

EUROPEAN CLUSTER Collaboration platform

Country factsheet

Portugal

An initiative of the European Union

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Introduction



This document presents an overview of the cluster policy in Portugal. 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 <u>European Semester Country Report for Portugal</u>.

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.

The Covid-19 pandemic placed unprecedented economic stress upon the European and global economy. Hence, policymakers at EU and national level have acted decisively and at short notice to make available very significant financial resources notably through the Recovery and Resilience Facility, to tackle the threat of a prolonged downturn. National recorresilience plans have been drafted in each Member State to ensure a recovery that addresses the challenges in European Semester. In Portugal, clusters contributed to the drafting of the plan to mitigate negative se informing on needs and feasibility whilst also presenting proposals for future directions, project

This document includes:

- Statistics about the Competitiveness Clusters that were recognized by
- A description of the national cluster policy of the Portuguese
- Analyses on the level development of the national cluster
- Data on the advanced technologies sector⁴

Contact points

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For additional information, yo

Contact points on public clust

- Ministry for Econo
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- ² Source: European Clust
- ³ Source: European Clust
- ⁴ Source: Advanced Tech
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¹ Source: AED Cluster Por

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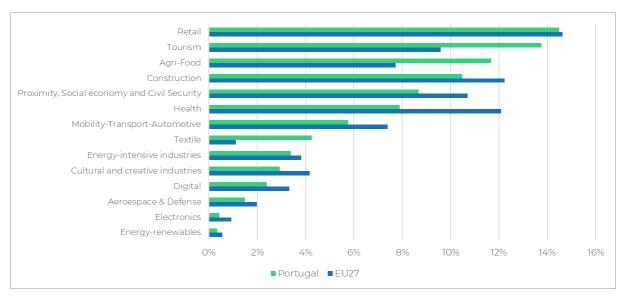




1. Industrial ecosystems and cluster landscape

Employment in the 14 ecosystems in the country

As part of its Industrial Strategy (March 2020), the European Commission has selected 14 industrial ecosystems that are particularly relevant in Europe and encompass all players operating in a value chain. The following graph shows the proportion of the country's employment accounted for by each ecosystem, as well as the equivalent figure for the EU27 on average. 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.



Graph 1: Employment in the ecosystems

Source: Own elaboration from Eurostat and National Statistical Offices





Regionally relevant nodes

Economic activity, and therefore employment, is not equally distributed in all regions. Specialisation can be measured through Location Quotients (LQ) that reflect the relative specialisation of an activity in a region compared to the EU average. If the LQ for a given activity-region combination is above 1.5, it is considered a specialisation node, and if the activity accounts for at least 1 % of total employment in the region, it is considered regionally relevant. The following tables shows the total number of regionally relevant specialisation nodes in each region in the country and identifies the top five most specialised of these nodes. The first table focuses on the 88 NACE 2-digit activities or sectors, totalling 61 in the country, while the second table is based on the 14 ecosystems, which total 10 in the country.

Table 1: Regionally relevant sectoral nodes

Region	Number of nodes	Node 1	Node 2	Node 3	Node 4	Node 5
PT11: North (Portugal)	11	C15 - Manuf. of leather products	C14 - Manuf. of wearing apparel	C13 - Manuf. of textiles	N82 - Business support activities	C31 - Manuf. of furniture
PT15: Algarve	9	A03 - Fishing & aquaculture	I55 - Accommodation	I56 - Food & beverage services	N82 - Business support activities	F41 - Construction of buildings
PT16: Centre (Portugal)	8	A02 - Forestry & logging	C23 - Manuf. of other non-metal mineral products	A01 - Crop & animal production	N82 - Business support activities	C25 - Manuf. of fabricated metal products
PT17: Lisbon Metropolitan Area	9	N82 - Business support activities	N80 - Security, investigation activities	N78 - Employment activities	T97 - Households as employers act.	I55 - Accommodation
PT18: Alentejo	6	A02 - Forestry & logging	A01 - Crop & animal production	N82 - Business support activities	O84 - Public adm., defence, soc. security	C10 - Manuf. of food products
PT20: Azores	8	A03 - Fishing & aquaculture	T97 - Households as employers act.	I55 - Accommodation	A01 - Crop & animal production	N82 - Business support activities
PT30: Madeira	10	A03 - Fishing & aquaculture	I55 - Accommodation	N82 - Business support activities	A01 - Crop & animal production	T97 - Households as employers act.

