

SUPPORT INFRASTRUCTURES IN REGIONAL INNOVATION PROCESSES: NEW PRODUCTIVE SPACES IN CASTILLA Y LEÓN

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The following are the most recent documents on industrial and territorial policy in Castilla y León: *Directrices Esenciales de Castilla y León* (2006) (Essential Guidelines of Castilla y León), *Marco Estratégico de Competitividad Industrial de Castilla y León* (2007) (Strategic Framework of Industrial Competitiveness of Castilla y León) and *Estrategia Regional de Investigación Científica, Desarrollo Tecnológico e Innovación de Castilla y León –ERIDI 2007-2013*. (Regional Strategy of Scientific Research, Technological Development and Innovation of Castilla y León). They highlight the need that strategies intended for stimulating industrial and economic activity in general, brought to fruition by the diversity of sectorial and horizontal support policies directed at the economic fabric, be tightly interwoven within a defined territorial strategy, in such a way that both areas of public action do not produce contradictions and dysfunctions but rather strengthen each other to guarantee and reinforce economic and territorial competitiveness. However, the improvement in cohesion and territorial equilibrium in industrial development also calls for undertaking action focussed on strengthening existing and potential territorial networks, underpinned by the most important transport and communication infrastructures. This should be accompanied by guiding public actions in order to achieve greater cohesion in the regional system of science and technology by developing its potential throughout the territory so as to foster the increased presence of technology-intensive industries and of strengthening the innovative capacity of the regional industrial fabric.

In line with this objective, the aforementioned documents consider the provision of industrial land as a prime objective whilst affirming the supremacy of technological centres the aim of which is to promote a network interaction which incorporates company incubators, university research centres and companies which require specialised services. The correct running of this economic-territorial system requires a revaluation of infrastructures and of large regional logistic enclaves located in the urban centres and along the most dynamic corridors associated with productive areas and with the transport flow structure giving priority to locations which guarantee better compliance with intermodality criteria. This is an essen-

tial demand if we consider the strategic position of Castilla y León, its proximity to large national logistic centres and the unique nature of its productive fabric, both from a sectorial and territorial perspective.

Industrial activities generate 17.7% of the regional gross national product which places Castilla y León slightly above the national average of 15.5%. In spite of the relative weight of industry in the regional economy being significant, the contribution by manufacturing activities in the region to the total of Spanish manufacturing production is not very high at approximately 6% without significant changes during the last decade. From an employment point of view, workers in manufacturing, almost 160,000 people, is equivalent to 17% of the total employed in the region i.e. one percent below the national average (18%), whilst industrial employment in Castilla y León is 5.4% of the total national industrial employment.

The expansion of manufacturing activities in the region in recent years has hardly changed its sectorial orientation or territorial distribution; the localisation guidelines for productive activity emphasise the concentration capacity exercised, primarily, by the two large corridors which act as both an international connection and a regional communication structure: the E-80 Autovía de Castilla, A-62, and the European E-05, Autovía del Norte, A1. Both road infrastructures communicate the region with large national and European markets i.e. the metropolitan area of Madrid and the peninsular regions of the Atlantic Arc between the North of Portugal and the Basque Country, the Ebro Valley and Catalonia as well as with international markets.

Undoubtedly the most dynamic section is that referred to as the Autovía de Castilla, the A-62, which, with its centre of gravity in the Valladolid-Palencia-Burgos corridor, constitutes the backbone of regional industry. This is the location of the most important companies operating in Castilla y León as well as a dense network of small and medium-sized companies which contribute to diversifying productive activities. This area is home to the most dynamic manufacturing branches and the most intensive production lines with regard to capital, technology and skills. On the whole, the rhythm at which new companies are being set up and the capacity for generating industrial work in this area is proved by the highest figures achieved if we take into account that all together this constitutes 53,000 jobs, i.e. more than a third of the region's industrial employment.

Salamanca is located at one end of this corridor which, together with León, comprises the second level amongst the industrial centres of Castilla y León. The analysis of León's industrial activity cannot be understood without taking into account the integration of the municipalities in the area in its productive dynamics which possess the majority of planned or consolidated industrial land and which, as a whole, make up a high proportion of the agglomeration's manufacturing production. The spatial continuity of the provincial capital León with the municipalities of San Andrés del Rabanedo, Villaquilambre and La Virgen del Camino (Valverde de la Virgen) and the availability of industrial land in others such as Onzonilla (where there is a link between the A-66 Benavente-Asturias with the A-231 Burgos-León) explains why peripheral growth has intensified to also include other nuclei such as Valdefresno, Santovenia de la Valdoscina and Sariegos. This process of peripheral growth is also reflected in the urban area of Salamanca, a city clearly defined by its profile as a service centre in which industrial activity takes a backseat. The peripheral localisation of manufacturing companies is organised around large industrial estates developed from the 1970s until now and supported by extensive commu-

nication infrastructures: Montalvo, in its three phases, located in Carbajosa de la Sagrada, Los Villares in Villares de la Reina and, nearby, the Castellanos de Moriscos industrial estate in the municipality with the same name both of which are crossed by the A-62.

