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# Study of prospects in the Atlantic regions

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European Commission

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EUROPEAN COMMISSION  
Directorate-General for Regional Policies

## **Study of prospects in the Atlantic regions**

Centre européen de développement régional (CEDRE)

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## Preface

Each year, the Directorate-General for Regional Policies of the Commission of the European Communities launches a number of studies in the field of regional policy and regional planning. These studies mainly aim at providing a basis for policy formulation internally, as well as the preparation of programmes and initiatives and a basis for analysing the impact of current or planned activities. The most interesting or innovative of these are now published in a series entitled *Regional development studies*. With this series the Directorate-General hopes to stimulate discussion and action in a wider sphere on the research results received. The publication of the studies is addressed to politicians and decision-makers at European, regional and local level, as well as to academics and experts in the broad fields of issues covered.

It is hoped that by publicizing research results the Commission will enrich and stimulate public debate and promote a further exchange of knowledge and opinions on the issues which are considered important for the economic and social cohesion of the Community and therefore for the future of Europe.

Readers should bear in mind that the study reports do not necessarily reflect the official position of the Commission but first and foremost express the opinion of those responsible for carrying out the study.



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# **Prospective study of the Atlantic regions**

## **Summary**

*The present study is part of the European Community's Europe 2000 programme, which aims to provide prospective reflection on the future of Community territories. Its contents are in no way binding upon the European Community.*



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The Atlantic side of the European Economic Community, stretching 2 500 km from Scotland to the Canaries, covers slightly less than 30% of Community territory, if the Antilles and French Guiana are included, but only accounts for 16% of the population of the EC.

Their apparent unity, suggested by the presence of the sea, masks the rather marked contrasts between the Atlantic regions, morphologically (the mountainous areas of the Cantabrian coast, Scotland and Wales alternate with the plains of Ireland and the west of France), demographically (densities exceeding 300 inhabitants per km<sup>2</sup> in South Wales and the Basque Country contrast with the greatly depopulated areas of the Scottish Highlands and Alentejo) and economically (traditionally industrial regions like the Cantabrian coast, South Wales and the Scottish Lowlands neighbour with regions markedly rural in character, like Ireland, the west of France and Alentejo, or with regions where tourism is highly developed, like the Algarve, Andalusia, Madeira, the Canaries, the French Atlantic coast and the south-western counties of England).

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Because of their economic history and their highly peripheral geographical situation, the European Atlantic regions have an array of handicaps. The essentially rural character of the Atlantic zones can be seen primarily in the role played by agriculture. With 15% of the Community's population, the Atlantic regions account for 24% of all agricultural workers, 28% of the total agricultural land area of the Community, but only 19% of the standard gross agricultural margin. On average, then, agriculture in these regions shows relatively low productivity.

Although the Atlantic regions are Europe's leading agricultural producers, they also form a sensitive zone, exposed to the major challenges posed by

market saturation, the reform of the common agricultural policy (CAP) and the GATT.

Another example of their rural character is the weakness and imbalance of urbanization. The major urban centres of the Atlantic regions have difficulty competing with the capitals of the more central regions of Europe. An added problem is the low urbanization of many Atlantic regions (northern Scotland, North Wales, the Algarve and Alentejo). Overall, the Atlantic regions are characterized by a low degree of sophistication of services compared to the average in the main urbanized regions of Europe. In a large number of rural areas, far from the regional capitals, depopulation continues owing to a lack of economic growth centres.

Industrially, the Atlantic regions are typically areas of declining activity, with low relative capital intensity and low technological content. Regional specializations are limited and are generally 'by niche' rather than 'by attraction': these are industries that are isolated because of a lack of dominant centres and significant complementarity with other regional activities.

