Country factsheet

Germany

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Strengthening the European economy through collaboration

EUROPEAN CLUSTER
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Introduction

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

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 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 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. In the Recovery and Resilience Plan for Germany,[1] innovation clusters are mentioned in Part 2 (Description of reforms and investments) as part of concrete national measures expand climate-friendly, wood-based construction with the goals to diversify the economy (resilience) in a sustainable and smart direction. 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.

Within the ERDF Partnership Agreement 2021-2027 Germany, there are reference points to clusters. Promoting innovation clusters and business networks, represents primarily targeted at SMEs, represent an important area of intervention. In the 2014-2020 funding period, the German development strategy with regard to research and development, innovation and the promotion of SMEs and innovative start-ups was already characterized by measures in favour of the players in regional innovation ecosystems. This includes measures to support business networks and clusters. In the 2021-2027 funding period, this fundamental orientation will be further developed and adapted.

In the following, a succinct overview of the cluster policy in Germany will be provided. The structure of this factsheet generally encompasses:
   1) an overview of the industrial ecosystems and cluster landscape in Germany
   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.

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[1] Bundesministerium der Finanzen, Deutscher Aufbau- und Resilienzplan (DARP). Available at: https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Europa/DARP/deutscher-aufbau-und-resilienzplan.html In particular Component 1.3: Climate-friendly construction and renovation, available at: https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Europa/DARP/2-03-klimafreundliches-bauen-und-sanieren.pdf?__blob=publicationFile&v=5 (last access 31.03.2023).

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01

# Industrial ecosystems and cluster landscape

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.[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]

In the following figure, the employment share of Germany 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. "Health" is the most prominent industrial ecosystem, accounting for roughly 16% of employment in all ecosystems, while the EU27 average share is only about 13%. This indicates Germany's strength in this ecosystem. Other ecosystems in which Germany is more specialized than the EU27 average include "Proximity, Social Economy and Civil Security", "Mobility-Transport-Automotive", "Energy Intensive Industries", "Digital", "Aerospace & Defence", "Electronics", "Energy-Renewables", and "Textile". The strength of these industries is apparent in the sectoral and ecosystem nodes that are regionally relevant across most of the 16 German NUTS 1 regions ("Länder"), as shown in the section below.

Figure 1: Employment in the ecosystems
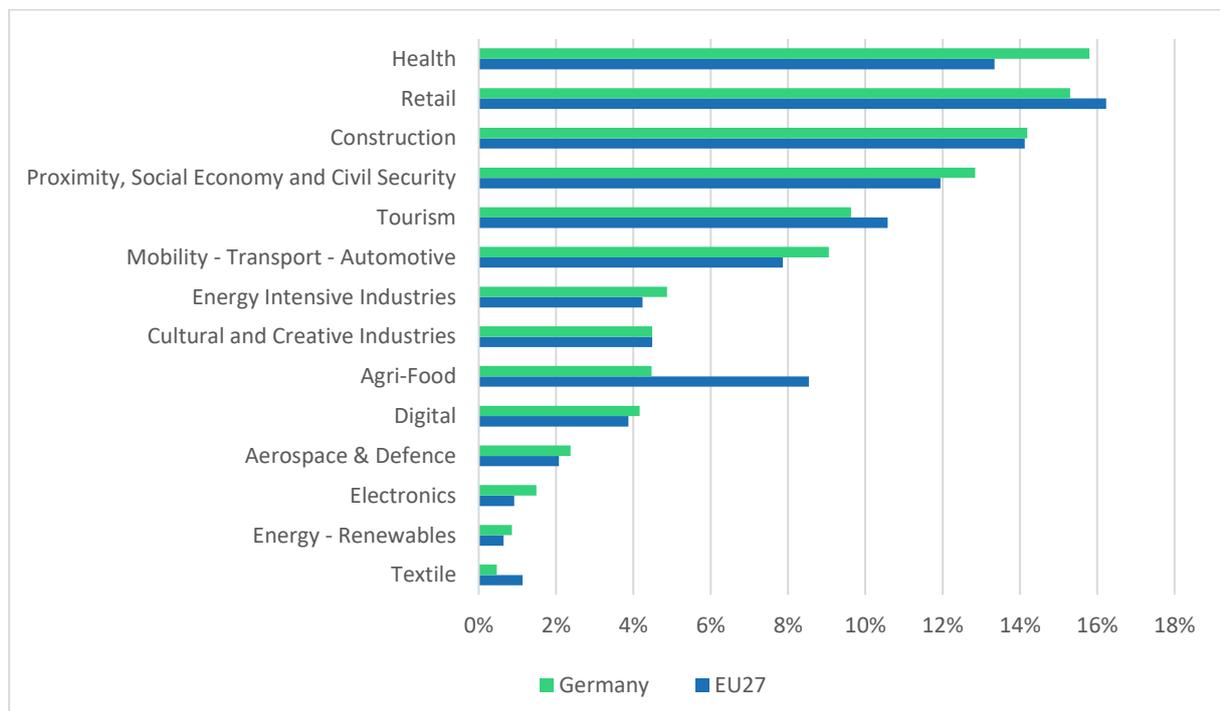
Source: ECCP (2022), own elaboration based on data from Eurostat.