Source: Own elaboration from Eurostat and National Statistical Offices

Table 2: Regionally relevant ecosystem nodes

Region	Number of nodes	Node 1	Node 2	Node 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	Tourism	Agri-Food	-
Source: Own alaboration from Eurostat and National Statistical Offices				

Source: Own elaboration from Eurostat and National Statistical Offices

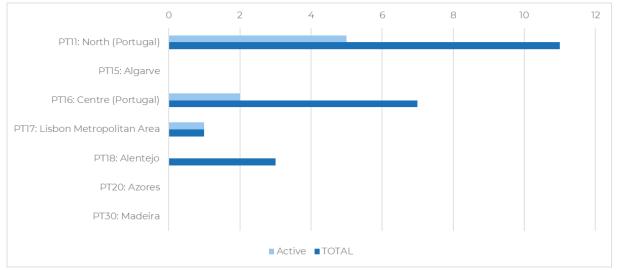




Cluster organisations in the regions

There are 22 cluster organisations registered on the ECCP in the country, 8 of which can be considered active on the ECCP, having updated their profiles during the first half of 2021. The following graph shows the presence of cluster organisations in the different regions.

Graph 2: Cluster organisations profiled and active on the ECCP



Source: Own elaboration from Eurostat and National Statistical Offices





National cluster policy, programmes and initiatives



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2. National cluster policy, programmes and initiatives

Policy type:	National cluster policy
Policy name:	<u>Clusters de Competitividade (</u> Competitiveness Clusters)
	Clusters de Competitividade (Competitiveness Clusters) 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 the network of cluster organisations/cross-clustering Cluster analysis and support for policymaking In 2017, with the support of the IAPMEI, the Portuguese Agency for Competitiveness and Innovation, under de Ministry for Economy and Digital Transition, the Government accredited 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 <u>18 Competitiveness</u> Clusters active, as mentioned above. Competitiveness. Such role includes 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 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, and circular economy and energy efficiency. In 2019, and recently in January 2021, Government and 17 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.

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The main objective of the Pacts is to implement a set of actions and measures: incentivise circular economy and an efficient energetic and ecologic transition, improve the institutional and regulatory conditions of the business ecosystem, promote Industry 4.0, capitalise the existing human resources, accelerate exports by consolidating the external attractiveness factors of the country, boost internationalisation and to promote R&I. For instance, the Pacts include six key actions, which are adjusted according to the different cluster organisations by: 1. Provision of training, retention and attraction of talent; 2. Increase added value of products and promotion of circular economy, 3. Innovation and I&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 by entities, which, due to its missions (such as management organization of each clusters, and high level representatives of COMPETE, managing entity for Structural Funds, ANI - National Innovation Agency, aicep Portugal Global - Trade & Investment Agency (AICEP), Cabinet Office of the Secretary of State of Internationalization, 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) 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. **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, wine. These are aligned with the lines of action in the Government Programme. In charge of drafting



		In charge of implementation Oversees the implementation
		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 facilitator, promoting the articulation of the Competitiveness Clusters with other public and private organizations and supports the dissemination of important information to national Clusters and about the national cluster organisations.
BENEF	iciaries ୬-ଉ	Cluster organisations, SMEs (mainly)
<u>S</u> S		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, the Portuguese society.
		Each cluster has a management organization and several associated members, including SMEs, sectorial and business associations, universities and research centres.
	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 granted to Competitiveness Clusters is conveyed mainly through the Support System for Collective Actions (SIAC) for "Networks and other forms of Partnership and Cooperation", but also through Mobilizing Programs (specific to Clusters) of R&D strategies that aim to create new products, processes or services with a high technological and innovation content. These programmes that contribute to their value chain and are configured as capacity-boosting focuses and scientific and technological competences, inducing significant impacts at the multisectoral level, namely allowing the endogenization and exploitation of the developed technologies.



