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Strategy and co-operation of the regions to take up the challenges of European Research Area

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Abstract: With the involvement of the regional dimension in European Union-driven research policies, the players (regional governments) are obliged to define or redefine a new strategy and adapt their strategy by taking the various levels of governance into consideration (multi—level governance). The purpose of our report lies in the convergence of the issues we have just highlighted: the need for regions to devise pertinent research strategies, related directly to the models of governance that they may draw on in a European context.
The conceptual framework we are proposing is broken down into three levels: firstly, at the top level, it is based on the triple helix model. We shall analyze the difficulties for the regional governments to elaborate a strategy in context multi-levels of governance and application of regions of the knowledge.

Strategy and co-operation of the regions to take up the challenges of European Research Area

The European research and innovation space project, set up in Lisbon in March 2000, is based on the principle of improving the integration and co-ordination of research activity in order to set Europe on the same level as the other two rival spaces – the USA and Japan – from the standpoints of appeal and competitiveness. With its proposed orientations for the Union research support policy, the European Union Commission report dated 16.6.2004 once again underscores the emergence of European sectors of competence. In particular, it refers to Point 3.2 relative to the complementarity of Structural Funds, the objective of which covers the "cohesion" of FP (Research and Technological Development Framework Programme). As a result, in the current FP, the ERANET programme enables regions to start building up co-operation networks with other European entities (regional governments, regional agencies, foundations, etc.) that finance research, for the creation and support of research programmes. The regional dimension of the policy has been systematically highlighted for a few years now and the FP7th is expected to further emphasise the role of regions (Mustar P. 1996), (Penan H., Mustar P, 2003).
Although FP financing only accounts for 5% of non-military state R&D spending in Europe, the EU credit portion represents 25% of the financing for projects which is therefore a substantial amount. The leverage effect that European financing can have is found on projects conducted in regions. Vice versa, regions will have the benefit of a leverage effect on their projects via their financing if they receive private, State or EU co-financing.
In parallel, States are developing their own instruments: calls for projects, foundations, support for sectors of competence[1]... thus indicating that the entry into "knowledge economics" calls for proactive action in light of the growing threat of delocalisation in relation to intangible investments. It also involves the incorporation of state proactivity into the framework of the European industrial policy via the sectors of competence policy.

With the involvement of the regional dimension in European Union-driven research policies, the players (regional governments) are obliged to define or redefine a new strategy and adapt their strategy by taking the various levels of governance into consideration (multi—level governance – Chapter 1). The purpose of our report lies in the convergence of the issues we have just highlighted: the need for regions to devise pertinent research strategies, related directly to the models of governance that they may draw on in a European context (Capeller, Simoulin, 2003)[2].
The conceptual framework we are proposing is broken down into three levels (E. Brugarolas, 1999): firstly, at the top level, it is based on the triple helix model[3] (Leydesdorff and Etzkowitz); secondly, at the meso-economic level, it is based on the concepts defined in the institutional change theory (D.C. North); finally, at the micro-economic level, it defines the characteristics of the co-ordination of players and the dynamics of their co-operation by using an evolutionary process of the "objective-constraint-selection-arrangement-retroaction" type. We start with the assumption that the implementation of EC policies and participation in major research projects must, as a priority, be based on these territorial players since they are at the core or crossroads of all EC mechanisms. This will lead us to primarily develop the first two levels of the conceptual framework outlined above.

[1] Datar, Septembre 2004, work document.
[2] Cappeler Wanda, Simoulin Vincent, 2003, "Governance in Europe: an interdisciplinary approach", Law and Society, Paris, LJDJ, Vol. 54.
[3] The triple helix model [Leydesdorff and Etzkowitz], the integration, translation and universities/industry/governance institutional differentiation concepts of which enable the interaction between institutional and organisation dynamics in co-operation efforts to be modelled. .

The pertinence of this conceptual framework, proposed in an endeavour to make a concrete analysis of the behaviour of regional bodies of governance, in light of the European research space issue, will be based on the experience and results of a REPARTIR programme - REPARTIR Interreg III B that we have been developing and steering since 2002. The initial phase of this project (2002-2004), co-ordinated by the Toulouse European University Sector, involved nine[4] regions; then eleven [5] additional regions in South-west Europe (all represented by their government) will subsequently be involved in a common approach: recording of the potential in each region, strategy of each region in light of the European research space issues and, finally, possible commitment to a **joint strategy** within this space. We will refer to the **concept of co-opetition** between regions (Chapter – 2) to explain this approach, without refuting the difficulties and obstacles inherent in co-operation and the opening up of research activities on an inter-regional level. We will examine the benefits and dangers of open inter-regional co-operation. Finally, we will review the limits of European support for research and innovation policies by evidencing the continued or even increasing variance in the development of innovation in regions (Chapter - 3).
Observations arising from the REPARTIR[6] project will be examined in light of the strategies adopted by regions belonging to other spaces (North of France, Germany, etc.). They will also be reviewed from the perspective of the preliminary orientations prevailing at the time of implementation of the Interreg III B projects, following the assessment of the previous programme (Interreg IIC South-West)[7].