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Regionally relevant nodes (agglomerations)

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.[4] The following tables shows the total number of regionally relevant specialisation nodes (agglomerations) 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 102 in the country, while the second table is based on the 14 ecosystems, which total 14 in the country.

Table 1: Number of regionally relevant sectoral nodes and Top 5 nodes by region

Region	# of nodes	Node 1	Node 2	Node 3	Node 4	Node 5
DE1: Baden-Württemberg	6	C28 - Manuf. of machinery & equipment	C29 - Manuf. of motor vehicles & trailers	C27 - Manuf. of electrical equipment	C26 - Manuf. of electronic & optical products	C25 - Manuf. of fabricated metal products
DE2: Bavaria	5	C26 - Manuf. of electronic & optical products	C29 - Manuf. of motor vehicles & trailers	C28 - Manuf. of machinery & equipment	C27 - Manuf. of electrical equipment	S94 - Membership organisations
DE3: Berlin	12	C29 - Manuf. of motor vehicles & trailers	M72 - Scientific research & development	S94 - Membership organisations	M70 - Head offices, management consult.	J62 - Computer programming, consultancy
DE4: Brandenburg	9	N82 - Business support activities	F42 - Civil engineering	D35 - Electricity, gas, steam and air conditioning supply	H53 - Postal and courier activities	C33 - Repair and installation of machinery and equipment
DE5: Bremen	7	H52- Warehousing & support for transportation	C29 - Manuf. of motor vehicles & trailers	C24 - Manuf. of basic metals	S94 - Membership organisations	C33 - Repair and installation of machinery and equipment
DE6: Hamburg	10	C30 - Manuf. of other transport equipment	N77 - Rental and leasing activities	M73 - Advertising & market research	H52-Warehousing & support for transportation	C33 - Repair and installation of machinery and equipment
DE7: Hessen	7	K66 - Activities auxiliary to financial services	H52- Warehousing & support for transportation	C20 - Manuf. of chemical products	S94 - Membership organisations	K64 - Financial service activities
DE8: Mecklenburg-Western Pomerania	6	I55 - Accommodation	C30 - Manufacture of other transport equipment	N82 - Business support activities	Q87 - Residential care	N81 - Services to buildings and landscaping
DE9: Lower Saxony	3	C29 - Manuf. of motor vehicles & trailers	S94 - Membership organisations	C22 – Manuf. of rubber and plastic products	-	-
DEA: North Rhine-Westphalia	6	C24 - Manuf. of basic metals	H53 - Postal and courier activities	C20 - Manuf. of chemical products	S94 - Membership organisations	C28 - Manuf. of machinery & equipment
DEB: Rhineland-Palatinate	5	C20 - Manuf. of chemical products	S94 - Membership organisations	C23 – Manuf. of other non-metallic mineral products	C22 – Manuf. of rubber and plastic products	C28 - Manuf. of machinery & equipment
DEC: Saarland	5	C24 - Manuf. of basic metals	C29 - Manuf. of motor vehicles & trailers	C28 - Manuf. of machinery & equipment	S94 - Membership organisations	N81 - Services to buildings and landscaping
DED: Saxony	6	C26 - Manuf. of electronic & optical products	C29 - Manuf. of motor vehicles & trailers	H53 - Postal & courier activities	C28 - Manuf. of machinery & equipment	N81 - Services to buildings and landscaping
DEE: Saxony-Anhalt	4	C20 - Manuf. of chemical products	F42 - Civil engineering	N82 - Business support activities	Q87 – Residential care	-

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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).

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Region						
DEF: Schleswig-Holstein	4	C32 - Other manufacturing	S94 - Membership organisations	I55 - Accommodation	Q87 - Residential care	-
DEG: Thuringia	7	C26 - Manuf. of electronic & optical products	C22 – Manuf. of rubber and plastic products	C25 - Manuf. of fabricated metal products	C23 - Manuf. of other non-metal mineral products	N82 - Business support activities

Source: ECCP (2022), own elaboration based on data from Eurostat.

Overall, there are fewer ecosystem nodes than the regionally relevant sectoral nodes by NACE sectors. These more concentrated agglomerations can at least partially be linked to the methodology of measurement of the 14 industrial ecosystems. The regions of Baden-Württemberg (DE1), Bavaria (DE2), Saxony (DED) and Thuringia (DEG) show relevant sectoral nodes in sectors, such as the manufacture of computer, electronics and optical products (C26), the manufacture of electrical equipment (C27) and the manufacture of machinery and equipment (C28). This specialisation is reflected in the industrial ecosystem "Electronics", for which each of these regions has a regionally relevant node.