The predominance of activities in traditional sectors, particularly slow-growth primary sector processing, does not encourage the demand for research and high technology, especially as the majority of businesses are small, inward-looking and ill-prepared to cooperate with each other. The absence of a powerful and innovative industrial base widens the gap between local or regional research and industry and increases the dependence of many regional economies on State planning or major multinational groups. The very high level of dependence of some regions on State-controlled activities such as aeronautics and naval or paramilitary shipbuilding is a source of worrying fragility that could lead to massive job losses (the south-west of England, Aquitaine, the Basque Country and Galicia). Research centres, of which there are many in the Atlantic regions, often be-



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longing to the State, have limited locomotive and spin-off effects.

Technology transfer and research implementation structures are generally weak compared to those found in the more central regions of Europe.

However, in many cases they represent appreciable employment opportunities for the skilled workforce trained in the regions.

Regarding fishing activities, the total amount of catches for the Atlantic regions represents 36% of total European tonnage, and the catches of north-west Spain, Scotland and Brittany alone represent 60% of Atlantic tonnages. In terms of value, the Atlantic catches account for 48.5% of the European total. The Atlantic regions are home to 27% of the European fleet in terms of numbers, but represent 40% of EC fishing capacity. They have 46% of the total of European fishermen, with Spanish and Portuguese vessels employing three quarters of them. Faced with the imbalance between available resources and fishing fleet capacities, regulatory mechanisms have been adopted at Community level. If a Community objective of reducing the fleet by at least 40% on average is decided on, the restructuring of this sector could become brutal, not only with respect to fishermen's jobs but also to other jobs, particularly those in the processing industries.

The degree of induced isolation of the Atlantic regions is still high, as revealed by the analysis of connections to major transport networks. Access is still difficult, not only to island areas but also to the inland areas of the Iberian peninsula, Wales, northern Scotland, and the west and south-west of Ireland.

Progress is being made in securing better access to the Atlantic regions as compared to national capitals, with recent improvements to connections and the development of radial networks. Nevertheless, the Spanish Atlantic regions and the inland areas

of Portugal still do not have the benefit of good road connections to their respective capitals. The major corridors to the Channel Tunnel from Scotland, the south-west of England and Wales have not yet been completed (i.e. lack of direct access to the Tunnel).

Regarding transversal interregional links, the level of road access is still low.

Rail infrastructure still plays a secondary role in the Atlantic regions, where it is largely deficient. The Spanish and Portuguese networks are outdated and inadequate to new requirements. Freight speeds are very slow and are further reduced by unloading and reloading operations at the French border. The French, UK and Irish networks with their radial design neglect links along the coasts.

Some radial connections also display deficiencies, particularly those in North and South Wales and from the south-west to London and the Channel Tunnel. In contrast, the high-speed train TGV-Atlantique has greatly improved the service to the French Atlantic regions and will improve even more when the connection to the TGV-Sud-Est and TGV-Nord is made. The Seville-Madrid line is a first step towards improved access to Western Andalusia.

The majority of ports on the Atlantic arc are small and their traffic is mostly not very diversified. Above all, there are regional ports with limited influence, even when they are somewhat specialized. Over the last few decades, the Atlantic regions have suffered strong competition in maritime transport from the regions of northern Europe and the Mediterranean. The Atlantic ports are not really connected to the vast combined transport network that is being set up in Europe. The rail service to them is not very efficient. Similarly, the motorway network does not serve several regional ports, whether along the north-west coast of Spain, the French Atlantic side, some parts of the Portuguese coast or the north-south (i.e. Scotland-

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Devon) corridor in Great Britain. Multinational hubs in port environments are therefore scarce along the Atlantic arc and are rarely developed in concert with neighbouring regions.

The Atlantic arc area has many airports, but the number of destinations and frequency of service are uneven in quality. Although they are quite well connected to the major European cities, they are very poorly connected to one another. Transit through the hub airports of national capitals is still the norm in most cases. The high cost of air travel in Europe affects the Atlantic regions more since in most cases it is the only means of fast transport.