1 – Regional R&T strategies in a multi-level governance context

What type of multi-level governance?

Governance is defined in very general terms as all the processes/players/structures that produce the standards which define public authority and the allocation of assets within a society. Apart from this basic definition, many other definitions of governance exist but, what was important for the institutions in Europe that helped promote this term in the Nineties, was firstly the marked distinction with the notion of *government* (Isla, 2003) as an institution and, secondly, the desire to promote a *new mode of managing public affairs* based on the participation of civil society at all levels (international, national, regional and local).

This desire arose by the emergence of a new line of reasoning (Richardson and Jensen), the aim of which was to create a new space for practices. And this is what actually happened since this desire culminated in new mechanisms. In parallel, due to the polycentric nature and complexity of the bodies involved, the projection of this new line of thought resulted in the burgeoning of spheres of intervention and mechanisms in which regions represented key spaces of mobilisation. In light of this complexity, the implementation of **multi-level governance,** which mainly refers to the institutional mechanisms managing transactions that

[4] The project is conducted with regional government partners. The following regions are involved, for Spain; Andalusia, Catalonia, Galicia, Basque Country, Balearic Islands, for Portugal; Lisbon and Tage Valley, Northern Portugal; for France: Aquitaine and Midi-Pyrénées.
[5] The second phase "REPARTIR+" will involve the following regions: Aragon, Castille and Leon, Canary Islands, Madrid, Navarre, Valencia, Central Portugal, which will represent Alentejo and the Algarve and Languedoc-Roussillon, Limousin. It will also involve the member regions of the REPARTIR project as regards the network constitution part in a strategic dimension; the regions of Galicia, Catalonia Basque Country and Aquitaine will therefore once again be members of the project to handle the pilot-action and experimentation part.
[6] First document produced: Research and technology in the south-western European area - Regional specificities and potential – 2002-2004 – REPARTIR Project. – Toulouse European University Sector
[7] Chazaud P.,2003, "Interreg IIC South-West Europe: assessment and prospects for the establishment of a co-operation space alongside the Atlantic and Mediterranean arcs, *Territories 2020*, N°7, January, DATAR, La Documentation Française.

take place simultaneously or sequentially in several spaces, rapidly came into being for regions as an essential sphere that first and foremost involved research for specific space organisations. Two types of response were made simultaneously.

The first is based on the issue of the standard state economy which envisages the territory as one administrative space (region, county, State) or as managing the administrative association of these entities. Centred on the management of conflicts of authority, its aim is to achieve an optimum vertical organisation of relations between public authorities representing various levels in the hierarchy. It is characterised by seeking the minimum dispersion of authority between jurisdictions endowed with numerous areas of control that function according to the principle of exclusive responsibility and permanence.

In the European community, this type of governance was embodied at the outset by the promotion of regional echelons by the supranational echelon. In France and Italy, the most significant changes in this domain were brought about somewhat belatedly in the Eighties (Hooghe and Marks, 2001) since there had been little or no development of regional structures in these countries, whereas Spain had developed a federal type of regional structure in the Seventies, thanks to the end of the Franco regime.

The second vision of multi-level governance, arising from the contribution of the economy of innovation and new territorial economy, was focussed more on the issue of the construction of pertinent territories, that is to say, enabling the emergence of co-decision mechanisms, leading to the reinforcement of a collective capacity for innovation, the mobilisation of skills and complementary expertise (Dupuy et al., 2003). Therefore, this vision considered that standard public economy in terms of multi-level administration had to be extended, all the more so if action was to be taken regarding research and technology by taking into consideration the diversity of public and private players and mechanisms to construct compromises to temporarily stabilise the divergence of interests at stake. This vision of governance, insofar as it claims to draw on a wide variety of jurisdictions, with more specific missions and areas of control and possible overlapping reference spaces, highlights a more flexible concept, aimed at providing a more direct response to the preferences and changing needs of citizens. In this type of governance, collective decision-making capacity is necessarily shared between a large number of players. In fact, it can be considered that the first model results in a hierarchy logic (regulatory, top-down, standardising) slotting into territorial scales, whereas the second (procedural, heterarchical and flexible) reflects a desire to go beyond this in order to construct networks, the territorial aspect of which is based on building up relations of trust (Hooghe and Marks).

Both types of governance, although very different, are not totally dissociated, despite the fact that the flexible model, which made a later appearance, currently reflects a certain claim to evince a hierarchical model, in the form of OMC (Open Methods of Coordination), for example (Eberlein and Kerwer, 2002). Thus, if recent experience with strategies for positioning regions in the European Research Space does not offer proof of their coexistence, it nonetheless reflects the simultaneous use of both these models by regions.

The reconstruction of regional strategies

The superimposition, or even combination, of these two principles of governance is particularly marked in France due to the force of the hierarchy of its administrative structures, its marked centralism and its corollary – the weakness of the regional echelon. As a result, the people in charge of public intervention on a regional level – promoted fairly suddenly as

echelons and key relays of research and technology policy – have positioned multi-level governance mechanisms as their primary source of concern.

