




VIDA

value-added innovation
in food chains

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D5.3 RECOMMENDATIONS REPORT



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1. Introduction

VIDA is a 36 months European project (2018-2021) funded by the INNOSUP Call of HORIZON 2020 to **support the innovation potential of small and medium-sized enterprises (SMEs)** working across European food chains interested in **improving the use and efficiency of water, food, energy and key enabling technologies (KET)**.

The VIDA project finds its field of application at the regional scale through the **Regional Smart Specialization Strategies (RIS3)** developed by the regions and the implemented cluster activities. The synergy that arises between regions and clusters is of outmost importance for an in-depth knowledge of territorial specificities and their potential.

The bottom-up approach allows to transform a single territory with its own resources, difficulties and potential into an attractive pole in the industrial value chains thanks to the expertise of the clusters. It is a territorial approach that builds on the strengths, expertise and know-how of the territories.

Part of the VIDA project was carried out during the period of the **Covid-19 pandemic**, which challenged us and also European small and medium-sized enterprises. For instance, many small businesses experienced disruptions in the supply chain and the effects of the economic crisis, which shed light on the fragility of SMEs, are likely to be perceived both in the short and in the long run. This situation highlighted the centrality of SMEs in the European and Regional economic and industrial ecosystem. Indeed, it stressed the need to design funding facilities that could reenergize their competitiveness and give new boost to innovation.

This report has a double **objective**. On the one hand, the aim is to collect the information of the RIS3 from all the participating regions and their comparison using the **SWOT analysis** tool to understand the strengths and weaknesses of the participating partners' regions in relation to the VIDA scope.

Although the RIS3 received are very different from each other, as they take into account different starting points, territorial specificities and available tools, they confirm an approach based on long-term visions that meet the objectives of VIDA nexus (use and efficiency of water, food, energy and key enabling technologies - KETs).

On the other hand, through the project results and the aforementioned RIS3 SWOT analysis, the aim is to provide **lessons learnt and recommendations** to political and institutional actors at regional, national and European level, to further develop and support newly created industrial value chains in these regions building on the VIDA experience.

Therefore, regions and clusters of the VIDA Consortium contribute to the energy and technology transition process through their local strategies, giving a signal of impulse and innovation to SMEs.

This process acts as a catalyst and brings with it other positive consequences for the territories involved, including the development and creation of new jobs, fully embracing the principles of a just transition.

The report includes a SWOT analysis of the RIS3 of the regions involved in the VIDA project (Chapter 2) and a set of recommendations for policymakers (Chapter 3).

2. Research and Innovation Strategies for Smart Specialisation (RIS3) of all partner Regions/Nations

The European project VIDA collected and analysed the RIS3 received from the participating regions (Lombardy Region - Italy, Mecklenburg-Vorpommern – Germany, North Region – Portugal, Capital Region – Denmark, Aragon Region – Spain, North Rhine-Westphalia – Germany, Liberec Region – Czech Republic and Northern Netherlands - Netherlands). The RIS3 received from each partner participating in the VIDA project have been included in the annex.

The aim was to monitor the innovative technologies supported by the regions in the areas of VIDA nexus (e.g. technologies for energy efficiency, resource use, KETs).

However, the main challenge faced when analysing the RIS3 was that the strategies differ from each other and, as a result, the comparison was quite complicated.

Thus, the SWOT analysis tool has been adopted to better compare and recognise the strategies. In order to analyse the different strategies, it has been decided to take into account what was indicated in each partner's RIS3 with respect to VIDA nexus issues. Then, we included them in a table for comparing them and understanding the strengths and weaknesses of each strategy, which are shown in table 1.

