EUROPEAN CLUSTER COLLABORATION PLATFORM

Clusters meet Regions' event "Clusters & regions fostering collaboration to deploy industry of the future on territories" – the case of Auvergne-Rhône-Alpes

The ECCP series of events "Clusters meet Regions"

Input paper

An initiative of the European Union

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Brussels, October 2023

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Executive Summary

The following paper presents observations on the Auvergne-Rhône-Alpes clusters landscape and outlines some key considerations for the future development of the region. These considerations may pose some open strategic questions, which can be addressed in the workshops of the "Clusters meets Regions" event. The following key takeaways are summarised below:

Context: Economic profile of the Auvergne-Rhône-Alpes region

- Auvergne-Rhône-Alpes is characterised by an **above European average in GDP** per capita which is reflected in the myriad of industries that contribute to a turnover of €291 billion and comprises 12.4% of national exports and 10.3% of national imports. Our analysis shows that the dominance of the service industry is mirrored in the top 10 sectors pertaining to employment and gross value added.
- Auvergne-Rhône-Alpes is classified as a "**Strong Innovator**" in the 2023 Regional Innovation Scoreboard, with above-average national & EU scores in categories like "International Publications" or "R&D expenditures in the public & business sector", highlighting its strengths in research, science-driven development, and successful knowledge transfer to the private sector.

Clusters in the Auvergne-Rhône-Alpes region and their importance for regional economic development

- Auvergne-Rhône-Alpes reports the **highest number of cluster organisations** (19 registered on the ECCP) in France and is among the Top-10 of all regions of the European Union.
- Empirical insights from the European Cluster Panorama 2021 and Ketels and Protsiv (2021) emphasise how clusters can have a significant impact on economic growth and innovative business activity within regions. Furthermore, a range of studies specifically highlight the **role of cluster organisations** in Auvergne-Rhône-Alpes.

Cross-border cooperation and the involvement of Auvergne-Rhône-Alpes clusters in European networks and support initiatives

- In total, **12 cluster organisations** from Auvergne-Rhône-Alpes participated in **23 European Strategic Cluster Partnerships** with partners from 18 different countries in the 2014-2020 funding period. Out of the 23 ESCPs, 16 partnerships focused on internationalisation (ESCP-4i), four partnerships focused on excellence (ESCP-4x) and two partnerships focused on smart specialisation (ESCP-S3).
- Three cluster organisations from Auvergne-Rhône-Alpes were involved in the competitive **INNOSUP-1** initiative with partners from 15 different countries. The thematic focus of the consortia was on smart manufacturing, sensors industry, lightning, and food industry.
- In the current **Euroclusters**, cluster organisation from Auvergne-Rhône-Alpes are actively involved in 7 out of 30 Euroclusters (around 23% of all Euroclusters) with partners from 15 EU Member States.

Smart Specialisation in Auvergne-Rhône-Alpes

- For the 2021-2027 funding period, **13 priority areas** for Auvergne-Rhône-Alpes can be identified. These areas are related to agriculture, energy, mobility, construction, textiles, plastics, mechanics & production as well as digital, electronical, chemical, tourism & health sectors.
- Cluster organisations in Auvergne-Rhône-Alpes contribute to all priority areas of the 2021-2027 S3. Nonetheless, especially the contributions to priority areas related to agriculture, production equipment &robotic sensors and construction can be highlighted. The relevance of priority areas related to the **Twin Transition** (energy & digital) stands out.

01

Context: Economic profile of the Auvergne-Rhône-Alpes region

1. Context: Economic profile of the Auvergne-Rhône-Alpes region

This section will provide a short context about the socio-economic profile of the Auvergne-Rhône-Alpes region.

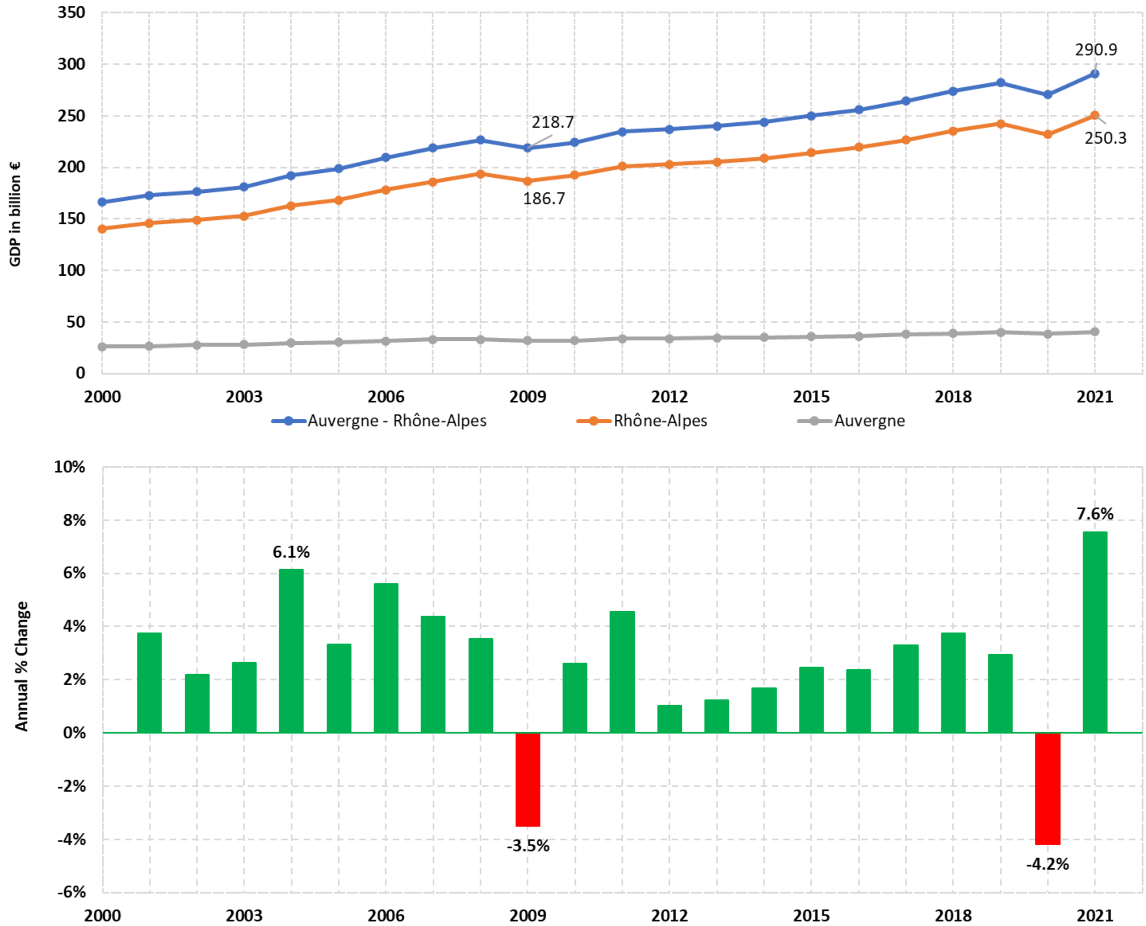
Macroeconomic profile of Auvergne-Rhône-Alpes

The region of Auvergne-Rhône-Alpes (NUTS 1), located in the centre-southeast east of metropolitan France, covers an extensive area of approximately 71,000 square kilometres.[1] This region was formed through the merging of two previously separate regions, Auvergne and Rhône-Alpes, both part of the greater Centre-East region, following the 2016 restructuring of the regional breakdown in France and the subsequent reduction of French administrative regions. The region of Rhone-Alpes is the larger region of both, making up of total area, and also the more populated, boasting 83.19% of the 8.2 million inhabitants in the region in 2022, making it the second largest by population.[2] On the other hand, Auvergne is predominantly characterized as a less densely populated and more rural region. Given its location, Auvergne-Rhône-Alpes is further characterised by a wide array of industries, a large geographical landscape and rich cultures and communities. This has contributed to the region's development as one of France's largest economies and most important centres for imports and exports. The region's activity in French national trade accounts for 12.4% of exports and 10.3% of imports, contributing to Auvergne-Rhône-Alpes development into a dynamic and eclectic economic region with potent trade capacities in diverse goods and commodities. [3]

Figure 1 illustrates a consistent increase in the economic capacity of Auvergne-Rhône-Alpes over the last two decades, with the exception of the global financial crisis and the repercussions of the COVID-19 pandemic on the global economy, which led to significant economic downturns in consecutive years (-3.5% in 2009; -4.2% in 2020). Despite these economic setbacks, the region of Rhône-Alpes has shown resilience. In 2021, the GDP at current market prices reached €290.9 billion, positioning the region as the second-largest regional economy in France.[4] However, a substantial majority of this GDP is attributable to the larger Rhône-Alpes region, accounting for 86% of the entire economic output of Auvergne-Rhône-Alpes. This underscores the pivotal role played by the Rhône-Alpes region in the overall economic performance of the greater NUTS 1 region. In per capita terms, overall output is slightly above the EU average (€32,400), but lower than the French average (€33,800).[5] Furthermore, When analysing the GDP per capita (PPS) of both regions, the economic disparity between Auvergne and Rhône-Alpes becomes evident. While the latter's GDP per capita exceeds both the country and EU average, amounting to €32,400, the former's GDP per capita falls below these averages at €27,100. This highlights the economic disparities between Auvergne and Rhône-Alpes, emphasizing the stronger economic performance and significance of the Rhône-Alpes region in driving the overall economic prosperity of Auvergne-Rhône-Alpes.

[1] Eurostat (2023): Area by NUTS3 region. Available under: https://ec.europa.eu/eurostat/web/products-datasets/-/reg_area3 (last accessed 28.07.2023).
[2] Eurostat (2023): Population on 1 January by age, sex and NUTS 2 region. Available under: https://ec.europa.eu/eurostat/web/products-datasets/-/DEMO_R_D2JAN (last accessed 28.07.2023).
[3] Le chiffre du commerce extérieur (2022): Les chiffres clé de la région. Available under: https://lekiosque.finances.gouv.fr/fichiers/Etudes/Brochures/Reg_18.pdf (last accessed 12.09.2023).
[4] Eurostat (2023): Gross domestic product (GDP) at current market prices by NUTS 2 regions. Available under: https://ec.europa.eu/eurostat/web/products-datasets/-/NAMA_10R_2GDP (last accessed 28.07.2023).
[5] Here it is important to highlight the structure of France's centralised government, in which the Île-de-France region serves as the nation's primary industrial region and a great contributor to the national economy, with a per capita GDP of €56,900, thus elevating the national average.

Figure 1: Auvergne-Rhône-Alpes GDP 2000-2021 (in billion €)



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

Auvergne-Rhône-Alpes region sector specialisations and employment levels

As the economic profile of Auvergne-Rhône-Alpes is presented, it is important to investigate how these are reflected in the representation of economic sectors and employment levels. In reference to the Regional Innovation Scoreboard, it is reported how the Services sector dominates, employing 64.5% of the active working population[6]. This is followed by the Manufacturing sector making up 14.8%, with Utilities & Construction (8.8%), Public administration (8.1%) and finally Agriculture and Mining (2.6%) accounting for significantly lower shares of employment in the region. The dominance of the service industry is mirrored in our statistical analysis on the top 10 sectors pertaining to employment and gross value added, with "Public administration and defence; compulsory social security", ranked in the top two in both categories (see Figure 2).