Initially, the question was first posed in terms of the hierarchical interlink between these spaces and relating policies. Thus, at the end of the Eighties, sectors of competence were in fact set up in regions based on technology transfer logic, marking both a desire for decentralisation and the distancing of the technology offering policy in force in France up to that time. Given that the creation of CCRRDTs (Consultative committees for regional research and technology development) in 1982 had called for detailed diagnosis of research and technology potential in regions, it was possible to implement only the academic part of this programme without any great difficulty. In fact, while academic research potential was periodically recorded at national and regional levels in the form of research directories, this was not the case as regards the highlighting and putting into perspective of skills that were not only academic but still in the private sector. With the completion of this twofold diagnosis, work still had to be done to bring the science and industry sectors into contact, in a context where the transfer organisms were still taking their first halting steps. In Aquitaine, the establishment of sectors of competence, apart from the need for exhaustiveness, constituted a response to the dual principle of grouping pertinent sectors of competence – from the viewpoint of critical mass and technical and industrial complementarity. The sectors are both groupings of skills, whose pertinence from an analytical standpoint (they enable Aquitaine's strong points to be visualised) and strategic standpoint (they are the preferred technology transfer tools), gradually became established in the Nineties. Moreover, the sectors were defined *as experience developed*, that is to say, in line with the industrial and/or strategic priorities that governed their emergence and evolution during the Nineties. The establishment of these sectors naturally complied with the hierarchical setup by which regional spaces were linked to the central State, this being tempered by the consensus presiding over the implementation of State/Region Plan Contracts.

However, the implementation of this hierarchy-based integration reached its limits in the Nineties. Regions initially endeavoured to reduce the scattering of regional or infra-regional mechanisms, as well as those of State departments delocalised in regions, by integrating them into one organism: the RDT (technology diffusion network). This response proved ineffective, however, in light of the numerous inter-regional intervention mechanisms. This called for a new type of co-ordination, which the hierarchical model could not fulfil or which it was feared might culminate in further dispersion of skills and authority, contrary to the integration effect sought. Hence, the recourse to the second governance logic.

The EUROREGIO programmes, first introduced in 1958, based on the development of cross-border co-operation, only began to grow in number from the Eighties onwards. In this domain, the INTERREG programmes in fact proved to be the best vehicles for implementing European thought and transnational policy. As a result, the INTERREG II programme (1994-2000) enabled cross-border initiatives to emerge at European and nationwide levels, notably via the concept of transnational regions. Subsequently, the INTERREG IIIB programme (2000-2006) encouraged the emergence of the setup of transnational visions (Richardson and Jensen, 2002) within the European Spatial Development Perspective (ESDP).

EUROREGIO procedures, centred on the implementation of collaboration to a varying institutional degree between adjoining subnational authorities belonging to different national spaces, lead to hitherto untried involvement of these authorities in a field up to this point reserved for national states. They also present the particularity of focussing on problem-solving issues, aimed at establishing long-term relations. These specific orientations have helped to replace the political/administrative logic of States by a more pragmatic vision, oriented towards economic aspects of regions often sharing a similar or related culture. As a

result, initial experience with the second type of governance did not take on the same intensity for all Euro-regions. Thus, alongside leading regions, strongly integrated for a fairly long period (Germany or Northern Europe), most of the cross-border groupings represent emerging areas, on a smaller scale (for example, Aquitaine-Euskadi-Navarre or Midi-Pyrénées-Languedoc-Roussillon-Catalonia), their appearance due only to the difficulties encountered by the United Nations to represent entities to resolve cross-border problems (Perkman, 2003). These EUROREGIO mechanisms were the start of a cross-border co-operation process, the most tangible effects of which were initially only of benefit to actual border fringes, with regional spaces as a whole continuing to be little affected by this type of relationship. This disadvantage was gradually corrected since the scope of EUROREGIO mechanisms was considerably enlarged and diversified during the Eighties, as a result of the increasing number of European financing procedures, the succession of INTERREGs in particular.

The period of preliminary experience in inter-regional co-operation that accompanied the FP5th opened up the way to a more ambitious objective of integrating research and technology on a European scale within the framework of the FP6th (2002-2006). The setup of the ERA (European Research Area) has marked a break and necessary progress, synonymous with new, increased requirements with respect to regions: access to a strategic vision and programming. As a result, regional governance bodies, in light of the numerous options offered, are more than ever obliged to make strategic choices[8], the force of which has been gradually asserted. These constraints are linked within the European space to the need to meet the objective of concentration and integration between regional policies and the objective of reinforcement of the contribution of regions to national research programmes.

