

## **Country factsheet**

Czechia



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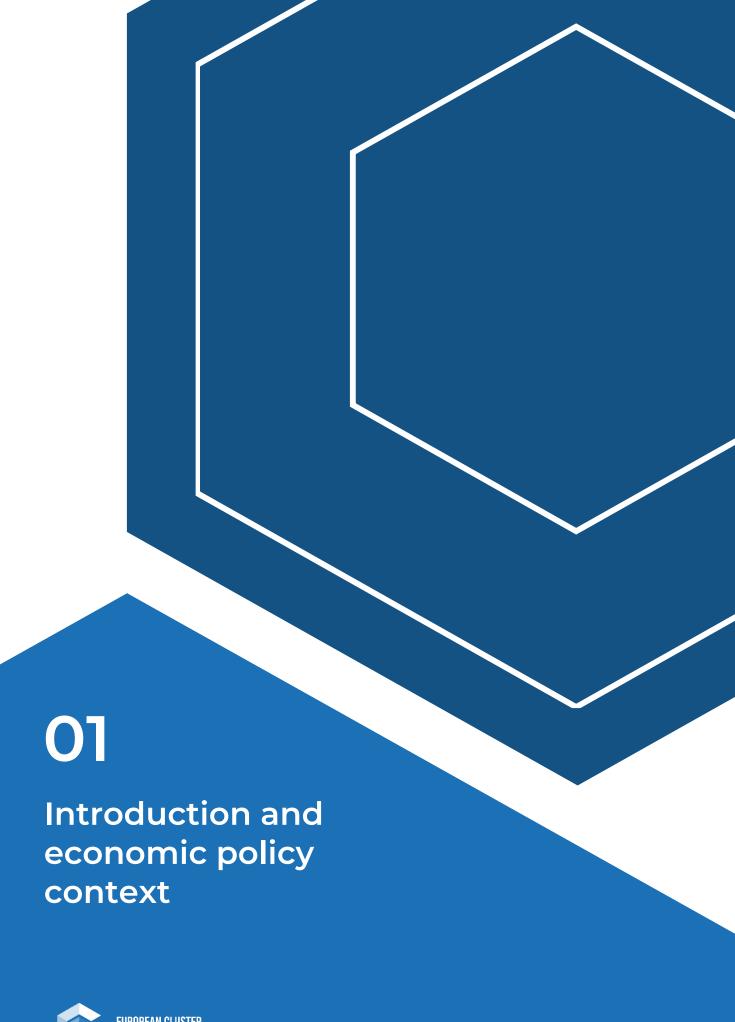




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## 1. Introduction and economic policy context



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

The European Semester was an instrument introduced to coordinate the EU Member States economic policies and address the economic challenges faced by the EU. Its goals are "to ensure

sound public finances, to prevent excessive macroeconomic imbalances in the EU, to support structural reforms to create more jobs and growth, and to boost investment". Thus, it focuses on the following areas: business environment; financial and fiscal stability; green economy; public administration; labour market and skills; and social protection and cohesion. Chapter 4.2 of this factsheet provides an overview on how Czechia's cluster policy can help to tackle the economic policy challenges identified in the European Semester country recommendations.

The COVID-19 pandemic has caused an unprecedented economic shock to the European and global economy. In response, policymakers at EU and national level have acted decisively and at short notice to make available very significant financial resources, notably through the Recovery and Resilience Facility, to tackle the threat of a prolonged downturn. National recovery and resilience plans have been drafted in each Member State to ensure a recovery that addresses the challenges identified in the European Semester. The Czech National Resilience and Recovery Plan does not explicitly refer to clusters, but it does tackle recognized obstacles in the collaboration between research institutions and businesses. Notably, the plan places emphasis on fostering cooperation within the Czech Republic's innovative ecosystem and enhancing the innovation capabilities of companies. 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.

Clusters are included in the <u>ERDF Partnership Agreement 2021-2027 with Czechia</u> under the policy objective of "Smarter Europe," and more specifically under the subsection of strengthening the sustainable growth of SMEs where clusters are mentioned to develop partnerships and stimulate the cooperation of triple helix actors to create an interconnectedness in the innovation ecosystems.

Operational Programmes of Czech Republic under the EU Cohesion Policy cover diverse objectives and out of 8 operational programmes, only one mentions clusters. It is the <u>Operational Programme Technology and Applications for Competitiveness 2021-2027</u>, where clusters are included in specific objective "1.1 - Development and strengthening of research and innovation capacities and the implementation of advanced technologies". The Operational Programme primarily supports activities aimed at fostering the development of the innovation ecosystem, driving innovation within businesses, and facilitating the sharing of research and innovation capacities. The overall budget for Clusters in the new Operational Programme is 37 Mio. EUR.

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

- 1) an overview of the industrial ecosystems and cluster landscape in Czechia
- 2) an overview of the national cluster policy and an insight into the new broad policy addressing cluster development,
- 3) an assessment of the state of play of the national cluster policy and its capacity to tackle wider economic policy challenges mentioned in the European Semester Report.