However, not all sectoral nodes are necessarily reflected in the industrial ecosystem nodes. For instance, even though the manufacture of motor vehicles trailers (C29) is among the regionally relevant sectoral nodes of regions like Baden-Württemberg (DE1), Bavaria (DE2), Lower Saxony (DE9), Saarland (DEC) and Saxony (DED), neither of these regions exhibiting a regionally relevant node in the ecosystem "Mobility-Transport-Automotive". This discrepancy is likely to be a result from the methodology employed for computing the industrial ecosystems, where especially large diversified regional economies tend to show fewer ecosystem nodes.

Table 2: Regionally relevant ecosystem nodes

Region	Number of nodes	Node 1	Node 2	Node 3
DE1: Baden-Württemberg	2	Electronics	Energy - Renewables	-
DE2: Bavaria	2	Electronics	Energy - Renewables	-
DE3: Berlin	1	Digital	-	-
DE4: Brandenburg	0	-	-	-
DE5: Bremen	2	Mobility-Transport-Automotive	Aerospace & Defense	-
DE6: Hamburg	3	Digital	Cultural and creative industries	Aerospace & Defense
DE7: Hessen	0	-	-	-
DE8: Mecklenburg-Western Pomerania	0	-	-	-
DE9: Lower Saxony	0	-	-	-
DEA: North Rhine-Westphalia	0	-	-	-
DEB: Rhineland-Palatinate	1	Energy-intensive industries	-	-
DEC: Saarland	0	-	-	-
DED: Saxony	1	Electronics	-	-
DEE: Saxony-Anhalt	1	Energy-intensive industries	-	-
DEF: Schleswig-Holstein	0	-	-	-
DEG: Thuringia	1	Electronics	-	-

Source: ECCP (2022), own elaboration based on data from Eurostat.

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Cluster organisations in the regions

There are 119 cluster organisations registered on the ECCP in the country, 27 of which are located in Bavaria. Baden-Württemberg (24 cluster organisation) followed by Saxony (15 cluster organisation) are also among the regions with the highest number of profiled cluster organisations. The German cluster platform[5] currently includes 460 cluster organisations which outlines the potential for more German cluster organisations to register on the ECCP. The following figure shows the presence of cluster organisations in the different regions.

Figure 2: Cluster organisations profiled on the ECCP
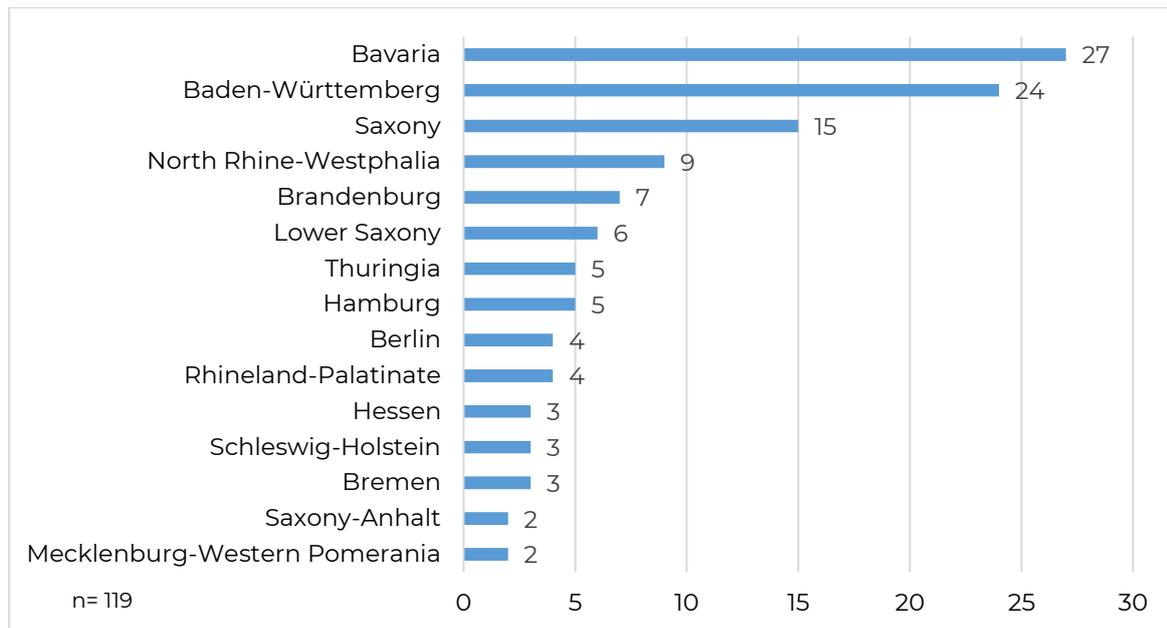
Source: ECCP (2022). Note: the data for the analysis was extracted on 14/10/2022.

The majority of member organizations of German cluster organisations with profiles on the ECCP are composed of SMEs (87%, EU: 84%), followed by large enterprises (5%, EU: 9%) and research organisations (8%, EU: 7%). From a thematic perspective, these German 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.