As a continuation of the joint company/territory development objective, expressed via governance of the second type, regions first of all chose to consolidate their academic research potential. They helped academic research laboratories to prepare for present and future FP's, (the 7th in particular) and encouraged them to become better informed on their major orientations and better anticipate the channels of research in a sometimes distant future. They also needed to be encouraged to undergo training and consolidate their partnerships with other laboratories or with companies. While considering localised conglomeration of skills in the form of **clusters** as an essential source of competitiveness and given that the key to the success of clusters resides in their capacity to innovate, they had to attract new skills or form associations with other skills located in other, often competitive, spaces. This presupposed arbitration, difficult to establish and renew, between a dynamic of territorial conglomeration and one of technological opening to other spaces. This policy to motivate and develop awareness to local and remote co-operation was backed by European network structuring mechanisms (integrated projects or networks of excellence) or the extension of partnerships aimed at achieving a critical mass. In this domain, regions have combined their resources – human and financial – with those of a series of key players: companies, state laboratories, interface structures and service providers, with the State and Europe (European Regional Development Fund - ERDF) co-financing certain major research infrastructures.

The REPARTIR (INTEREG III B) programme, the subject of this report, is in the same vein, with the inter-regional relations of trust and co-operation initially developed being principally inspired by the logic of the second type of governance, introduced in the EUROREGIO programmes.

The very positive aspects of these policies have often been underscored, whether in terms of the gradual establishment of relations of trust or interactive experience and greater

[8] Cf. for example: "Strengths and weaknesses of French regions in an extended Europe", General Plan Commissariat, Le Quatre Pages, N° 2, June 2004.

innovation dynamism. However, the strategic positioning of regions in relation to the issues of the ERA cannot be fully based on motivation policies, the effects of which are relatively diffuse and sensitive in the medium term. In 2004-2005, regions therefore made a positive response to the more proactive policy of sectors of competitiveness, expressed on a nationwide level. The presentation of *clusters* of immediate international scope met the priority orientation of the FP6th to reinforce the contribution of regions to national research programmes, the bases for co-ordination and reciprocal opening up of national programmes. Since the observation of foreign experience (German BioRegio, for example) has demonstrated that these international-scope clusters apparently resulted from proactive policies implemented jointly by researchers and the authorities, the setup of sectors of competitiveness seems the safest and fastest way of achieving critical mass objectives, at the same time directly involving major industrial sectors with a focus on more targeted objectives. By selecting the most salient research sectors backed by powerful industrial potential from an extended range of skills, regional decision-makers are endeavouring to reinforce the European and international visibility of a source of research and innovation potential, already with nationwide recognition and essential to the future development of the region as a whole. These strategic objectives are associated with the need to ensure that the research and innovation trajectory of a region leads all the territories it covers along the path to balanced development, in research, higher education, the transfer of technology and the implementation of industrial activities.

The development and enhancement of the value of sectors of competitiveness involves making priority choices governed by the interplay of selections and numerous compromises: within the region concerned, between adjoining regions with similar / complementary skills, when the critical size is not considered adequate (example of Aquitaine and Midi-Pyrénées and the Aerospace/Defence sector of competitiveness) and also between national and European authorities. This complex system interlinking inter-regional compromises of a horizontal type with hierarchical principles prevailing within the region concerned or with national and supranational structures, leads to a certain form of return to governance by fitting into an increased competition / selection context affecting regions.

This enables us to conclude on the complementarity of both types of multi-level governance. While the second, more horizontal form enables beneficial aspects to be generated linked to initial experience and growing trust between players, as well as motivating incentives on the part of governance bodies, it has the disadvantage of functioning on a more long-term basis and in a fairly diffuse manner. The hierarchical form of governance, of the first type, has the advantage of demonstrating more targeted, more speedily perceptible aspects, at the same time presenting the disadvantage of any proactive policy in terms of the involvement of a larger number of players.

2- Strategy of regions in the area of inter-regional co-operation for R&D – joint strategies, co-opetition.

The evolution of European regional policies[9] and implementation of the regional dimension in the 6th framework programme via ERANET invitations to tender, Regions of Knowledge and preparatory texts and communications relating to the 7th framework programme[10] encourage

[9] Policies implemented by the DG Regio – cohesion policies – communication in February 2004 on proposals in the area of cohesion for the period 2007-2013

[10] FP7 Research DG -Reference: IP/05/389 Date: 06/04/20 – The Commission is presenting new proposals in favour of growth and employment for the upcoming financial framework 2007-2013 -

regions to implement transnational inter-region co-operation, which, moreover, conditions the admissibility of projects. The instruments proposed within the framework of the FP6th (networks of excellence, integrated projects) sustained in the 7th, require the implementation of networks where each node is to represent a critical mass of players. The representative players come forward by responding to bids with their partners, reflecting the value of their skills, both to acquire the resources to implement their research projects and to obtain recognition (J. El Ouardighi, J.-A. Héraud, R. Kahn 2004). Recognition should therefore be the key to obtaining other credits from players, ministries, agencies and regional governments. The European Union highlights the leverage effect of mechanisms but regional initiative is necessary in all cases. Players able to respond and take the initiative to create research consortia are on a microeconomic level: local authorities and regional governments can then propose aid with the networking required to facilitate startup of the consortium[11].
Based on the experience acquired with implementation of the REPARTIR project, we will present the experience we have gained by situating ourselves in particular in the perspective of the triple helix conceptual framework to analyse the behaviour of the sphere (propeller) of governance. We will then see how players in other spheres are involved in the processes. Rules for the implementation of European regional policies (structural funds) are based on four principles: the programming, concentration, partnership and additionality (multiple financing) of credits. The main principle behind the rules for implementation of the framework programme for the RDT (FP6 and FP7) is transnational partnership: it is anticipated that this requirement will call for a strategic vision by the players.
Laboratories respond to requirements by choosing partners according to specific-theme skill criteria and scientific affinity. The institutions (territorial authorities, regional governments) within the framework of the programmes for which they are eligible (ERANET, Regions of Knowledge, for the FP6 or DG REGIO Interreg) have had to define a co-operation strategy. We will start with our experience with the REPARTIR project (2002-2004) to illustrate the difficulties of the exercise.