The participating partners tried to implement different strategies among these sectors which are intrinsically linked: success or failure depends on this, given the close interdependence. The participating regions are from different European areas and have proven to be able to make the best use of their geographical characteristics by pursuing tailored strategies and a territory-based approach. Through the interaction between European clusters and SMEs, it has been possible to start a comparison and sharing of projects and obstacles encountered. This practice underlines the success of the VIDA project in the bottom-up approach in which the involvement of the beneficiaries of the funds (clusters and SMEs) gave rise to multiple good practices.

- The dialogue developed between VIDA partners and SMEs gave us the possibility to understand the needs of the latter resulting in a fruitful collaboration that has to be encouraged and further developed by regional, national and European institutional actors.

- The green industry is very widespread in all the regions thanks to their efforts towards energy transition. All regions have shown their specialisation in energy efficiency, smart grids and renewable energies.
- Many regions have demonstrated good practices in the circular economy and the bioeconomy (e.g. Lombardy Region, Capital Region and North Rhine-Westphalia Region). An example is the development of high technology solutions in the engineering industry to increase the efficiency of raw materials and the production of climate-friendly basic materials based on renewable raw materials (e.g. biorefinery, bioplastics). This expertise has been put at the service of the food chain: from the production process, through sustainable cultivation and water management practices, to waste management, packaging and green labelling.
- In line with the bottom-up approach, some regions have shown the will to promote their artistic and cultural heritage to enhance their territory. In this field, Aragon Region in Spain and North Region in Portugal represent two good practices that hopefully will be replicated by other regions.

However, little consideration remains in the just-and-fair transition measures to ensure that workers employed in traditional industrial chains, with unsustainable practices, are not left behind but, on the contrary, are trained and placed in SMEs with a strong environmental, territorial and social added value.

In conclusion, most of the VIDA project objectives have been accomplished by the regions. However, some challenges remain. For this reason, a number of recommendations have been drawn up. This document has been presented to National and regional governments and European policymakers to consider them in order to improve synergy and collaboration with clusters and SMEs and to further develop and support newly created industrial value chains in these regions.

Table 1 SWOT analysis

	Strengths	Weaknesses
Internal factors	<p>All the regions show their strong specialisation in energy efficiency, smart grids and renewable energies (industrial sector and sustainable buildings).</p> <p>Strategies for the implementation of the circular economy through the reuse of raw materials (e.g. Lombardy Region, Capital Region and North Rhine-Westphalia Region).</p> <p>Development of technologically advanced new solutions in the agri-food production chain to increase the production of high nutritional and healthy food, adopting at the same time sustainable practices in cultivation, with a view to encouraging correct diet of citizens.</p> <p>Good practices in the field of water management through the development of ICT technology solutions and smart systems for monitoring and optimizing water consumption in urban and industrial areas (e.g. Aragon Region can be seen as a best practice as regards the efficiency in a complete water cycle).</p> <p>Competitiveness in the engineering industry sector and in agri-food supply chain, paving the way for a green industry (especially in Lombardy Region and North Rhine-Westphalia Region).</p> <p>Decarbonizing and developing transport sector and more efficient vehicles.</p>	<p>Need to develop further cooperation with other European clusters to achieve scalability of good practices.</p> <p>More support for internationalisation in order to make connections between SMEs is required.</p> <p>More collaboration between clusters and universities and research centres is desirable in order to deepen scientific knowledge and expertise but also to involve the local scientific community in a spirit of fruitful synergy.</p> <p>Lack of measures related to urban mobility and employment that consider a just and fair transition to ensure fair access to services and infrastructure for citizens.</p> <p>Lack of a clear strategy to increase awareness of the projects implemented among European stakeholders.</p> <p>Lack of training courses to provide workers with the required skills.</p>
External factors	Opportunities	Threats
	<p>Promotion of the excellence of the cultural and natural heritage in the context of distinctive regional strategies for tourism development (e.g. Aragon Region and North Region).</p> <p>Promotion of the environmental, urban and landscape quality of low-density territories as a factor of differentiation and regional affirmation (e.g. Aragon Region and North Region).</p> <p>Bottom-up and territory-based approach.</p> <p>Job opportunity in the energy, food chain, water management and technology sector.</p> <p>Possibility to create specialised hubs in the area close to the cluster so that the whole territory can benefit from it.</p> <p>Growth in global demand for environmentally friendly products: green label and reduction of packaging-waste.</p>	<p>Need more investment in order to fund research and innovation projects.</p> <p>Constant threat of GHG emissions growth: need to establish a clear strategy for their reduction and improvement of air quality especially in industrial regions.</p> <p>A more streamlined bureaucratic procedure for application for funds and projects is needed.</p> <p>In order to better coordinate the projects, an organised and constant dialogue between beneficiaries and European policymakers is necessary.</p> <p>No national coordination measures are mentioned by the Regions.</p>