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. The classification of the 14 industrial ecosystems have been calculated by aggregating NACE 2 -digit activities, following the methodology established in the European Commission. 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 Czechia and the EU27 in each industrial ecosystem is shown relative to the number of employed persons in the 14 industrial ecosystems. The ecosystems are ordered, from top to bottom, according to the amount of employment in the country. When the bar for the country is higher than that of the EU27, it indicates that the country is more specialised in that ecosystem.

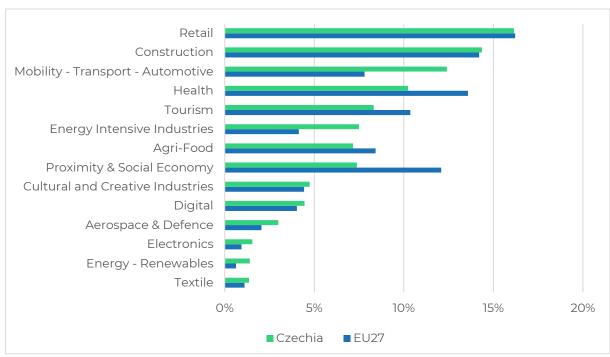


Figure 1: Employment across the ecosystems

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

According to the figure, the most significant ecosystem in Czechia is "Retail," representing approximately 16% of employment across all ecosystems, followed by "Construction" at 14%. The ecosystem "Mobility – Transport – Automotive" is the third largest by employment, accounting for about 12% of employment, which exceeds the EU27 level of just under 8%. This highlights the strength of this ecosystem in Czechia. Similarly, "Energy Intensive Industries," "Electronics," and "Aerospace & Defence" have a higher share of employment than the EU27 level, indicating the importance of the manufacturing sector in the Czech economy. Furthermore, the ecosystem "Energy – Renewables" is relatively prominent, with a 1.4% share of total employment across all ecosystems, compared to 0.6%



<sup>&</sup>lt;sup>1</sup> see here for more information <a href="https://clustercollaboration.eu/in-focus/industrial-ecosystems">https://clustercollaboration.eu/in-focus/industrial-ecosystems</a> (last access 09.01,2023).

<sup>&</sup>lt;sup>2</sup> see European Commission (2022): Annual Single Market Report, SWD(2022).

in the EU27. The strength of these industrial ecosystems is also reflected in the sectoral and ecosystem agglomerations that are regionally relevant across the majority of the eight Czech NUTS 2 regions, as detailed in the section below.

#### 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

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.<sup>3</sup> The following tables show the total number of regionally relevant agglomerations in each region in the country and identify the top five most specialised of these agglomerations. The first table focuses on the 88 NACE 2-digit activities or sectors, totalling 83 in the country, while the second table is based on the 14 ecosystems, which total 30 in the country.

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

Region	Numb er of agglo merati ons	Agglomeration 1	Agglomeration 2	Agglomeration 3	Agglomeration 4	Agglomeration 5
CZ01: Prague	13	L68 - Real estate activities	J58 – Publishing activities	M74 – Other professional, scientific and technical activities	J61 - Telecommunicatio ns	M73 - Advertising and market research
CZ02: Central Bohemia	9	C29 - Manuf. of motor vehicles & trailers	C32 - Other manufacturing	C23 - Manuf. of other non-metallic mineral products	C16 - Manuf. of wood and of products of wood and cork, except furniture	H52 - Warehousing and support activities for transportation
CZ03: South-West (Czechia)	11	C29 - Manuf. of motor vehicles & trailers	C27 - Manuf. of electrical equipment	A02 – Forestry & logging	C16 - Manuf. of wood and of products of wood and cork, except furniture	C32 - Other manufacturing
CZ04: North-West (Czechia)	13	B05 - Mining of coal & lignite	C23 - Manuf. of other non-metal mineral products	C27 - Manuf. of electrical equipment	C20 - Manuf. of chemicals and chemical products	C33 - Repair, installation of machinery
CZ05: North-East (Czechia)	9	C29 - Manuf. of motor vehicles & trailers	C13 - Manuf. of textiles	C26 - Manuf. of computer, electronic and optical products	C27 - Manuf. of electrical equipment	C23 - Manufacture of other non-metallic mineral products
CZ06: South-East (Czechia)	10	C27 - Manuf. of electrical equipment	C16 - Manuf. of wood and of products of wood and cork, except furniture	C32 - Other manufacturing	C28 - Manuf. of machinery and equipment	C25 - Manuf. of fabricated metal products
CZ07: Central Moravia	8	C22 - Manuf. of rubber & plastic products	C27 - Manuf. of electrical equipment	C25 - Manuf. of fabricated metal products	C16 - Manuf. of wood and of products of wood and cork, except furniture	C26 - Manuf. of electronic & optical products

<sup>&</sup>lt;sup>3</sup> for more information on the methodology please see the methodology note: <a href="https://clustercollaboration.eu/infocus/policy-acceleration/country-factsheets-on-cluster-policies-and-programmes">https://clustercollaboration.eu/infocus/policy-acceleration/country-factsheets-on-cluster-policies-and-programmes</a> (last access 09.01.2023).

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CZ08: Moravia- Silesia	10	C24 - Manuf. of basic metals	C27 - Manuf. of electrical equipment	C29 - Manuf. of motor vehicles & trailers	C30 - Manufacture of other transport equipment	C25 - Manuf. of fabricated metal products
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Source: ECCP (2023), own elaboration based on data from Eurostat.

