

Country factsheet

Bulgaria





Contents

Introduction	
Industrial ecosystems and cluster landscape	
Employment in the 14 ecosystems in the country	
Regionally relevant nodes (agglomerations)	
Cluster organisations in the regions	
2. National cluster policy, programmes and initiatives	
3. State of play of cluster policy	18
Bibliography	23
Annex	24



Introduction



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

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.

As a consequence of the COVID-19 pandemic, European as well as global economies have been subject to severe output losses. In response, policymakers at EU and national level have acted decisively and at short notice to make available very significant financial resources, notably through the Recovery and Resilience Facility, 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. However, clusters are not directly mentioned in the National recovery and resilience plan of Bulgaria. In addition to the COVID-19 pandemic, the ongoing Russian military aggression against Ukraine has also taken its toll on EU companies and industrial ecosystems, highlighting the significance of policy efforts in supporting SMEs and clusters.

The <u>ERDF Partnership Agreement 2021-2027</u> for Bulgaria makes a clear reference to clusters. Based on the agreement, full participation of innovation clusters in the research and innovation ecosystem supports regional economy, enterprise growth and smart specialization.

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

- 1) an overview of the industrial ecosystems and cluster landscape in Bulgaria
- 2) an overview of the Bulgarian broad policies which provide policy interventions for the development of clusters in Bulgaria,
- 3) an assessment of the state of play of the national cluster policy.





1. Industrial ecosystems and cluster landscape

Employment in the 14 ecosystems in the country

As part of its Industrial Strategy (March 2020), the European Commission has selected 14 industrial ecosystems that are particularly relevant in Europe and encompass all players operating in a value chain. The classification of the 14 industrial ecosystems have been calculated by aggregating NACE 2 -digit activities, following the methodology established in the European Commission.

In Figure 1, the employment share of Bulgaria and the EU27 in each industrial ecosystem is shown relative to the number of employed persons across all 14 industrial ecosystems. It shows the proportion of the country's employment accounted for by each ecosystem, as well as the equivalent figure for the EU27 on average. The ecosystems are ordered, from top to bottom, according to the amount of employment in the country. When the bar for the country is higher than that of the EU27, it indicates that the country is more specialised in that ecosystem. The figure reveals that the "Agri-Food" ecosystem accounts for 23% of all employment in Bulgaria's ecosystems, with "Retail" following closely behind at 18%. It's evident that Bulgaria has a strong presence in the "Agri-Food" ecosystem, as demonstrated by its share exceeding the EU27 average of 9%. Additionally, other ecosystems with a notable share compared to the EU27 level include "Textile" and "Aerospace & Defence". The regional significance of these industries is apparent in the sectoral and ecosystem nodes prevalent across Bulgaria's six NUTS 2 regions, as discussed in the section below.

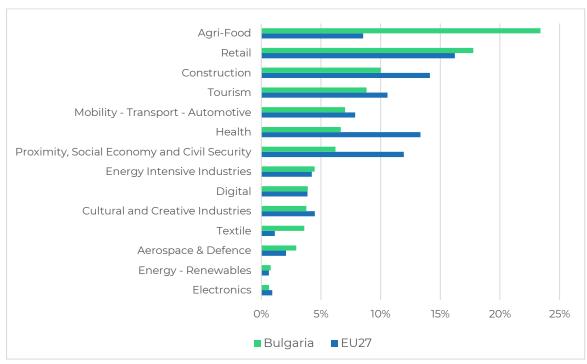


Figure 1: Employment in the ecosystems

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

² see European Commission (2021): Annual Single Market Report, SWD(2021)351.



¹ see here for more information https://clustercollaboration.eu/in-focus/industrial-ecosystems (last access 09.01.2023)

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.³ 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 47 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 (NACE)