Deficiencies also exist in the new telecommunications technologies. Satellite coverage of Atlantic Europe is not good, consisting of the fringes of coverage zones centred on the northern or central regions of Europe. Land transmitter network coverage in Atlantic Europe is also very uneven and noticeably less dense than in the central areas of Europe. The new added-value networks, such as Numeris, are still underdeveloped.

Tourism is an important economic factor in the Atlantic regions. The number of visitors is high, even in the British Isles where the climate is less favourable. In the last few decades, the Atlantic regions have had to cope with strong competition from the Mediterranean areas, as the tourist products on offer corresponded less and less with changes in demand. At present, tourism is still concentrated on the coastal fringe, while the rich tourist potential of the hinterland remains underdeveloped.

Unlike the more central regions of Europe that are often saturated, the Atlantic regions, because of their low population density (94 inhabitants per km<sup>2</sup>), have vast reserves of open space and an environment of relatively good quality. This does not exclude problems of concentrated or more widespread pollution. The environment has been degraded most of all in the old industrial areas

(Northern Ireland, the Basque Country, Asturias and the bays of Huelva and Cadiz). There are also a number of environmental problems linked to widespread industrialization (Ireland, Galicia and Portugal) and intensive agriculture and forestry (Brittany, Aquitaine and Alentejo).

Increased urbanization brings problems of congestion in the larger conurbations due to deficiencies in the public transport systems (Dublin, Bordeaux, Bilbao, Lisbon and Oporto) which in turn puts pressure on the coastal zones.

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None the less, the Atlantic regions do have considerable assets of their own and have started to change significantly in the past 10 or 15 years.

Not counting the unforeseeable incidence of immigration from third countries, the population of the Atlantic regions is increasing more rapidly than the Community average, due to a relatively high birth-rate and a large proportion of young people. But by 2015, the Atlantic population will be stagnating, while the Community population as a whole will be in decline.

Poles of technology, of varying size and efficiency, have been developed in the Atlantic regions. The most important ones are Edinburgh, Bristol-Bath, Rennes, Nantes and Bordeaux. But the potential of Dublin, Cardiff, Bilbao, Oporto, Lisbon and Seville should not be underestimated, neither should the smaller centres such as La Rochelle-Rochefort and Galway. Technology transfer organizations are multiplying in the Atlantic regions, even though for the moment they are still concentrated in science and technology parks and seem to have difficulty penetrating the industrial framework of the region as a whole.

Most of the Atlantic regions have benefited and will continue to benefit over the next 15 years

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from substantial programmes of public investment in transport infrastructure.

Once this investment is completed, the level of access restrictions to many areas within the regions will be considerably reduced, as shown by the map of connections to major transport networks planned for 2010 and based on scheduled projects. Some Atlantic regions (the west and south-west of France and Andalusia) are already served by modern high-speed trains. Others will be equipped with new airports (Lisbon). But the infrastructure programmes adopted so far still do not eliminate all deficiencies in accessibility, especially connections to the central regions of the Community.

Industrial diversification has begun, to varying degrees from region to region. Besides exogenous layouts – by major national, European or non-European groups – there are many examples of endogenous high-tech industrial locations, specializing in products for which there is a growing demand and using highly skilled labour. The regions best provided for in this area are the south-west of England and the French Atlantic regions followed by Wales and Scotland. Some Iberian regions have industries of this type (The Basque Country, the north of Portugal, Lisbon and the Tagus Valley) but they are still limited in number.

Some exogenous locations, particularly the armaments and allied industries of which there are many in the Atlantic regions, cause a lot of employment problems because of sharp cutbacks in defence spending.

A number of Atlantic regions are able to provide high profits for the primary products of their rural and marine economies. The French Atlantic regions are the most efficient, and to a lesser extent the south-west of England. Progress is being made in Ireland, the north of Portugal and Andalusia.