Overall, there are fewer numbers of ecosystem agglomerations compared to 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.

The capital region of Prague (CZ01) focuses on the specialization of service-related services, with real estate activities (L68), publishing activities (J58) and advertising and market research being part of the most relevant sectoral agglomerations (NACE). These sectoral agglomerations are also reflected in the region's regionally relevant ecosystem agglomerations "Digital" as well as "Cultural and Creative Industries" (see Figure 1). The other, less urban, regions of Czechia specialize mostly in the manufacturing sector, as shown by the most relevant sectoral agglomerations for these regions in Table 1. In regions such as Central Bohemia (CZ02) and South-West (CZ03) or North-East (CZ05), the manufacture of motor vehicles & trailers (C29) and the manufacture of computer, electronic and optical products (C26), the manufacture of electrical equipment (C27) or the manufacturing of wood products (C16) are among the most relevant sectoral agglomerations, which is reflected in each of the regions' regionally relevant ecosystem agglomerations "Mobility Transport – Automotive", "Electronics" and "Energy-intensive industries" (see Figure 1).

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

Aside from that, most regions in Czechia, with the exception of Prague (CZ01) and Central Bohemia (CZ02) have a regionally relevant node in the ecosystem "Energy-renewables", which can be traced back to their specialization agglomeration in sectors, such as the manufacture of electrical equipment (C27) as it can be seen in Table 2. This underlines the strength of the energy intensive industry ecosystem of Czechia (see Figure 1). Central Bohemia on the other hand highlights the importance of the Mobility – Transport – Automotive sector.

Table 2: Regionally relevant ecosystem agglomerations

Region	Number of ecosystem Agglomera tions	Agglomerat ion 1	Agglomeratio n 2	Agglomeratio n 3	Agglomeratio n 4	Agglomeratio n 5
CZ01: Prague	2	Digital	Cultural and creative industries	-	-	-
CZ02: Central Bohemia	2	Mobility- Transport- Automotive	Energy- intensive industries	-	-	-
CZ03: South- West (Czechia)	5	Energy- renewables	Mobility- Transport- Automotive	Energy- intensive industries	Electronics	Aerospace & Defence
CZ04: North- West (Czechia)	3	Energy- renewables	Energy- intensive industries	Mobility- Transport- Automotive	-	-



CZ05: North- East (Czechia)	6	Electronics	Energy- renewables	Energy- intensive industries	Textile	Mobility- Transport- Automotive
CZ06: South- East (Czechia)	4	Energy- renewables	Electronics	Energy- intensive industries	Textile	-
CZ07: Central Moravia	4	Energy- renewables	Energy- intensive industries	Electronics	Aeroespace & Defense	-
CZ08: Moravian Silesia	4	Energy- renewables	Energy- intensive industries	Mobility- Transport- Automotive	Aeroespace & Defense	-

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

## 2.3 Cluster organisations & interregional cooperation

#### Cluster organisations in the regions

There are 35 cluster organisations registered on the ECCP in the country. The majority of these cluster organisations with profiles on the ECCP are located in Moravia-Silesia (10 cluster organisations) and Central Moravia (7 cluster organisations). The following figure shows the presence of cluster organisations in the different regions.

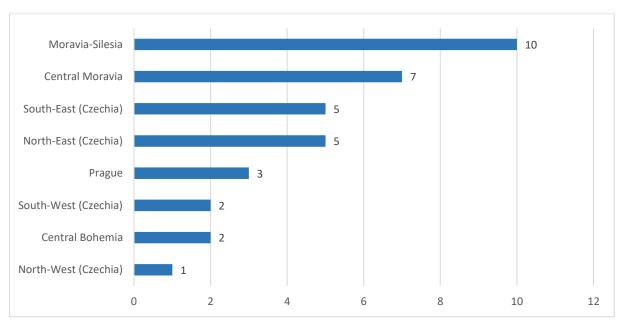


Figure 2: Cluster organisations profiled and active on the ECCP

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

The majority of member organisations of Czech cluster organisations with profiles on the ECCP are composed of SMEs (72%, EU: 83%), followed by large enterprises (17%, EU: 9%) and research organisations (11%, EU: 7%). Since some cluster organisations can operate in multiple ecosystems, the number of cluster organizations by ecosystem is higher than the number of cluster organisations. The following list also underlines that the Czech strengths in terms of employment (e.g., in "Mobility-Transport-Automotive", "Digital", "Creative & Cultural Industries") that was outlined before is also largely reflected in the Czech ECCP registered cluster organisations.