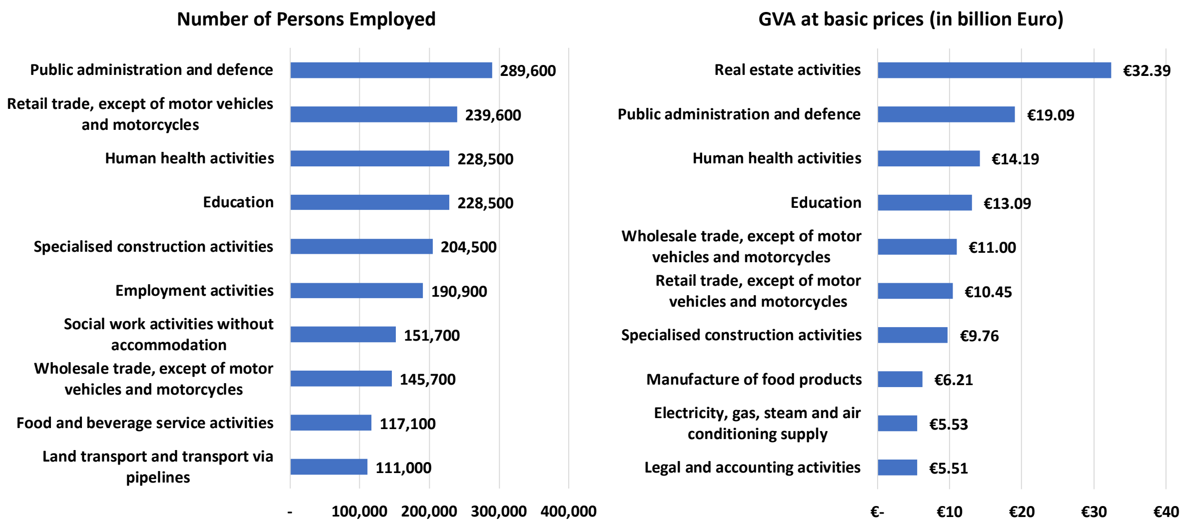
The left graph provides information on the top 10 sectors in Auvergne-Rhône-Alpes by employment. Hereby, sectors representing "Retail trade, except of motor vehicles and motorcycles" and "Human health activities" and "Education" stand out in the top five most represented sectors, underscoring the significance of the services sector. On a further note, sectors pertaining to "Specialised construction activities", "Wholesale trade, except of

[6] European Commission (2023): Regional innovation Scoreboard 2023 Regional Profiles France. Available from: https://ec.europa.eu/assets/rtd/ris/2023/ec_rtd_ris-regional-profiles-france.pdf

motor vehicles and motorcycles", as well as "Food and beverage service activities" also rank in the top 10, underlining a multifaceted (industry, services-, and agriculture) economy in Auvergne-Rhône- Alpes.

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.[7] The classification of the 14 industrial ecosystems has been calculated by aggregating NACE 2-digit activities, following the methodology established by the European Commission.[8] The Health Ecosystem comprises the largest employment share across all ecosystems, reflecting the high share of human health and social work activities. Other notable ecosystems with a higher concentration than the EU27 average include **Construction**, **Proximity, Social Economy and Civil Security** and **Mobility – Transport – Automotive**. A more detailed depiction of employment across the different ecosystems is provided in the Annex. [9]

Figure 2: Top 10 sectors for employment (left) and gross value added (right) in Auvergne-Rhône-Alpes (in 2020)



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

The right graph in Figure 2 displays the top 10 sectors of Auvergne-Rhône-Alpes considering their value added at basic prices, in which "Real estate activities" stands out as the most important sector with a value of 32.4 billion Euro. This is followed by "Public administration and defence; compulsory social security" with a value of 19.1 billion euro. As demonstrated in the prior graph, said sector reported a high level of employment and therefore underscores its importance to the economy of the Auvergne-Rhône-Alpes region. Meanwhile, "Wholesale trade, except of motor vehicles and motorcycles" and "Retail trade, except of motor vehicles and motorcycles" are ranked as the fifth and sixth highest sectors, as they account for €11.1 billion and €10.4 billion in value added each. This also aligns with the statistics pertaining to said sectors in the context of employment numbers, reinforcing its importance to the economy of Auvergne-Rhône-Alpes as a whole. One can further remark how "Human health activities", "Specialised construction activities" and "Manufacture of food products" are

[7] see here for more information https://clustercollaboration.eu/in-focus/industrial-ecosystems (last accessed 11.09.2023).
[8] For more information on the collection & processing of the secondary data, please refer to the methodology notes: https://clustercollaboration.eu/sites/default/files/2023-05/Methodology_Notes.pdf (last accessed 11.09.2023).
[9] These industrial ecosystems all exhibit a location quotient higher than one.

represented in the top 10 of value added, emphasizing the industry and service-driven sectors in the diverse economy of Auvergne-Rhône-Alpes.

Finally, one can state that the diverse sectoral composition in the economy of Auvergne-Rhône-Alpes opens a myriad of opportunities, in which economic and cluster structures can support growth on a regional level. Hereby, cross-border cooperation can be effective in fostering further development in the region, with clusters playing a key role in this process. Particularly sectors pertaining to the construction as well as Health ecosystems align with the trajectory of the Auvergne-Rhône-Alpes S3 strategy of 2021-2027 that prioritises areas, such as the “Health sector” and “Construction sector”. How the diverse economic sector specialisations align with the cluster networks and cross-border initiatives in the region of Auvergne-Rhône-Alpes will be discussed in the third chapter of this paper.

Regional innovation level of the Auvergne-Rhône-Alpes region

In the course of this paper, the economic performance of the Auvergne-Rhône-Alpes region will be investigated in the context of clusters and how these are organised. Nevertheless, to conclude this chapter concerning the economic profile of said region, one can refer to the most recent version of the Regional Innovation Scoreboard (RIS) to investigate its regional innovation performance. The RIS 2023 serves as a regional extension of the European Innovation Scoreboard and encompasses data on innovation-related indicators for 239 regions across 26 European countries from 2016 to 2023. Within the RIS, 21 indicators covering twelve innovation dimensions have been considered, each representing a distinct aspect of innovation within a region.[10]

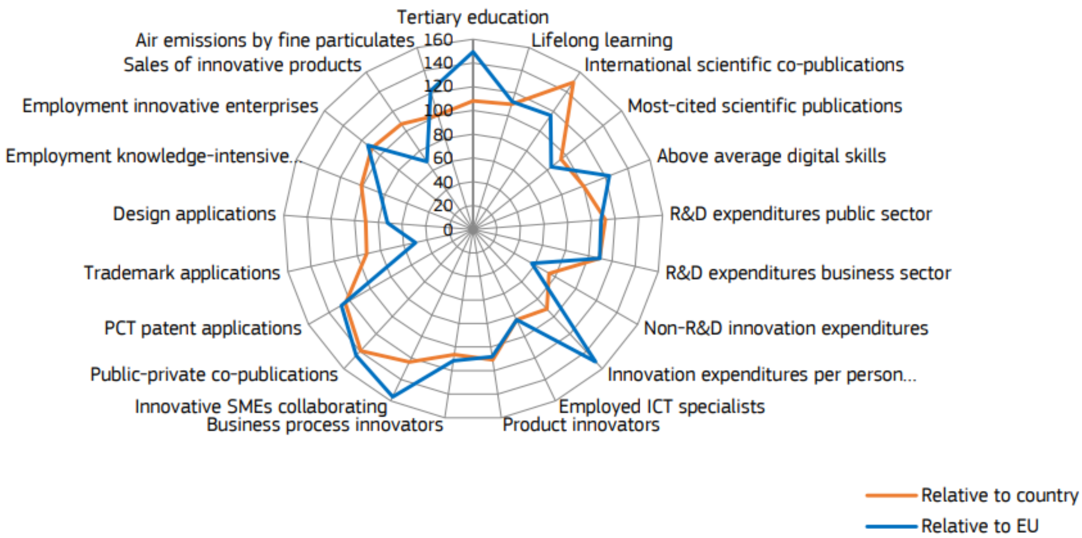
The Auvergne-Rhône-Alpes region is classified as a "Strong Innovator," with an overall performance of 111.4 relative to the EU in 2023. Figure 3 displays the region's strengths relative to France and the EU, particularly in research and science-driven development, as evidenced by above-average scores in "International scientific co-publications" and "Public-private co-publications". This finding signifies a strong emphasis on collaboration and knowledge-sharing between different stakeholders in the scientific community, contributing to the region's effective leveraging of its research capabilities. Furthermore, the region performs well in indicators related to product innovators, business process innovators, and innovative SMEs collaborating, outperforming the country and EU averages. This indicates a highly supportive regional innovation ecosystem, particularly for SMEs, fostering dynamic collaboration among businesses, research institutions, and other innovation actors, thus inducing innovation. The high degree of innovativeness in this region is also highlighted by relatively strong indicator “PCT patent applications”, which reflects the high capacity of firms develop new innovative products.

On the other hand, the region exhibits a lower relative performance in design patent applications and trademark applications below both the country and EU average. Furthermore, non-R&D innovation expenditures is below both country and EU average, showing the lack of firms creating new knowledge outside from R&D activities, indicating there is limited investment or effort in other avenues to foster innovation. It is also notable how the indicators “Employed ICT specialists” scores below the EU average. While Auvergne-Rhône-Alpes is a diverse economy, these innovation performances are potentially indicative of a skill gap in the IT sector, in which a significant portion of EU companies (55% of respondents from a 2019 survey) are struggling to employ sufficient ICT specialists.[11] Given the growing importance of ICT-driven sectors, these areas could be cultivated further to

[10] EU Commission (2023): Regional Innovation Scoreboard 2023 – Methodology report.
[11] EU: Digital Skills & Jobs Platform (2021): ICT specialists: the skills gap hinders growth in the EU countries. Available under: https://digital-skills-jobs.europa.eu/en/latest/news/ict-specialists-skills-gap-hinders-growth-eu-countries (last accessed 11.09.2023).

yield economic growth and high innovation performances across the region's diverse sectoral ecosystems, including emerging sectors.[12]

Figure 3: Innovation performance of the Auvergne-Rhône-Alpes region in the Regional Innovation Scoreboard 2023



Source: European Commission (2023): Regional innovation Scoreboard 2023 Regional Profiles France. Available from: https://ec.europa.eu/assets/rtd/ris/2023/ec_rtd_ris-regional-profiles-france.pdf

Regional competitiveness level

This report examines the regional competitiveness of Auvergne-Rhône-Alpes based on the 2022 EU Regional Competitiveness Index (RCI).[13] The RCI evaluates competitiveness across EU regions in three dimensions: the Basic Sub-Index, the Efficiency Sub-Index, and the Innovation Sub-Index. The findings aim to provide insights into the region's performance in these domains and pinpoint areas with potential for enhancement. Unlike the RIS, the RCI data is accessible at the NUTS2 level, allowing for an examination of disparities between Auvergne and Rhône-Alpes across various dimensions.[14]

The region of Rhône-Alpes exhibits a relatively highly competitive performance, surpassing the EU average and French average with a score of 110.5. It secures the second position among all 27 French regions evaluated in the Regional Competitiveness Index, just behind the region of Ile-de-France. In contrast, the region of Auvergne demonstrates comparatively lower overall regional competitiveness, scoring 96.4, falling below both EU and national averages. This disparity reflects the economic differences between these two regions.

[12] The World Bank (2013): ICTs are creating new jobs and making labor markets more innovative, inclusive, and global – World Bank study. Available under: ICTs are creating new jobs and making labor markets more innovative, inclusive, and global – World Bank study (last accessed 12.09.2023).

[13] More information on the EU Regional Competitiveness Index 2.0 can be found here: https://ec.europa.eu/regional_policy/assets/regional-competitiveness/index.html#/ (last accessed 12.09.2023).

[14] Figure 18 provides a detailed examination of the Auvergne and Rhône-Alpes regions across various dimensions, highlighting their comparisons with both the national and EU averages.

These distinctions are particularly evident in the basic and efficiency sub-indices. The region of Auvergne performs below the regional average in these sub-indices, while the region of Rhône-Alpes performs above average in comparison to other regions. The lower performance of Auvergne in these sub-indices can be attributed to the infrastructure pillar in the basic sub-index and the market size pillar in the efficiency sub-index. On the other hand, the institutions pillar in Auvergne performs exceptionally well, exceeding the performance of Rhône-Alpes and surpassing both the EU and country averages.

The region of Rhône-Alpes excels in several pillars, particularly institutions, health, higher education, and the labour market, all of which surpass both the EU and country averages. Regarding innovation, Rhône-Alpes outperforms Auvergne, displaying a performance in the innovation sub-index that exceeds both the EU and country averages. Notably, Rhône-Alpes excels in business sophistication and innovation, suggesting a favourable environment for entrepreneurial activities. Meanwhile, Auvergne's innovation pillar indicates potential for improvement.