Although the Atlantic regions have been slow to adapt their supply of tourist products to current and potential demand, some progress has been made in many regions (Ireland, Scotland, Wales, the south-west of England, the west of France, the north of Portugal) in promoting rural tourism in the hinterland and value-added products along the coastal zones.

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### **Trend-based scenario**

In a general context in which the single market is fully implemented and the Maastricht decisions are applied, in which intercontinental competition will be all the keener because the major industrialized countries will be having to face internal adjustments and will be seeking to get the maximal profit from the European market by maintaining public investment effort at relative current levels, a number of mechanisms and mutations will further take place in the Atlantic regions.

At the intraregional level, disparities in demographic evolution will persist. In a general context in which population growth in the Atlantic regions will slow down but will remain positive, the depopulation of many rural areas and regions of industrial redeployment will continue, while concentration in the metropolitan centres and on the coast will accelerate. Emigration will tend to accelerate among the population of working age, for example in inland rural areas of Wales, north and central Portugal, Galicia and Alentejo, and in industrial regions like the Basque Country and Asturias. Demographic growth will continue, particularly in Ireland, the south-west of England, the French Atlantic regions, the north of Portugal, Lisbon and the Tagus Valley and western Andalusia. Some of these will continue to generate flows of emigration (Ireland, Northern Ireland, western Andalusia) but on the whole, mainly the major urban centres will predictably increase their population.

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Based purely on trends, a deficit of 1.7 to 2.4 million jobs is forecast by the year 2000, i.e. about the same as at present. In this context we can conclude that it will be difficult, even with a strongly positive approach, to improve the employment situation significantly.

But the employment indicator, which is not very encouraging for the Atlantic regions, should not overshadow the real progress made in modernization and industrial production. Given the large reserves of productivity in the economies of these regions, the modernization of the production system necessarily releases more workers onto the job market. For example, industrial output in Ireland is increasing by 10% per annum, while unemployment is rising.

The contrasts within the Atlantic regions will tend to deepen:

- (i) firstly, between regions with a fairly large number of handicaps (Cantabrian coast, Northern Ireland, Alentejo, etc.) and those with large tertiary and technology centres (eastern Scotland, eastern part of the south-west of England, the west of France, the north of Portugal, Lisbon and the Tagus Valley);
- (ii) secondly, and more characteristically, between the major poles and their immediate environs on the one hand, and the rest of the Atlantic territories on the other. Polarization around the metropolitan centres (Dublin, Bristol, Rennes, Nantes, Bordeaux, Bilbao, Lisbon and Seville) will continue to the detriment of both peripheral rural areas and isolated medium-sized towns.

The technological centres will remain mostly isolated. Their counterbalancing and synergetic effect, and therefore their competitive position compared to the major poles of technology in the centre of Europe, will be necessarily limited.

The radial structure of land transport will be strengthened and scale economies will be developed in transport services (high-speed trains, wide-bodied jets.) This will affect a limited number of privileged corridors, considerably enhancing the advantage of locations in their vicinity, and increasing the influence of the national metropolitan centres. In contrast, medium-sized towns far away from the major routes or poorly connected to modern transport services will become less and less attractive for company localizations and the development of quality services. They will gradually become less able to play a coordinating and supporting role for the surrounding rural areas, which will then decline more quickly. The lack of transversal transport links and services between the Atlantic regions will inhibit exchanges and cooperation between them and lead to problems locally. Because of the lack of intermodal facilities and services, and the absence of interventionist measures to promote interregional sea routes, the port economies of the Atlantic regions will continue to decline, with more trade going to the North Sea ports.

Regarding fishing activities, a market for regulatory instruments is expected to appear in the coming years. This will lead to the creation of fishing centres of various importance, concentrating catches in ports with competitive infrastructures, well connected to the rest of the industry. Most ports meeting these criteria are situated outside the Atlantic arc.

