Research and Innovation Strategy for a Smart Specialization in Aragon

RIS3 Aragón

EXECUTIVE SUMMARY
DECEMBER, 2013
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“An entrepreneurial discovery process aiming at identifying the benefit which a region can draw from a specialization connected with science and technology”.

This focus is fully aligned with the policies of the European Commission and the Central Administration of the State. It is also the pillar of the regional policy of the Aragon regional Authorities for the years to come. This objective is reflected in the Research and Innovation Strategy of Aragon for a Smart Specialization RIS3 Aragon.

This implies a transformation of the economy of Aragon which should become a “smart, sustainable and integrated” economy benefiting from a high level of employment and social cohesion.

The setting up of the RIS3 Aragon, under the leadership of the Department of Industry and Innovation in the Government of Aragon, which cooperated with various economic players in the region, pleads for an operative policy of the Government encompassing two objectives. It first aims at complying with the requirements of the European Commission as regards the Access to the European Regional Development Fund (ERDF) and to the European Agriculture and Rural Development Fund (EARDF). It also aims at converting Aragon into a smart, sustainable and integrated territory.

In addition, the policies which the RIS3 Aragon takes into account are aligned with other national (Estrategia Española de Ciencia y Tecnología y de Innovación 2013-2020 y la Agenda Digital) and European strategies (EE2020 y Horizon 2020). This applies in particular to those defined by the Government of Aragon, the political body which ultimately approved this document.

In this way, with the final objective of improving the well being of its citizens, RIS3 Aragon includes actions which should contribute to the economic growth of Aragon, focused on the economic development and investments in strong regional fields, in order to take advantage of the economic opportunities and emerging trends and make decisions in favor of the economic growth.

In order to do so, RIS3 Aragon intends to focus the support of its policy and investments on a limited number of key regional priorities, taking into account the challenges and opportunities which can contribute to a knowledge based development.
The first chapter of the document presents a detailed analysis of the regional context and of the innovation potential of Aragon. It provides with overall information on the economic and social situation of the region. It highlights the important demographical challenge which Aragon faces through a low density rate and more than half of its population living in the City of Zaragoza.

The analysis compares sectors, taking into account various parameters such as the existence of a critical mass of companies, technological and scientific specialization, existence of clusters, potential of innovation of sectors, future growth, diversification, capacity as regards interregional and intersectoral cooperation. It highlights the importance in Aragon of three main industrial sectors which are related to transport material, energy and water management, food and drink industry. Transport and stockage are important in the field of services which explains the large number of logistic companies and tourism plays an important role in the commercial sector.

The document includes detailed information on the science, technology and innovation structure of the region including references to the main structures and related indicators.

Thanks to the analysis of various regional strategies, notably the Aragonese Strategy for competitiveness and growth, the analysis and principles for an Aragonese industrial Strategy, the second Autonomic Plan for Research, development and transfer of knowledge, the Innovation Strategy of Aragon and the II Plan for the development of a knowledge based information society in Aragon, a few sectors and priority activities clearly appear: transport, energy, agro food, information and communication technologies.

The SWOT analysis underlines the strengths of some sectors which can benefit from major opportunities, such as logistics and energy. Other sectors such as agriculture, health and tourism could also benefit from growth opportunities thanks to a comparative advantage of the territory.

The second chapter gives an overall description of the governing structure which was used in the framing of the strategy. The document also includes information on the governance which will be set up in order to facilitate the implementation of the strategy thanks to a Steering Committee (Interdepartmental Commission of Science and Technology), an Operative Committee, Advisory bodies (Advisory Council for research and development and Council of Industry of Aragon) and Working Groups.
The vision is described in the third chapter. Aragon wants “to be in 2020 a connected and sustainable territory recognized as such at an international level, thanks to the improvement of connections and mobility, the development of priorities as regards sustainability and the improvement of the quality of life of his inhabitants”. This can be achieved thanks to a differentiation process leading to the definition of priorities (smart specialization) taking into account the challenges, its comparative advantages and its potential of excellence.

The principles and objectives of the RIS3 Aragon give an opportunity to the business and knowledge community to lead an entrepreneurial process in order to strengthen its capacities, as defined by the Government of Aragon, in addition to a process of coordination favoring stable structures with which a competitive I+i ecosystem can be articulated.

The fourth chapter explains the methodology used in order to select a limited number of priorities in the field of research and innovation in favor of regional development in Aragon. This is based both on an exhaustive comparative analysis of the economic sectors and on an analysis of the consistency with other regional strategies.

The strategy defines three strategic priorities related to connectivity, efficiency of resources and well being and quality of life.

In addition to these priorities, the strategy selects a few transversal priorities in the frame of the so called key enabling technologies which the RIS3 aims at strengthening, taking into account the strengths and elements of differentiation: nanotechnologies, new materials, advanced manufacturing and information and communication technologies.
The strategy also aims at supporting the priorities and transversal elements selected by the RIS3 Aragon through a few key action lines:

- Talent and training
- Entrepreneurship
- Support to SMEs
- Support to I+I and transfer of knowledge and technology
- Cooperation
- Internationalization

The priority “connectivity” includes activities related to the sectors of logistics and transport material, production of motor vehicles, trucks, train and providers of components in these fields. These economic sectors are key for the regional development in Aragon thanks to a specialization process based on the following objectives:

- **Integration and evolution of the value chains**, as regards in particular the development of products and systems of logistics management aiming at improving the use of resources with a special attention to measures allowing a reduction of costs and CO2 emissions.

