

Transnational clusters and the Danube macro-regional strategy

SUMMARY

As geographical concentrations of enterprises, which work together in the same field to develop a high level of expertise, services and skills, clusters are hotbeds of innovation and play an important role in the EU economy. Known as transnational clusters when they involve actors from two or more countries in the same geographical area, clusters tend to generate higher employment growth than firms located outside clusters, and are estimated to account for a significant proportion of jobs in the European Union. Linking countries from across a wide geographical region, the EU's macro-regional strategies provide a useful framework to support transnational clusters.

Launched in December 2010, the EU strategy for the Danube region (EUSDR) covers 14 countries that differ both in terms of their development and their relationship with the EU, including nine EU Member States and five third countries. With one of the major challenges in the Danube region being the uneven levels of innovation performance between the highly developed western part of the region and the less-developed east, transnational clusters have the potential to help redress this balance and to increase regional competitiveness. The development of clusters is firmly supported by the EUSDR's action plan, which outlines a number of actions to foster clusters across the Danube region. This has led to several cluster projects, with a particular emphasis on the bio-based and agri-food sectors, building on the expertise of local enterprises in this field.

The European Commission and academic experts have welcomed the progress made in the development of clusters in the Danube region in recent years, yet challenges remain, with issues such as funding difficulties, the lack of visibility of macro-regional strategies and declining political commitment all causes for concern. Future discussions on the content of cohesion programmes post-2020 provide a golden opportunity to highlight the potential of macro-regional strategies for fostering regional development and how transnational clusters can contribute to this process.

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In this Briefing

- Defining clusters
 - Clusters and smart specialisation
 - EU support for regions to design cluster policies
- Macro-regional strategies
 - Danube macro-regional strategy
 - Clusters in the Danube region
- Assessing clusters in the Danube region
- Conclusions

Defining clusters

Compared to other industrial policy concepts, which often focus on specific sectors, clusters have a much broader scope, and are generally understood to denote an interdependent environment in which industries and skills come together in a fixed geographical area. Clusters are defined as groups of businesses, mostly small and medium-sized enterprises (SMEs), which are specialised in a given field and cooperate with other related economic actors and institutions. These actors are located in the same geographical area in relative proximity to one other and work together to develop a high level of specialised expertise, services, resources and skills. Clusters may be interpreted as being both a concept and an economic phenomenon, as their outputs, such as the level of concentration of employment, are measurable. Clusters which involve actors from two or more countries in the same geographical area are referred to as transnational clusters.

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Cluster initiatives are organised actions which aim to support the competitiveness of a cluster. Cluster initiatives are composed of practical measures that support the ability of clusters to organise themselves and support the future shape of a cluster.

Cluster organisations, also referred to as cluster managements, are legal entities whose aim is to support and strengthen collaboration and networking between SMEs and related actors. Cluster organisations also provide innovation support by delivering relevant specialised business support services in order to stimulate innovation activities.

Source: [Smart guide to cluster policy](#).

As geographical concentrations of firms that are active in related fields and have access to the same labour market, clusters play an important role in the EU economy. Clusters are much more than a simple structure set up for the purpose of networking: according to the [European Cluster Observatory](#), economic activities located in clusters account for 39 % of all EU jobs and 55 % of wages, making a significant contribution to the EU economy, particularly at regional level. Crucially, successful clusters tend to generate higher employment growth than firms located outside clusters.

The importance of clusters and cluster initiatives for the economy and development can be explained with the help of cluster mapping methodology, which distinguishes between two types of industries: traded industries, located in agglomerations in a specific location that may also serve other markets, and local industries, which are exposed to direct competition in regions and which do not tend to cluster together. Traded industries located in clusters are considered to be a key driver for innovation and growth, with such industries generating as many as 87 % of all patents. Moreover, traded industries, on average, score higher rates in terms of productivity, wages and overall higher productivity growth rates.

Clusters and smart specialisation

Clusters in the EU are considered to have a strong link with smart specialisation strategies (RIS3 or S3), whose aim is to support the implementation of a more targeted innovation policy. Research and innovation strategies for smart specialisation (RIS3) were included in the EU cohesion policy for the current programming period as a supporting tool for the European structural and investment funds, with Member States and their regions called on to develop individual national and regional research and innovation strategies. These strategies provide guidance on how to deliver place-based economic transformation, which can drive innovation-related investments at national and regional level. The RIS3 are built around the individual strengths of each country or region and on their competitive advantages and growth potential. Stakeholders are encouraged to participate actively, with RIS3 providing the relevant policy support and investment to address the challenges and needs set out under their national or regional key priorities.