Region	Number of nodes	Node 1	Node 2	Node 3	Node 4	Node 5
BG31: North- West (Bulgaria)	7	A02 - Forestry & logging	C14 - Manuf. of wearing apparel	A01 - Crop & animal production	D35 - Electricity, gas & steam	C31 - Manuf. of furniture
BG32: North- Central (Bulgaria)	8	A02 - Forestry & logging	C14 - Manuf. of wearing apparel	A01 - Crop & animal production	C31 - Manuf. of furniture	C10 - Manuf. of food products
BG33: North- East (Bulgaria)	8	A02 - Forestry & logging	A01 - Crop & animal production	C14 - Manuf. of wearing apparel	C23 - Manuf. of other non-metal mineral products	F42 – Civil engineering
BG34: South- East (Bulgaria)	10	B05 - Mining of coal & lignite	A02 - Forestry & logging	A01 - Crop & animal production	D35 – Electricity, gas, steam and air conditioning supply	C14 - Manuf. of wearing apparel
BG41: South- West (Bulgaria)	8	C14 - Manuf. of wearing apparel	N80 - Security, investigation activities	J61 - Telecommunicati ons	J62 – Computer programming, consultancy and related activities	M74 - Other prof., scientific, techn. activities
BG42: South- Central (Bulgaria)	6	A02 - Forestry & logging	C14 - Manuf. of wearing apparel	A01 - Crop & animal production	C22 – Manuf. of rubber and plastic products	C27 - Manuf. of electrical equipment

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

Overall, there are fewer numbers of ecosystem nodes compared to the regionally relevant sectoral nodes by NACE sectors. This more concentrated agglomeration can at least partially be linked to the methodology of measurement of the 14 industrial ecosystems. The manufacturing of wearing apparel (C14) is included in every region's most relevant sectoral nodes (NACE). This specialization can also be reflected in each region's regionally relevant node in the ecosystem "Textile". The ecosystem "Agri-Food" has a specialisation node for four out of the five Bulgarian regions (i.e. BG31: North-West, BG32: North-Central, BG33: North-East, BG34: South-East, BG42: South Central). In these regions, connections can be made with sectors, such as crop and animal production (A01), forestry and logging (A02), which all have sectoral specialisation nodes. It is also reflected in the country's overall strength in the industrial ecosystem "Agri-Food", as shown in Figure 1. For the region of South-West Bulgaria, which also includes the country's capital, sectors like security, investigation activities (N80), telecommunications (J61) and computer programming, consultancy and related activities (J62) make up most of the region's most relevant sectoral nodes (NACE) and are line with its other two regionally relevant ecosystem nodes ("Digital" and "Aerospace & Defense").

³ for more information on the methodology please see the methodology note: https://clustercollaboration.eu/infocus/policy-acceleration/country-factsheets-on-cluster-policies-and-programmes (last access 09.01.2023)



Table 2: Regionally relevant ecosystem nodes

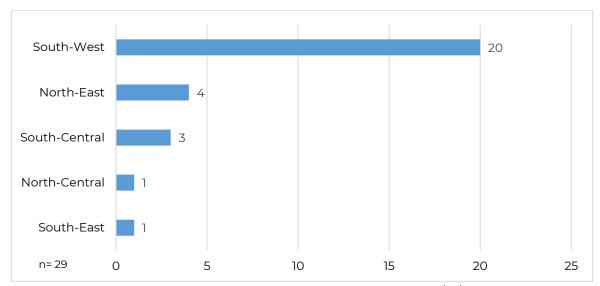
Region	Number of ecosystem nodes	Node 1	Node 2	Node 3
BG31: North-West (Bulgaria)	2	Textile	Agri- Food	-
BG32: North-Central (Bulgaria)	2	Textile	Agri- Food	-
BG33: North-East (Bulgaria)	2	Agri- Food	Textile	-
BG34: South-East (Bulgaria)	2	Agri- Food	Textile	-
BG41: South-West (Bulgaria)	3	Textile	Digital	Aeroespace & Defense
BG42: South-Central (Bulgaria)	3	Textile	Agri- Food	Energy-Intensive Industries

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

Cluster organisations in the regions

There are 29 cluster organisations registered on the ECCP in the country. The majority (20 cluster organisation) of cluster organisations with profiles on the ECCP are located in the region South-West followed by 4 organisations in North-East and three organisations in South-Central. 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.

