the competitiveness, innovation and internationalisation of Portuguese businesses, thus improving the national economy. The main objective of the Pacts is to implement a set of actions and measures to: - Contribute to the dynamisation of ecosystems associated with clustering dynamics. - Increase cooperation and collaboration relationships for the development of initiatives in various axes of intervention. - Incentivise circular economy and an efficient energetic and ecologic transition. - Improve the institutional and regulatory conditions of the business ecosystem. - Promote Industry 4.0. - Foster the upskilling and reskilling of the workforce. - Accelerate exports by consolidating the external attractiveness factors of the country. - Boost internationalisation and promote R&I. For instance, the Pacts include six key actions, which are adjusted according to the different cluster organisations:

Policy type:	National cluster policy
Policy name:	Clusters de Competitividade (Competitiveness Clusters)
	1. Provision of training, retention and attraction of talent. 2. Increase the added value of products and promote circular economy. 3. Innovation and R&D. 4. Promotion of internationalisation and attraction of foreign investment. 5. Promotion of the national ecosystem of start-ups. 6. Funding access. The Pacts signed between the Government and clusters also include other public and private actors of relevance for the sectors, which will support the implementation of policies that benefit the development and internationalisation of businesses. For this purpose, a Monitoring Committee (*Comissão de Acompanhamento*) was created, constituted of entities, which, due to its missions can contribute to the execution of the measures included in the Sectorial Pacts and which is chaired by the Office of the Secretary of State of Economy. (composition of the Monitoring Committee: management organisation of each cluster, and high-level representatives of COMPETE, managing entity for Structural Funds, ANI - National Innovation Agency, AICEP - Agency for Investment and Foreign Trade of Portugal, Cabinet Office of the Secretary of State of Internationalisation, Cabinet of the Secretary of State for Employment, IAPMEI - Portuguese Agency for Competitiveness and Innovation and the IEFP – the Institute for Employment and Vocational Training of Portugal). To continue the work on developing networks and value chains associated to clustering initiatives, under the Regulation attached to Order No. 2909/2015 of March 23, it was important, in 2023, to begin work leading to the regulation of the new cluster recognition cycle oriented to the consolidation and creation of new competitiveness clusters. Europe is committed to a transition to climate neutrality and digital leadership, aiming to outline an industrial strategy based on the innovation of the industrial ecosystems, and where SMEs must be considered in all actions within the scope of this strategy. In this context, it is important to invest in reaffirming the role of clusters in promoting collective efficiency initiatives that allow accelerating the double transition, ecological and digital, and in building resilience that drives change and the recovery of European value chains. At a national level, within the scope of the Recovery and Resilience Program (PRR), the clusters have made a relevant contribution to several components of this plan, actively participating in the Mobilizing Agendas consortia, in the Digital Innovation Hubs, in the Roadmaps for Decarbonisation, among others.

Policy type:	National cluster policy
Policy name:	Clusters de Competitividade (Competitiveness Clusters)
	Therefore, cluster initiatives to be recognised must be in line with the strategic thinking outlined at the European and national levels, ensuring economic relevance in the areas of ecological and digital transitions, and contributing to the economic and social valorisation of knowledge. The new cluster process recognition is intended to consolidate and provide competitiveness clusters with the human resources, equipment, technical and financial resources required for their activity, aiming to ensure their ability to enhance the value chains and obtain higher levels of innovation, technological development, and competitive capacity.
POLICY FOCUS	**Cross- sectoral**
	Even though no specific sectors are mentioned, the cluster organisations that have signed Pacts determine the sectoral focus of the policy to a great extent. There are Pacts in the following fields: aerospace, railway, petrochemical, fashion & footwear, sea, raw materials, sustainable living, smart cities, textile, agri-food, health, construction, automobile, ICT, production technologies. These are aligned with the lines of action in the Government Programme.
RESPONSIBLE AUTHORITIES	**In charge of drafting:** Ministry of Economy and Digital Transition **In charge of implementation:** IAPMEI and several other entities **Oversees the implementation:** IAPMEI
	The Ministry of Economy and Digital Transition is the main responsible body for the policy, which is implemented by the IAPMEI - the Agency for Competitiveness and Innovation. Furthermore, the IAPMEI is responsible for accompanying, monitoring and evaluating the Competitiveness Clusters and their progress towards the objectives set in the initial work programme approved. To monitor and support the implementation of the strategies associated with the Sectoral Pacts, a Monitoring Committee was created (please see above), chaired by the Deputy State Secretary for the Economy. IAPMEI acts as a facilitator, promoting the articulation of the Competitiveness Clusters with other public and private organisations and supports the dissemination of important information to national Clusters and about the national cluster organisations to other players.
	SMEs