02

Clusters in Auvergne-Rhône-Alpes and their importance for regional economic development

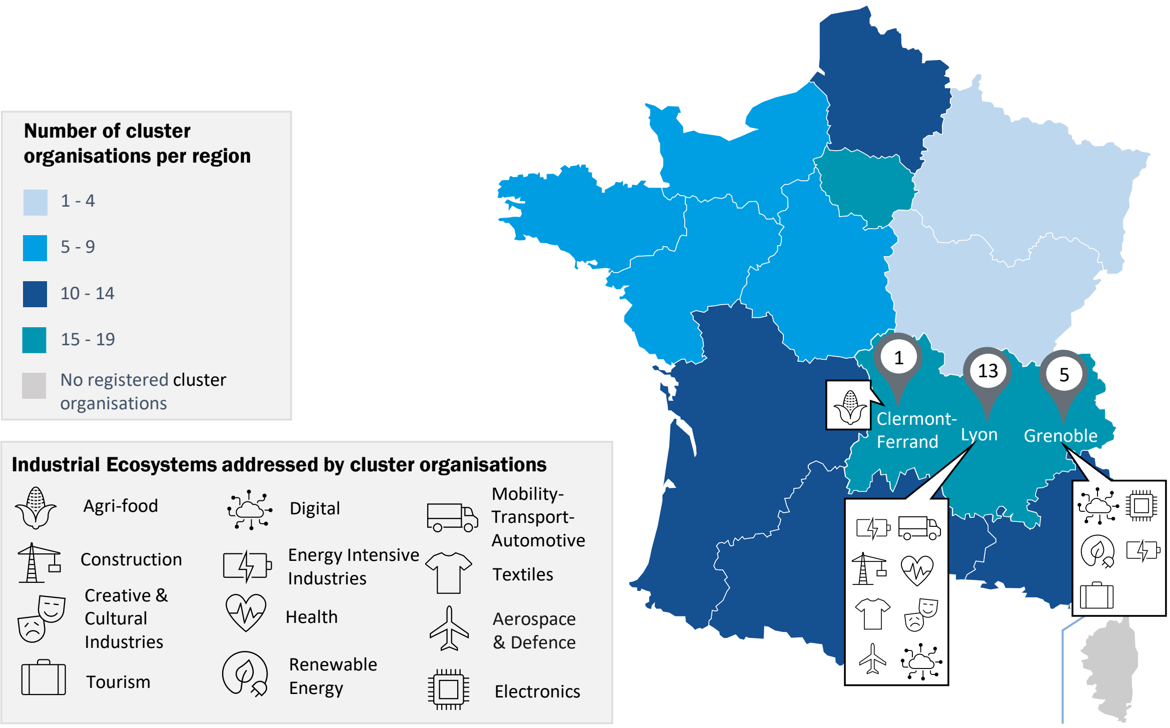
2. Clusters in Auvergne-Rhône-Alpes and their importance for regional economic development

The involvement of clusters in regional economic governance, policy design and implementation at the regional level is of central importance for regional economic development. This chapter will provide an overview of the cluster landscape in Auvergne-Rhône-Alpes and the policy framework under which cluster organisations are operating in the region.

Clusters in Auvergne-Rhône-Alpes

The European Cluster Collaboration Platform serves as a one-stop-shop for cluster organisations at the European level. Therefore, the number of registered cluster organisations and other innovation actors in Auvergne-Rhône-Alpes on the ECCP gives the first impression of the intensity of organisation in regional industrial networks. Out of the total 1,146 registered EU-27 cluster organisations on the ECCP[15], there are **19 cluster organisations** from Auvergne-Rhône-Alpes.

Figure 4: Overview of registered cluster organisations in France as well as regional and sectoral distribution of active cluster organisations in Auvergne-Rhône-Alpes



Source: ECCP (2023). Own elaboration based on https://reporting.clustercollaboration.eu/all (last accessed 29.08.2023). A full overview of clusters in the Auvergne-Rhône-Alpes region is provided in Table 2 in the Annex.

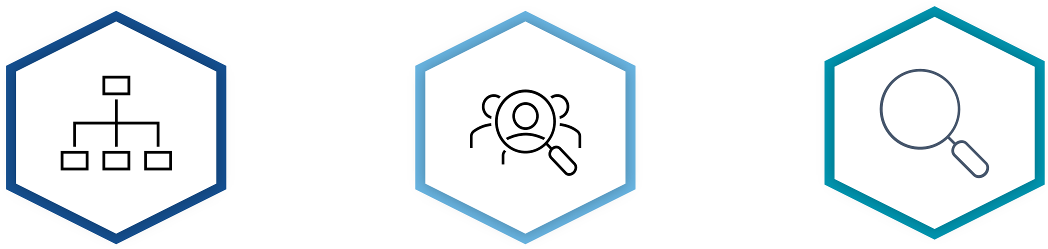
Figure 4 displays the geographical distribution of the cluster organisations in the region. The vast majority of cluster organisations of the Auvergne-Rhône-Alpes region is situated in the central metropolitan area of the

[15] see the ECCP mapping tool. Available under: https://reporting.clustercollaboration.eu/all (last accessed 29.08.2023).

capital city of Lyon (12) and nearby Saint-Étienne (1). Five cluster organisations are based in the Alpine Eastern part of the region, namely in Grenoble (2), Porte de Savoie (1), Cluses (1), and Bellignat (1). They are completed by a single cluster organisation in the Saint Beauzire suburb of Clermont-Ferrand in the former region of Auvergne in the West. Overall, the Auvergne-Rhône-Alpes region shows the highest number of cluster organisation of all French regions, even topping the capital region of Île-de-France including Paris (13). In international comparison, Auvergne-Rhône-Alpes is close to the top regarding the number of cluster organisations, ranking in the Top-10 among all regions of the European Union.

The cluster organisations in Auvergne-Rhône-Alpes can be related to **12 out of 14 different EU industrial ecosystems**[16]. Furthermore, the regional and national governments list a total of 13 pôles de competitivité and 13 cluster organisations.[17] A consolidated list of all 26 organisations can be consulted in Table 2 in the Annex. The EU Industrial Ecosystems most frequently addressed by the region's cluster organisations are Agri-food, Construction, Energy-Renewables, and Health, with three cluster organisations each.

Figure 5: Overview of organization, structure, and thematic orientation of cluster organisations in Auvergne-Rhône-Alpes



Organisation

- Majority of cluster organisations medium-sized with 6-10 or 11-20 employees (7, i.e. 37% each; ØEU: 21% and 9%)
- Three small-sized with 1-5 employees (16%; ØEU: 65%)
- Two larger cluster organisations with 21-30 employees (11%; ØEU: 2%).

Member structure

- About one third of the cluster organisations (7, i.e. 37%; ØEU: 73%) have up to 200 members
- Another third (7, i.e. 37%; ØEU: 7%) has between 201-300 members, four 301-500 (21%; ØEU: 6%) and one cluster organisation has over 500 members (5%; ØEU: 4%).
- SMEs (69%; ØEU:71%) most prevalent followed by large companies (11%; ØEU: 10%) and the research sector (10%; ØEU: 8%)

Thematic orientation

- Cluster organisations in Auvergne-Rhône-Alpes can be related to 12 different EU industrial ecosystems
- Collaboration often sought in partnering for projects, internationalisation, and exchanging with peers followed by resource efficiency and circular economy as well as technology scouting

Source: ECCP (2023). Own elaboration based on https://reporting.clustercollaboration.eu/all (last accessed 29.08.2023).

[16] see European industrial strategy. Available under: https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/european-industrial-strategy_en (last accessed 31.01.2023).

[17] La Région Auvergne-Rhône-Alpes (2022): La politique filière de la Région, last updated 30.06.2022. Available under: https://www.auvergnerhonealpes.fr/actualites/la-politique-filiere-de-la-region (last accessed 18.04.2023). See also the new list of Pôles de compétitivité by the Ministry of Economy and Finance for 2023-26 https://www.entreprises.gouv.fr/fr/actualites/industrie/poles-de-competitivite/labellisation-de-55-poles-de-competitivite-pour-la-phase-v-2023-2026 (last accessed 18.04.2023).

As shown in Figure 5, cluster organisations in Auvergne-Rhône-Alpes are mostly medium-sized and larger than the EU average. A majority of 14 out of 19 cluster organisations has 6-10 or 11-20 employees (seven each). Only three cluster organisations employ only 1-5 employees while two larger ones have 21-30 employees. With regard to the member structure, cluster organisations in Auvergne-Rhône-Alpes are relatively large in the overall European comparison with seven organisations with up to 200, seven with between 201 and 500 and one with over 500 members. SMEs account for most of the members of cluster organisations in Auvergne-Rhône-Alpes (69%), followed by large companies (11%) and the research sector (10%). This corresponds to a large extent to the European average with a slightly but still notably higher share of members from the research sector.

Cluster organisations from Auvergne-Rhône-Alpes seek collaboration primarily in the areas of partnering for projects, internationalisation, and exchanging with peers followed by resource efficiency and circular economy as well as technology scouting. Moreover, nine cluster organisations from Auvergne-Rhône-Alpes have been awarded with the Gold Label of Cluster Excellence, three with the Bronze Label. Additionally, according to the French national labelling system, there are five official pôles de compétitivité as well as one grappe d'entreprises on the ECCP. The regional government lists a total of 12 pôles de compétitivité and 12 regional clusters.[18]

The importance of clusters for regional economic competitiveness

The European Cluster Panorama Report (2021) examines the relationship between clusters and regional competitiveness. The stand-out findings of this report showcase how the presence of cluster organisations is positively correlated with economic indicators such as GDP per capita, labour productivity, as well as business R&D expenditure. While public R&D expenditure is merely positively correlated with industry-relevant nodes[19], it does indicate how regions could earn greater public support, when certain industries have a local significance. Particularly indicators of R&D expenditures are key in measuring economic performance concerning innovation.

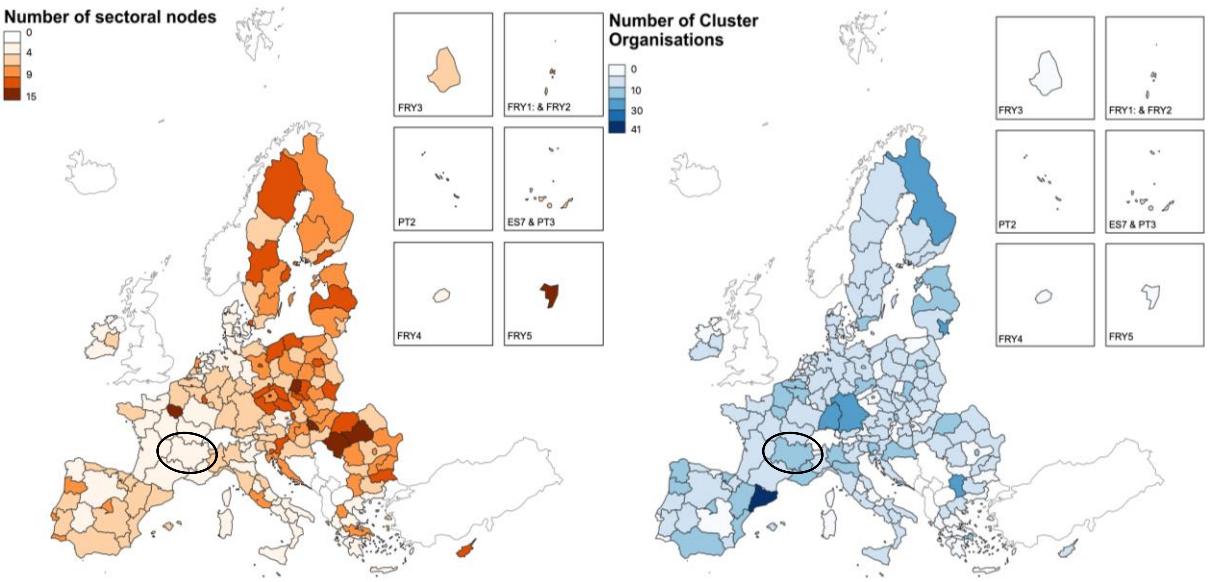
In Figure 6, as displayed below, one can see how industries in Auvergne-Rhône-Alpes form a slightly below-average number of region-relevant specialisation nodes[20], but an above-average number of cluster organisations, in comparison to other European regions. This statistical finding speaks to the high degree of cluster organisation while also keeping a highly differentiated regional economy, where individual sectors may be strong but not dominating.

[18] La Région Auvergne-Rhône-Alpes (2022).

[19] From the European Cluster Panorama Report (2021): Industry-relevant specialisation nodes: When the region is specialised in the sector (or industrial ecosystem) and regional employment in the sector is relevant in the EU context (industry employment share > 1%).