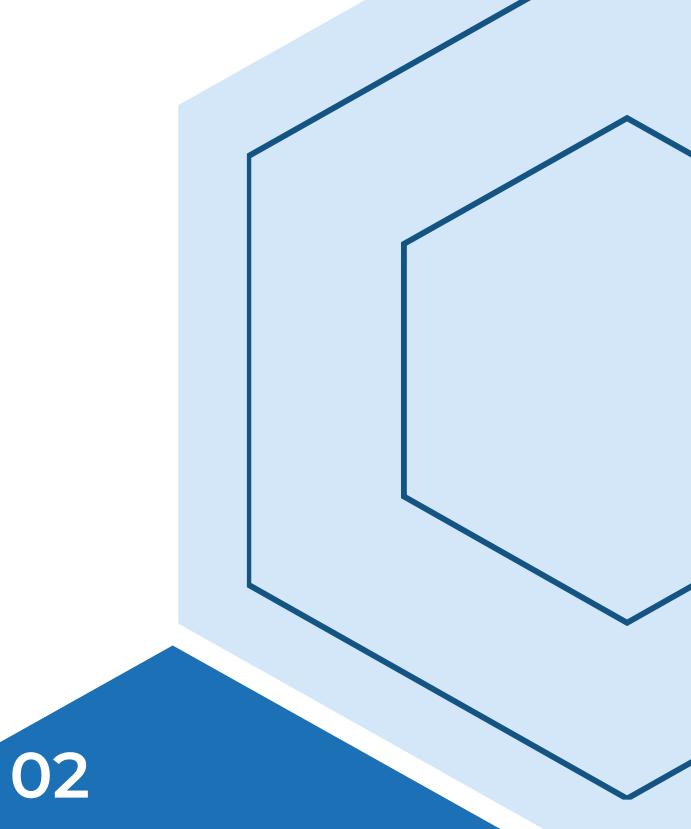
Most member organizations of Bulgarian cluster organizations with profiles on the ECCP are composed of SMEs (79%, EU: 84%), followed by large enterprises (11%, EU: 9%) and research organisations (10%, EU: 7%). From a thematic perspective, these Bulgarian cluster organisations are operating in the following 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.

• Digital (9 cluster organisation)



- Renewable Energy (4 cluster organisation)
- Mobility-Transport-Automotive (3 cluster organisation)
- Creative & Cultural Industries (2 cluster organisation)
- Health (1 cluster organisation)
- Aerospace & Defence (1 cluster organisation)





National cluster policy, programmes and initiatives





2. National cluster policy, programmes and initiatives

In this section we provide an overview of the existing Bulgarian cluster policies on a national level.

The breakdown is presented in the form of a table, with the first column showcasing information on the aspects which constitute the policy (beginning with 'Policy Objectives', following with 'Policy Focus', etc.). The second and third column represent the cases of a Bulgarian broad policies. This factsheet showcases a new broad policy in Bulgaria, which also deals with cluster development, named National Development Programme Bulgaria 2030. To gain an insight to 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 Bulgaria.

Policy type:	Broad policy	Broad policy
Policy name:	Innovation Strategy for Smart Specialisation	National Development Programme Bulgaria 2030
POLICY OBJECTIVES	Increasing competitiveness and boosting scale up of SMEs Supporting internationalisation activities Fostering R&D activities, technology development and implementation Fostering innovation and strengthening innovation ecosystems Supporting the creation of new cluster organizations Promoting entrepreneurship, start-ups and spin-offs Promoting resilience and sustainable economy and other solidarity-based initiatives Promoting employment and upgrading skills and competences	Strengthening cooperation between companies or industry and RTDI actors Increasing competitiveness and boosting scale up of SMEs Supporting internationalisation activities Fostering R&D activities, technology development and implementation Fostering innovation and strengthening innovation ecosystems Supporting the creation of new cluster organizations Promoting entrepreneurship, start-ups and spin-offs Promoting resilience and sustainable economy and other solidarity-based initiatives

Policy type:	Broad policy	Broad policy
Policy name:	Innovation Strategy for Smart Specialisation	National Development Programme Bulgaria 2030
	Enhancing territorial cohesion (through RIS3) Strengthening the network of cluster organisations/cross- clustering	Promoting employment and upgrading skills and competences
	The Strategy invests in effective policy to promote R&D, innovation, and the development of human capital (training and entrepreneurship), investing in high-tech areas that have based on Bulgaria's existing strengths, and the focus on developing and promoting Bulgarian exports.	Policy focuses on three strategic goals: accelerated economic development, demographic upswing and reduction of inequalities as a response and need for adaptation to the transforming world through its highly educated, creative, supportive and healthy society ⁴ .
POLICY FOCUS	Cross-sectoral	Cross-sectoral
	The Strategy focuses on technology sectors that conduct scientific research and development including: mechatronics and clean technologies, information and communications technologies, biotechnology, nanotechnology, creative industries, pharmaceuticals, and food.	The programme focuses on development and implementation of innovations in every sector of the economy. Strategy adresses 13 priorities in various sectors: • Education and skills, • Science and scientific infrastructure, • Smart industry, • Circular and low-carbon economy, • Clean air and biodiversity, Sustainable agriculture, • Transport connectivity, • Digital connectivity, • Local development, • Institutional framework,

⁴ National Development Programme Bulgaria 2030. Available at: https://www.minfin.bg/en/1394 (last accessed 28.11.2022).