Policy type:		National cluster policy
Policy name:		Clusters de Competitividade (Competitiveness Clusters)
BENEFICIARIES		**Cluster organisations** **Research organisations** **Academic institutions** **Start-ups** **Business organisations** **Technology centres**
		The policy targets cluster organisations in key economic sectors. The collaborative dynamics of the clusters are expected to facilitate the spillover of the benefits to member organisations, the business environment, and Portuguese society as a whole. Each cluster has a management organisation and several associated members, including SMEs, sectorial and business associations, universities, and research centres.
INSTRUMENTS	Financial	**Funding collaboration initiatives** **Support to R&D projects, etc.** **Supporting market entry (e.g. testing, proof-of-concept, prototyping, demonstration projects)** **Financing start-ups** **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 national public support directly granted to Competitiveness Clusters is conveyed mainly through the Support System for Collective Actions (SIAC) for "Networks and other forms of Partnership and Cooperation".

Policy type:		National cluster policy
Policy name:		**Clusters de Competitividade (Competitiveness Clusters)**
		However, Clusters Management Entities and Clusters members can and do participate in a wide range of initiatives. Some key figures: - 579 M€ of IAPMEI incentives assigned to companies associated with the clusters (2016-2023) - 14.6 M€ paid in 2017-2022 under the Support System for Collective Actions (SIAC) - 18.1 M€ of HR training incentives (2021-2023) - 35 consortia with the participation of clusters within the scope of the Mobilizing Agendas (in the scope of the Recovery and Resilience Plan) with a global investment volume of around €5,876 million It is worth mentioning that 17 Digital Innovation Hubs involving 16 Clusters were approved and that some clusters are involved also in Test Beds.
HISTORY	**Period**	**Unlimited period**
	Ending year *(for policies with limited period)*	-
	Starting year	2008
	Explanation	No ending date is indicated.
BUDGET	**Overall**	There is no specific budget directly dedicated to clusters.
	Annual	-
	Source of funding	COMPETE 2020 and Portuguese Recovery and Resilience Plan
	Availability	**Ex-post**

Policy type:		National cluster policy
Policy name:		Clusters de Competitividade (Competitiveness Clusters)
POLICY EVALUATION	**Results**	According to the data collected on the situation as of 31 December 2022[6], in the set of 16 clusters analysed, there was a total of 2,575 entities in which small and medium-sized enterprises (SMEs) represent the majority group, with around 50 %. In this analysis, it was observed that in 2022, a year under an economic environment strongly conditioned by inflation and Russia's invasion of Ukraine, the 16 clusters showed an increase of 145 associates, corresponding to an increase of 6.0 % compared to the previous year. Regarding staffing, in 2022, the strength of technical teams were at about 94 FTE, and they increased 5.7% compared to the previous year (2021). As of 2022, the last one of the first 6 years Competitiveness Clusters period, which started in 2017, around 70 % of clusters have started all planned activities. 75 % of clusters have started new activities. In some cases, these new activities are being understood as a full replacement of those originally planned, due to the huge geopolitical transformations in the 2017-2022 period. Overall, for the period 2017-2022, a budget execution, by the Clusters Management Entities, of approximately EUR 46 million was reported. This amount implemented in 2017-2022 corresponds to around 70 % of the total expected investment of EUR 68 million. The Collective Action Incentive Systems (SIAC) financed 41 % of the activities of the managing entities, which demonstrates the effort made and the success achieved in diversifying the sources of funding. As regards the Sectorial Pacts, the Monitoring Committee, as already mentioned, collaborates with the clusters in the implementation of the actions included in the sectoral pacts and periodically evaluates the progress made in pursuing the objectives of the sectoral pacts, based on documents, meetings and dialogue with the clusters. As main outputs of the Portuguese cluster policy, one can highlight: - Closer dialogue between the Cluster Managing entity and the members of the Monitoring Committee and other organisations whenever necessary. - Monitoring Committee meetings with each cluster. - Better understanding of the cluster's needs. - Solutions for clusters´ needs (training, internationalisation, national calls, among others). - More intra and inter clusters activities & networking. - Cluster studies aiming to identify solutions.