- Digital (6 cluster organisation)
- Mobility-Transport-Automotive (6 cluster organisation)
- Renewable Energy (5 cluster organisation)
- Creative & Cultural Industries (5 cluster organisations)
- Electronics (5 cluster organisation)
- Health (4 cluster organisation)
- Construction (3 cluster organisation)
- Agri-food (2 cluster organisation)
- Aerospace & Defence (2 cluster organisation)
- Energy Intensive Industries (1 cluster organisation)
- Textile (1 cluster organisation)
- Retail (1 cluster organisation)

#### Interregional cooperation

The European Cluster Partnerships have been launched by the European Commission to encourage clusters from Europe to intensify collaboration across regions and sectors. Cluster organisations from Czechia have been involved in eighteen consortia of the European Strategic Cluster Partnerships, out of which nine partnerships were focusing on internationalization (ESCP-4i), seven partnerships were on cluster management excellence (ESCP-4x) and two partnerships were on smart specialization (ESCP-S3). Consortia partners came from 19 different states (ES, FR, IT, DE, BG, DK, HU, PL, PT, RO, SE, SI, FI, BE, AT, SK, TR, RS, UK). Two cluster organisations from Czechia participated in the INNOSUP-1 initiative with partner organisations coming from 12 countries (ES, FR, DE, DK, NL, PL, BE, HU, IT, NO, SI, PT). <sup>4</sup>

In the 2021-2027 funding period, the Single Market Programme supports clusters as part of the Joint Clusters Initiatives (Euroclusters) for Europe's recovery. From Czechia, five cluster organisations are part of five Euroclusters with partners from 12 countries (IT, FR, ES, NL, FI, RO, GR, PL DE, SE, PT, AT). These Euroclusters, namely CIRCINWATER, EU Rural Tourism, INGENIOUS, PIMAP4SUSTAINABILITY, and RESIST, collectively cover seven industrial ecosystems. CIRCINWATER and PIMAP4SUSTAINABILITY each span two ecosystems, with CIRCINWATER covering "Energy – Renewables" and "Agri-Food", and PIMAP4SUSTAINABILITY covering "Energy-Intensive Industries" and "Aerospace & Defence". The other Euroclusters are focused on the ecosystems "Tourism" (EU Rural Tourism), "Energy-Intensive Industries" (INGENIOUS), and "Mobility – Transport – Automotive" (RESIST).

<sup>&</sup>lt;sup>4</sup> 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 cluster policies in Czechia at 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 a Czech broad policy, while the third and fourth ones represent Czech national cluster policies.

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 Czechia.

Table 3: Overview of Czech cluster policy

Policy type:	Broad policy	National cluster policy	National cluster policy
Policy name:	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Cooperation-Clusters - Call I.	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Technological platforms - Call I.
POLICY OBJECTIVES	Strengthening cooperation between companies or industry and RTDI actors	Strengthening cooperation between companies or industry and RTDI actors	Strengthening cooperation between companies or industry and RTDI actors
	Increasing competitiveness and boosting scale up of SMEs	Increasing competitiveness and boosting scale up of SMEs	Increasing competitiveness and boosting scale up of SMEs
	Supporting internationalisation activities	Supporting internationalisation activities	Supporting internationalisation activities
	Fostering R&D activities, technology development and implementation	Enhancing the visibility of clusters Fostering R&D activities, technology	Fostering R&D activities, technology development and implementation
	Fostering innovation and strengthening innovation ecosystems	development and implementation	Fostering innovation and strengthening innovation ecosystems
	Promoting entrepreneurship, start-ups and spin-offs	Fostering innovation and strengthening innovation ecosystems	Supporting the creation of new cluster organisations



Policy type:	Broad policy	National cluster policy	National cluster policy
Policy name:	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Cooperation-Clusters - Call I.	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Technological platforms - Call I.
	Promoting employment and upgrading skills and competences	Supporting cluster excellence and professionalisation of cluster management	
	OP TAC focuses on: increasing the added value and productivity of Czech companies (mainly SMEs), strengthening their position in global value chains and searching for new opportunities, which is related to intensive stimulation of the creation and development of new innovative companies and start-ups. The program also focuses on the development of employees' skills. The specific objectives of the operational program are the development and support of research and innovation capacities and the implementation of advanced technologies, which will enable citizens, companies, research organisations and public bodies to enjoy the benefits of digitization. OP TAC will support the sustainable growth and competitiveness of SMEs and the creation of jobs. Other goals include supporting digital networks, increasing energy efficiency (by reducing emissions and greenhouse gases), supporting the use of energy from renewable sources (in accordance with EU	The Call Collaboration-Clusters aims to foster the growth of innovative clusters as a means of boosting collaborative research, development, and innovation activities between businesses and the research sector. Additionally, it seeks to facilitate connections between businesses, research institutions, technology centres, digital innovation hubs, and other supporting organisations, creating opportunities for innovation and investment, and expediting industrial transformations. The policy is designed to enhance the innovation capabilities of small and medium-sized enterprises in implementing new innovative solutions and advanced technologies, as well as to reinforce interconnections at regional, interregional, and international levels. Ultimately, this contributes to the development of a knowledge-based and innovation-driven economy and the	The primary objective of the call is to support activities that facilitate the development of innovation networks - technological platforms. These platforms would serve as a tool to enhance collaborative research, development, and innovation endeavours between business and the research sector. The call is aimed to support the acceleration of the digital and green transformation, adoption of advanced technologies in businesses and strengthen mutual connections at regional, supra-regional, and international levels. The policy should lead to the development of a knowledge-based and innovative economy, and to the realization of the concept of smart specialization.