[20] From the European Cluster Panorama Report (2021): Region-relevant specialisation nodes: When the region is specialised in the sector and the employment share of that sector is relevant for the region (regional employment share > 1%).

Figure 6: Distribution of region-relevant sector specialization nodes and cluster organisations in EU27



Source: European Cluster Panorama (2021).

Next to clusters having an enabling and facilitating effect on economic performance and growth, other studies have provided complementary information on the impact clusters can have. For example, Ketels and Protsiv (2021)[21] provide a thorough account of the positive relationship between cluster presence and industry-level wages across European regions. Key takeaways emphasise how particular clusters relate to sector-specific industries, as opposed to the mere “concentration of economic activity in a specific field” (p. 217). On top of that, the data showcases how the influence and strength of clusters has an independent relationship with economic outcomes. Their findings suggest how the degree and nature of competitiveness within clusters must be understood on a location-to-location basis. This further reflects on what they refer to as the “business environment quality” that can have striking knock-on effects on wage levels. Most importantly, Ketels & Protsiv delineate how “cluster strength” has a unique impact on “wages and prosperity”.

A visual depiction that highlights this trend can be found in Figure 19 in the Annex. In the context of the Auvergne-Rhône-Alpes region, the statistical data and analysis of Ketels and Protsiv show a high cluster portfolio strength (share of payroll accounted for by strong clusters) and an above-average cluster mix (bias towards cluster categories with higher wages). The remainder of this chapter will, first, look at the policy context for cluster development at the national as well as the regional and local level and, second, evaluate the success of cluster policy in strengthening regional economic development so far.

The defining French **national cluster policy** is the “pôles de competitivité” programme.[22] It was initiated in 2004 as a new place-based industrial policy and has been continuously implemented ever since in subsequent programme phases. The framework of the programme is drafted and overseen by the Ministry of Economy,

[21] Ketels, C.; Protsiv, S. (2021): Cluster presence and economic performance: a new look based on European data, Regional Studies, 55:2, 208-220, DOI: 10.1080/00343404.2020.1792435. Available under: https://www.tandfonline.com/doi/full/10.1080/00343404.2020.1792435 (last accessed 01.02.2023).

[22] For an overview of the French national cluster policy, see the ECCP Factsheet. Available under: https://clustercollaboration.eu/in-focus/policy-acceleration/country-factsheets-on-cluster-policies-and-programmes (last accessed 02.02.2023).

Finance and Industrial and Digital Sovereignty which partners with regional and local authorities and development agencies as well as public investment banks (Bpi France and Banque des Territoires of Caisse des Dépots) for funding and implementation. Beyond the primary focus on regional collaboration of businesses (large companies as well as SMEs), R&D actors and public agencies, candidates for the current fifth programme phase put a special emphasis on projects aiming at the decarbonisation of industries and the ecological and energy transition in general. Furthermore, they should be aligned with the regional and national priorities as laid down in the regional smart specialisation strategies (S3), the regional economic development plans (SRDEII) and the national investment plan France 2030.[23]

The effects of the French cluster policy on different **economic performance indicators** have been evaluated in a range of academic studies. On the national level, Brossard and Moussa (2014)[24] study the early period of the programme from 2004-8 and find a positive effect on patenting for regions hosting pôles de competitivité but specify that only the effects for the highest cluster label of "world class" clusters are significant. Ben Hassine and Mathieu (2020)[25] studied the period from 2006 to 2012 and found positive effects on both R&D subsidies received and R&D expenditure undertaken by firms that are members of clusters. As the effect on investment exceeded the one on subsidies, a positive leverage effect can be concluded. They further specify that the effect was mainly driven by SMEs, while for larger firms the subsidies tend to crowd out own investment. There was, however, no significant effect on innovation output or registered patents. Bellégo and Dortet-Bernadet (2014)[26], evaluating the 2005-9 period, by contrast, found neither a leverage nor a crowding-out effect. However, as Ben Hassine and Mathieu show, the effects arrive with a time lag of – in their results – about four years. Therefore, a conclusion could be that there are positive leverage effects from cluster policies subsidising R&D expenditures, but they take some time to materialise. Furthermore, Fontagné et al. (2013)[27] look at exports and confirm a better performance for cluster members, but also find those effects driven by self-selection of successful firms into clusters. Thus, clusters are indeed organising successful firms into their collaborative structures. N'Ghauran and Autant-Bernard (2020)[28] in a counterfactual evaluation analysis of the French cluster policy looking at firm behaviour for the period of 2008-10 confirm the "positive and significant effect of cluster membership" on firms' integration into collaborative research projects but find no evidence for them to be more embedded into local

[23] Ministry of Economy, Finance, and Industrial and Digital Sovereignty (2022): Pôles de Competitivité: Phase V (2023-2026), Cahier des charges de l'appel à candidatures pour la labellisation des pôles de compétitivité. Available under : https://www.entreprises.gouv.fr/files/files/aap/poles-de-competitivite/Cahier-des-charges-phase-V-poles-de-competitivite.pdf?v=1659596995 (last accessed 02.02.2023).

[24] Brossard, O.; Moussa, I. (2014) The French cluster policy put to the test with differences-in-differences estimates. https://www.researchgate.net/profile/Olivier-Brossard/publication/283816500_The_French_cluster_policy_put_to_the_test_with_differences-in-differences_estimates/links/577b970108aec3b743365bfa/The-French-cluster-policy-put-to-the-test-with-differences-in-differences-estimates.pdf (last accessed 31.01.2023).

[25] Ben Hassine, H.; Mathieu, C. (2020): R&D crowding out or R&D leverage effects. An evaluation of the French cluster-oriented technology policy. https://www.sciencedirect.com/science/article/abs/pii/S004016251831727X (last accessed 31.01.2023).

[26] Bellégo, C.; Dortet-Bernadet, V. (2014) L'impact de la participation aux pôles de compétitivité sur les PME et les ETI, Économie et Statistique, 471. Available under : https://www.researchgate.net/publication/286009805_L'impact_de_la_participation_aux_poles_de_competitivite_sur_les_PME_et_les_ETI (last accessed 03.02.2023).

[27] Fontagné, L.; Koenig, P.; Mayneris, F.; Poncet, S. (2013): Cluster Policies and Firm Selection. Evidence from France. https://hal.science/file/index/docid/975554/filename/FKMP_final.pdf (last accessed 31.01.2023).

[28] N'Ghauran, K. A.; Autant-Bernard, C. (2020): Assessing the collaboration and network additionality of innovation policies: a counterfactual approach to the French cluster policy, GATE Lyon Saint-Étienne – Groupe d'analyse et de théorie économique, WP 2004, February 2020. Available under: https://shs.hal.science/halshs-02482546/document (last accessed 31.01.2023).

collaboration networks. Overall, the French cluster policy seems to have had quite some success in fostering R&D efforts while it is less clear how it has affected the development of local networks.

On the **regional and local level**, cluster policies are well established in Auvergne-Rhône-Alpes. In 2002, the region of Rhône-Alpes, as it was then, launched its own cluster policy aiming to develop regional strengths and increase export capacity, industrial performance and technological innovation.[29] Most recently, the Schéma Régional de Développement Économique, d'Innovation et d'Internationalisation (SRDEII) views the region's clusters as a key instrument to strengthen its key industries through collaboration efforts in innovation and internationalisation, that are supported and co-financed by the regional authorities.[30]

Furthermore, a range of new policy efforts have been formed recently to support industrial development by setting up new financial instruments for different parts of the Auvergne-Rhône-Alpes region. In early 2021, a set of new public-private capital funds were launched to support the economic revival after the pandemic. They include a new investment vehicle to provide start-ups with risk capital by the metropoles of Saint-Étienne and Clermont-Ferrand,[31] a "fonds souverain" by the region of Auvergne-Rhône-Alpes to stave off hostile foreign take-overs and support the post-pandemic industrial rebound[32] as well as a seed capital fund to support industrial clusters by the metropoles of Lyon and Saint-Étienne.[33] To sum up, there has been a very dynamic evolution of financial instruments targeting different types of companies, industrial clusters and territories at the regional and local level.

In conclusion, Auvergne-Rhône-Alpes as France's most densely organised cluster landscape and highly successful regional economy provides a good showcase for the positive outcomes of a dedicated cluster policy more generally. The EU Cluster Panorama Report (2021) in connection with Ketels & Protsiv (2021) further makes the case for cluster organisations as a proven method to stimulate long-term growth and innovative activity on a regional level.

[29] Czyżewska, D. (2013): Innovation policy instruments in Rhône-Alpes – key challenges and future orientations, Poznań University of Economics Review, 13:2, 65-83. Available under: https://www.ebr.edu.pl/pub/2013_2_65.pdf (last accessed 30.01.2023).
[30] La Région Auvergne-Rhône-Alpes (2022) : Schéma Régional de Développement Économique, d'Innovation et d'Internationalisation (SRDEII). Available under : https://www.auvergnerhonealpes.fr/contenus/les-schemas-regionaux (last accessed 29.08.2023).
[31] Les Echos (2021a): Saint-Etienne et Clermont-Ferrand s'associent dans le capital-risque, 16.02.2021. Available under: https://www.lesechos.fr/pme-regions/auvergne-rhone-alpes/saint-etienne-et-clermont-ferrand-sassocient-dans-le-capital-risque-1290740 (last accessed 01.02.2023).
[32] Banque des Territoires (2021): Le fonds souverain de la région Auvergne-Rhône-Alpes est lancé, Localtis, 22.03.2021. Available under: https://www.banquedesterritoires.fr/le-fonds-souverain-de-la-region-auvergne-rhone-alpes-est-lance#:~:text=La%20r%C3%A9gion%20Auvergne%2DRh%C3%B4ne%2DAlpes%20a%20lanc%C3%A9%20le%2022%20mars,atteindre%20100%20millions%20d%27euros (last accessed 01.02.2023).
[33] Grand Lyon; Saint-Étienne (2021): Les Métropoles de Lyon et Saint-Étienne s'unissent pour réinventer l'industrie sur le territoire, dossier de presse, 17.05.2021. Available under: https://www.grandlyon.com/fileadmin/user_upload/media/pdf/espace-presse/dp/2021/20210517_dp_industrie.pdf (last accessed 01.02.2023).

03

Cross-border cooperation & the involvement of Auvergne-Rhône-Alpes clusters in European networks & support initiatives

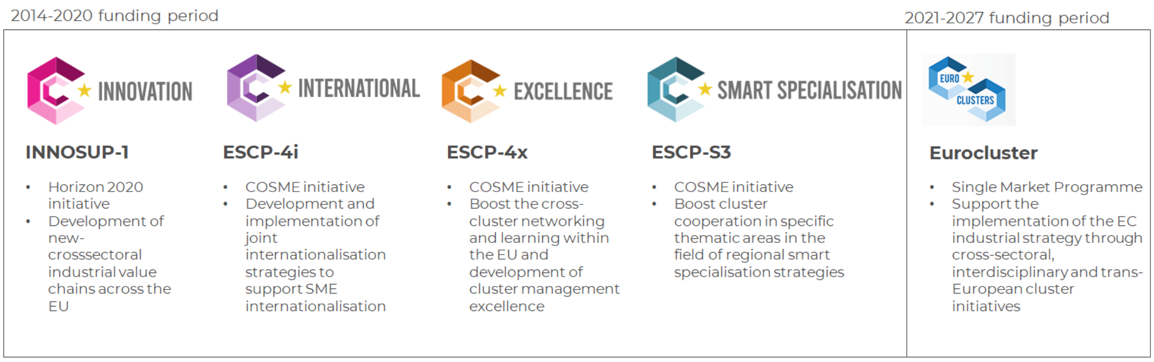
EUROPEAN CLUSTER COLLABORATION PLATFORM

Strengthening the European economy through collaboration

3. Cross-border cooperation and the involvement of Auvergne-Rhône-Alpes clusters in European networks and support initiatives

Findings from the Evaluation Study of and Potential Follow-Up to Cluster Initiatives under COSME, H2020 and FPI of the European Commission (2021) show that cross-border cooperation is perceived by innovation stakeholders as a highly relevant activity for clusters to support sustainable growth and resilience-building of their SME members.[34] To gain an overview of the existing cross-border cooperation of Auvergne-Rhône-Alpes clusters, a closer look will be taken in this chapter on the involvement of Auvergne-Rhône-Alpes clusters in European support initiatives with a focus on the **2014-2020** funding period as well as the Joint Cluster Initiatives (Euroclusters) for Europe's recovery of the **2021-2027 funding period**[35] (see Figure 7).