- Health (13 cluster organisations)
- Mobility-Transport-Automotive (10 cluster organisations)
- Agri-food (7 cluster organisations)
- Renewable Energy (5 cluster organisations)
- Digital (4 cluster organisations
- Electronics (4 cluster organisations
- Aerospace & Defence (2 cluster organisations)
- Textile (2 cluster organisations)
- Energy Intensive Industries (1 cluster organisation)

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[5]https://www.clusterplattform.de/SiteGlobals/CLUSTER/Forms/Suche/DE/Clustersuche_Formular.html?oneOfTheseWords=Suchbegriff+eingeben (last access 31.03.2023)

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- Proximity & Social Economy (1 cluster organisation)

This allocation of cluster organisations to industrial ecosystems reflects the relative employment strength of Germany in the ecosystems Health and Mobility-Transport-Automotive (see Figure 1).

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National cluster policy, programmes and initiatives

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Strengthening the European economy through collaboration

2. National cluster policy, programmes and initiatives

In this section we provide an overview of the existing cluster policies in Germany on a national as well as an example of the regional level cluster policy.

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 to fourth columns represents the variety of German national cluster policies, whilst the fifth represents an exemplary regional cluster policy. This factsheet showcases an example of a regional cluster policy in the region of Saxony. To gain an insight into the previous factsheet of 2021, one can follow this link: Country Factsheet 2021 (*access via ECCP registration*).

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

Policy type:	National cluster policy	National cluster policy	Sectoral policy	Regional cluster policy (example of Saxony)
Policy name:	"go-cluster" programme	Zukunftscluster-Initiative (Clusters4Future)	Automotive Industry Future Fund	Cluster and Network Support Saxony All 16 Länder have cluster programmes. Saxony was selected as example because of its twofold approach towards new and existing clusters.
POLICY OBJECTIVES	**Supporting cluster excellence and professionalisation of cluster management** **Enhancing the visibility of clusters** **Strengthening the network of cluster organisations/cross-clustering**	**Strengthening cooperation between companies or industry and RTDI actors** **Fostering R&D activities, technology development and implementation**	**Fostering innovation and strengthening regional innovation ecosystems** **Increasing competitiveness and boosting scale up of SMEs** **Promoting employment and upgrading skills and competences**	**Strengthening cooperation between companies or industry and RTDI actors** **Increasing competitiveness and boosting scale up of SMEs** **Supporting internationalisation activities**

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Policy type:	National cluster policy	National cluster policy	Sectoral policy	Regional cluster policy (example of Saxony)
Policy name:	"go-cluster" programme	Zukunftscluster-Initiative (Clusters4Future)	Automotive Industry Future Fund	Cluster and Network Support Saxony All 16 Länder have cluster programmes. Saxony was selected as example because of its twofold approach towards new and existing clusters.
	Supporting the consolidation of existing cluster organisations **Cluster analysis and support of policymaking**	**Fostering innovation and strengthening innovation ecosystems**	**Strengthening cooperation between companies or industry and RTDI actors** **Strengthening the collaboration of intermediaries and stakeholders** **Promoting resilience and sustainable economy; Increase supply chain resilience**	**Enhancing the visibility of clusters** **Fostering R&D activities, technology development and implementation** **Fostering innovation and strengthening innovation ecosystems** **Supporting cluster excellence and professionalisation of cluster management** **Supporting the consolidation of existing cluster organisations** **Supporting the creation of new cluster organisations** **Strengthening the network of cluster organisations/cross-clustering**

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Policy type:	National cluster policy	National cluster policy	Sectoral policy	Regional cluster policy (example of Saxony)
Policy name:	"go-cluster" programme	Zukunftscluster-Initiative (Clusters4Future)	Automotive Industry Future Fund	Cluster and Network Support Saxony All 16 Länder have cluster programmes. Saxony was selected as example because of its twofold approach towards new and existing clusters.
	"go-cluster" was launched in 2012 to follow up on the previous programme 'Competence networks Germany'. Already the previous programme focused on cluster excellence, based on the observation that just supporting the establishment of cluster organisations often leads to the creation of weak and non-sustainable organisations who cannot achieve the desired effects. "go-cluster" continues this approach and adds a focus on cross-clustering (by creating a German cluster platform), on increasing innovation and competitiveness and on improving services that cluster organisations offer to their members.	The Zukunftscluster-Initiative (Clusters4Future) is a central cluster initiative launched in August 2019. Compared to previous measures, such as the Leading-Edge Cluster Competition, which was implemented from 2012 until 2017, it starts earlier in the innovation process and particularly addresses young, newly emerging research topics and technologies on the threshold of application. Zukunftscluster are based on outstanding results of fundamental research. Their aim is to develop new and lasting value systems and to increase the velocity of bringing research to society.	The call "Transformation strategies for regions in the vehicle and supplier industry" of the Automotive Industry Future Fund focuses on the medium and long-term challenges of regions in which economic and employment development is particularly dependent on successful transformation in the vehicle and supplier industry. The aim is to develop strategies for regional transformation with the relevant actors and to support their implementation by promoting regional transformation networks. The aim is to develop a future-oriented economic profile for the regions concerned, to promote their innovative capacity and to create long-term prospects for value creation and employment.	The Saxonian cluster policy is a 'classic' cluster policy that supports the establishment or further development of cluster organisations to promote the cooperation between cluster actors. Since 2017, 6 *Innovation Clusters* and 11 *Cooperation Networks* have received support so far. In addition, there is a small number of clusters, which have been established in previous support programmes.