The objective of the funds is to strengthen the networks and other forms of partnerships and cooperation, including Competitiveness Clusters' activities. Its focus lies on innovation and technological transfer, digitalisation, identification and capacity building, reinforcement of the link between start-ups and industrial enterprises, internationalisation, circular economy and energy efficiency. Moreover, the projects applying for a call for expression of interest are required to address some of the RIS3 priority areas. The SIAC funds are linked to COMPETE 2020, one of the Operational Programmes of Portugal.

HISTORY	Period	Unlimited period
\bigcirc	Ending year (for policies with limited period)	-
	Starting year	2015
	Explanation	No ending date is indicated.
BUDGET	Overall	EUR 10,000,000
	Annual	-
	Source of funding	COMPETE 2020
POLICY	Availability	Ex-post
EVALUATION	Results	Since de recognition of the Competitiveness Clusters in the beginning of 2017, there were three annual monitoring exercises (2017, 2018 and 2019) made by IAPMEI. By the end of 2020 IAPMEI produced the evaluation of the 3 years (2017, 2018 and 2019). According to IAPMEI, the first results of the Competitiveness Clusters show positive outcomes. The triennial evaluation mentioned above allow us drawing some remarks: According to data collected on the situation as at 31 December 2019, in the set of all recognized clusters, there were about 2,230 entities, corresponding to an increase of 1.0 % over the previous year. Small and medium-sized enterprises (SMEs) represent the majority group, with around 50 %. In this analysis, it was observed that, in 2019, about 63 % of the clusters presented a positive annual variation in the indicator % Variation of Associates. As for the indicator % Variation Technical Team, it is observed that, in 2019, the number of clusters with positive variation (6 clusters) exceeds the number of clusters with negative variation (4 clusters) in relation to the time of allocation of the technical team, compared to the previous year. With regard to the indicator % Forecast Activities Initiated, it is verified that 75 % of clusters have already started more than 80 % of the planned activities. In the indicator % New Activities, it is noted that 62 % of clusters started new activities. Overall, for the three-year period 2017-19, a budget execution of approximately EUR 20 million was reported in activities with the intervention of management entities, accounting for around 32 % of the total investment planned by 2022.



Thus, considering the mid-term evaluation targets for the growth rate of turnover, it is observed that overall, the value was clearly achieved, with 68 pp (percentage points) above forecast. The same applies to gross value added (GVA) growth rates, 49 pp above forecast, exports, 50 pp above forecast and employment, 40 pp above forecast. As regards the evolution of the number of associates, overall, the value reached was below the predicted value in 70 associated. This difference corresponds to 3 % of the expected total value of associates.

As regards the degree of financial implementation of cluster projects, overall, implementation is close to 50 %.

This report has been produced under very special conditions due to the global Covid-19 pandemic, which has introduced additional difficulties in data collection, which, in normal terms, is already a complex and demanding process.

The next report of this nature will be drawn up in 2023, and annual monitoring reports will be produced.