Policy type:	Broad policy	National cluster policy	National cluster policy
Policy name:	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Cooperation-Clusters - Call I.	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Technological platforms - Call I.
	Directive 2018/2001, including the sustainability criteria set out in the directive), developing smart energy systems and supporting sustainable multimodal urban mobility in the transition period to a carbon-neutral economy, supporting adaptation to climate change, prevention and resistance to the risks of catastrophic events with regard to ecosystem policies, supporting the transition to a circular economy with active use of resources. <sup>5</sup>	realization of the smart specialization concept.	
POLICY FOCUS	No specific focus	No specific focus	No specific focus
<b>+</b>	The program is intended for all sectors and focuses especially on small and mediumsized enterprises.	The sector is not specified in the call. The aim of the call is the development of innovation clusters as a tool for boosting joint research, development and innovation activities among business organisations and research sector.	The sector is not specified in the call. The aim of the call is the development of technological platform as a tool for boosting joint research, development and innovation activities among business organisations and research sector.
	Both drafting and implementation	Both drafting and implementation	Both drafting and implementation

<sup>&</sup>lt;sup>5</sup> Ministerstvo Prumyslu a Obchodu. 2022. Evropská komise schválila OP TAK, na podporu podnikatelů je připraveno téměř 82 miliard korun z fondů EU. Available at: https://www.mpo.cz/cz/podnikani/dotace-a-podpora-podnikani/optak-2021-2027/aktualni-informace/evropska-komise-schvalila-op-tak--na-podporu-podnikatelu-je-pripraveno-temer-82-miliard-korun-z-fondu-eu--268464/ (last access 30.01.2023).

Policy type:	Broad policy	National cluster policy	National cluster policy
Policy name:	Operational Programme Technologies and Applications for Competitiveness 2021 - 2027	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Cooperation-Clusters - Call I.	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Technological platforms - Call I.
RESPONSIBLE	Provides funding	Provides funding	Provides funding
<u> </u>	Oversees the implementation	Oversees the implementation	Oversees the implementation
AUTHORITIES	The governing body of the Operational Program Technology and Applications for Competitiveness is the Ministry of Industry and Trade (MPO). In 2019, the MPO established a Platform for the preparation of OP TAC. Individual participants (institutions and organisations) of the platform are selected according to the relevance of their activities, while the governing body tries to involve the widest possible spectrum of partners representing different focus groups or expert opinions with relevant experience and knowledge of good practice from previous program periods. Members of the platform prepare the program, are in charge of the preparation of the program document and are responsible for the successful implementation of the program. The program is co-financed within the EFRD.	Ministry of Industry and Trade of Czech Republic (MPO). In 2019, the MPO established a Platform for the preparation of OP TAC. Members of the platform prepare the program, are in charge of the preparation of the program document and are responsible for the successful implementation of the program.	Ministry of Industry and Trade of Czech Republic (MPO). In 2019, the MPO established a Platform for the preparation of OP TAC. Members of the platform prepare the program, are in charge of the preparation of the program document and are responsible for the successful implementation of the program.
	SMEs	SMEs	SMEs
	Cluster organisations	Cluster organisations	Cluster organisations
	Research organisations	Research organisations	Research organisations

Policy type:	Broad policy	National cluster policy	National cluster policy
Policy name:	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Cooperation-Clusters - Call I.	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Technological platforms - Call I.
BENEFICIARIES	Academic institutions		Large firms
_ /8-(8)	Start-ups		
9.5	Business associations		
<b>(a)</b>	Large firms		
	General population		
	Others: Non-profit organisations, Territorial self-governing units, Infrastructure providers of innovations		
	OP Technology and Applications for Competitiveness focuses primarily on supporting companies (mainly SMEs and partly also large companies <sup>6</sup> ), business associations, territorial self-governing units, non-profit organisations, research organisations, infrastructure providers for innovation and others.	Beneficiaries are clusters and their members (business entities, primarily small and medium-sized companies (SMEs), along with research organisations). To be eligible, clusters have to have a validated profile on the ECCP (European Cluster Collaboration Platform) and a profile maintained by the National Cluster Association.	Support is intended for technological platforms (TP) that link the public and private sectors in research, development, and innovation within technology sectors relevant to businesses.
INSTRUMENTS Financial	Funding collaboration initiatives	Funding collaboration initiatives	Funding collaboration initiatives
	Support to R&D projects, SMEs becoming cluster members, etc.	Support to R&D projects, SMEs becoming cluster members, etc.	Support to R&D projects, SMEs becoming cluster members, etc.

 $<sup>^{6} \</sup> https://www.mpo.cz/cz/podnikani/dotace-a-podpora-podnikani/optak-2021-2027/aktualni-informace/evropska-komise-schvalila-op-tak--na-podporu-podnikatelu-je-pripraveno-temer-82-miliard-korun-z-fondu-eu--268464/ (last access 30.01.2023).$ 