Policy type:	National cluster policy	National cluster policy	Sectoral policy	Regional cluster policy (example of Saxony)
Policy name:	"go-cluster" programme	Zukunftscluster-Initiative (Clusters4Future)	Automotive Industry Future Fund	Cluster and Network Support Saxony All 16 Länder have cluster programmes. Saxony was selected as example because of its twofold approach towards new and existing clusters.
			A second call supports national knowledge-transfer-hubs on selected focus areas of the transformation in the automotive industry.	
POLICY FOCUS	**No specific focus** The programme does not explicitly focus on any sectors, but rather on innovation, excellence and high prospects of success for the cluster organisations. In practice, participants in the programme are cluster initiatives from all major sectors of the German economy.	**Cross-sectoral** The focus is on research and innovation, and on creating new networks beyond existing disciplines, including new players and new ways of knowledge creation and transformation using the open innovation culture in clusters.	**Sectoral** Automotive industry, respective suppliers, ICT in automotive	**Sectoral** The policy follows the traditional approach of creating cluster organisations in sectors that are strong in the region.
RESPONSIBLE AUTHORITIES	**In charge of drafting** **Provides funding** **Oversees the implementation** **In charge of implementation**	**In charge of drafting** **Provides funding** **Oversees the implementation** **In charge of implementation**	**In charge of drafting** **Provides funding** **Oversees the implementation** **In charge of implementation**	**In charge of drafting** **Provides funding** **Oversees the implementation** **In charge of implementation**

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Policy type:	National cluster policy	National cluster policy	Sectoral policy	Regional cluster policy (example of Saxony)
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	The cluster platform is the joint information portal of the Federal Ministry for Economic Affairs and Climate Action and the Federal Ministry of Education and Research. The programme is implemented by the third-party contractor VDI/VDE Innovation + Technik GmbH.	Developed, launched and coordinated by the Federal Ministry of Education and Research. Implemented by the third-party contractor Projektträger Jülich as part of the Research Center Jülich.	Developed, launched and coordinated by the Ministry of Economic Affairs and Climate Action. The cluster funding parts of the programme are implemented by the third-party contractor VDI/VDE Innovation + Technik GmbH.	Developed, launched and coordinated by the Saxonian Ministry of Economy, Labour and Transportation. Funding is channelled through the Sächsische Aufbaubank – Förderbank (SAB), the central development agency of the Free State of Saxony. The programme is implemented by the third-party contractor VDI/VDE Innovation + Technik GmbH.
BENEFICIARIES	**Cluster organisations** **Policymakers**	**Research organisations** **Academic institutions** **Technology centres** **NGOs** **Cluster organisations** **SMEs**	**Depending on module:** **Regional business developers** **Training providers** **Trade unions and employer associations** **Cluster organisations** **R&D organisations**	**Cluster organisations**

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Policy type:	National cluster policy	National cluster policy	Sectoral policy	Regional cluster policy (example of Saxony)
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		Large firms	**Start-ups** **SMEs** **NGOs** **Technology centres**	
	The programme focusses on cluster excellence and cross-clustering, therefore the main target group are cluster organisations from Germany. Other target groups are cluster organisations and cluster policy programmes from other countries for international networking activities and transnational R&D projects. In addition, there are also programme activities for cluster policy representatives at national and federal state levels (e. g. data analysis and supporting the Federal Ministry for Economic	In its six-months initial conceptualisation phase, the focus of the measure is clearly on research organisations. The participation of companies and other players is foreseen afterwards from the implementation phase onwards. There will be up to three three-year implementation phases with the increasing proximity to application.	"Automotive Industry Future Fund" addresses framework conditions, knowledge dissemination and regional transformation with a focus on the respective supplier industries.	The policy focuses on establishing and supporting cluster organisations.

Policy type:	National cluster policy	National cluster policy	Sectoral policy	Regional cluster policy (example of Saxony)
Policy name:	"go-cluster" programme	Zukunftscluster-Initiative (Clusters4Future)	Automotive Industry Future Fund	Cluster and Network Support Saxony All 16 Länder have cluster programmes. Saxony was selected as example because of its twofold approach towards new and existing clusters.
	Affairs and Climate Action in developing cluster policies).			
INSTRUMENTS — Financial	**Application to labelling schemes and similar initiatives** **Funding collaboration initiatives** (through internal funding calls for members (funding priorities e. g. development of new cluster services, initiation of cross-cluster cooperation, internationalisation, digitalisation, foresight processes))	**Funding collaboration initiatives** **Support to R&D&I projects, SMEs becoming cluster members, etc.** **Financing networking events** **Supporting market entry (e.g. testing, proof-of concept, prototyping, demonstration projects)**	**Funding collaboration initiatives** **Support to R&D projects, SMEs becoming cluster members, etc.** **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)**	**Support to R&D&I projects, SMEs becoming cluster members, etc.** **Subsidies to hire personnel** **Subsidies for cluster infrastructure (etc. offices, equipment)** **Financing networking events**
Technical assistance	**Support for soft skills development: coaching, management training, upskilling/reskilling**	**No non-financial instruments**	**Support for soft skills development: coaching, management training, upskilling/reskilling**	**Support for strategy development: coaching, management training**