Smart specialisation strategies are closely linked to the goals of the Europe 2020 strategy. To achieve these goals, investments focus on four key priority areas: innovation and research; the digital agenda; support for small and medium-sized businesses and, lastly, the low carbon economy. Clusters can be beneficial for smart specialisation strategies to achieve these goals, as they are seen as a useful tool for establishing and delivering smart specialisation strategies. In addition, through interregional cooperation, both cluster policies and smart specialisation strategies can create new business opportunities, particularly for SMEs. The presence of clusters can contribute to the process of developing a location's opportunities for structural change, considered to be one of the key priorities of numerous smart specialisation strategies.

EU support for regions to design cluster policies

The European Union encourages the development of clusters through a variety of platforms and instruments that support current and future cluster policy initiatives. With a long-term goal of becoming Europe's leading hub for international cluster cooperation, the [European Cluster Collaboration Platform \(ECCP\)](#) serves as an information platform providing a range of different cluster related services. Funded by the European Commission's Competitiveness of Small and Medium-Sized Enterprises (COSME) Framework Programme, the ECCP was designed mainly for cluster organisations but can also serve as a valuable tool for cluster members, such as SMEs, or cluster policy-makers at regional, national and international level. The ECCP considers itself to be an open and well connected platform for stakeholders worldwide, with a focus on certain third countries of specific strategic interest.

Operating as a single access point for statistical information, the [European Cluster Observatory \(ECO\)](#) is another EU support service for clusters, which seeks to promote the development of a high number of world-clusters in Europe by increasing competitiveness and entrepreneurship within clusters and by facilitating the process whereby SMEs become cluster members. Its main objective is to help Member States and regions develop smart specialisation and cluster strategies. Thanks to its support, Member States and regions are able to assist companies and institutions with the development of globally competitive advantages in emerging industries through clusters, fulfilling their contribution towards achieving the Europe 2020 strategy goals.

The importance of clusters for EU development was recognised in the Council [conclusions](#) of 12 March 2018 on EU industrial policy strategy for competitiveness, growth and innovation, which called for the further development of the European cluster policy, with the aim of linking and scaling-up regional clusters into cross-European world-class clusters, based on smart specialisation principles, in order to support the emergence of new value chains across Europe. Linking countries from across a wide geographical region, the EU's macro-regional strategies can provide a useful framework to support the development of transnational clusters.

Macro-regional strategies

One of the European Union's principal instruments for promoting European territorial cooperation, macro-regional strategies bring together regions from Member States and third countries that are faced with a common set of challenges. Whether driven by a sense of regional identity, a desire to engage in closer cooperation or to pool resources, all macro-regional strategies have a common aim: to deliver a coordinated approach to issues best tackled together. With the concept of macro-regional strategies defined in the [Common Provisions Regulation](#), macro-regional cooperation has been strengthened by the introduction of a new requirement for Member States to take account of macro-regional strategies when programming structural funds during 2014-2020, and is now firmly rooted within the EU's institutional framework, with a total of 19 Member States and eight third countries participating in such strategies across Europe.

Launched in 2009, the EU's first macro-regional strategy, the strategy for the Baltic Sea (EUSBSR), has spawned a further three macro-regional strategies: the Danube strategy, the Adriatic-Ionian

strategy and the Alpine strategy, with discussions also ongoing to establish a Carpathian strategy. Although the issues covered by macro-regional strategies vary from one geographical area to another, priority is given to matters of strategic importance including challenges where closer cooperation is vital, such as environmental protection, and opportunities, where cooperation is of mutual benefit, e.g. in research and innovation. It is in this context that macro-regional strategies such as the Danube macro-regional strategy can act as a platform for the development of closer cooperation between countries in the area of R&I through the establishment of transnational clusters, which can help drive regional competitiveness and foster regional development.

Guiding principles

Macro-regional strategies are guided by three basic rules:

- No new EU funds,
- No additional EU structures,
- No new EU legislation.

The idea is to better align existing funds and policies at EU, national and regional level and to rely on existing bodies for implementation.