Policy type:		Broad policy	National cluster policy	National cluster policy
Policy name:		Operational Programme Technologies and Applications for Competitiveness 2021 – 2027	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Cooperation-Clusters - Call I.	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Technological platforms - Call I.
		Subsidies for cluster infrastructure (e.g. offices, equipment)  Supporting market entry (e.g. testing, proof-of concept, prototyping, demonstration projects)  Financing start-ups	Application to labelling schemes and similar initiatives  Subsidies to hire personnel  Subsidies for cluster infrastructure (e.g. offices, equipment)  Financing networking events  Supporting market entry (e.g. testing, proof-of concept, prototyping, demonstration projects)  Innovation: voucher, support to hire PhDs, cooperation with R&I actors	Subsidies to hire personnel  Subsidies for cluster infrastructure (e.g. offices, equipment)  Financing networking events  Innovation: voucher, support to hire PhDs, cooperation with R&I actors
	Technical assistance	Support for hard skill development: knowledge transfer, intellectual property, entrepreneurship, export advice, market intelligence  Support for soft skills development: coaching, management training, upskilling/reskilling  Support for networking and partnership building (at national and/or international level)	-	-
Ex	xplanation	The Programme will provide:  • support for cooperation and exchange of knowledge between	The Call Collaboration - Clusters primarily supports activities related to collaborative research and development of cluster	The supported activities encompass the coordination activities of the technology platform (TP). This includes the

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	research organisations/academic institutions and companies,  support for establishment of innovative firms and new companies in the area of smart specialisation,  tools for businesses and research institutions to adapt and develop skills for smart specialization, industrial transformation and entrepreneurship,  support for integration and implementation of digital technologies in SMEs operations, support for SMEs growth through specific vocational trainings and re-qualifications,  support for businesses to gain a better position in value chains, increase productivity and facilitate participation in industry- and research-led clusters, support for strengthening the R&I capacity of SMEs,  support for SMEs internationalization, support for higher energetic efficiency and utilization of renewable energy sources in SMEs,	organisations. These are research and development activities that address the innovative needs of small and medium-sized enterprises in a specific industry or technological area within the cluster. Supported activities include the development of innovative cluster initiatives, activities that enhance the capacities and knowledge of the cluster organization, leading to the expansion and improvement of specialized support services for small and medium-sized businesses, activities with aim to enhance the quality of cluster management and the services provided, as well as activities that improve competencies in cluster management, including the sharing of international experiences, the updating of cluster strategies, the expansion of new services based on the needs of cluster members, and activities that contribute to the cluster's expansion. Other supported activities include the establishment of strategic partnerships, cross-sectoral collaboration, the creation of shared opportunities for implementing advanced technologies in businesses, the identification of common challenges and new solutions, connecting innovative and	development and execution of strategies for the industry's digital and green transition to address common challenges and facilitate necessary measures. Additionally, support extends to strengthening TP's collaboration with European counterparts and engaging Czech research organisations and enterprises in coordinated transition pathways.

Policy type:		Broad policy	National cluster policy	National cluster policy
Policy name:		Operational Programme Technologies and Applications for Competitiveness 2021 – 2027	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Cooperation-Clusters - Call I.	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Technological platforms - Call I.
		<ul> <li>support for reduction of GHG emissions,</li> <li>support for capacity building at the regional and local level to manage the transition to clean energy and the transition to a resource-efficient economy,</li> <li>investment in water retention/capture measures, measures to address contamination, water runoff and water quality</li> <li>and support for measures leading to the transition to a circular economy and the transition to a greater degree of waste prevention, reuse and recycling.</li> </ul>	traditional businesses to validate and test new technologies, the preparation of joint demonstration activities and pilot projects, engagement in the European research space, participation in collective cluster initiatives, and other cross-border networks with a focus on future challenges and key technologies, coordinated access to third markets, and more.	
HISTORY	Period	Limited period	Limited period	Limited period
	year (for policies with limited period)	2027	2026	2026



Policy type:		Broad policy	National cluster policy	National cluster policy
Policy name:		Operational Programme Technologies and Applications for Competitiveness 2021 – 2027	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Cooperation-Clusters - Call I.	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Technological platforms - Call I.
	Starting year	2021	2023	2023
	Explanation	Operational program for the period 2021- 2027	The Call Cooperation - Clusters was issued on 16th January 2023 and the applications could be delivered to Agency for Business and Innovation from 23rd January till 21st April 2023. The latest date for project implementation is 30th June 2026.	The Call Technological platforms was issued on 16th January 2023 and the applications could be delivered to Agency for Business and Innovation from 23rd January until 14th April 2023. The latest date for project implementation is 30th June 2026.
BUDGET	Overall	EUR 3,24 billion (CZK 80 billion) for 2021- 2027	EUR 10.27 million	EUR 10.27 million
	Annual	N/A	N/A	N/A
	Source of funding	The Operational Programme Technologies and Applications for Competitiveness will be financed through EFRD.	ERDF	ERDF
POLICY	Availability	No policy evaluation		No policy evaluation
EVALUATION	Results	The Ministry of Industry and Trade, as the governing body of OP TAC, established a monitoring committee to evaluate the implementation of the operational	-	-

Policy type:		Broad policy	National cluster policy	National cluster policy
Policy name:		Operational Programme Technologies and Applications for Competitiveness 2021 – 2027	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Cooperation-Clusters - Call I.	Operational Programme Technologies and Applications for Competitiveness 2021 – 2027 (OP TAC) - Technological platforms - Call I.
		program. This committee will meet at least once a year during the implementation of the program to assess the implementation of the OP TAC against its goals. There are no evaluations available yet (July 2024), though the mid-term evaluation, ongoing since Q4 2023, is scheduled to be completed by Q1 2025. <sup>7</sup>		
POLICY ALIGNN	MENT WITH	Green Economy	Digitalisation <sup>8</sup>	Green Economy
THE EU PRIORITIES		Digitalisation		Digitalisation <sup>9</sup>
		Resilience		

https://www.mpo.cz/cz/podnikani/dotace-a-podpora-podnikani/optak-2021-2027/evaluace-a-analyzy/ (last access 28.03.2023).
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 https://www.agentura-api.org/wp-content/uploads/2023/01/technologicke-platformy-vyzva-i-.pdf (last access 02.11.2023).