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, it can be highlighted:

- Closer dialog between the Cluster Managing entity and the members of the Monitoring Committee and other organizations whenever necessary
- Monitoring Committee meetings with each cluster
- Better understanding of the clusters needs
- Solutions for clusters' needs (training, internationalization, national calls, among others)
- More intra and inter clusters activities & networking
- Clusters studies aiming at to identify solutions
- Working groups between cluster, representatives of the government and representatives of private and public entities



Green economy, including energy transition Digitalisation, including I4.0

Skills Knowledge based economy

Innovation

03

State of play of cluster policy



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3. State of play of cluster policy

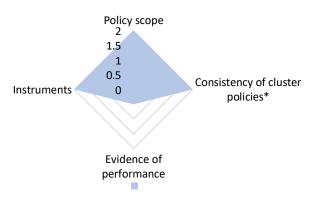
The data below illustrates how the country ranks in terms of maturity of cluster policy. The maturity index is based on a combination of factors presented in section 2 and which are scored based on their existence:

- **Policy scope:** whether the country has a dedicated cluster policy, or cluster creation and/or development is targeted through broader policies (existence of broader policies = 1 point; existence of targeted cluster policies = 2 points)
- **Consistency of cluster policies:** assessment of the duration and experience of the country in doing cluster policies. This dimension assesses only existing cluster policies and not broader policies (no cluster policies available = 0 points; < 10 years of experience or > 10 years (but interrupted) = 1 point; > 10 years (but with clear continuity = 2 points)
- Evidence of performance: the existence of monitoring and evaluation mechanisms determines the degree of policy development in the country (no evaluations = 0 points; existence of evaluations of past policies or in-itinere = 0.5 points; existence of ex-ante and/or ex-post evaluations = 0.5 points)
- **Instruments:** whether the policies provide any instruments to support the policy implementation, being these financial and/or technical assistance (1 point for each type of instrument available)

It is important to note that the maturity does not reflect the performance of a country, but only the degree of development of their cluster policy at the moment when the data was collected (2020). The maturity index illustrates how the country scores for each of these four dimensions (policy scope, consistency of cluster policies, evidence of performance and instruments) compared to the maximum score that they can reach.

	Portugal	Maximum
	Fortugal	score
Policy scope	2	2
Consistency of cluster policies*	2	2
Evidence of performance	0,5	1
Instruments	2	2

* This dimension is scored solely if the country has a dedicated cluster policy and it assesses only cluster policies



Cluster policy maturity level

State of play of cluster policy in the country

Policy evaluation (for terminated policies)	availability of evaluations for terminated policies
	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") (2012), which preceded the current policy, showed positive results in the implementation of the policy and promotes