[6] See: Recognized Competitiveness Clusters: 2017 - 2022 Monitoring Report. The sources of the data used in the report were the reports received from cluster management entities. The report focuses on the analysis of a set of 16 Clusters that reported their activity in due course.

Policy type:	National cluster policy
Policy name:	Clusters de Competitividade (Competitiveness Clusters)
	- Working groups between clusters, representatives of the government and representatives of private and public entities.
POLICY ALIGNMENT WITH THE EU PRIORITIES	**Green economy** **Digitalisation** **Resilience**

Source: ECCP (2023).

04

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

EUROPEAN CLUSTER COLLABORATION PLATFORM

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 Portugal 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. The table below presents an overview of the **state of play for Portugal for 2023**.

Table 5: State of play

Portugal	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 Portugal.

<u>Policy scope</u>

With the Competitiveness Clusters programme Portugal is running a dedicated national cluster policy with sectoral pacts in the following fields: aerospace, railway, petrochemical, fashion & footwear, sea, raw materials, sustainable living, smart cities, textile, agri-food, health, construction, automobile, ICT, production technologies, wine. These are aligned with the strategic priorities of the Portuguese Government.

Continuity

The cluster concept was introduced in Portugal in the 1990s, leading to some strategies with little impact in practical terms. By 2003, the European Commission still listed the country as one of the 15 Member States with no explicit strategy to support clusters. Approved in 2005, the "Technological Programme" aimed to reinforce the economic competitiveness of Portugal based on knowledge, technology and innovation investments, and featured the first pack of cluster policies and measures, but it was only in 2008 that a cluster policy was officially implemented in Portugal. The "Strategies of Collective Efficiency" (Estratégia de Eficiência Colectiva, EEC) considered clusters as one of its fields of intervention. In the next political cycle, the reference to cluster organisations gained momentum as instruments to promote competitiveness by enhancing the existing dynamics in different areas, such as innovation, digitalisation, capacity building or circular economy.

In 2017, with the support of IAPMEI, the Government accredited 20 cluster organisations as Competitiveness Clusters through the Programme Interface. There are currently 18 Competitiveness Clusters active. Recognizing that the success of public policies depends on the capacity of civil society to mobilise for a common strategy and mission, in particular on the ecosystem structures associated with the dynamics of clustering, with which it was important to establish close relations of cooperation and collaboration that favour the development of concerted initiatives to achieve common objectives, 17 Sectorial Pacts for Competitiveness and Internationalisation were signed between the Ministry for Economy and Digital Transition and the Competitiveness Clusters, with the support of IAPMEI.

To continue the work on developing networks and value chains associated to clustering initiatives, under the Regulation attached to Order No. 2909/2015 of March 23, it was important, in 2023, to begin work leading to the regulation of the new cluster recognition cycle oriented to the consolidation and creation of new competitiveness clusters.

Evidence of performance

The "Evaluation of the Strategy and Implementation Process of the Strategies of Collective Efficiency" ("Avaliação da Estratégia e do Processo de Implementação das Estratégias de Eficiência Coletiva Tipologia de Clusters") (2013), which preceded the current policy, showed positive results in the implementation of the policy and promotes its continuity. Some of the points to improve referred to the weak association of the policy to the programming instruments and the absence of a governance model, as well as the link between the Strategic Initiatives for Collective Efficiency (Iniciativas Estratégicas de Eficiência Coletiva, EEC) policy with the National System of Innovation, the Scientific and Technological System and the Territory. The results obtained by the 18 Clusters recognised were rather different: while some clusters opted for focusing on R&I, others were oriented to internationalisation, and whereas some invested in infrastructure, others did it in immaterial factors such as patents, collective branding, etc. The Competitive Clusters initiative constitutes a continuation of the EEC featured in Portugal 2020 (OP COMPETE).

Cluster support instruments

The national public support directly granted to Competitiveness Clusters is conveyed mainly through the Support System for Collective Actions (SIAC) for "Networks and other forms of Partnership and Cooperation". Clusters Management Entities and Clusters members can participate in a wide range of initiatives. Some key figures:

- 579 M€ of IAPMEI incentives assigned to companies associated with the clusters (2016-2023)

- 14.6 M€ paid in 2017-2022 under the Support System for Collective Actions (SIAC)
- 18.1 M€ of HR training incentives (2021-2023)
  35 consortia with the participation of clusters within the scope of the Mobilizing Agendas (in the scope of the Recovery and Resilience Plan) with a global investment volume of around €5,876 million

It is worth mentioning that 17 Digital Innovation Hubs involving 16 Clusters were approved and that some clusters are involved also in Test Beds.