Policy type:	Broad policy	Broad policy
Policy name:	Innovation Strategy for Smart Specialisation	National Development Programme Bulgaria 2030
		 Social inclusion, Health and sport, Culture, heritage and tourism⁵.
RESPONSIBLE AUTHORITIES	Both drafting and implementation	Both drafting and implementation
<u> </u>	Provides funding	Provides funding
I	Oversees the implementation	Oversees the implementation
	The Strategy follows a specific organisational structure governed by the Council of Ministers, which is advised by the Council for Smart Growth. The strategy implementation involves multiple ministries, coordinated by the Inter-Institutional Working Group for Coordination of Measures for Development of Innovation. The Ministry of Economy and Energy coordinates the policies of the responsible ministries through a peer network as well as regional level policy coordination through a partnership network at the regional level.	The Development Council of the Council of Ministers will continue to be the responsible authority for monitoring, controlling and reporting the implementation of BULGARIA 2030.
BENEFICIARIES	SMEs	SMEs
@-@ @-Z	Cluster organisation	Cluster organisation
	Research organisations	Research organisations
	Academic institutions	Academic institutions
	Start-ups	Start-ups
	Business associations	Technology centres

⁵ Vision, Goals and Priorities of the National Development Programme BULGARIA 2030. Available at: https://www.minfin.bg/en/1394 (last accessed 25.01.2023).



Policy type:		Broad policy	Broad policy
Policy name:		Innovation Strategy for Smart Specialisation	National Development Programme Bulgaria 2030
		Large firms Technology centres General population	General population
		The Strategy seeks to improve human capital and entrepreneurship, promotes R&D and innovation activities with institutions, and focuses on developing firms of all sizes through existing strong clusters and their organisations.	The policy focus on enterprise financing, with a particular accent on small and medium-sized enterprises, as well as innovative start-ups, targeting the development, production and sustainable marketing of innovations through start-up funds, as well as venture capital funds for the subsequent stages of enterprise development. Also funding for R&D-performing public research organizations will be provided under programme, for stimulation and acceleration of the process of development and implementation of innovations in different sectors of the economy.
INSTRUMENTS	Financial	Funding collaboration initiatives Support to R&D projects, SMEs becoming cluster members, etc. Subsidies to hire personnel Supporting market entry (e.g. testing, proof-of concept, prototyping, demonstration projects) Innovation: voucher, support to hire PhDs, cooperation with R&I actors	Funding collaboration initiatives Financing network events Financing start-ups Innovation: voucher, support to hire PhDs, cooperation with R&I actors
	Technical assistance	Infrastructure: coworking spaces, offices, incubation and accelerator spaces, research centres, technology parks etc.	Infrastructure: coworking spaces, offices, incubation and accelerator spaces, research centres, technology parks etc.



Policy type:		Broad policy	Broad policy
Policy name:		Innovation Strategy for Smart Specialisation	National Development Programme Bulgaria 2030
		Support for hard skill development: knowledge transfer, intellectual property, entrepreneurship, export advice, market intelligence	Support for hard skill development: knowledge transfer, intellectual property, entrepreneurship, export advice, market intelligence
		Support for soft skills development: coaching, management training, upskilling/reskilling	Support for networking and partnership building (at national and/or international level)
		Support for networking and partnership building (at national and/or international level)	
		Others: Broadband internet for residential and business uses and government	
	Explanation	The Strategy is jointly financed by the state and the European Union Operational Programme. There is also expected private expenditures for R&D and by non-profit organisations. The funding is based on the goal of 1.5% of GDP expenditures on R&D by 2020.	The set of selected measures is focused on the support of research and innovation activities, small and medium-sized enterprises, general population, collaboration initiatives, internationalization of enterprises and country, etc.
HISTORY	Period	Limited period	Limited period
	Ending year (for policies with limited period)	2020	2030
	Starting year	2014	2020
	Explanation	The time period aligns with the implementation of other national policies (e.g., National Strategy for Scientific Research 2020, National Roadmap for Research Infrastructure) as well as the timing of the European Union Operational Programmes. The Innovation Strategy for Smart	National Development Programme BULGARIA 2030 builds on the vision, goals and priorities for the socio-economic development of Bulgaria in the period 2021- 2030, approved by Decision of the Council of Ministers No. 33 of 20.01.2020.