Co-opetition between regions

If we look at this from the perspective of the declarations of Commissioner Busquin, the European Union's objective is to create a Society of Knowledge within Europe, in order to achieve a competitive economy. This political objective is met by the concept of the European Research Space. The communication dated 4-6-03 "Investing in Research": an action plan for Europe "to make Europe the most competitive and dynamic knowledge economy by 2010" – does not mean that territories (regions) must be in competition with one another. The kind of dialogue we maintain between partner regions in a space fosters mutual recognition of potential, skills, highlighting each region according to its specificity. Dialogue has enabled inter-regional networks to be set up where everyone derives the necessary benefit and the heads of networks are chosen by mutual consultation.
In the REPARTIR project, the network is initially an institutional network where the sole initial commitment is to co-operate, that is to say where the specifications of the various regions taking part consist of gathering and transmitting pertinent information concerning the most salient skills in the areas of research and technology. The second part of the specifications concerns presentation of the regional research strategy for each region.

[11] This is the case for Midi-Pyrénées within the framework of a mechanism implemented with the Aquitaine and Provence-Cote-d'Azur Regional Councils; they are both proposing to put out calls for projects to support the inter-regional networking of teams on research projects. Similarly, the Regional Council is partnering the REPARTIR project, which has the same objectives over a broader space, the SUDOE.

The second phase of the REPARTIR+ (2005-2006) project is oriented more towards partners (extension of the number of regions involved from 9 to 19) but, above all, it calls for a stronger commitment from each partner since we are developing three special topic co-operation networks, the shared objective of which is to produce joint research projects between researchers in the different regions for each of the topics. These co-constructed programmes are to be financed by the regions involved. This joint development work is an experiment, the aim of which is to set our co-operation on a more formal level: it consists of experimentation with joint strategy in SUDOE (South West Europe). The underlying idea is to recognise and accept that there can be regions that are leaders in a domain, with the leader in charge of steering the network. The "Biotechnology" network will therefore be steered by Catalonia (Generalitat de Catalunya), the "Micro-nano Materials" network by the Basque Country (Eurobulegoa Government agency), the "Aerospace" network by Midi-Pyrénées (steered by the Centre National de Recherche et Technologie Aéronautique (National Aerospace Centre and Toulouse European University sector). Finally, work/study of the impact on the economy and society will be carried out by Aquitaine and Galicia with an observatory (data mining) steered by Valencia.

Co-operation within this project raises two problems.

The first problem is that regional governments obviously have their own, clear-cut interests.

To integrate and go beyond the conflicts of interest identified, our approach is based on the concept of co-opetition applied to the specific context of co-operation / competition between the regions involved (Adam M. Brandenburger and Barry J. Nalebuff). Within the domain of research and applications arising from research, competition is situated at the level of world macro-regions (USA, Japan, China, etc.).

Over and above underscoring the stalemates liable to occur, the REPARTIR project intends to demonstrate viable solutions acceptable to partners. They reside in a proactive approach to a joint search for complementarities and the convergence of skills and sharing of resources, as well as evidencing and seeking agreements concerning regional differentiation. We will illustrate these issues with a few chosen examples of conflicts of interest and solutions proposed. For example, the "Aerospace" network, steered by Midi-Pyrénées enables the association of Andalusia, the Madrid region, Aquitaine, the Lisbon region and Catalonia in a joint approach to define research projects. The governments involved accept the leadership of Midi-Pyrénées and are associated with this approach.

The same applies to partnerships within the framework of other networks (Biotechnology/Catalonia and Micro-nano-materials /Basque Country), with network leaders therefore accepted by one and all, which enables research teams in the regions that are not the leaders to continue to be involved, thanks to co-operation with teams of a high level.

For the "Aerospace (space applications)" network Midi-Pyrénées has asked to steer the network in order to position itself in this network as the European bridgehead. From the standpoint of their potential, Aquitaine, the Lisbon Region and the Community of Madrid have asked to be present in this network. Spain's research laboratories and aerospace industries are concentrated around Madrid. Andalusia has just been awarded the assembly line for the A400 M (Airbus) and EADS companies are present here; the region needs to develop co-operation efforts in order to increase its R&D potential and acquire know-how that it may find in Midi-Pyrénées in particular. Aquitaine has a military and civil aeronautical industry of consequence, while the region of Lisbon is the only one in Portugal to have research laboratories and an industry in this domain. Catalonia does not have extensive research presence in this domain for the moment; however, a group of companies initiating the first contacts (Midi-Pyrénées- Catalonia) wishes to establish a position in the aeronautical industry field. The desire of the Catalans is clear – to embark on industrial co-operation in the aeronautical and space sectors via science/industry co-operation in a transnational context.