3. VIDA Recommendations

RECOMMENDATIONS FOR REGIONAL OR LOCAL POLICYMAKERS

- 1) The regional/national government should find new tools to support SMEs to **overcome innovation barriers**, by funding **feasibility studies** and **mentoring services for the development of SME's business plan**, making **connections between SMEs and launching customers**, and/or other important **activities necessary** for innovative SMEs to launch on the market their new disruptive/incremental products or services (TRL 7-9). In fact, entering markets for pilot application could represent a challenge, mainly for SMEs.
- 2) The regional/national government should foster and reinforce **cascade funding**¹ opportunities to support SMEs to address regional challenges and develop resource-efficient innovation solutions: **relatively small grants** and **short/medium term projects** (maximum 12 months) are easier for SMEs to manage, especially for startups, which might lack expertise, specific skills and resources to be involved in more onerous projects. The results obtained from **INNOSUP** projects shall prove the efficiency and effectiveness of such funding mechanism.
- 3) The SMEs have been most impacted by the **COVID-19 pandemic**, which shed light on the fragility of SMEs, and by the effects of the consequent economic crisis, that are likely to be perceived both in the short and in the long run. In such context, it is of utmost importance that the regional/national governments support the SMEs through funding facilities (e.g., grants), For instance, the EU Recovery and Resilience Facilities offer regional/national governments the opportunity to support SMEs and **foster innovative solutions** to deliver the **twin climate and digital transition**.
- 4) The regional/national government should recognize the **role of Clusters and Cluster Networks in relation to cascade funding** as the intermediaries who can directly support and encourage SMEs in cross-sectoral and transnational collaboration when staging and developing their innovative solutions.

¹ Cascade funding, or Financial Support To Third-Parties (FSTP), is defined as “funding by the beneficiary of (one or more) recipients that are not party to the GA”. Horizon2020 Model Grant Agreement, art. 15.1. https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amqa/h2020-amqa_en.pdf

- 5) The regional/national government should **support the cluster work in their region** considering their important role in supporting innovation and the cooperation among the industry sector, research centres/universities and institutions.
- 6) The regional/national government should **simplify the bureaucratic procedures** for the application, evaluation and funding processes and make them beneficiaries-friendly. For instance, by shortening the time from the call for proposal until the the start of the projects.
- 7) The regional/national government should **foster cooperation and synergy between industry and research** (i.e. funding collaborative projects) and **facilitate projects for sharing research laboratories** between the various universities or research centres to which companies can access, although making sure that SMEs are in the driver's seat by supplying funding only to SMEs.
- 8) The calls and tenders promoted by the regional/national government should **take into account and incentivize: Green Public Procurement (GPP), certifications CENT and European, national standards**, and the application of the **LCA** (Life Cycle Assessment) and/or **LCSA** (Life Cycle and Sustainability Assessment²) among SMEs.
- 9) The regional/national government should **focus support measures** (e.g. funding) **on cross-sectoral initiatives** relating to the key industries of the region. The aim of this cross-sectoral collaboration should be to increase resource efficiency, which contributes to achieving the Green Deal and fosters the creation of new value chains.
- 10) The regional/national government should **support innovation and collaboration rather than regionalization**: allow cross-region/cross-border consortia if this enhances the innovation capacity of companies. The results of the innovative solution and its benefits will automatically spillover onto the region.
- 11) Create a tool at regional/national level, which works as a **database** where to register industry needs classified by sectors and the existing technological offer (i.e. e-catalogue). It would allow to locate more easily challenges by business sectors in order to find technological solutions encouraging business participation.