Strengthening the European economy through collaboration

Policy type:	National cluster policy	National cluster policy	Sectoral policy	Regional cluster policy (example of Saxony)
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	Support for networking and partnership building (at national and/or international level) **Marketing activities: advertising, communication, events, fairs** **Others**		**Support for networking and partnership building (at national and/or international level)** **Marketing activities: advertising, communication, events, fairs, and so on**	
Explanation	The programme includes direct funding (e.g. support for ECEI labelling, internal funding calls for members) but focusses more on non-financial support (coaching, networking, internationalisation, running the German cluster platform, support for strategy development).	The programme funds a large variety of cluster activities. The focus is on the objective (innovation) and the potential of the applicant, not so much on the type of activity. It covers innovation-supporting measures such as the integration of education and training, innovative methods and instruments for the exchange and use of knowledge (e.g. open innovation and open source), the use of experimental spaces	Funding rates for the non-competitive projects of the „Automotive Industry Future Fund" are up to 100%.	Via the funding of cluster organisations the programme funds a large variety of cluster activities (e.g. knowledge transfer, networking, partnership building, training, R&D-projects, cross-cluster-projects).

Policy type:	National cluster policy	National cluster policy	Sectoral policy	Regional cluster policy (example of Saxony)
Policy name:	"go-cluster" programme	Zukunftscluster-Initiative (Clusters4Future)	Automotive Industry Future Fund	Cluster and Network Support Saxony All 16 Länder have cluster programmes. Saxony was selected as example because of its twofold approach towards new and existing clusters.
		and participatory elements, and social innovations. However, the main focus is on joint R&D project funding.		

HISTORY	Period	**Limited period**	**Limited period**	**Limited period**	**Unlimited period**
	Ending year *(for policies with limited period)*	2023	Approximately 2032	Until mid-2025	-
	Starting year	2012	2019	2021	2017
	Explanation	The sources do not indicate any end date. In view of the type of programme, it is more likely that it is unlimited/undetermined.	Currently two competition rounds are ongoing; additional rounds are in discussion.	At the moment, the end of the funding period is planned for the end of 2024 (Regional innovation clusters) and mid-2025 (Automotive Industry	There are two tracks: *Innovation Clusters*: Four-year periods of the programme are followed by an evaluation. Evaluations form the basis for layout and funding of a

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Policy type:		National cluster policy	National cluster policy	Sectoral policy	Regional cluster policy (example of Saxony)
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				Future Fund projects) respectively.	subsequent period (max. 10 years). *Cooperation Networks.* Funding provided for 3 years
BUDGET	**Overall**	Not indicated in the sources	Up to EUR 450 million	EUR 2,5 billion among that: EUR 150 million for the Regional Transition Networks, and up to EUR 7,5 million for each regional innovation cluster	Unlimited
	Annual	EUR 1,21 million	Varying, depending on the implementation by the selected clusters	Varying, about EUR 600 million overall.	*Innovation Clusters:* up to EUR 5 million per cluster (up to 50 % of the eligible costs) *Cooperation Networks:* up to EUR 200,000 (up to 75 % of the eligible costs)
	Source of funding	Federal Government	Federal Government	Federal Government	State Government

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POLICY EVALUATION	**Availability**	**in-itinere**	**in-itinere**	**ex-post**	**in-itinere**
	Results	An evaluation was carried out and published in 2016 for the first three years of the programme (2012-2015). The evaluation confirmed that the "go-cluster" programme makes a valuable contribution to promoting innovation through clusters and should be continued. The aim to develop cluster excellence is highly relevant and in line with the cluster policy at EU level. The programme complements well cluster initiatives that are already undertaken at regional level. 60% of cluster organisations consulted for the evaluation stated that they were able to improve their know-how thanks to "go-cluster". One main shortcoming of the programme was that the brand "go-cluster" was not well developed and that	The programme started in 2019 so there is no evaluation yet. However, the preceding Leading Edge Cluster Competition was evaluated so it can be expected that the Zukunftscluster-Initiative (Clusters4Future) will be evaluated as well.	The programme has been started in 2021. most of the projects have just been started and has not been evaluated yet. An accompanying monitoring is in implementation.	The cluster support programme has not yet been evaluated.