Danube macro-regional strategy

Initiated through the adoption of a [communication](#) and [action plan](#) by the European Commission in December 2010, the EU strategy for the Danube Region (EUDSR) covers 14 countries that differ both in terms of their development and their relation to the EU, comprising nine EU Member States and five third countries. The EUDSR is based on four main pillars which are further divided into 12 priority areas (PA). **Connecting the region** covers issues such as improving inland navigation along the Danube and promoting culture and tourism; **Protecting the environment** seeks to restore and maintain water quality, among other issues; **Building prosperity** aims to develop the knowledge society; while **Strengthening the region** focuses on improving decision-making capacity and structures in the public and private sector.

On funding, support is available under the European structural and investment funds (ESIF), with the [Danube transnational programme](#) providing total EU funding of €231 million, including €202 million under the European Regional Development Fund (ERDF) and an additional €20 million from the Instrument for Pre-Accession Assistance (IPA), used to fund projects in the region. Other EU funding, such as Horizon 2020 or the [European Neighbourhood Instrument](#), may also be drawn upon, depending on the policy area and countries involved.

The development of clusters, as well as the creation of excellence centres, is firmly supported by the EUDSR action plan. The strategy's third pillar on 'building prosperity in the Danube region', outlines a number of actions to foster clusters, with Priority area 8 aiming to support the competitiveness of enterprises, including cluster development. One example of such an action is 'To foster cooperation and exchange of knowledge between SMEs, academia and the public sector in areas of competence in the Danube region', which will be implemented by developing clusters, through the construction of new, or the use of existing, technology parks, as well as by fostering cooperation in areas where specialist knowledge exists in the Danube region.

With the Danube region covering both some of Europe's top performing regions as well as regions that are lagging behind, the action plan

Figure 1 – Countries covered by the Danube region strategy



Source: [European Commission](#), 2011.

highlights the need to develop transnational cooperation networks involving institutions supporting innovation and business in various sectors.

As agriculture, rural and traditional enterprises are to be found in large numbers in the Danube region, the EUSDR action plan also draws attention to the benefits of technological and organisational modernisation for the sector, with the Danube Transnational Programme providing funding for clusters such as DanuBioValNet, which specifically targets the agri-food sector (see below).

The development of transnational clusters is currently high on the political agenda of the countries in the EUSDR, as highlighted by Romania's [priorities](#) during its current presidency of the Danube macro-regional strategy, which include fostering transnational cluster development through support for the exchange of best practices between the various entities involved in the EUSDR. This should help provide the necessary impetus to move forward during the next few months by encouraging greater commitment at political level to support cooperation in the field of cluster development and to further build on the November 2016 [joint statement](#) of Ministers for Research and Innovation of EUSDR countries, which supported the further development and implementation of research and innovation strategies for smart specialisation and closer networking.

Clusters in the Danube region

An interesting overview of clusters active in the Danube region is provided in the March 2018 [study](#) published by the European Secretariat for Cluster Analysis (ESCA). A benchmarking exercise covering over 320 cluster initiatives across Europe, the study compares clusters in the Danube region with their European peers, which makes it possible to draw conclusions regarding possible areas for improvement by identifying aspects that may require further support to ensure the successful future development of clusters in the region.

Danube S3 cluster

Transnational cluster cooperation in the agri-food sector based on a smart specialisation approach

Launched in July 2018 with a total budget of €1.79 million, the main aim of the Danube S3 cluster is to stimulate the innovation-driven entrepreneurial environment in the Danube through the development of smart cluster policies in relation to RIS3, to improve innovation management skills and knowledge and to foster transnational cluster cooperation in the agri-food sector. It has three specific objectives: Develop cluster policies and implementing instruments (SO 1), which will deliver five regional pilot initiatives in four cross-cutting themes; Enhance innovation management and knowledge (SO2), which will develop two innovation assessment tools and provide three training courses; and Foster cooperation for clusters active on agri-food (SO3), which will elaborate the strategy and programme for the Danube S3 cluster and deliver three training courses and two brokerage events. Planned activities include the development of a transnational training programme and the formulation of specific policy recommendations.

DanuBioValNet

Cross-clustering partnership to boost eco-innovation through a bio-based valued-added network

Set up in January 2017 with a total budget of €2.32 million, the DanuBioValNet project brings together 16 partners from 10 Danube regions with the aim of strengthening the transition from a fossil-based economy to one based on renewable resources through the creation of bio-based value-added networks in the Danube region. Focusing on three high potential bio-based value chains – phytopharma, eco-construction and bio-based packaging (bioplastic) – DanuBioValNet aims to establish new tools, strategies and methods to help connect SMEs, research institutes and farmers from across the bio-based sector. The project's main deliverable involves the development of a joint bio-based industry cluster policy strategy, a long-term industry-led plan for cooperation in the sector, with the partnership also planning to establish new bio-based value chains in the region and eco-innovations to support regional development.