² Life cycle sustainability assessment (LCSA) refers to the evaluation of all environmental, social and economic negative impacts and benefits in decision-making processes towards more sustainable products throughout their life cycle.

RECOMMENDATIONS FOR EUROPEAN POLICYMAKERS

- 1) European policymakers should **endorse and strengthen cascade funding systems**, as already provided for in Horizon 2020 work programme, supporting and incentivizing companies, SMEs especially, to develop their small incremental or disruptive innovation. In fact, short/medium term projects (max 12 months) are easier for SMEs to manage and they yield concrete results in a reasonable short amount of time.
- 2) European policymakers should **recognize the role of clusters and cluster networks** in cascade funding³ and reinforce their involvement in the emission of vouchers (such as **INNOSUP** projects).
- 3) Call and tenders promoted by European authorities should **support projects for SME in cooperation with large companies** (funding for large companies could be limited to 50%). The ratio is twofold: first of all, the SME is more likely to be deeply and effectively integrated in the value chain; moreover, such collaboration is key to an effective innovation along the whole value chain.
- 4) Calls and tenders promoted by European authorities **shall facilitate the development of new value chains** (i.e. the *VIDA NEXUS*: Food, Energy, Water and KET), which stem from cross-fertilization, as they could lead to the development of disruptive innovative solutions at a global level.
- 5) Calls and tenders promoted by European authorities **shall not include an obligation to cross-border partnership at an early stage**: it is important to destinate funds to SMEs without the obligation to build an international partnership, as they might not possess such a strong outreach capacity.
- 6) The SMEs have been most impacted by the COVID-19 pandemic, which shed light on their fragility, and by the effects of the consequent economic crisis, that are likely to be perceived both in the short and in the long run. In the context of the EU Recovery and Resilience Facilities, European policymakers should **support the involvement of regional authorities** in the design and implementation phase of the **National Recovery and Resilience Plans** (NRRP) in order to ensure a **bottom-up approach** while increasing the **competitiveness of SMEs** and the potential of regional industrial ecosystem.

³ Cascade funding, or Financial Support To Third-Parties (FSTP), is defined as “funding by the beneficiary of (one or more) recipients that are not party to the GA”. Horizon2020 Model Grant Agreement, art. 15.1. https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amqa/h2020-amqa_en.pdf

- 7) European policymakers should **simplify the bureaucratic procedures** for the application, evaluation and funding processes and make them more beneficiaries-friendly.
- 8) European policymakers should **envisage services to support follow-up activities** for sustaining the momentum of *ESCPs - European Strategic Cluster Partnerships*⁴ (e.g. connections between SMEs and launching customers; internationalisation follow-up, such as COSME cluster go international; innovation follow-up for increasing TRL levels, such as INNOSUP, etc.).
- 9) European policymakers should **foster and facilitate industrial symbiosis** among companies in order to reduce and reuse waste, water and energy consumption.

⁴ The European Strategic Cluster Partnerships have been launched by the European Commission through financial incentives (under COSME programme) to encourage clusters from Europe to intensify collaboration across regions and sectors. <https://www.clustercollaboration.eu/eu-cluster-partnerships>

4. Final remarks

The present report represents VIDA's results in terms of lessons learned and future steps to further develop the newly created industrial value chains in the regions of the Consortium.

As stated in the introduction and throughout the document, the main recipients of the present report are policymakers. This allows highlighting the importance of a close collaboration between clusters and their regional government. Regional clusters' contribution is essential both to the shaping of regional policies and to an efficient identification of the priority fields to invest on and, as a consequence, to an efficient allocation of resources of regional/national/European funding programmes.