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	positive reputational effects, which were also expected from the European labels, had not materialised to the intended extent. In addition to this evaluation, an internal programme monitoring system has also been put in place and is carried out annually.			
POLICY ALIGNMENT WITH THE EU PRIORITIES	**Green Economy** **Digitalisation** **Resilience**	-	**Green Economy** **Digitalisation** **Resilience**	**Green Economy** **Digitalisation** **Resilience**

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03

State of play of cluster policy

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3. State of play of cluster policy

This section presents an overview on the state of play of German cluster policy in the form of a quantitative and qualitative assessment. The data below illustrates how the country ranks in terms of **maturity of cluster policy at the national level**. The maturity assessment is based on a combination of factors presented in Chapter 2, which receive a score based on the existence or absence of a given element in the cluster policy. The regional cluster policy example is not included in this assessment.

Note: the maturity assessment does not reflect the performance of a country but only the degree of development of their national cluster policy at the moment of data collection (Q3 2022). The assessment illustrates how the country scores for each of the four criteria (policy scope, continuity of cluster policies, evidence of performance, cluster support instruments) compared to the maximum score they can reach. Please refer to the **Annex** for a detailed overview of the categories and the scoring system.

The table below presents an overview of the **maturity assessment for Germany** for 2022. The total score of Germany is 8 points out of 8.

Germany	MATURITY ASSESSMENT	Max score	Actual score
POLICY SCOPE	Absence of cluster policy	0	
	Broad policy	0,5	
	Sectoral policy	1	
	National and/or regional cluster policy	2	**2**
CONTINUITY	No cluster-specific policy available	0	
	Cluster policy established recently	0,5	
	Cluster policy established between over 2 and 10 years	1	
	Cluster policy established over 10 years ago	2	**2**
EVIDENCE OF PERFORMANCE	No evaluation and / or monitoring available	0	
	Existence of evaluations of past policies	0,5	
	Existence of monitoring or an ongoing / interim evaluation	1	
	Existence of monitoring and ex-ante or ongoing / interim evaluation	2	**2**
CLUSTER SUPPORT INSTRUMENTS	No instruments for cluster development	0	
	Financial support for cluster development in the broader and / or sectoral policy	0,5	
	Financial or technical support for cluster development in dedicated cluster policy	1	
	Financial and technical support for cluster development in dedicated cluster policy	2	**2**
TOTAL (8)			**8**

Drawing from the table above that showcases the scored points in Germany's cluster policy, the Figure below portrays the **degree of maturity** across four categories related to the national level cluster policy.

Figure 3: Maturity of cluster policy - Germany
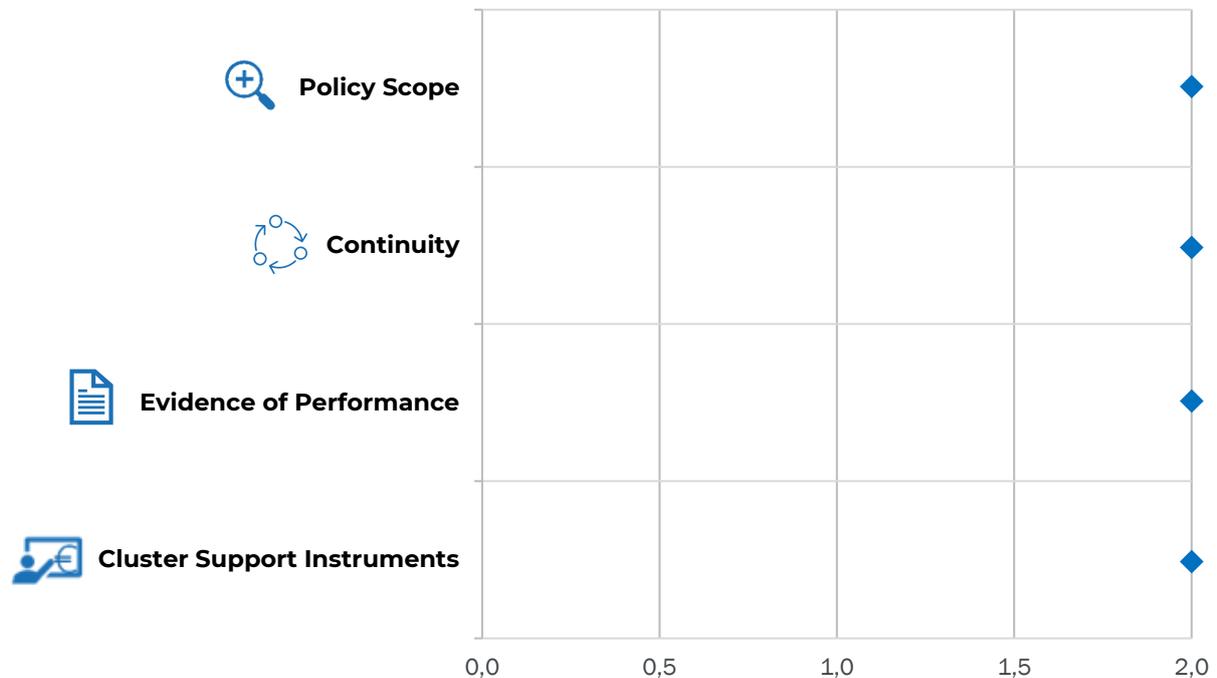
Source: ECCP (2022)

The text below provides a **qualitative description** of the state of play of the cluster policy in Germany, which is complementary to the maturity assessment presented above.