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



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

## 4.1 The state of cluster policy

This section presents an overview on the state of play of cluster policy in Czechia 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 cluster policy for Czechia** for 2023.

Table 4: State of play

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

#### **Policy scope**

The development and facilitation of cluster initiatives is financed through the Operational Programme Technologies and Applications for Competitiveness 2021 – 2027, specifically under 2 calls: Cooperation - Clusters and Technological platforms. The calls aim to support the development of innovation networks and clusters as a tool increasing intensity of joint research, development and innovation activities between business entities and the research sphere. Furthermore, it aims to strengthen ties at the regional, supraregional and international levels leading to the development of economy based on knowledge, innovation and fulfilment of the concept of smart specialisation.

#### **Continuity**

Support for clusters has been provided over the years through several policies and funding lines. Support for clusters has been included in operational programmes of the Czech Republic since 2004. According to the Ministry of Industry and Trade, the strategy and cluster support was mainly implemented through operational programmes, first under OP Industry and Entrepreneurship (during the period 2007-2013). There were specific calls published under the operational programme which focused on fostering collaboration between clusters in the Czechia and their further development in terms of research, development and innovation. The objectives of this specific strand of financing are aligned with the Smart Specialisation Strategy's objective to increase innovation demand in companies and the public sector. Furthermore, in 2005, a National Cluster Strategy for 2005 to 2008 was adopted by the Czech Government (however, this strategy as such was never completely implemented).

In 2019, the Government introduced Czech Republic's Innovation Strategy 2019-2030 where while clusters are not specifically singled out, they are included within the focus point "The Country for Excellence" that aims to support innovation and research centres to reach their potential. One of the further goals is to achieve the integration of Czech companies into sectorial clusters with the participation of research institutions.

Czechia's industry is well developed, and the main focus has always been to support further research, development and innovation. While there is no specific cluster strategy in place, clusters and their development have always been supported either through specific budget lines in operational programmes or by including them in the country's smart specialisation strategy, Industry 4.0 strategy or various digitalisation strategies. At the moment, clusters are supported under a specific support programme Cooperation Clusters under the Operational Programme Enterprise and Innovation for Competitiveness for the 2014-2020 period and through broad policy named Operational Programme Technologies and Applications for Competitiveness 2021 – 2027.

#### **Evidence of performance**

An evaluation of the Operational Programme Enterprise and Innovation for Competitiveness 2014-2020 was completed in December 2022. The results document a positive impact of the support provided on the competitiveness of supported enterprises, as well as an increase in employment in the supported enterprises, through its support to the establishment of new businesses and the development of entrepreneurship was deemed marginal.

There is also an interium evaluation of the Support programme Cooperation – Clusters under OP EIC Specific Objective 1.2.<sup>10</sup>

The Ministry of Industry and Trade, as the governing body of OP TAC, established a monitoring committee to evaluate the implementation of the operational program. This committee will meet at least once a year during the implementation of the program to assess the implementation of the OP TAC against its goals.

#### **Cluster support instruments**

The Support Programme Cooperation Clusters, funded under the Operational Programme Enterprise and Innovation for Competitiveness 2014-2020, offered different financial support instruments on a national level. The Support Programme supported collective research (research and development activities within the cluster and implementation of cross-border R&D projects), shared infrastructure (establishment/ development and equipment of the cluster's centre with open access for the purposes of industrial research, development and innovation), cluster internationalisation (establishment of cooperation in the European research area, participation in cross-border networks of excellent clusters, etc.) and the development of cluster organisations (activities leading to expansion of the cluster and improved quality of its management, improvement of cooperation, knowledge sharing, marketing, networking, etc). It also offered technological platforms which served as aid for

<sup>&</sup>lt;sup>10</sup> https://www.mpo.cz/cz/podnikani/dotace-a-podpora-podnikani/oppik-2014-2020/evaluace-a-analyzy/evaluace-a-jine-analyzy-157435/ (last access 30.01.2023).

coordination activities of the platform, established a deeper cooperation between TP and European technological platforms and participation of Czech research organisations and enterprises in their activities, coordination of Czech enterprises and research organisations as regards access to Horizon 2020 and other European programmes.<sup>71</sup>

## 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 Czech cluster policy can 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 Czechia<sup>12</sup> 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 4: Contribution of Czech cluster policy to the challenges identified in the European Semester Report