As noted in the study, the number of participants in a given cluster is vital for ensuring that a cluster can reach critical mass. Critical mass is necessary to ensure minimal levels of interaction between cluster participants and to provide valuable input that can make a genuine contribution to regional development. With an average of 35 committed participants, clusters in the Danube region have, on average, half the number of participants of their European peers. One possible reason put forward for this low number is the lack of appropriate funding conditions in the Danube region. According to the authors of the report, a minimum of between 30 and 40 participants is needed for a cluster to be beneficial, which suggests that clusters in the Danube region could be operating at the minimum level needed to provide tangible results.

An important element for ensuring good cooperation within cluster initiatives is the composition of the cluster participants involved, with the study highlighting that the lack of certain key stakeholders or skills can adversely impact a cluster's capacity for innovation. Interestingly, despite the difference in size between clusters in the Danube region and those in other EU regions, there is little difference in terms of the composition of the cluster participants, with industry participants, especially SMEs, dominating cluster makeup in both the Danube region and the EU as a whole.

When it comes to the financial sources of cluster organisations, the study identifies a number of key differences between clusters in the Danube region and their European counterparts. Its findings reveal that, with 44 % of their budget coming from public sources, cluster initiatives in the EU as a whole are much more reliant on public funding than their Danube peers, where such funding accounts for only 29 % of the total budget. Equally, clusters in the Danube region have a substantially higher level of private funding sources than their counterparts in the EU28. With the study highlighting the importance of drawing on a broad range of funding sources for ensuring the sustainability of a given cluster organisation, this suggests, at first sight, that clusters in the Danube region have a solid funding basis on which to carry out their activities. This is an oversimplification, however, as questions remain regarding the sustainability of the funding sources for clusters in the Danube region in the period beyond 2020. A further key difference between clusters in the Danube and their peers in the EU28 concerns the public visibility of cluster initiatives. Highlighting the importance of high cluster visibility for attracting new participants, getting policy-makers on board and participating in international cooperation projects, the study notes that cluster initiatives in the EU28 have a much larger media presence than their Danube peers. Given the importance of such reputation building for raising awareness among potential partners about clusters and their achievements, these findings suggest there is a need for clusters in the Danube region to take more action in this area if they are to grow in size to increase their critical mass and fulfil their potential.

Assessing clusters in the Danube region

Hailing the establishment of the Danube Funding Coordination Network, which promotes joint funding for R&I actions, as a remarkable achievement, the European Commission's [staff working document](#) accompanying its 2019 report on the implementation of MRS notes how ties between research communities have been strengthened thanks to the research and innovation networks set up under the EUSDR. More specifically, it draws attention to the new methods and tools to support clusters for transnational working that are being developed under the Danube BioValNet project, which has also helped establish the joint bio-based industry cluster policy strategy. However, the European Commission identifies a number of challenges, not least the decline in political momentum behind the strategy and unsatisfactory levels of participation in the steering groups of many priority areas. It also highlights problems with funding and points to a lack of awareness of the added value of macro-regional cooperation, without which it considers innovative partnerships could be stifled and joint action hampered.

In general, the European Secretariat for Cluster Analysis's March 2018 [study](#) considers that remarkable progress has been made in recent years in the area of cluster development in the Danube region, given the challenging overall conditions for cluster development in the region brought on by the lack of stable cluster support schemes over many years. Nevertheless, while there has been substantial progress in the development of cluster initiatives in both the Danube region and across Europe, the study notes that the provision of professional services and sustainable financing continues to be a challenge, with funding problems further compounded by the lack of clarity as to the plans that policy-makers are making with regard to cluster initiative in the future.

European Committee of the Regions opinion on macro-regional strategies, such as the Danube region: a framework for promoting transnational clusters

Prepared following a request from the Romanian Presidency of the Council of the European Union, the European Committee of the Region's (CoR) 2019 [draft opinion](#) (rapporteur: Dainis Turlais, Latvia, ALDE) emphasises that clusters play an important role in increasing the wealth and competitiveness of regions and boosting their economic development, thereby contributing to territorial cohesion. The CoR believes that macro-regional strategies can help create an environment in which clusters can thrive and that, by their very nature, cross-border clusters facilitate cooperation across borders and across sectors, bringing different partners together. In this context, the Committee calls on the EU to give more support for transnational collaboration in its cluster policy, for example by helping to organise events to find international partners for clusters and through small-scale funding for testing and developing collaboration among clusters.