Policy scope

Dedicated cluster policy started in the late 90s with the Kompetenznetze Deutschland programme and regional innovation initiatives. Since 2000, numerous cluster policy measures and support programmes have been implemented at federal state level. In this context, many regions started to establish cluster organisations, and the national Leading Edge Cluster Competition was launched.

As a result, all of the federal states in Germany have individual cluster programmes. These programmes sometimes focus on different goals or support special/other clusters. Therefore, not all regionally supported clusters are also supported at national level and vice versa.

Continuity

Both, national and state-level programmes, have been running since the late 90s or the mid-2000s – either continuously or, if they ended, a new programme followed these measures. Cluster programmes started as regional innovation initiatives. To date, all 16 Länder (federal states) have cluster initiatives in the context of their regional innovation strategies, which aim to support the development and excellence of cluster organisations. At national level, primarily the Ministry for Economic Affairs and Climate Action and the Ministry of Education and Research have been running national programmes for more than 20 years that aim to connect clusters beyond the region, to

increase the dynamics of innovation and boost the excellence of German clusters at EU and global level.

Evidence of performance

Cluster policy in Germany has on a regular base been evaluated. The Leading Edge Cluster Competition ("Spitzencluster-Wettbewerb") which preceded the current Clusters4Future programme was evaluated in 2014. The Kompetenznetze Deutschland programme was evaluated in 2009. The "go-cluster" programme was evaluated in 2016. The programme "Clusters - Networks – International" has been monitored by accompanying research projects.

Cluster support instruments

The current German national cluster policies employ a broad and varying set of financial and technical support instruments. The go-cluster programme includes direct funding but relies more on non-financial forms of support like coaching, networking, advice for internationalisation, and by running the German cluster platform. The Zukunftscluster initiative funds a large variety of cluster activities. In general, its support is less focused on certain instruments but on the objective of innovation and the type of applicant. It provides support on training, knowledge exchange, experimental and participatory spaces, and social innovations. Its mainstay, however, remains R&D project funding.

Cross-regional / international cooperation

The European Cluster Partnerships have been launched by the European Commission to encourage clusters from Europe to intensify collaboration across regions and sectors.

German cluster organisations have been involved in 51 consortia of the European Strategic Cluster Partnerships, out of which 31 partnerships were focusing on internationalisation (ESCP-4i), 17 partnerships were on cluster management excellence (ESCP-4x) and three partnerships on thematic areas related to regional smart specialisation (ESCP-S3). 31 German cluster organisations participated in the INNOSUP-1 initiative.

Between 2012 and 2022, 288 cluster labels had been awarded to German cluster organisations out of which 198 were Bronze labels, 67 Silver labels and 23 Gold labels.

In the 2021-2027 funding period, the Single Market Programme supports clusters as part of the Joint Cluster Initiatives (Euroclusters) for Europe's recovery. Seven clusters from Germany are part of seven Euroclusters with partners from 15 countries (AT, BE, BG, CZ, DK, EE, ES, FI, FR, IT, NL, PL, PT, RO, SE). These Euroclusters are AIBC Eurocluster, BioMan4R2, FRIEND CCI, INGENIOUS, POLREC, SILICON Eurocluster and SocialTech4EU. Collectively, they cover ten industrial ecosystems, with "Electronics", "Energy Intensive Industries" and "Health", each covered by two Euroclusters. Other industrial ecosystems that are covered include "Cultural and Creative Industries", "Mobility – Transport - Automotive", "Energy-Renewables", "Construction", "Agri-Food", "Retail" and "Proximity, Social Economy and Civil Security", Some Euroclusters cover multiple ecosystems, such as AIBC Euroclusters (covering "Mobility-Transport-Automotive" and "Digital") and POLREC (covering "Mobility-Transport-Automotive", "Electronics", "Energy-Renewables", "Energy Intensive Industries, "Construction", "Agri-Food", "Health", "Retail").[6]

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[6] Assigned Euroclusters to each of the 14 industrial ecosystems is shown on:
https://clustercollaboration.eu/euroclusters (last access 20.03.2023)

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Annex

Criterion of maturity assessment	Description	Scoring (points between 0 and 2)
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 = 0** **existence of broader policies = 0,5** **existence of specific sectoral policies = 1** **existence of targeted cluster policies = 2**
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 = 0** **cluster policy established recently (within the last 2 years) = 0,5** **cluster policy established between over 2 and 10 years = 1** **cluster policy established over 10 years ago = 2**
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 = 0** **existence of evaluations of past policies, e.g. ex-ante = 0,5** **existence of monitoring or an ongoing / interim evaluation =1** **existence of monitoring and ex-ante or ongoing / interim evaluation =2**
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 =0** **financial support for cluster development in the broader and / or sectoral policy = 0,5** **financial or technical support for cluster development in dedicated cluster policy = 1** **financial and technical support for cluster development in dedicated cluster policy = 2**

Source: ECCP (2022)