Figure 7: Overview of EU support initiatives in the funding period 2014-2020 and 2021-2027



Source: ECCP (2023)

Involvement of Auvergne-Rhône-Alpes cluster organisations in the European Strategic Cluster Partnerships (ESCP)

In the 2014-2020 funding period, one relevant EU support initiative to increase cross-border cooperation of EU cluster organisations and other intermediary organisations was the European Strategic Cluster Partnership (ESCP) initiative funded under the EU Programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME). The ESCP initiative established partnerships of European clusters and intermediary organisations from the different EU Member States or associated countries. Those partnerships focused on three different thematic areas which were internationalisation (ESCP for Going International), cluster excellence (ESCP for Excellence) and smart specialisation (ESCP for Smart Specialisation).[36]

[34] Prognos et al. (2021): Evaluation Study of & Potential Follow-Up to Cluster Initiatives under COSME, H2020 & FPI (DG GROW, Unit D2 - Industrial Forum, alliances, clusters). Study on behalf of the European Commission. Available under: https://op.europa.eu/en/publication-detail/-/publication/a2c3e9e1-3deb-11ec-89db-01aa75ed71a1/language-en/format-PDF/source-241039860 (last accessed on 10.01.2023).

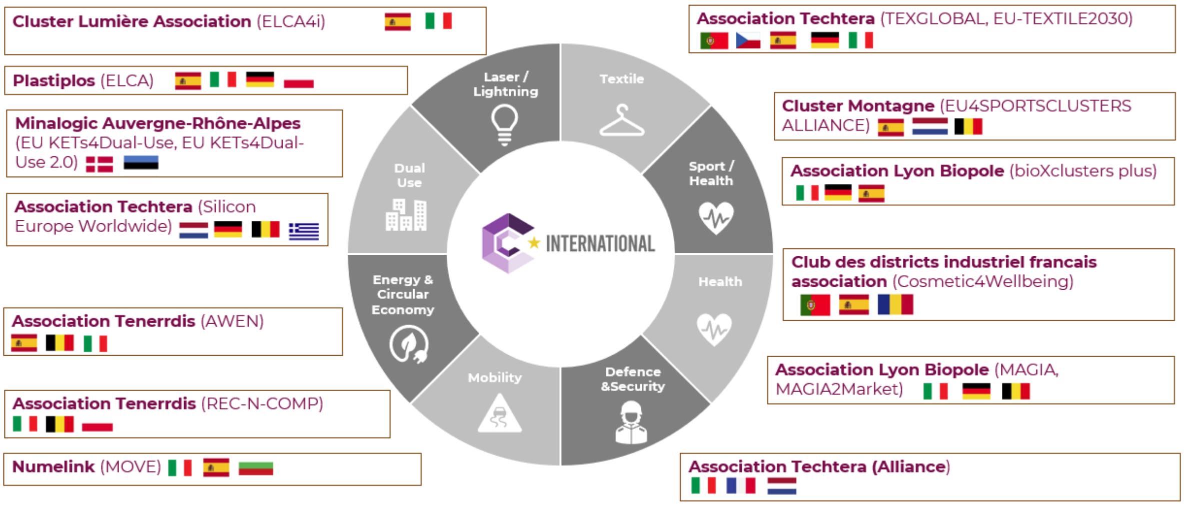
[35] For more information on the Euroclusters see: https://eismea.ec.europa.eu/funding-opportunities/calls-proposals/joint-cluster-initiatives-euroclusters-europes-recovery_en (last accessed on 10.01.2023).

[36] For more information on the European Cluster Partnerships see: https://clustercollaboration.eu/eu-cluster-partnerships (last accessed 13.01.2023).

In total, 12 cluster organisations from the Auvergne-Rhône-Alpes region participated in 23 ESCPs with partners coming from 18 different countries (PT, FR, ES, RO, EL, IT, DE, BE, BG, PL, DK, CZ, EE, AT, NL, SE, HU). Cluster organisations of the Auvergne-Rhône-Alpes region participated in 19 ESCPs for Going International (ESCP-4i), two ESCPs for Smart Specialisation (ESCP-S3) and four ESCP for Excellence (ESCP-4x).

Figure 8 shows that ten cluster organisations from Auvergne-Rhône-Alpes participated in **16 ESCPs for Going International** (ESCP-4i). The thematic focus of the partnerships was on topics like textile, health care, mobility, energy, circular economy and lightning/laser. Cluster organisations from Auvergne-Rhône-Alpes cooperated with 65 cluster partners from 16 different countries (AT, BE, BG, CZ, DE, DK, ES, HU, IT, LT, NL, PL, PT, RO, SE, EE, EL). In addition to the Intra-European cooperation of the Cluster Partnerships, the ESCP-4i also targeted cluster organisations and SMEs based in third countries. The target markets of ESCP-4i projects with cluster organisations from Auvergne-Rhône-Alpes were widespread worldwide. The targeted countries of the ESCP-4i projects have been e.g. Canada, China, the US (project "ELCA) or Japan, Australia, Canada and South Korea (project "bioXclusters plus).[37]

Figure 8: European Cluster Partnerships going international (ESCP-4i) with the participation of clusters from Auvergne-Rhône-Alpes region with the origin of cluster partners and thematic focus



Source: ECCP (2023), based on the COSME data hub (data extracted in January 2023).

The highest requested grant of cluster organisation from Auvergne-Rhône-Alpes within ESCP-4i projects was by the Association Tenerrdis in the partnership AWEN with around €176.395 followed by Association Lyon Biopole in the project bioXclusters plus with €113.519. The total requested grant from cluster organisation from Auvergne-Rhône-Alpes was around €1.5 million.

Five cluster organisations from the Auvergne-Rhône-Alpes region received funding from the **ESCP-4x** programme to improve their cluster management excellence through interregional capacity building activities. Figure 7 shows the four ESCP-4x projects in which the French cluster organisations Cluster Lumière Association, Minalogic Auvergne-Rhône-Alpes, Association Tenerrdis, Plastipolis and Cluster Montagne participated with partners coming from seven different countries (HU, ES, BE, NL, PT, IT, CZ). All cluster organisations from the Auvergne-

[37] For more information on the project "bioXclusters plus" see: https://www.bio-m.org/ueber-biom/projekte/bioxclusters-alliance.html (last accessed 15.11.2022).

Rhône-Alpes region participated in the partnerships in the role as a project partner. The thematic focus of the interregional partnership was on sport/health, energy transition, new materials and lighting sector. These topics represent generally also the RIS3 priority areas of the Auvergne-Rhône-Alpes region. The highest requested grant of ESCP-4x projects by cluster organisations from the Auvergne-Rhône-Alpes region was by Plastipolis in the project MATERIALIX with around €63.370 followed by the Association Tenerrdis in project SMARTENERGY with €60.202.

Figure 9: European Cluster Partnerships for excellence (ESCP-4x) with the participation of clusters from Auvergne-Rhône-Alpes region with the origin of cluster partners and thematic focus

Source: ECCP (2023), based on the COSME data hub (data extracted in January 2023).

Besides the participation in the ESCP-4i and ESCP-4x projects, two cluster organisations from the Auvergne-Rhône-Alpes, namely the Association Lyon Biopole and Viameca, participated in **the ESCP-S3 projects** “Connsensys” and “S3martMed”. The Association Lyon Biopole acted in the role as a project coordinator. While the project “Connsensys” focused on smart sensor systems in the food industry, the project “S3martMed” focused on boosting investments in medical technologies. Partners came from Hungary, Poland, Germany, Italy, Belgium and Spain. The requested grant of cluster organisations from the Auvergne-Rhône-Alpes region was €80.353 by the Assocation Lyon Biopole in the project S3martMED and €40.197 by Viameca in the project Connsensys.

Figure 10: European Cluster Partnerships for smart specialisation (ESCP-S3) with the participation of clusters from Auvergne-Rhône-Alpes region with the origin of cluster partners and thematic focus

Source: ECCP (2023), based on the COSME data hub (data extracted in January 2023).

Involvement of Auvergne-Rhône-Alpes cluster organisations in the INNOSUP-1 initiative

Apart from the ESCPs, the INNOSUP-1 initiative “Cluster facilitated projects for new value chains” funded under the EU programme Horizon 2020 was a relevant EU support initiative that addressed the challenge to develop new cross-sectoral industrial value chains in Europe through European cooperation of cluster organisations and other relevant intermediaries.[38] The INNOSUP-1 initiative aimed at boosting the cross-sectoral and cross-border

[38] For more information on the ESCPs and the INNOSUP-1 initiative see: https://clustercollaboration.eu/eu-cluster-partnerships (last accessed 04.02.2022).

cooperation in consortia of European cluster organisations and other relevant innovation intermediaries.[39] An innovative approach of the INNOSUP-1 initiative was that it consisted of the so-called cascade funding approach, meaning that cluster organisations served as intermediaries to support their SME members through different support instruments like direct financial support or capacity-building training. Findings from the Evaluation Study of and Potential Follow-Up to Cluster Initiatives under COSME, H2020 and FPI of the European Commission (2021) confirm that the transnational component of the cluster initiatives was perceived by beneficiaries as an EU added value with high mutual learning effects for cluster organisations and the supported SMEs.

The INNOSUP-1 initiative was a highly competitive funding initiative, and the overall success rate was only 8%. In total, 18 project consortia were selected with 204 partners. When looking at the participation rate of cluster organisation from Auvergne-Rhône-Alpes in the INNOSUP-1 initiative, three cluster organisation participated in three INNOSUP-1 projects. All three cluster organisations participated as consortium partners. The other 38 consortium members came from 15 different countries (FR, IT, ES, PL, BE, SI, CZ, NO, HU, DE, NL, EL, DK, UK). Figure 11 gives an overview of the three different projects in which cluster organisations from Auvergne-Rhône-Alpes have been involved.

Figure 11: Overview of INNOSUP-1 projects with participation of cluster organisations from Auvergne-Rhône-Alpes

IoT4Industry (Towards smarter means of production in European manufacturing SMEs through the use of the Internet of Things technologies)

AMULET (Advanced Materials and Manufacturing Technologies united for Lightweight)

S3Food (Smart Sensor System for Food Safety, Quality Control and Resource Efficiency in the Food Processing Industry)

Source: ECCP (2023), based on the COSME data hub (data extracted in January 2023).

The highest requested grant of cluster organisations from Auvergne-Rhône-Alpes participating in INNOSUP-1 projects was the cluster Viameca with ~ €347.000 in the project S3FOOD followed by the cluster Polymeris with ~ €237.000 in the project AMULET and the organisation Arve industries Haute Savoie Mont Blanc within the project IoT4Industry with ~ €123.000.The total requested grant of cluster organisations from Auvergne-Rhône-Alpes within the INNOSUP-1 programme was ~ €708.000.

Involvement in EU initiatives in the EU funding period 2021-2027 (Eurocluster)

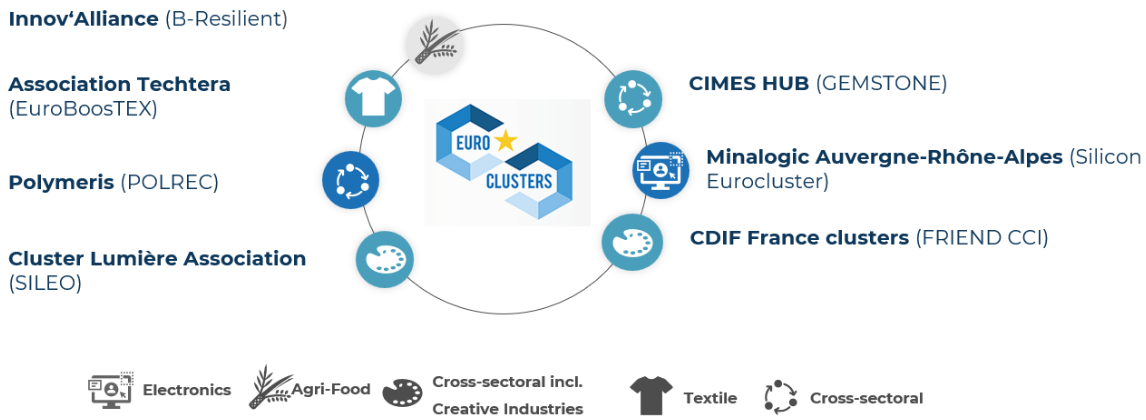
With regards to 2021-2027, the European Commission has launched the implementation of the EU Industrial Strategy. In this context, so-called Euroclusters are funded under the Single Market Programme. The Eurocluster initiative aims at supporting cross-sectoral, cross-regional European industry clusters cooperating with other economic stakeholders such as companies or business organisations.