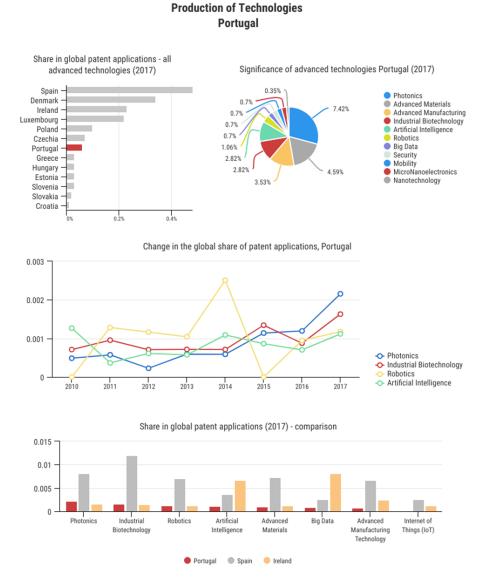


	its continuity. Some of the points to improve referred to the weak association of the policy to the programming instruments and the absence of a governance model, as well as the link between the Strategic Initiatives for Collective Efficiency (Iniciativas Estratégicas de Eficiência Coletiva, EEC) policy 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).
Policy approach in the country	policy support for the activities of cluster organisations cluster approach used directly by national/regional development agencies specific policies to support cooperation projects
Continuity	The concept of cluster was introduced in Portugal in the 1990s, leading to some strategies with little impact in practical terms. By 2003, the European Commission still included the country as one of the 15 MS 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 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 the typologies of ECC.
	In the next political cycle, the reference to cluster organisations gained momentum as instruments to promote competitiveness by enhancing the existing dynamics at 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 mobilize 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 favouring the development of concerted initiatives to achieve common objectives, 17 Sectorial Pacts for Competitiveness and Internationalization were signed between the Ministry for Economy and Digital Transition and the Competitiveness Clusters, with the support of IAPMEI.
Consistency	> 10 years (but with clear continuity)
	Cluster policy was implemented in Portugal in 2008 through the "Enquadramento das Estratégias de Eficiência Coletiva". These were part of the strategic objectives of the Operational Programme COMPETE framed in the QREN (Quadro de Referência Estratégica Nacional) to enhance competitiveness and internationalisation. The objectives have remained largely unchanged over the years, although the instruments have gained more sophistication and have been adjusted according to the changes in the country. Portugal has a centralised policy however, the Regional Coordination and Development Commissions (Comissões
	de Coordenação e Desenvolvimento Regional) are services designated by the State to implement policies on environment, spatial planning and cities, and regional development in the different Portuguese regions. Other responsibilities include the coordination of decentralised regional organisations and the management of European Funds, which support clusters at a more regional level.



Advanced Technologies for Industry

<u>The Advanced Technologies for Industry monitor</u> provides qualitative and quantitative data on technologic development and technological trends at industry level. The following charts show the production of technologies, the level of technology uptake and technology activity in Portugal.

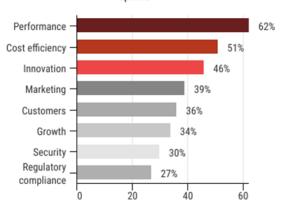




Technology uptake Portugal



European business goals driving technology uptake



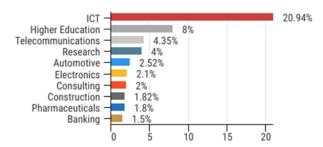
Analysis of LinkedIn data

Talent pool in Portugal:

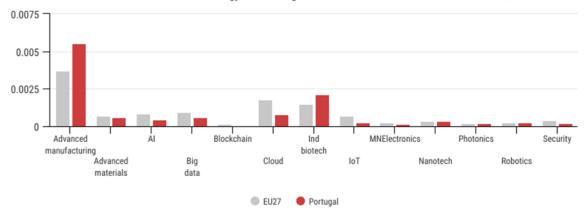
69,845 professionals with advanced technology skills employed in Portugal (in manufacturing, IT industries and professional services) and registered on LinkedIn

This is 8.8% of all professionals working in industry in Portugal, indicating also the level of technology uptake in industry.

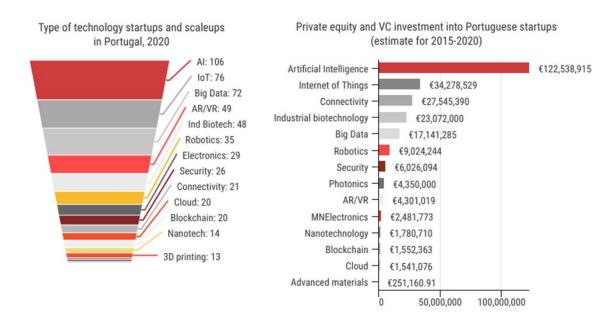




Professionals with advanced technology skills - weighted score calculated based on LinkedIn data, 2019

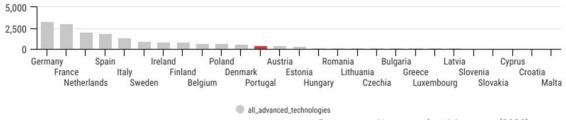






Technology Startup and Scaleup activity Portugal

Number of startups in all advanced technologies (active in 2019)



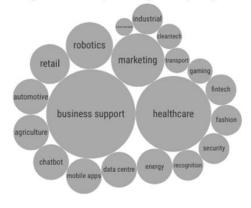
Some examples:

Artificial Intelligence: Unbabel enables enterprises to serve customers in their native languages, with scalable translation across digital channels. Unbabel has raised a total of \$91.2M in funding over 7 rounds. Their latest funding was raised on Sep 23, 2019 from a Series C round.