Note that a few Spanish laboratories are currently working with Boeing in the R&D field and the same applies to European industrial firms such as Airbus or Thales, present in South Western Europe, and the subject is therefore becoming sensitive (competition between the A380 / "advanced" B747 , A350 / B787).
The different approaches of each region have been discussed and recommendations on sensitive points involving industrial companies confirmed, with each partner aware of the difficulty and accepting that they need to go beyond a competitive approach to enter into a partnership approach.

Another problem resides in the differences of prerogatives for each region: the autonomy of Spanish regions gives them greater room to manoeuvre financially-speaking than French or Portuguese regional governments. In Spain, the budgets available are sufficient to foster a strategy-oriented approach, encourage and direct transnational co-operation efforts involving laboratories and develop preferential partnerships as a government. In France, regional budgets are too low to be able to respond to the various requests: nonetheless, these governments must assert a positioning and strategy in order to avoid the dispersion of resources.

Determination of the territories of co-operation, partnerships

Another obstacle concerns determination of the territory of co-operation: South Western Europe (the territory of application of the DG Regio Interreg III B programme) as the project territory is to be the subject of specific study. As a result, regions such as the Basque Country, Galicia or Aquitaine, within the framework of Interreg programmes, are involved in other European macro-territories, notably the Atlantic space (including the coastal regions of Spain, France and the United Kingdom). It is normal for these regions to question the pertinence of co-operation with Catalonia or Madrid, for example, and vice versa. The major territories of co-operation proposed with the agreement of States and regions by the EC DG Regio may not satisfy the requirements of players in the regions concerned. Moreover, the programme documents (DOCUP) that define the field of admissible projects limit the field of action. Finally, the aim of regions may also be to establish co-operation that goes beyond the framework of the Interreg III B territory. This is the case for Catalonia, which, for over a decade now, has endeavoured to develop co-operation in research and more extensively in other domains with the Baden Wuttemberg, Rhône-Alpes and Lombardy regions within the framework of an approach in which they have defined themselves as the "4 engines of Europe" and called themselves by this name. Similarly, the Midi-Pyrénées government has been trying for a few years now to establish co-operation efforts with Bavaria and Aragon. Moreover, in the past few months, the Catalan, Languedoc Roussillon, Aragon, Midi-Pyrénées and Balearic Isles governments have founded a Euroregion. The burgeoning of initiatives or declarations of a political nature calls for adaptation of the players who sometimes abandon their efforts because it takes time to set up co-operation schemes. It is difficult for players in the field, laboratories and local institutions to reposition themselves within these orientations. Moreover, regions are being increasingly sought after – Catalonia, for example, which by its dynamic efforts has made itself attractive over the past decade – and decision-makers need to make choices regarding co-operation in light of the many requests. The same applies to Midi-Pyrénées - since the "aerospace and onboard systems" competitive nucleus was created, the region has been sought after by other regions to set up co-operation in these domains. Establishing rules for an ideal co-operation strategy for a region is a complex exercise.

The first exchanges of viewpoints on the subject of inter-regional co-operation strategy have enabled us to ascertain several approaches.
- First of all, the desire to make a commitment may be political: this is the case of the recent formation of the Euroregion (Aragon, Catalonia, Languedoc Roussillon, Midi-Pyrénées, Balearic Isles); the presidents of the regions concerned decided to sign a co-operation agreement without defining the content for the time being. The only element that makes sense is that the presidents of the governments have the same political leaning. However, recent recommendations are "to foster co-operation within the framework of the Euroregion". Due to their economic influence, the Catalans are positioned as leaders: when the other regions wish to give weight to a subject (such as aerospace for Midi-Pyrénées), they are well advised to claim they belong to the Euroregion economic zone. This example characterises the case where political decision-makers wish to reinforce geopolitical and/or institutional groupings.
- Another element is purely institutional; in fact, if governments are committed to a project, the others want to take part. It is an imitative phenomenon that fosters the approach.
- Finally, another channel is more strategic – it involves procuring an advantage for the players in the region. We have recorded several options:
Assistance to players:

- Helping companies to access a market on the basis of partnerships via R&D co-operation within the framework of a project.
- Helping laboratories to access status-enhancing partnerships, either to achieve critical masses or to achieve an international level within the framework of co-operation.
- Completing an industrial sector (companies), technological sector (labs and companies) or scientific sector (lab) – this involves filling in the gaps in the sector in the region of origin or taking into account the complement contributed within the framework of the network.
- By strong presence in inter-regional co-operation, thanks to recognised action to attract companies and laboratories from outside to the region.