Policy type:		Broad policy	Broad policy
Policy name:		Innovation Strategy for Smart Specialisation	National Development Programme Bulgaria 2030
		Specialisation 2021-2027 will define five thematic areas in which Bulgaria has a competitive advantage and capacity for smart specialisation: 1) informatics and ICT, 2) mechatronics, 3) industry for a healthy lifestyle and biotechnology, (4) new technologies in creative and recreative industries and 5) clean technologies, circular and low-carbon Economy. The new strategy has not yet been implemented.	
BUDGET	Overall	EUR 1.37 billion	No information available
	Annual	Varies from EUR 180 million (2019-2021 annually) to EUR 230 million (2018)	No information available
	Source of funding	The Strategy is jointly financed by the state (47.9%) and the European Union Operational Programme (52.7%)	State budget, European funds and instruments, International Funds and Investments from the business, including budget of BSA, SAA and higher education institutions
POLICY	Availability	in-itinere	ex-ante
EVALUATION	Results	The Strategy outlines the annual report evaluations with output, outcome, and impact indicators (e.g., number of enterprises collaborating with R&D institutions and university-industry collaboration in R&D) but no current annual report or evaluation has been publicly released.	The macroeconomic model Simulation of Bulgaria's Investment in Long-Term Advance 2.0 (SIBILA 2.0) was used to quantify the macroeconomic effects of the full implementation of the policies set out in BULGARIA 2030. The overall effect of the measures and policies set out in the National Development Programme BULGARIA 2030 is expected to be strongly positive. The positive effects in the long term will be linked both to an increase in the extensive characteristics of production and to an improvement in the quality component of the inputs. Increasing the intensive characteristics of growth throughout the country will be based on the new technologies deployed and the increased skills and employability of the employed labour resource. As a result, the

Policy type:	Broad policy	Broad policy
Policy name:	Innovation Strategy for Smart Specialisation	National Development Programme Bulgaria 2030
		economy will position itself on a higher trajectory of economic growth. For the simulated time horizon 2021-2030, the calculated effects give reason to expect a significant expansion of the country's production, with results indicating an additional GDP growth of 33.4% by the end of 2030 compared to the baseline scenario. This will allow the Bulgarian economy to achieve accelerated convergence of living standards as measured by the GDP per capita indicator in the SPS and in particular to reach 75% of the average GDP level in the Union.
POLICY ALIGNMENT WITH THE	Green economy	Green economy
EU PRIORITIES	Digitalisation	Digitalisation
	Resilience	

03 State of play of cluster policy



3. State of play of cluster policy

This section presents an overview on the state of play of Bulgarian 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.

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 that they can reach. Please refer to the **Annex** for the detailed overview of the categories and the scoring system.

The table below presents an overview of the **maturity assessment for Bulgaria** for 2022. The total score of Bulgaria is 1,5 points out of 8.

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

Source: ECCP (2022)

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

Policy Scope

Continuity

Evidence of Performance

Cluster Support Instruments

0,0 0,5 1,0 1,5 2,0

Figure 3: Maturity of cluster policy - Bulgaria

Source: ECCP (2022)

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

Policy scope

In Bulgaria no national cluster policy is in place. There are only broad policies addressing also objectives in area of cooperation and networking. Such broad policies are Innovation Strategy for Smart Specialization (which support development and creation of cluster organization, cooperation of SMEs and networking etc.) and National Development Programme Bulgaria (supporting creation and development of clusters and innovation ecosystems, cooperation between SMEs and RTDI organizations etc.).

Continuity

Bulgarian broad policies that support cluster development began officially in 2004 and have since continued. However, the support has been provided through broader policies. With the support of the Bulgarian government, the first cluster organisation was registered as a non-profit in 2004. Since then, Bulgaria has developed the following broad policies: National Innovation Strategy (2004); National Strategy for Investments (2005-2010); OP Regional Development (2007-2013); National Strategy for the Promotion of SMEs (2007-2013), the Innovation Strategy for Smart Specialisation of the Republic of Bulgaria for the Period 2014-2020 and most recently adopted National Development Programme Bulgaria 2030. The Innovation Strategy for Smart Specialisation 2021-2027 and National Development Programme Bulgaria 2030 have not yet been implemented.