On the Danube macro-regional strategy, the CoR considers that there is a wide disparity in terms of innovation in the Danube region due to different framework conditions and a wide range of policies governing the research and innovation sector and calls therefore for better coordination of public policies in this area and for smarter and better focused investment. Noting that the relatively high growth in the small and medium-sized enterprise sector is one of the key factors behind the competitiveness of the Danube macro-region, the CoR argues that as clusters usually focus on SMEs and given the strong and positive link between regional innovation performance and regional competitiveness, this could present an opportunity for the region to boost its competitiveness. It considers that there is a need to strengthen the framework for the future development of clusters and urges the European Commission and the institutions implementing macro-regional strategies to draw conclusions, exchange experiences and come up with new mechanisms to support growth and competitiveness at macro-regional level, calling also for consideration to be given to developing a smart specialisation strategy for the Danube macro-region.

The funding issue is also highlighted in the 2018 stress-test synthesis [report](#) prepared by Gerd Meier zu Kocker within the framework of the DanuBioValNet project, which examines the interplay between smart specialisation and clusters. While noting that cluster initiatives are a recognised tool for increasing innovation and competitiveness and high on the policy agenda in the Danube region, the report argues that the reality of the situation is somewhat different, with 75 % of all cluster organisations polled stating that the budget they receive from their region is very low given the role and tasks of the cluster initiatives in question. The report considers that this raises significant concerns regarding the extent to which the cluster approach is understood and put into practice in the Danube region. A similar picture emerges when it comes to the sustainability of financing for cluster initiatives, with the report finding that cluster initiatives in the Danube region have, on average, fewer members and less capacity in terms of cluster management than the EU average. Noting that cluster initiatives that lack sufficient funding are unable to provide adequate support services, the report concludes that cluster initiatives with low capacities are barely able to fulfil their tasks as a tool for regional economic development.

On the issue of how clusters cooperate with policy-makers in the implementation of smart specialisation strategies, the report notes that even though cluster organisations are mostly encouraged to contribute to this process, such cooperation is largely top-down, as the final decision is made by policy-makers. Furthermore, with one fifth of all respondents stating that there is no cooperation whatsoever between policy-makers and cluster organisations, this raises questions as to the extent to which cluster initiatives are being harnessed as a tool for regional development.

The 2018 [report](#) of the DLA Project Management Agency on collaboration in the Danube macro-region in aligning funds for smart specialisation considers that DanuBioValnet has already delivered promising results during its first year of operation. However, it emphasises the need for the more focused promotion of partnerships between academia and industry at macro-regional level to help move the entrepreneurial discovery processes across the Danube region forward and thus narrow the research and innovation gap across the region. To achieve this, there is a need for joint funding efforts to encourage the participation of SMEs and industry, especially in those Danube countries that have lower research and innovation capacities.

Conclusions

With discussions on the details of cohesion programmes for the post-2020 period due to commence in the coming months, the partners involved in macro-regional strategies find themselves at a crucial turning point. As noted in the Commission's 2019 report on the implementation of macro-regional strategies, the preparation of programmes for the 2021-2027 period affords them a unique opportunity to demonstrate and increase their commitment to the priorities of these strategies, in particular by ensuring they are taken into account when setting the priorities of EU programmes. Retaining a high level of political commitment at national level among the participating countries will be key to ensuring the momentum needed to move forward with the Danube macro-regional strategy in the period beyond 2020. When it comes to clusters in the Danube region, challenges clearly remain, not least in areas such as the sustainability of financing sources, the extent of public funding or insufficient cooperation between clusters and policy-makers, with further action also needed to increase the visibility of the EUSDR and to improve communication about its activities.

Arguably, however, by bringing together partners from different countries, strengthening research and innovation capacity and increasing regional competitiveness, transnational clusters have the potential to help increase the visibility of and political commitment to the Danube macro-regional strategy by demonstrating the added value of the Danube macro-regional strategy and how it can make a real contribution to enhancing territorial cohesion in the region.

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eprs@ep.europa.eu (contact)

www.eprs.ep.parl.union.eu (intranet)

www.europarl.europa.eu/thinktank (internet)

<http://epthinktank.eu> (blog)