The level of industrial implantation and concentration is also relevant along the A-1 Aranda de Duero-Burgos-Miranda de Ebro which, in the south, connects with the cross axis of the N-122 from the agglomerated areas of Valladolid up to the east in the province of Soria through Ribera del Duero: Peñafiel, Aranda de Duero, San Esteban de Gormaz, Burgo de Osma, Soria and Ágreda. In this context, we must also mention the potential presented by another connection axis for the implantation of industrial activities. In this case it is essentially of an interregional nature i.e. the Autovía del Noroeste, A-6, which connects the region with Madrid and Northwest Spain and which also acts as an attractive area for business although it is in fact a discontinuous axis which exudes more vitality in the section starting in Tordesillas and heading south, Medina del Campo, Arévalo, Sanchidrián, Villacastín, El Espinar, up to the regional limits and in the branch to the northwest through the localities of Benavente, La Bañeza, Astorga and Ponferrada.

The vast tracts of empty land, discontinuities and imbalances of this territorial structure are closely associated, apart from the historic ups and downs of the industrialisation process in Castilla y León, with the increased demands made by companies with regard to their localisation conditions as well as their promotion and organisation policies. In the urban areas the traditional industrial estates are filled to the brim and can no longer offer themselves as areas for accommodating manufacturing activities. Instead they have given way to a multitude of commercial companies, distribution centres and various services. Likewise, as productive activities advance and renew themselves they continue to require exclusive areas in order to function thus avoiding dysfunctions and the congestion inherent in the proliferation of countless service companies of a diverse nature. This determines the demand for new land the internal organisation of which foresees the offer of medium and large-sized plots, a road layout suited to the requirements of factories and the provision of quality installations and infrastructures whether of an energetic, hydric, telematic, environmental or waste management nature. Added to this are basic services for industrial companies, both for those linked to the consolidated industrial sectors, i.e. automation and the food and agriculture industry and the emerging sectors: Biotechnology, aerospace, renewable energy and information and communication technologies.

The presence of private capital in R&D activities in Castilla y León has shown a positive trend, thus achieving participation by companies of 53%. Nevertheless, this capital is invested to a large extent by a very small group of large companies. In fact, only ten companies spend approximately 30% of the total R&D costs in the region. The figure corresponding to SMEs is of little relevance since they represent the main body of the region's industrial makeup. These are chiefly identified as companies with very little innovative capacity the needs of which are met with the direct incorporation of technology or, at best, companies with some innovative potential i.e. with innovative capacity based fundamentally on the development of products and their adaptation to new market demands however with still hardly any research capacity.

Therefore, in spite of the effort made by the regional innovation system (companies, public authorities, universities, research centres, technological centres etc.) having signifi-

cantly increased in recent years, Castilla y León still finds itself below the national average, both with regard to resources dedicated to R&D activities (internal expenses, staff dedicated to R&D etc.) and the results obtained (registered patents, manufacture of high technology goods etc.). This is the cause and, at the same time, the consequence of the low presence of industrial companies intensive in technology and knowledge compared to the national average and even more when compared to Spanish regions with the greatest innovative potential. Although these companies only represented approximately 2% of the regional business fabric in 2004, they were responsible for 71% of company spending on R&D, whilst they concentrated 62% of staff on R&D activities in the business sector (ERIDI, 2007). Their location meanwhile showed a similar pattern to that presented by the spatial distribution of the region's most dynamic activities.

Up to the end of the 1990s, technology parks were the basic instrument for reorganising industrial innovation, channelling the main body of investments and developing R&D&I strategies like those already discussed. In recent years however, this strategy has been proved as insufficient since the most innovative activities are associated with scientific parks, laboratories and research institutes whilst it is they who foster the creation of new companies, referred to as spin-offs, in which there is an interpenetration of academic aspects with those which are, strictly speaking, industrial and business. It is scientific parks which emerge from the interrelationship between University-City-Company. They are the result of political willingness to manage knowledge to the advantage of local economic development; these are leading research centres which concentrate scientists from university circles, from the world of business and public bodies with the objective of transferring knowledge and technology to society and driving innovation in the biomedical and technological field and ICT (Information and Communications Technologies).

Finally, there is no doubt that the region's future will be centred, more than it has been hitherto, on regional transport and communication infrastructures. These now have a double meaning whether as a support for coordinating the territory of production, innovation and equipment at the service of regional society or as a means for integrating the region within the new context of interregional and international competitiveness. In this strategy, the design of Cylog, the network of logistic enclaves, is particularly useful even if as a model under construction it presents some limitations which will have to be overcome in the immediate future. These include the need to form a suitable hierarchy for the model by distinguishing the truly multimodal platforms from the simple transport-storage enclaves associated with the one mode only, i.e. the road in general; or the convenience of integrating all the logistic enclaves which are not linked to the model for the purpose of increasing their synergies and avoiding competition amongst enclaves which are close to each other; and of associating this model of enclaves with the so-called «chain of green supply» linked to a greater environmental awareness as well as to so-called «inverse logistics.» This is not only because increasingly strict legislation will exert pressure to ensure that manufacturers assume responsibility for products at the end of their useful life but because this is one of the future commitments in the regional development strategy.