Apart from the advantages presented by the REPARTIR project for the regional partners involved, the project may also be of value as an example for inter-regional mechanisms that will most certainly increase in number in an extended Europe.

Regional research identity and inter-regional co-operation

Within the framework of the REPARTIR project, we asked each government to define its strategy regarding the European Research Space. This work gave rise to a document. The regions opting for a commitment to the European Research Space have necessarily gone through the European Union strategy adaptation phase and, after giving thought to their own strategy, have proposed action to support research within the framework of the European Research Space. This is the case for regions (Basque Country, Midi-Pyrénées, Andalusia) whose governments have set up regional mechanisms to assist with the structuring of networks to enable laboratories to form co-operation links. These governments have also become rapidly involved in programmes of the ERANET type. As a result, Midi-Pyrénées and the Basque Country participate in an ERANET (MNT) MicroNano Technology programme steered by Austria, and Andalusia and Midi-Pyrénées are also members of an ERANET programme (ERA-STAR) relating to space applications (GMES).
Study conducted by regional governments of their regional identity (their potential) enabled them to prioritise the angles of attack of these programmes and not disperse their action

according to the requests submitted by laboratories. Midi-Pyrénées has defined competitive nuclei for "aerospace (space applications) and onboard systems" and "cancer-biotechnology-health" which is why - in ERANET as well as in the Inter-regional REPARTIR+ - the regional government has made efforts in these domains. Similarly, the strategy of Catalonia is to become a "bio-region": it has set up a bio-cluster, will be setting up a network with other regions in Europe (future RFP) and is making considerable effort on behalf of the South West European biotechnology network as leader of the REPARTIR+ Interreg. The issue is to clearly define the regional research identity on which a co-operation strategy is defined.
Regions that have chosen regional identity have made local networking, co-ordination and financial support mechanisms available to R&D and innovation for SMEs.
This is the case in Midi-Pyrénées for aerospace: the region has made great efforts to site the CNRT[12] Aéronautique et Espace, the future (CEAS) European Space Applications Centre and the Galileo concession in Toulouse, etc. An ADER[13] plan was developed to support industrial R&D for subcontractors in technologies linked to aeronautics. Relations between the university world, engineering schools, public research centres and national agencies (ONERA, CNES) situated in the region and industrial firms were developed in a "bottom-up" approach.
The dynamic efforts created by the implementation of the competitive nucleus fostered trust between players, which enabled extensive reactivity in interrelations and is developing intelligent interactive connections. This approach is a response to the fact that business must be conducted on an increasingly broader scale and faster speed. Laboratory boundaries are no longer walls but extend to the actors who co-operate with the laboratory, other research teams, companies, users and decision-makers. Trust between players and trust in relation to decision-makers is one of the factors that will ensure the dissemination of knowledge and the absorption and adoption of innovation by companies. Trust is the underlying element to the construction of a regional research and development identity, an identity shared by players in the same region constitutes the starting point for pertinent strategic positioning.

3- European Union regional policies – Research and innovation policy in the regions of knowledge perspective.

Work on European Union regional policies has revealed a dichotomy between a desire to set up processes of convergence and cohesion, covering the level of development in regions, and a desire to support and promote research and innovation via research and technology framework programmes that give preference to regions already possessing high potential (J. El Ouardighi, J.A. Héraud, R. Khan, 2004), (J.-A. Héraud, 2003). Convergence and cohesion policies will be sustained for the period 2007-2013, taking the EU extension into consideration and the priorities defined in Lisbon and Barcelona concerning the increase in research and development investments. The European Union is placing emphasis on the role of regions and providing the mechanisms already mentioned involving regional governments: its structural policy is based on a decentralised approach to innovation policies. We have already indicated that regions will have to position themselves by integrating the policies implemented at national and European levels, within the framework of multi-level governance, covered in Chapter 1.
During 2005, the regulations covering new structural funds will be drawn up and adopted by the Council and Parliament. At the same time, the Member States and Parliament are going to

[12] Centre National de Recherche et Technologie
[13] In 2001, the Regional Council and State launched le plan ADER (ADER plan), a programme to assist the development of regional subcontractor companies, the objective of which is to reinforce the network of regional SMEs to better equip them to satisfy the evolution of requirements from principals in the area of R&D

hear and give a ruling on the proposal for a new FP (Research and Development Framework Programme) covering the same period.

The latest communication proposed to the European Parliament by the Research DG[14] is proposing that there should be efficient co-ordination to support research infrastructures with the use of structural funds.
As far as research potential is concerned, the same communication indicates that structural funds will be used[15].
For several years now, certain regions have been able to use endogenous funds which, when added to national and European funds, have enabled research projects and infrastructures that could not have been created without these European funds. Convergence is a process requiring input from regions, asking them to reflect upon and develop a development strategy that matches the specific context of each region.

Regions of knowledge.