Recently, development and creation of clusters in country is supported only through broad policies: Innovation Strategy for Smart Specialisation (2014-2020) and National Development Programme Bulgaria 2030 (2020-2030), which support cluster development.

Evidence of performance

The National Strategy for Regional Development (2005-2015) was evaluated in 2010. The interim evaluation report (no final evaluation was publicly released) found that the part of the Strategy related to clusters, Priority 1 (Increasing the regional competitiveness of the basis of the knowledge economy) was not progressing well. The projects under the Regional Development Operational Programme were not confirmed while 40 projects valued at over EUR 21 million were under the Human Resources Development Operational Program. As a result, the programmes did not fully cover the objectives outlined in Priority 1 and only 6% of the budgeted amounts were paid out in project funding.

The macroeconomic model Simulation of Bulgaria's Investment in Long-Term Advance 2.0 (SIBILA 2.0) was used to quantify the macroeconomic effects of the full implementation of the policies set out in BULGARIA 2030. The overall effect of the measures and policies set out in the National Development Programme BULGARIA 2030 is expected to be strongly positive. The positive effects in the long term will be linked both to an increase in the extensive characteristics of production and to an improvement in the quality component of the inputs. Increasing the intensive characteristics of growth throughout the country will be based on the new technologies deployed and the increased skills and employability of the employed labour resource. As a result, the economy will position itself on a higher trajectory of economic growth. For the simulated time horizon 2021-2030, the calculated effects give reason to expect a significant expansion of the country's production, with results indicating an additional GDP growth of 33.4% by the end of 2030 compared to the baseline scenario. This will allow the Bulgarian economy to achieve accelerated convergence of living standards as measured by the GDP per capita indicator in the SPS and in particular to reach 75% of the average GDP level in the Union.

Cluster support instruments

Among Bulgaria's broad policies support instruments are also instruments for creation and further development of clusters, e.g. support for cooperation and collaboration activities, networking of actors engaged in economic activities in the same or related industries, development of innovations, etc.

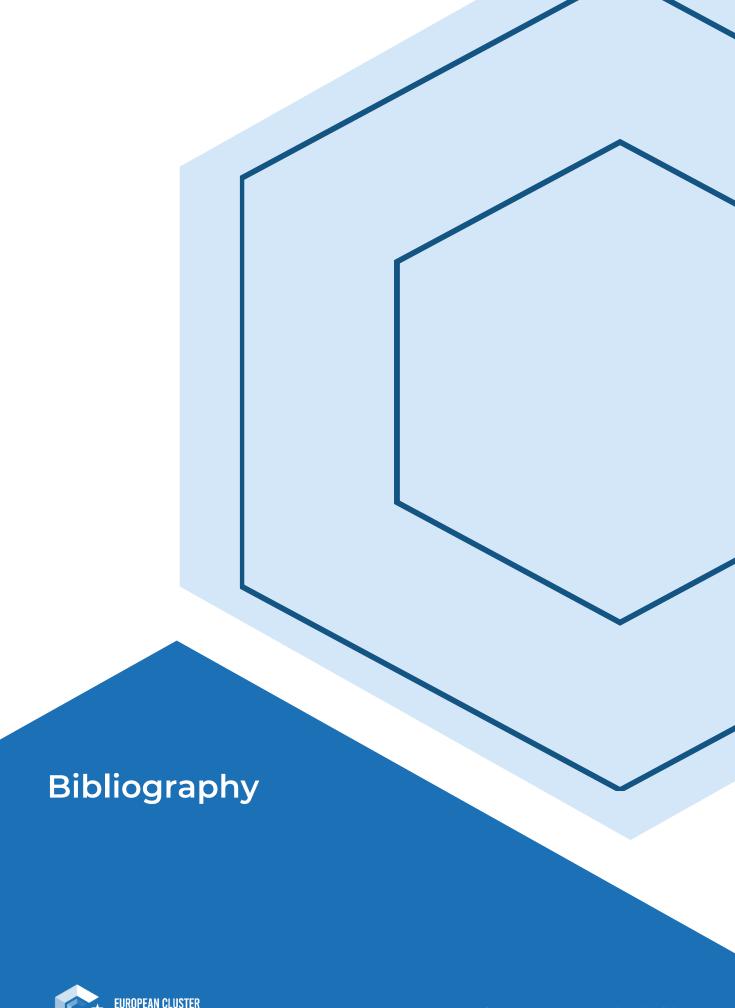
Cross-regional / international cooperation