Policy area	Challenges	Cluster policy
SKILLS	<ul> <li>Skill mismatches</li> <li>Need to improve green and digital skills</li> </ul>	The Operational Programme Technologies and Applications for Competitiveness puts an emphasis on skills development, for example on digital skills. Research underlines the role of clusters in developing the skills of the workforce and attracting skilled workers to a region. <sup>13</sup> In that context, one can mention the activities of the Czech National Cluster Association which provides a series of support services and training courses for cluster member companies. <sup>14</sup> 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. <sup>15</sup>
TRANSITION	<ul> <li>Accelerating decarbonisation and reducing gas demand through increased investments in renewables and energy efficiency</li> <li>Making investments and reforms that facilitate the uptake of renewable energy, expanding</li> </ul>	In the Operational Programme Technologies and Applications for Competitiveness, factors of the green transitions like decarbonising the economy, reduce fossil fuel dependency and the increase of renewable energy are addressed. For instance, in that regard one can mention the activities of the Czech Energy Technical Innovation Cluster as an example. This cluster is, among other things, providing support for increasing energy efficiency and promoting the individual and national benefits of energy-saving projects for citizens, representatives of public administration and

 $<sup>^{\</sup>it n}$  Ministry of Trade and Industry of the Czech Republic. <u>https://www.agentura-api.org/wp-content/uploads/2019/06/obecne-op-pik-operational-programme-enterprise-and-innovation-for-competitiveness.pdf</u> (last access 30.01.2023).

<sup>&</sup>lt;sup>12</sup> https://economy-finance.ec.europa.eu/system/files/2023-05/CZ\_SWD\_2023\_603\_en.pdf (last access 12.01.2024).

<sup>&</sup>lt;sup>13</sup> Hsu et al. (2014).

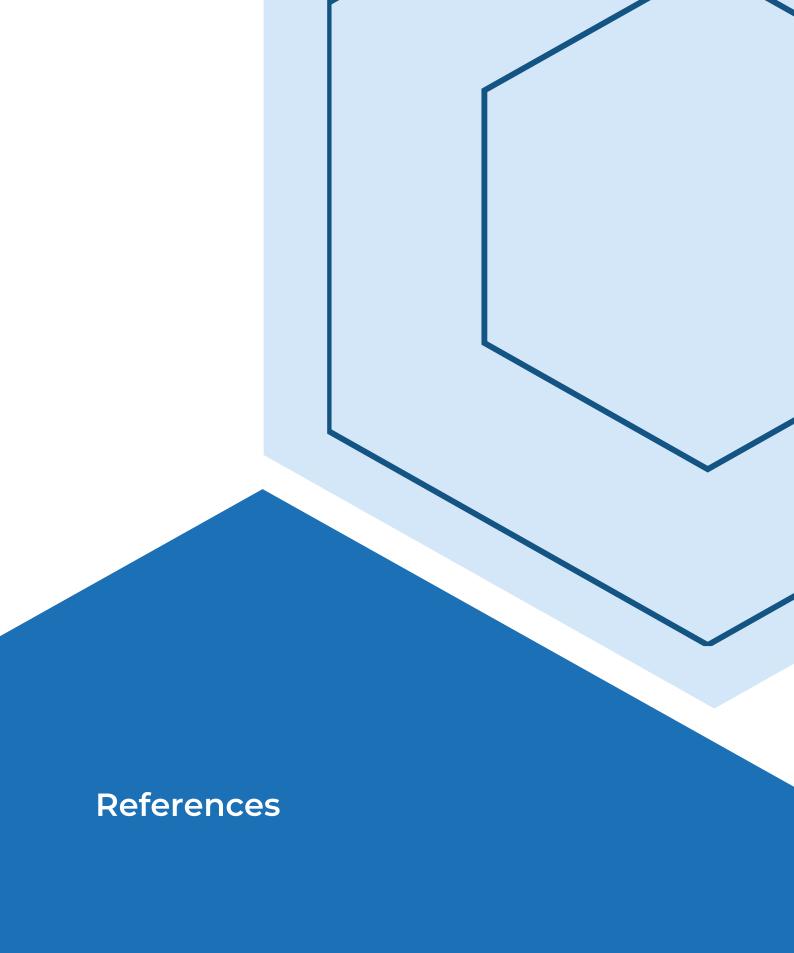
<sup>14</sup> https://nca.cz/en/services/#education (last access 22.05.2024)

<sup>&</sup>lt;sup>15</sup> European Expert Group on Clusters (2020).

Policy area	Challenges	Cluster policy
	grid capacity, increasing energy savings and energy efficiency, and supporting investments in net- zero technologies manufacturing	In their important role as intermediaries in the innovation ecosystem, cluster organisations facilitate and accelerate innovation processes and can hence be understood as catalysts of transformation processes. <sup>17</sup> In addition, 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. <sup>18</sup> Studies show that clusters can play a vital role in the green transition of the economy through a large set of activities ranging from integrative measures like standard-setting, local value-chain building or the cooperation with other clusters; to organising the access to resources, infrastructure, finance and information; to education and awareness building through workshops, knowledge sharing, campaigns and the promotion of green products and services. <sup>19</sup>

Source: ECCP (2023).

https://www.etik.cz/projekty (last access 22.05.2024)
 ECCP (2021).
 Hatch et al. (2017).
 Lis and Mackiewicz (2023); ECCP (2021).





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## **Annex**

Table 5: 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)