From Auvergne-Rhône-Alpes, seven different cluster organisations are participating in seven different Euroclusters. By being involved in around 23% of all Euroclusters, the cluster organisation from Auvergne-Rhône-Alpes can be perceived as committed to European cluster initiatives. The thematic focus of the different

[39] European Commission (2020): Study on the effectiveness of public innovation support for SMEs in Europe . Annex E, INNOSUP evaluations. Available under: https://op.europa.eu/en/publication-detail/-/publication/888d351a-9d97-11eb-b85c-01aa75ed71a1/language-en (last accessed 10.01.2023).

Euroclusters with participation from cluster organisation from Auvergne-Rhône-Alpes is on textile, creative industries, agri-food and electronics.

Figure 12: Overview of Euroclusters with participation of cluster organisations from Auvergne-Rhône-Alpes



Source: ECCP (2023), based on the COSME data hub (data extracted in January 2023).

Consortium partners of the Euroclusters with participation of cluster organisations from Auvergne-Rhône-Alpes come from 15 different countries (BE, FR, ES, IT, GR, PT, DE, RO, PL, LV, DK, AT, NL, SE, BG).

04

Smart Specialisation in Auvergne-Rhône-Alpes

EUROPEAN CLUSTER COLLABORATION PLATFORM

Strengthening the European economy through collaboration

4. Smart Specialisation in Auvergne-Rhône-Alpes

Cluster organisations (can) play an important role in the design and implementation of Smart Specialisation Strategies (S3) since in both concepts, the facilitation of economic growth and competitiveness through regional proximity, are key elements. Box 1 provides some good practices of cluster involvement in S3 from other European regions and especially in the Entrepreneurial Discovery Process[40] (EDP). Against this background, this chapter focuses on Smart Specialisation in in Auvergne-Rhône-Alpes.

Box 1: Good practices of cluster involvement in S3

Good practices of cluster involvement in S3

Berlin/Brandenburg – Cluster 'Master Plans':
In Berlin/Brandenburg cluster organisations developed 'Master Plans' for priority areas in which specific objectives and actions for implementation were laid out. Thereby, an important element of these 'Master Plans' is the highly participatory and consultative process in which the various stakeholders are involved and can postulate their opinions on the priorities.

Lombardy - Technology clusters and biannual work programmes:
While priority areas are defined in a rather generic manner in the strategy, Lombardy has foreseen biannual Work Programmes that structure priorities into macro-themes and macro-themes into development themes. The establishment of these biannual work programmes is the result of a continuous Entrepreneurial Discovery Process (EDP) to identify more specific domains of the priorities. Thereby especially technology cluster organisations played a crucial role in the S3 process and were involved in identifying areas for further development and the further definition of the priority areas in biannual Work Programmes.

Slovenia - Strategic Research and Innovation Partnerships and the role of clusters (SRIPs):
In Slovenia, lasting partnerships between different types of stakeholders were created to implement the S3 through action plans. Cluster organisations can get involved in this process and these Strategic Research and Innovation Partnerships (SRIPs). There, priority areas are implemented through one SRIP per priority area and constitute long-term partnerships between different actors such as the business communities, research organisations, and the state.

S3 2021-2027 of the Auvergne-Rhône-Alpes region

Before delving into the details of the S3 of Auvergne-Rhône-Alpes, it needs to be highlighted that due to structural changes in the French regions before 2016 the regions Auvergne and Rhône-Alpes were two separate regions. For the 2021-2027 funding period, however, there is one S3 for the Auvergne-Rhône-

[40] The entrepreneurial discovery is an interactive and inclusive process in which the relevant actors identify new and potential activities and inform the government. The government assess this information and empowers those actors most capable of realising the potential. See https://s3platform.jrc.ec.europa.eu/edp (last accessed on 13.01.2023)

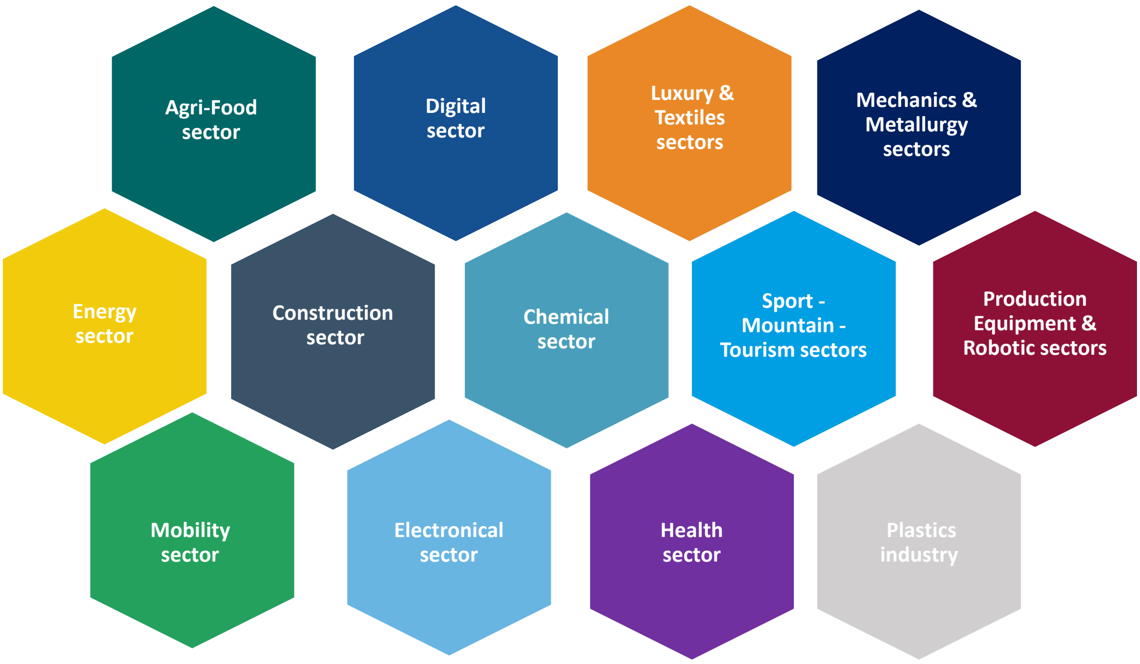
Alpes region.[41] This "Plan Auvergne-Rhône-Alpes 2022-2028" is the starting point for the analysis of Smart Specialisation in the Auvergne-Rhône-Alpes region. Although the EU funding period includes the years 2021-2027 the upcoming S3 of Auvergne-Rhône-Alpes addresses the years 2022 to 2028.

With regards to the S3 2021-2027 of Auvergne-Rhône-Alpes it needs to be pointed out that the document follows an integrated approach by providing a regional development plan for the region's economic development, innovation and internationalisation (SRDEII) as well as a regional plan for higher education, research and innovation (SRESRI). In this regard, the SRDEII outlines five overarching strategic goals:

- Supporting relocations by focusing on industry
- Responding to the two major future challenges: digitalisation and decarbonisation of companies
- Orienting and training for jobs that are recruiting and the sectors of the future
- Make Auvergne-Rhône-Alpes the region for engineers, technicians and scientists
- Focus on the strengths of the region: research and higher education, "hunting together" and the 13 fields of excellence identified by the region

Linked to these overarching strategic goals, the strategy outlines **13 priority areas** (fields of excellence). The figure below provides an overview of the 13 priority areas of the Auvergne-Rhône-Alpes S3 Strategy 2021-2027. Overall, these priority areas cover a broad range of topics ranging from agri-food over health to textiles.

Figure 13: Overview of the priority areas of the Auvergne-Rhône-Alpes S3 2021-2027



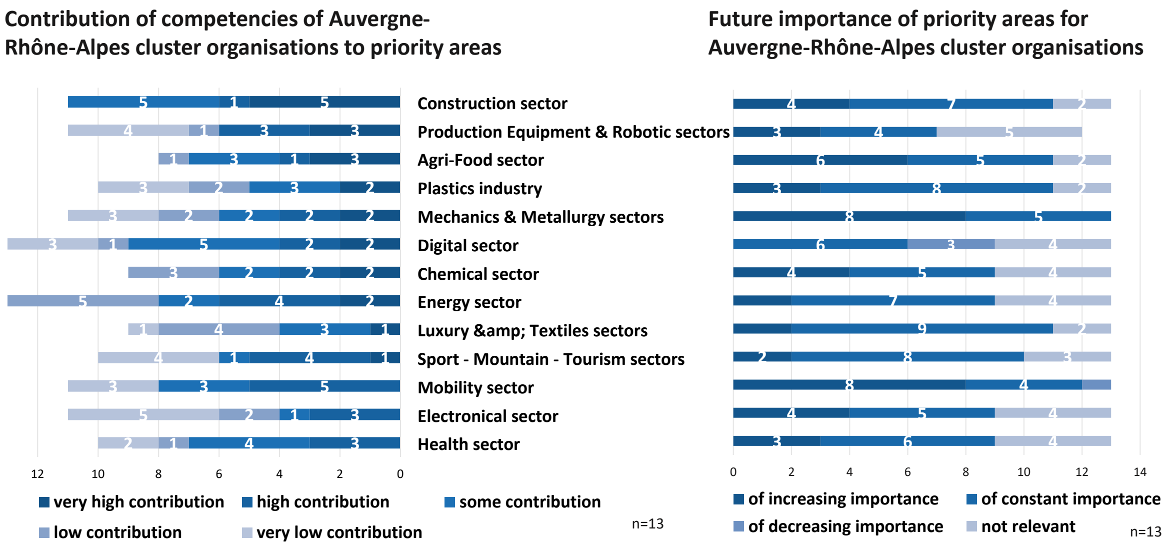
Source: ECCP (2023), own elaboration based on Plan Auvergne-Rhône-Alpes 2022-2028 en faveur de l'économie, l'emploi, la formation et l'innovation (last accessed 31.01.2023)

[41] La Région Auvergne-Rhône-Alpes (2022): Plan Auvergne-Rhône-Alpes 2022-2028 en faveur de l'économie, l'emploi, la formation et l'innovation. Available online https://www.cimes-hub.com/sites/default/files/rara2022planaura_20222028_version_finale_du_28_juin.pdf (last accessed 31.01.2023)

Outlook: Competencies and involvement of the Auvergne-Rhône-Alpes cluster organisations in Smart Specialisation

Results of an online survey conducted with the cluster organisations in Auvergne-Rhône-Alpes show that the majority of cluster organisations in the region are contributing very highly to the priority areas related to construction, production equipment &robotic sensors as well as agri-food sectors. The priority areas related to plastics industry followed by mechanics and metallurgy sectors are also priority areas where many cluster organisations report a high or very high contribution. Overall, it can be stated that the cluster organisations in Auvergne-Rhône-Alpes are contributing to all priority areas which can be regarded as an indicator for a functioning EDP as well as priority setting in the region. All cluster organisations are contributing to the priority areas related to digital and energy sectors which underlines the relevance of the Twin Transition in the region. This is also reflected in the future importance of the priority areas of Auvergne-Rhône-Alpes. Here, cluster organisations stress the increasing importance of the priority areas related to digital and energy sectors in the future. Priorities related to the construction sector, Production Equipment & Robotic sectors and the mobility sector are also relevant priority areas where cluster organisations see increasing importance in the future.