In light of the privileged position of cluster and their close connection with the territory and all its actors, the partners of the VIDA project, especially clusters, have used the recommendations included in this report (Section 4) to showcase and disseminate the results and the lessons learned emerged from the project, both from the partners' and from the SMEs beneficiaries' experience.

Such intent was carried out in the form of policy meetings. Some partners have met with their regional governments and policymakers to illustrate the results of the VIDA project, to share the lessons learned and to raise their awareness concerning the practice of cascade funding and its benefits, and to test their potential resonance at the regional level. The policymakers welcomed such inputs very positively: a good practice that had both contributed to the competitiveness potential of the involved territories and that presented a good level of replicability in terms of methodology. Furthermore, VIDA project has been named as a good practice of cascade funding, which is paramount to help SMEs overcome innovation barriers.

As the COVID-19 pandemic made physical meetings unattainable, the possibilities to confront the policy-makers reduced drastically. For instance, some of the meetings were held online.

As previously mentioned, SMEs are especially affected by the **Covid-19 pandemic**, however, they have the greatest potential for recovery given their competitiveness. To this end, the **Recovery and Resilience Facilities** of the EU will provide a unique instrument to turn the challenges of the pandemic into opportunities. Therefore, the VIDA

consortium outlined the best practices of SMEs, clusters and RIS3 strategies related to climate, energy, and innovation, which will be key priorities of the Recovery and Resilience plans that the Member States will have to submit to the European Commission.

For instance, at least 37% of the **NRRP's / (National Recovery and Resilience Plans')** allocation should support the ecological transition and at least 20% the digitalisation. To this end, SMEs should seize the opportunity to foster innovative solutions for the twin climate and digital transition which should go hand in hand to build back better from COVID-19. In such context, RIS3 innovative and green solutions, which build on regional know-how and territorial-based approach, could pave the way to greater cooperation among European SMEs and clusters through cross-border collaboration on S3 topics.

RIS3 strategies will be key for the recovery of SMEs to deliver an innovative and resilient Europe. In this regard, European and national policymakers should involve regional actors in the design and implementation phase of the **Recovery and Resilience plans**, to increase the competitiveness of SMEs while unlocking the potential of an industrial ecosystem with a tailor-made approach.

It is crucial that SMEs look at the possibilities of decarbonisation as effort on a regional scale can have positive knock-on effects on GHG emission reductions on a global scale. In this respect, SMEs do have a role to play in the achievement of the Paris Agreement. Furthermore, their effort to improve the energy efficiency as well as the share of renewables, , are of utmost importance in contributing to the implementation of the UN Sustainable Development Goals (SDGs). The zero-hunger goal, along with the sustainable management of water and the improvement in energy efficiency and supply chains, which are at the cornerstone of the VIDA project, should be achieved through a multistakeholder process where SMEs, thanks to their expertise and know-how, can make their contribution.

In conclusion, taking into consideration the initial objectives of the VIDA project, it can be said that the Consortium has proven a deep grasp of the importance of the synergy between the themes of the VIDA Nexus, successfully adopting a **bottom-up approach**, from clusters and research centres to regions. The comparison between the RIS3 of the participating regions through the SWOT analysis tool is of particular importance as it contributed to draw lessons learnt and recommendations to further develop and support

newly created industrial value chains in these regions. The SMEs are central to the development of the territory and of the regional industrial ecosystem.

This report and its two cores – the set of recommendations and the comparison of the RIS3 of all partner regions - aims to provide the policy makers, both at European and regional level, with a plethora of suggestions and evidences that enables them to steer more efficiently the focus of policy agendas and funding programmes towards high potential and high priority issues coupled with successful methodologies.



clúster aragonés de
alimentación



wateralliance



nanoprogress



clean