- **Promotion of inter modality**, increase of the visibility of information in the logistics chain and synchromodality considered as new concept in the modal Exchange of wares and the development of logistics hubs and corridors.

- **Improvement of the industrial processes** in the sector of transport material, leading to an increased development thanks to innovative measures, both at the level of processes and products.
Designing of more efficient vehicles, through projects focused on the development of technologies and products of specific vehicles and equipment of the stockage of hydrogen and other fuels, industrialization and improvement of processes.

The “efficiency of resources” is mainly based on energy and water management. The main lines of action in these fields include three strategic objectives:

- **Stockage and integration of energy systems** thanks to the use of smart networks in specific spaces such as industrial polygons and technology parks or in a massive way by taking advantage of the geographical opportunities offered by Aragon.
- **Closure of the water management cycles**, materials and energy by using on one hand more efficient equipment, distributed generation and a major integration of renewable energies, on the other hand the captation, efficient use and treatment of residual water in a field where Aragon can be seen as a reference as regards the efficiency in a complete water cycle.
- **Information and monitorization systems of hydrologic management** for which Aragon can count on major capacity for the development of technologies associated with the management of hydric recourses.

The strategic priority “well being and quality of life” is related to the agro food, tourism and health. The main action lines are connected with the following priorities:

- **Development of integral projects and services** taking into account the concept of healthy ageing, including services for the population in the whole territory, aiming at giving an appropriate answer to the needs expressed in the field of health and assistance services for dispersed and ageing population.
- **Development of new products, processes and technologies in agriculture**, agro food and forestry, action line included in the Rural Development Program of Aragon for 2014-2020.
- **Improvement of the value chain of agro food products** based on their origin, including the production with projects based on conservation, improvement and management of genetic recourses, improvement of the sensorial quality of fruit and meat products, valorisation of agro food sub products and development of the industry of the “fourth range”.
- **Tourism based on cultural and natural patrimony**, two areas for which Aragon can differentiate itself from other regions and benefit from a major potential of growth.
In the frame of the **key enabling technologies**, RIS3 Aragon favors **nanotechnologies** in which the region is already well positioned, the **advanced materials** which offer a strong added value to a large number of sectors such as transport, energy, construction and health assistance, and the **advanced manufacturing** which contribute to the production of high potential goods.

The Government of Aragon is well aware of the economic and social contribution of the **information and communication technologies** and intends to promote three main priorities: one directed at end users, seen as effective or potential beneficiaries of services, one linked with the net seen as an indispensable access instrument, and one related to the content of services as a motivating factor of the access for beneficiaries. All these objectives should complement the actions included in the **Digital Agenda** of Aragon.

The strategy also highlights the wish of Aragon to boost the **interregional cooperation**. A special attention will be paid to sustain the efforts of the international excellence Campus Iberus and to enhance the cooperation in specific fields with the neighbouring regions in Spain and French cross border regions, Aquitaine and Midi Pyrénées.

RIS3 Aragon defines an action plan in its **chapter five** aiming at giving a reality to the objectives fixed for the period 2014-2020. This chapter includes six action lines which are related to the following:

- **Talent and training**: quantitative and qualitative improvement, support to training and specialization of human resources in I+I and facilitate the integration on the labour market.
- **Entrepreneurship**: support to people and companies which wish to exploit an innovation by creating a company.
- **Support to SMEs**: increase, expand and systematize the investments and the carrying out of I+I initiatives and promotion of innovation as part of the competitive strategy of a company.
- **Support to I+I and transfer of knowledge and technology**: support to the research achieved in Universities and Research and Technology Centres, support to the production of scientific knowledge and transfer of technology in the direction of business.
- **Cooperation**: support to the I+I networks and structures which can improve the cooperation, the coordination and the dialogue between those involved and share information and useful advice in order to facilitate access to funding, search of partners and offer of technological services.
**Internationalization**: of the knowledge of the agents, in particular in the frame of a European Research Area.

The actions related to talent and training aim at supporting the training and specialization of human resources in I+i and facilitate its access to the labour market, in the public sector as well as in the private sector, enhance the international mobility and the mobility within the public sector, Universities and Research Centers and between these and companies.

The support actions of I+i transfer of knowledge and technology aim at supporting the research carried out at the level of Universities and Research and technology centers, the production of scientific and technological knowledge and the transfer of technologies towards business.

S3 Aragon also intends to increase, expand and systematize the investments and I+i initiatives by promoting innovation as a component of the competitive strategy of companies. The strategy includes actions of support to PYMEs through funding, thanks to Structural Funds and competitive calls for proposals.

Structural Funds will also be used in order to conclude agreements with structures in charge of the implementation of the action lines related to entrepreneurship. These measures will aim at supporting the people and companies which wish to develop an innovation by creating a company, helping I+i networks contributing to the cooperation, coordination and dialogue between those involved and provide them with information and useful advice in order to facilitate their access to public and private funding, internationalize their knowledge, improve the technological transfer towards business and boost the scientific and technological diffusion of knowledge.

The strategy includes a financial frame and a budget prospect. The I+i share of the budget of Aragon should move from 1,13% of GDP in 2016 to **1,30% en 2020**.

The contribution to I+i from companies and non-profit private companies to this percentage should move from **54,3% en 2016 to 56% en 2020**, at a higher level than the national average.

The sixth chapter refers to monitoring with a reference to a list of context, achievement and result indicators and includes an evaluation process.