Figure 14: Results of survey - Priority areas of the upcoming S3 (2021-2027) of Auvergne-Rhône-Alpes

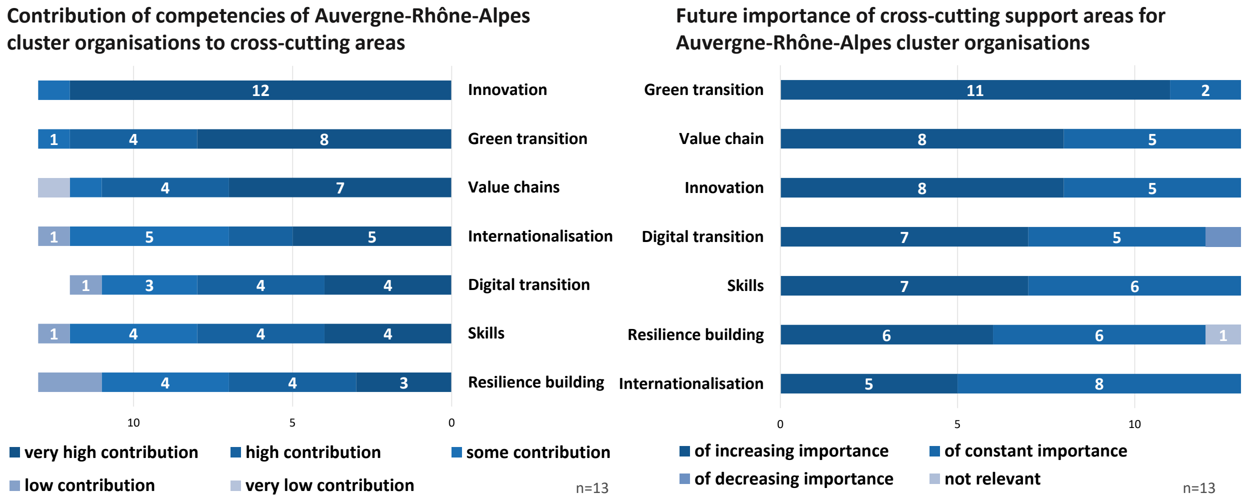


Source: ECCP (2023), Results are based on the self-assessment of Auvergne-Rhône-Alpes cluster organisations. Survey conducted in February 2023. Note: participants could select multiple priority areas

Cross-cutting support areas and strategic challenges

Figure 15 shows the results of the survey concerning the cross-cutting support areas and strategic challenges of the Auvergne-Rhône-Alpes cluster organisations. All cluster organisations are contributing very highly to the area of innovation. Value chains, the green transition and internationalisation are also relevant competency areas where Auvergne-Rhône-Alpes cluster organisations are very highly contributing to. The previously underlined relevance of the Twin Transition is also reflected in the future importance of cross-cutting support areas for Auvergne-Rhône-Alpes cluster organisations. Here, almost all cluster organisations are seeing an increase in importance in the future. Other cross-cutting support areas where the majority of Auvergne-Rhône-Alpes cluster organisations are reporting increasing importance in the future are value chains, skills and innovation.

Figure 15: Survey results - Cross-cutting support areas and strategic challenges

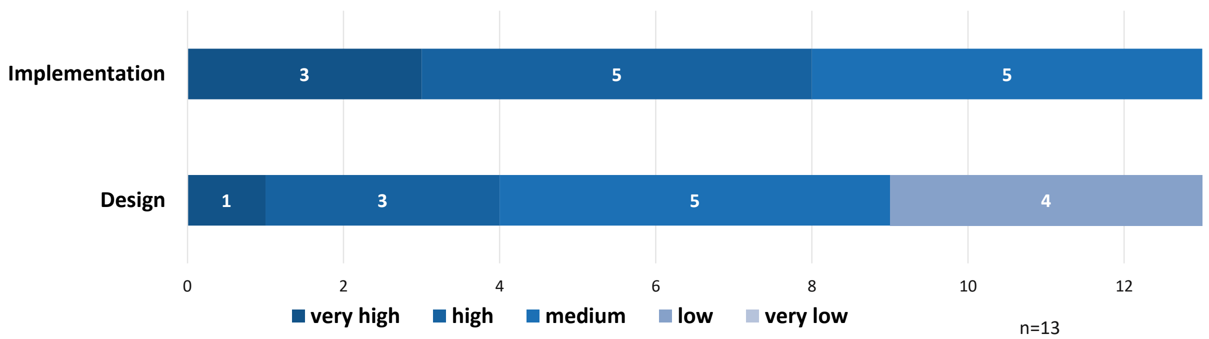


Source: ECCP (2023), Results are based on the self-assessment of Auvergne-Rhône-Alpes cluster organisations. Survey conducted in February 2023. Note: participants could select multiple items

Involvement of Auvergne-Rhône-Alpes clusters in regional initiatives

Cluster organisations can be involved in regional initiatives such as regional economic governance, policy design and implementation at the regional level. For Auvergne-Rhône-Alpes cluster organisation, the survey results show that these cluster organisations are generally involved in both the implementation and design of regional initiatives. Nonetheless, cluster organisations in Auvergne-Rhône-Alpes are slightly more intensely involved in policy implementation.

Figure 16: Results of survey - Level of involvement in regional initiatives of Auvergne-Rhône-Alpes in the 2014-2020 funding period



Source: ECCP (2023), Results are based on the self-assessment of Auvergne-Rhône-Alpes cluster organisations. Survey conducted in February 2023.

Bibliography

Banque des Territoires (2021): Le fonds souverain de la région Auvergne-Rhône-Alpes est lancé, Localtis, 22.03.2021. Available under: https://www.banquedesterritoires.fr/le-fonds-souverain-de-la-region-auvergne-rhone-alpes-est-lance#:~:text=La%20r%C3%A9gion%20Auvergne%2DRh%C3%B4ne%2DAlpes%20a%20lanc%C3%A9%20le%2022%20mars,atteindre%20100%20millions%20d%27euros (last accessed 01.02.2023).

Bellégo, C.; Dortet-Bernadet, V. (2014) L'impact de la participation aux pôles de compétitivité sur les PME et les ETI, Économie et Statistique, 471. Available under : https://www.researchgate.net/publication/286009805_L'impact_de_la_participation_aux_poles_de_competitivite_sur_les_PME_et_les_ETI (last accessed 03.02.2023).

Ben Hassine, H.; Mathieu, C. (2020): R&D crowding out or R&D leverage effects. An evaluation of the French cluster-oriented technology policy. https://www.sciencedirect.com/science/article/abs/pii/S004016251831727X (last accessed 31.01.2023).

Brossard, O.; Moussa, I. (2014) The French cluster policy put to the test with differences-in-differences estimates. https://www.researchgate.net/profile/Olivier-Brossard/publication/283816500_The_French_cluster_policy_put_to_the_test_with_differences-in-differences_estimates/links/577b970108aec3b743365bfa/The-French-cluster-policy-put-to-the-test-with-differences-in-differences-estimates.pdf (last accessed 31.01.2023).

Czyżewska, D. (2013): Innovation policy instruments in Rhône-Alpes – key challenges and future orientations, Poznań University of Economics Review, 13:2, 65-83. Available under: https://www.ebr.edu.pl/pub/2013_2_65.pdf (last accessed 30.01.2023).

ECCP (2021): European Cluster Panorama Report 2021. Available under: https://clustercollaboration.eu/sites/default/files/2021-12/European_Cluster_Panorama_Report_0.pdf (last accessed 11.09.2023)

European Commission (2023): Regional Innovation Scoreboard 2023: Auvergne-Rhône-Alpes. Available under: https://ec.europa.eu/assets/rtd/ris/2023/ec_rtd_ris-regional-profiles-france.pdf (last accessed 11.09.2023).

European Commission (2023): Regional Innovation Scoreboard 2023 – Methodology report. Available under: https://research-and-innovation.ec.europa.eu/system/files/2023-07/ec_rtd_ris-2023-methodology-report.pdf (last accessed 11.09.2023).

European Commission (2021): European Cluster Panorama 2021: Leveraging clusters for resilient, green and digital regional economies. Available under: European cluster panorama 2021 - Publications Office of the EU (europa.eu) (last accessed 31.01.2022).

European Commission (2020): Study on the effectiveness of public innovation support for SMEs in Europe. Annex E, INNOSUP evaluations. Available under: https://op.europa.eu/en/publication-detail/-/publication/888d351a-9d97-11eb-b85c-01aa75ed71a1/language-en (last accessed 10.01.2023).

Eurostat (2023): Gross domestic product (GDP) at current market prices by NUTS 2 regions. Available under: https://ec.europa.eu/eurostat/databrowser/view/nama_10r_2gdp/default/table?lang=en (last accessed 11.09.2023).

EU: Digital Skills & Jobs Platform (2021): ICT specialists: the skills gap hinders growth in the EU countries. Available under: https://digital-skills-jobs.europa.eu/en/latest/news/ict-specialists-skills-gap-hinders-growth-eu-countries (last accessed 11.09.2023).

Fontagné, L.; Koenig, P.; Mayneris, F.; Poncet, S. (2013): Cluster Policies and Firm Selection. Evidence from France. https://hal.science/file/index/docid/975554/filename/FKMP_final.pdf (last accessed 31.01.2023).

Grand Lyon; Saint-Étienne (2021): Les Métropoles de Lyon et Saint-Étienne s'unissent pour réinventer l'industrie sur le territoire, dossier de presse, 17.05.2021. Available under: https://www.grandlyon.com/fileadmin/user_upload/media/pdf/espace-presse/dp/2021/20210517_dp_industrie.pdf (last accessed 01.02.2023).

Hunady, J. & Pisar, P. (2021): Innovation and invention in the EU business sector: the role of the research and development expenditures. Available under indecs2021-pp168-188.pdf (last accessed 31.02.2023).

Ketels, C. & Protsiv, S. (2021): Cluster presence and economic performance: a new look based on European data, Regional Studies, 55:2, 208-220, DOI: 10.1080/00343404.2020.1792435. Available at: https://www.tandfonline.com/doi/full/10.1080/00343404.2020.1792435 (last accessed 15.11.2022)

La Région Auvergne-Rhône-Alpes (2022): La politique filière de la Région, last updated 30.06.2022. Available under: https://www.auvergnerhonealpes.fr/actualites/la-politique-filiere-de-la-region (last accessed 01.02.2023).

La Région Auvergne-Rhône-Alpes (2022): Plan Auvergne-Rhône-Alpes 2022-2028 en faveur de l'économie, l'emploi, la formation et l'innovation. Available online https://www.cimes-hub.com/sites/default/files/rara2022planaura_20222028_version_finale_du_28_juin.pdf (last accessed 31.01.2023)

Le chiffre du commerce extérieur (2022): Les chiffres clé de la region. Available under: REG_18 (finances.gouv.fr) (last accessed 12.09.2023).

Les Echos (2021a): Saint-Etienne et Clermont-Ferrand s'associent dans le capital-risque, 16.02.2021. Available under: https://www.lesechos.fr/pme-regions/auvergne-rhone-alpes/saint-etienne-et-clermont-ferrand-sassocient-dans-le-capital-risque-1290740 (last accessed 01.02.2023).

Le Monde (2014): La carte à 13 régions définitivement adoptée. Available under: La carte à 13 régions définitivement adoptée (lemonde.fr) (last accessed 30.01.2023).

Ministry of Economy, Finance, and Industrial and Digital Sovereignty (2022): Pôles de Competitivité: Phase V (2023-2026), Cahier des charges de l'appel à candidatures pour la labellisation des pôles de compétitivité. Available under : https://www.entreprises.gouv.fr/files/files/aap/poles-de-competitivite/Cahier-des-charges-phase-V-poles-de-competitivite.pdf?v=1659596995 (last accessed 02.02.2023).

N'Ghauran, K. A.; Autant-Bernard, C. (2020): Assessing the collaboration and network additionality of innovation policies: a counterfactual approach to the French cluster policy, GATE Lyon Saint-Étienne – Groupe d'analyse et de théorie économique, WP 2004, February 2020. Available under: https://shs.hal.science/halshs-02482546/document (last accessed 31.01.2023).

Prognos /CSIL (2021): Study on prioritisation in Smart Specialisation Strategies in the EU. Study on behalf of the European Commission. Available under: https://ec.europa.eu/regional_policy/en/information/publications/studies/2021/study-on-prioritisation-in-smart-specialisation-strategies-in-the-eu (last accessed 13.01.2023)

Prognos /CSIL (2022): Analysis of key parameters of smart specialisation strategies (S3). Study on behalf of the European Commission. Available under: https://op.europa.eu/en/publication-detail/-/publication/3026007b-8be2-11ed-999b-01aa75ed71a1/language-en/format-PDF/source-279324673 (last accessed 11.09.2023)

Prognos et al. (2021): Evaluation Study of & Potential Follow-Up to Cluster Initiatives under COSME, H2020 & FPI (DG GROW, Unit D2 - Industrial Forum, alliances, clusters). Study on behalf of the European Commission. Available under: https://op.europa.eu/en/publication-detail/-/publication/a2c3e9e1-3deb-11ec-89db-01aa75ed71a1/language-en/format-PDF/source-241039860 (last accessed on 10.01.2023).