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 Portugal's cluster policy 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 Portugal[7] 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.

Table 6: Contribution of Portugal's cluster policy to the challenges identified in the European Semester Reports

Policy area	Challenges	Cluster policy
INNOVATION	• Increase R&D business investment • Improve SME collaboration on innovation	Research has found that cluster policy can bring an additional positive impact on R&D activity.[8] Bringing together the relevant actors of the innovation ecosystem and increasing investment in innovation activities is one of the core objectives of the Competitiveness Clusters programme and part of all its sectoral pacts. The Mineral Resources Cluster, for example, is participating in the RISE project which aims to increase interregional innovation collaboration and investments, in particular in less developed regions, all across Europe.[9]
SKILLS	• Improve skills of the adult population • Upskilling and reskilling for green and digital skills	Research underlines the role of clusters in developing the skills of the workforce and attracting skilled workers to a region.[10] Skill development is among the strategic objectives of the Competitiveness Clusters programme aiming to provide the competences needed for the modernisation of production systems. Sectoral pacts ensure business support and fit with the industry's needs. The Mobinov Automotive Cluster is organising the

[7] European Commission (2023): Country report Portugal. European Semester country reports 2023. Available at: https://economy-finance.ec.europa.eu/document/download/0da9e8f7-09fb-44d1-8f37-ccaa575b1c3c_en?filename=PT_SWD_2023_622_en.pdf
[8] Ben Hassine and Mathieu (2020).
[9] https://www.clustermineralresources.pt/about-1-1; https://www.rise-project.eu/ (last access 23.05.2024).
[10] Hsu et al. (2014).

Policy area	Challenges	Cluster policy
		participation of its members in the PROTOTYPE project which aims to adapt the automotive workforce's skills to the requirements of the evolving industry.[11]
GREEN TRANSITION	• Transition to a circular economy • Clean energy and energy efficiency	Clusters can play a vital role in creating circularity in industrial ecosystems.[12] Portugal's Competitiveness Clusters programme states the development of circular production processes as one of its explicit objectives. Furthermore, it is not only a goal but rather a principle which is integrated across the different fields of intervention from R&I to Industry 4.0. Circularity is supported as an asset for future competitiveness. For example, the Petrochemical, Industrial Chemical and Refining Cluster has conducted a study on the potential for circular economy approaches in the chemicals sector.[13] The Sustainable Habitat Cluster has the green transition of the construction sector towards sustainable and circular technologies and practices as its mission.[14] The I4-Green project of the Mineral Resources Cluster is improving the sustainability and circularity of the mineral sector, also adding to resilience efforts as laid out in the EU's Critical Raw Materials Act.[15]
DIGITAL TRANSITION	• Increase digitalisation of SMEs	The Competitiveness Clusters programme supports the digitalisation of cluster members. Among its main objectives is the promotion of Industry 4.0 technology and organisation. The manufacturing cluster Produtech, for instance, is running a Digital Innovation Hub to foster the digital transformation in the manufacturing industry.[16] In general, studies have shown the positive impact of clusters promoting practices of digitalisation among SMEs for the development of Internet of Things (IoT) ecosystems where clusters provide support across four domains: organisational and market services; technical services facilitating knowledge sharing, creation, and spillover; application services oriented towards the development of application software; and further ancillary services.[17] Actors organised in clusters then tend to show a higher digital maturity than those outside.[18]

Source: ECCP (2023)

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[11] https://mobinov.pt/observatorio-auto-2/; https://prototype-project.eu/ (last access 23.05.2024).
[12] Nielsen and Nielsen (2019).
[13] https://www.apquimica.pt/pt/cluster/iniciativas-e-projetos (last access 23.05.2024).
[14] https://clusterhabitat.pt/ (last access 23.05.2024).
[15] https://www.clustermineralresources.pt/about-1 (last access 23.05.2024).
[16] http://www.produtech.org/produtech-dih-platform-1 (last access 23.05.2024).
[17] European Commission (2019).
[18] Ławicka (2022).

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Annex

Table 7: Analytical framework for the state of cluster policy

Criterions	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 policy** **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).