In the 2014-2020 funding period, the European Cluster Partnerships and the INNOSUP-1 initiative have been launched by the European Commission to encourage clusters from Europe to intensify collaboration across regions and sectors. Bulgarian cluster organizations have been involved in eighteen consortia of the European Strategic Cluster Partnerships out of which ten partnerships were focusing on internationalization (ESCP-4i), six partnerships were on cluster management excellence (ESCP-4x) and three partnerships were on smart specialization (ESCP-S3). Consortia partners came from 19 different states (ES, FR, DE, PL, LT, PT, RO, IT, HU, RS, DK, EL, CZ, AL, MK, LV, BE, SE, SI). One Bulgarian cluster organization participated in the INNOSUP-1 initiative with partner organizations coming from 8 countries (DE, ES, FI, IE, IT, RO, TR, UK).

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 Bulgaria, three cluster organisations are part of three Euroclusters with partners from ten countries (SK, AT, IT, ES, RO, FR, NL, SE, DE, PT). These Euroclusters, namely AEC Eurocluster, RE-CENTRE, and Silicon Eurocluster, collectively cover four industrial ecosystems. RE-Centre is covered by two ecosystems, namely "Digital" and "Cultural &



Creative Industries", while the other two are covered by one ecosystem each. Specifically, AEC Eurocluster is covered by "Construction", while Silicon Eurocluster is covered by "Electronics".





Bibliography

Ivanov, C. (2019). Internationalization of Bulgarian Clusters. Management of Organizations: Systematic Research, 82:1, 25-35. Available at :

https://www.researchgate.net/publication/340796407_Internationalization_of_Bulgarian_Clusters (Accessed 25.01.2023.)

Republic of Bulgaria, Ministry of Economy (2015). Innovation strategy for smart specialization of the Republic of Bulgaria 2014-2020 (IS3). Available at :

www.mi.government.bg/files/useruploads/files/innovations/ris3_26.10.2015_en.pdf. (Accessed 25.01.2023.)

Republic of Bulgaria, Ministry of Economy (2017). Innovation strategy for smart specialization of the Republic of Bulgaria 2014-2020 (IS3). Available at:

https://mi.government.bg/files/useruploads/files/innovations/ris3_final_27062017_eng.pdf (Accessed 25.01.2023.)

Republic of Bulgaria, Ministry of Finance (2020). National Development Programme BULGARIA 2030. Available at:

https://www.minfin.bg/upload/46720/National%2BDevelopment%2BProgramme%2BBULGAR IA%2B2030.pdf (Accessed 25.01.2023.)

Republic of Bulgaria, Ministry of Finance (2020). Vision, Goals and Priorities of the National Development Programme BULGARIA 2030. Available at:

https://www.minfin.bg/upload/43546/Bulgaria+2030_EN.pdf (Accessed 25.01.2023.)

Republic of Bulgaria, Ministry of Regional Development and Public Works (2012). National Regional Development Strategy (NRDS) of the Republic of Bulgaria for the period 2012-2022. Available at:

https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.mrrb.bg%2Fstatic%2Fmedia%2Fups%2Farticles%2Fattachments%2F1476622bc52eb77de80df124a0203604.doc&wdOrigin=BROWSELINK (Accessed 25.01.2023.)

Slavoa, I. and Bankova, Y. (2016). National cluster policy in Bulgaria: Nature and main characteristics. Izvestiya, 60:2, 185-200. Available at :

https://ideas.repec.org/a/vrn/journl/y2016i2p185-200.html (Accessed 25.01.2023.)

Strategma Agency Ltd. and Republic of Bulgaria, Ministry of Economy (2016) Technology roadmaps for the thematic areas, defined in the innovation strategy for smart specialization of the republic of Bulgaria 2014-2020. Available at:

https://www.mi.government.bg/files/useruploads/files/innovations/trms_3rev_final_en.pdf (Accessed 25.01.2023.)

Strategma Agency Ltd. and Republic of Bulgaria, Ministry of Regional Development and Public Works (2010). Interim evaluation and report on the implementation of the National Regional Development Strategy for the period 2005-2015.

UK Science & Innovation Network (2021). Country Snapshot: Bulgaria. Available at: https://www.gov.uk/government/publications/uk-science-and-innovation-network-country-snapshot-bulgaria (Accessed 25.01.2023.)



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)