The impact of the policies implemented by regional governance (regional governments, education establishments, national organisms in regions) for the development of a regional dimension of the society of knowledge will very much depend on their capacity to define a coherent sustainable development strategy. Regional decision-makers responsible for the implementation of regional research and technology policies are confronted by the history of research in their countries and regions (dependency on the past, on the path). It is often the State that controls the research policy: regional politicians sometimes have more autonomy but they are all confronted with the problem of multi-level governance (Europe, State, Region).
In this context, regional political decision-makers have to make choices for budget reasons and adopt their policies to choices made at a higher level, either to reflect full agreement with and support these choices, to anticipate these choices or to support policies that higher levels have not dealt with. These choices may be to support one or several scientific domains or to take action to finance large items of equipment or set up grants for researchers, create and support transfer of technology mechanisms. The implementation of these mechanisms resulted from a State/region compromise. Europe came as a player with the implementation of framework programmes, mainly directed towards research teams: regional decision-makers had little say in these programmes but were, however, able to direct the use of the attendant structural funds.

The new order is implementation of the society of knowledge in regions. The society of knowledge always requires a scientific research of excellent quality and technological applications that entrepreneurs are able to use to create innovative products and services.

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[14] Proposal a DECISION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the seventh framework programme of the European Community for research, technological development and demonstration activities (2007 to 2013) - *"As far as the construction of new infrastructures is concerned, an efficient coordination of the Community financial instruments, Framework Programme and Structural Funds in particular, will be ensured."*

[15] "Stimulating the realisation of the full research potential of the enlarged Union by unlocking and developing the research potential in the EU's convergence regions and outermost regions[15], and helping to strengthen the capacities of their researchers to successfully participate in research activities at EU level….. - *" Strong synergies will be sought with the EU's regional policy. Actions supported under this heading will identify needs and opportunities for reinforcing the research capacities of emerging and existing centres of excellence in convergence regions which may be met by Structural and Cohesion funds."*

However, above all, it is the integration of citizens; not only for the dissemination of knowledge in order to increase their scientific culture, foster the use of technology and the use of services and products and develop an innovative spirit of mind but also for their involvement in the orientation of scientific and technological choices, whether from a use and usefulness or an ethical standpoint

This is the new order needed to make a success of sustainable development for regions of knowledge (Gothenburg declaration - 2001).
Work carried out by Cooke and De Laurentis in 2002 shows that the gap between the levels of development in regions is not decreasing but widening, despite the backing of structural funds.
The European Union wanted to break down the traditional framework which, prior to the setup of the European Research Space, attributed a predominant place to the national level. The EU wants to play a regulating role, based on mechanisms fostering bottom up approaches, in the research framework programme in particular, networks of excellence (research institution networks) and integrated projects (involving companies) are initiatives in the field that come directly under the EU. Infranational initiatives therefore express themselves more strongly.

Interlinking between structural funds (ERDF) / framework programme (FP) for research and technology

EU research and cohesion policy issues are noted down in Lisbon (3%) and Gotherburg (sustainable development) records. The objectives, however, are different. It is scientific excellence that is sought in the research and technology framework programme (FP7) whereas it is the re-balancing of regions and their economic development that is sought in relation to structural funds.
Even if there is a real desire to contribute to the development of R&D at various EU, national and regional levels, programming and implementation conditions do not allow the use of instruments common to both policies to be used. In particular, Framework Programme research and technology action is programmed at EU level, while structural fund action is delocalised at the level of Member States and regions. No bridges exist between SFs (structural funds) and FPs (framework programmes) and it is therefore necessary to identify action that will enable synergy between the two policies to be improved. It is at regional level that the cohesion and links between these policies seem to be most relevant and regional governments will have to get the agencies handling the programming of both types of policy to work together. Regional governments will need to achieve cohesion with national plans, for example: cohesion with the State/Regions plan contract in France; European platform proposals will have to be in cohesion with the "sector of competitiveness" proposals defined in regions and, finally, regional governments will have to establish support programmes for companies to meet the requirements of CRAFT programmes and for laboratories for FP7 programmes. Lastly, regional governments should make a commitment, as some of them have already done, to the ERA-NET regional programmes, the co-ordination costs of which will apparently be covered by the research and technology framework programme and the R&D action by the ERDF. Finally, the Region of Knowledge tender within the framework of FP6 may be a tool that will serve to inform regional governments of the best practices being implemented in other regions of Europe and to enable them to test new practices that improve mechanisms, taking the specific nature of their regional context into consideration.

Conclusion:

In our paper, we have covered all the sensitive points that we encountered during our work in co-operation with partner regions within the framework of the project REPARTIR. We are convinced that the regional research dimension will take on increasing importance in the EU and that regional governments must therefore develop a strategy integrating the new, multi-level governance complexity as soon as possible. We have made a few proposals based on our analysis. Regions need to co-operate with other regions in a co-opetition approach. Regions will have to make choices in specific research and development domains that will create a regional identity and clarify their positioning in the European Research Space.
Finally, in order to implement the society of knowledge, regions will have to develop procedures that foster the involvement of citizens in the knowledge of progress made in research: to establish trust between society and the world of research and innovation, citizens should be associated with scientific and technical choices in order to ensure sustainable development that is acceptable to everyone.

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