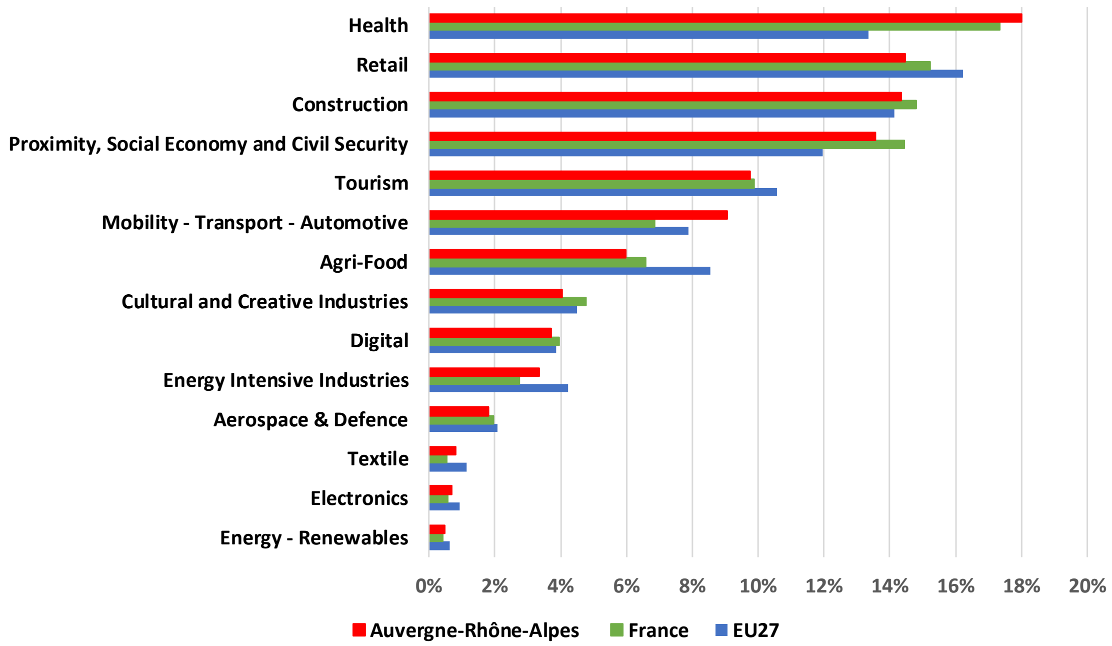
The World Bank (2013): ICTs are creating new jobs and making labor markets more innovative, inclusive, and global – World Bank study. Available under: ICTs are creating new jobs and making labor markets more innovative, inclusive, and global – World Bank study (last accessed 12.09.2023).

Annex

Employment across the industrial ecosystems

Figure 17 depicts the share of the number of persons employed across the fourteen industrial ecosystems. According to this figure, the largest ecosystem in the region of Auvergne-Rhône-Alpes is Health, with a total employment of around 551,500, representing 18.0% of the total number of persons employed in the region. This share exceeds both the national level (17.3%) and the EU27 level (13.3%), indicating the importance of this ecosystem for the region, followed by Retail, at 14.5% across all ecosystems. Construction is ranked third, with a share of 14.3%, which is slightly lower than at the national level (14.9%) but higher than at the EU27 level (14.1%). Moreover, other ecosystems, such as Proximity, Social Economy and Civil Security and Mobility – Transport - Automotive, stand out as exhibiting a higher share than the EU27 average. Particularly the former ecosystem plays a significant role in the region, with a share of 9.0% across all ecosystems, having a higher share than the national and EU27 levels.

Figure 17: Employment across the industrial ecosystems



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

Table 1: Key socio-economic and sectoral indicators of Auvergne-Rhône-Alpes, France and the EU

	Auvergne-Rhône-Alpes	France	EU
GDP per capita (PPS)	32,800	33,800	32,400
GDP per capita growth (PPS)	2.7	2.6	2.5
Population density	114	106	106
Urbanisation	62.4	65.9	75.8
Population size (000s)	8,110	67,660	447,210
Share of employment in:			
Agriculture & Mining (A-B)	2.6	2.5	4.4
Manufacturing (C)	14.8	11.6	16.4
Utilities & Construction (D-F)	9.2	8.2	8.3
Services (G-N)	65.8	68.4	63.7
Public administration (O-U)	7.7	9.2	7.2
Average number of employed persons per enterprise	3.3	3.6	5.1

Source: European Commission (2023): Regional Innovation Scoreboard 2023 Regional Profiles France.

Regional Competitiveness Index

Figure 18: Performance of Rhone-Alpes in the Regional Competitiveness Index

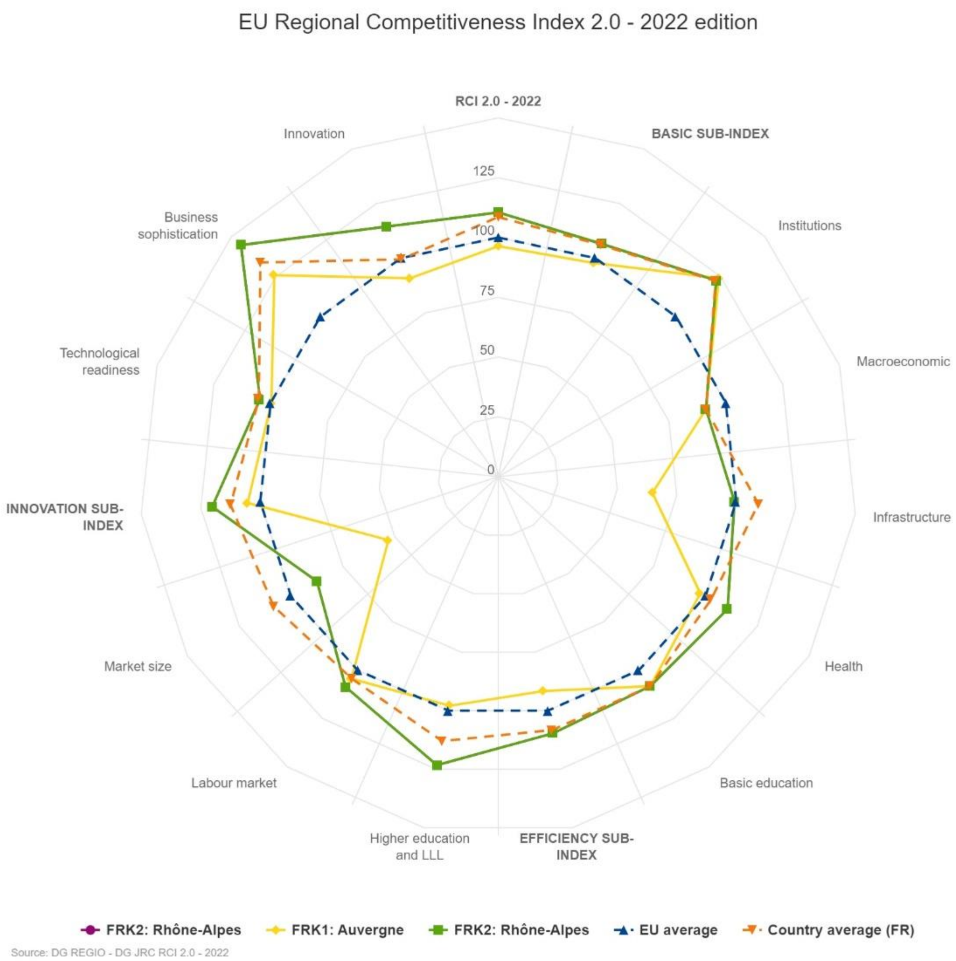
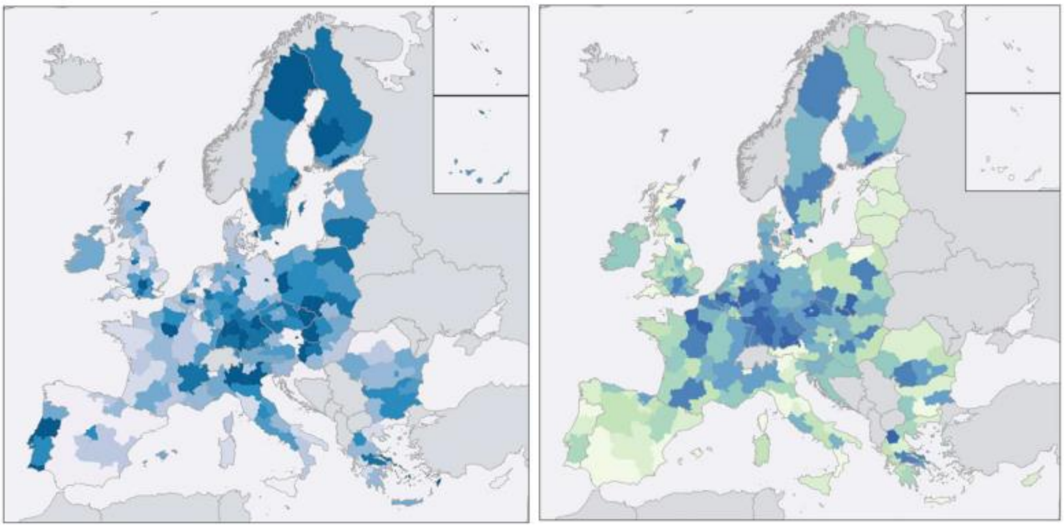


Table 2: Overview of pôles de compétitivité and regional cluster organisations in Auvergne-Rhône-Alpes and their addressed EU industrial ecosystems

N°	Pôles de compétitivité	Industrial Ecosystem
1	Axelera	Energy Intensive Industries
2	CARA	Mobility-Transport-Automotive
3	CIMES (Creating Integrated Mechanical Systems)	Mobility-Transport-Automotive
4	Innov'Alliance	Agri-food
5	Infr@2050	Construction
6	Lyonbiopôle	Health
7	Minalogic	Digital
8	Nuclear Valley	Energy-Renewables
9	Polymeris	Energy Intensive Industries
10	Techtera	Textile
11	Tenerrdis	Energy-Renewables
12	Vegepolys Valley	Agri-food
13	Xylofutur	Energy-Renewables
N°	Regional cluster organisations	Industrial Ecosystem
1	AEROSPACE CLUSTER AUVERGNE-RHÔNE-ALPES	Aerospace & Defence
2	AIM: Auvergne-Rhône-Alpes In Motion	Creative & Cultural Industries
3	BIO Auvergne-Rhône-Alpes	Agri-food
4	COBOTEAM	Electronics
5	DIGITAL LEAGUE	Digital
6	Eco-Bâtiment	Construction
7	EDEN	Aerospace & Defence
8	i-Care Lab	Health
9	INDURA	Construction
10	LUMIERE	Construction
11	Montagne	Tourism
12	OUTDOOR SPORTS VALLEY	Tourism
N°	Other cluster organisations	Industrial Ecosystem
1	Cancéropôle Lyon Auvergne-Rhône-Alpes	Health

Source: ECCP (2023), the Ministry of Economy and Finance, see https://www.entreprises.gouv.fr/fr/actualites/industrie/poles-de-competitivite/labellisation-de-55-poles-de-competitivite-pour-la-phase-v-2023-2026, and the regional authorities, see https://www.auvergnerhonealpes.fr/actualites/la-politique-filiere-de-la-region (last accessed 18.04.2023).

Figure 19: Indicators of cluster strength: cluster portfolio strength (share of payroll accounted for by strong clusters) (left) and cluster mix (right)



Source: Ketels & Protsiv (2021): Cluster presence and economic performance: a new look based on European data.
Note: Colours refer to deciles of the corresponding variables such that darker colours indicate higher values.

Figure 20: EU industrial ecosystems based on the European industrial strategy

Source: European Commission: https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/european-industrial-strategy_en (last accessed 10.02.2023).