IoT, Connectivity: **Veniam** builds city-scale networks of connected vehicles that expand wireless coverage and bring terabytes of physical data to the cloud. Veniam has raised a total of \$26.9M in funding over 2 rounds. Their latest funding was raised on Feb 11, 2016 from a Series B round.

Blockchain: Bitcliq is the first blockchain e-marketplace for wild fish trading. Bitcliq has raised a total of €600K in funding over 1 round. This was a Seed round raised on Feb 8, 2019.





Currently (2021) there are 18 active recognized Portuguese Competitiveness Clusters. They have national competence, regardless of the location of the headquarters of their management entities that are mainly created to manage the Clusters.

• AED Cluster Portugal (whose Managing Entity is the Portuguese Association for the Aeronautical Industry, Space and Defense)



- Cluster AEC Architecture, Engineering and Construction (whose Managing Entity is the Portuguese Technological Platform for Construction)
- Automotive Cluster (whose Managing Entity is the MOBINOV)
- Cluster of the Portuguese Railway Platform (whose Managing Entity is the Association of the Portuguese Railway Platform)
- Cluster of Petrochemicals, Industrial Chemistry and Refining (whose Managing Entity is APQUÍMICA Portuguese Association of Chemistry, Petrochemicals and Refining)
- Footwear and Fashion Cluster (whose Managing Entity is APICCAPS Portuguese Association of the Footwear, Components, Leather Goods and Substitutes Industry)
- Cluster of Portuguese Sea (whose Managing Entity is Fórum Oceano Association of the Economy of the Sea)
- Cluster Portugal Mineral Resources (whose Managing Entity is ACPME Association Cluster Portugal Mineral Resources)
- Sustainable Habitat Cluster (whose Managing Entity is the Platform for Sustainable Construction Association)
- Cluster Smart Cities Portugal (whose Managing Entity is the Cluster Smart Cities Portugal Association)
- Textile Cluster: Technology and Fashion (whose Managing Entity is the CITEVE Technological Center for Textiles and Clothing)
- Cluster TICE.PT (whose Managing Entity is the Association for the Competitiveness Pole of Information, Communication and Electronics Technologies)
- Health Cluster Portugal (whose Managing Entity is the Health Competitiveness Pole Association)
- Cluster PRODUTECH (whose Managing Entity is PRODUTECH Production Technologies Pole)
- Cluster Engineering & Tooling (whose Managing Entity is the POOL-NET Portuguese Tooling & Plastic Network)
- Portuguese Agrofood Cluster (Portuguese cluster for agro-food industries, whose Managing Entity is the Integral Association Excellence Intervention in the Agro-food Sector resulting from the Consortium consisting of two associations and two clusters representing the Sector -Portugal Foods, InovCluster, Portugal Fresh e Agrocluster do Ribatejo-)
- Vine and Wine Cluster (whose Managing Entity is the ADVID Association for the Development of Viticulture in Douro)
- Tourism Cluster (whose Managing Entity is the Turismo de Portugal)

These clusters are active in the following sectors: Aeronautical Industry, Space and Defense, Architecture, Engineering and Construction, Automotive industries, Petrochemicals, Industrial Chemistry and Refining, Footwear, Mineral Resources, Industries of the Sea, Sustainable Construction, Textile Industries, Industries related to Smart Cities, Information, Communication and Electronics Technologies, Health Industries, Production Technologies, Mold and Plastic industries, Vine and Wine and Tourism.

Number of members: Seven out of the 17 recognized Portuguese clusters (Tourism not included) have more than 100 members each.

Cluster labels: 10 out of the 18 Portuguese clusters registered at the ECCP have the management excellence label (5 Gold, 5 Bronze).

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