Because of the relatively low technical content of their products, the most peripheral regions will find it increasingly difficult to penetrate the markets of the more central regions of the European Community. A considerable number of foreign-owned, low-skill operations will be transferred out of the Community (to Central and Eastern Europe, South-East Asia and northern Africa).

Progress will be slow in the development of tourism and the improvement of the environment.

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There will be no really significant move from essentially coastal, mass tourism to a better quality tourism that will also be of benefit to inland areas. The coast and the areas around the major conurbations will be increasingly congested. Areas with traditional heavy industries will lose even more of their attractiveness, being unable to repair the damage to their environment.

These trend-based prospects result in accentuating the dichotomy and contrasts among the Atlantic regions. Some areas will enter into a period of prosperity, without reaching particularly high thresholds. Prosperity will be highly concentrated in particular areas leading to external savings. In contrast, many areas – older industrial districts and underproductive rural areas – will gradually lose vitality. Without active interregional solidarity, no efforts will be made to structure the effects of synergy and scale economies into networks.

### **Intervention-based scenario**

In this scenario, 'intervention' does not mean simply the action taken by public decision-makers at various levels to increase their investment effort.

It involves just as much the active forces of the Atlantic economy and society, which are now starting to react at grass-roots level to the long-felt dependence on the outside, a lack of initiative and a lack of regional control over the development process.

The two areas that will produce the changes with the greatest knock-on effects on the Atlantic economies are innovation/industrialization and transport systems.

The first area has two main dimensions: the networking of sectors of technological excellence in the Atlantic area, and the broadening of structures of technological dissemination and industrial modernization within each region. Technological cooperation projects between the Atlantic regions are

non-exclusive (there are many ongoing projects with the central regions, and more could follow) vary according to the centre of interest and the opportunities available, and have different end-purposes (creation of a wide range of skills or specialized centres at a realistic and self-sustaining level).

The following networks could be constituted:

- engineering sciences (the south-west of England, Loire Region, the Basque Country, Lisbon and the Tagus Valley);
- biology and marine sciences (Wales, Brittany, Loire Region, Galicia and Ireland);
- technology applied to agricultural product processing and development (the west of France, Ireland, Galicia and Andalusia);
- electrical and electronic engineering (Scotland, Wales, the south-west of England, Ireland and the French Atlantic regions);
- new materials (the French and UK Atlantic regions);
- anti-pollution and environmental protection technology.

Technological research and industrial production will be linked much more systematically by high-capillary networks for the spread of technology, close to the businesses that need them.

The primary aims of technological dissemination operations will be to speed up the process of modernization and industrial diversification in the traditional industrial regions (Strathclyde, Northern Ireland, Wales, the Basque Country, Cantabria, Asturias, Huelva province, Lisbon and the Tagus Valley) and to raise the technological content of endogenous industries (Ireland, Scotland, the south-west of England, the French Atlantic regions, Galicia, the north and centre of Portugal).

This strategy, which aims to dynamize the industrial framework by injections of technology, will

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be accompanied by similar efforts in financial engineering.

Transport will be the second major growth area. The boost to the port economy and maritime transport will be twofold: the increase of cooperation projects between ports, and the promotion of inter-regional sea links.

Access to the Atlantic regions will also be improved with the arrival of new interregional air services, both within the Atlantic area and to the metropolitan centres outside. New interregional transport services can be brought into operation quite rapidly alongside the completion of the single market, but heavy infrastructure requires a much longer time-scale. The plans for the major network must be influenced so as to compensate for their radial layout and encourage new routes of integration. Some radial routes also require modernization and development, such as the ones from Wales and the south-west of England and the Channel Tunnel.

Mention must also be made of the construction of a land-based structural axis from Bayonne to Viseu, which will contribute to the integration of the Cantabrian coast, Galicia and the north and centre of Portugal into Europe. Particular attention will be given to developing transport nodes at the junction of north-south/east-west axes, for example in Nantes, Bordeaux, Bayonne/Basque Country and Viseu. These nodes can also contribute to the development of efficient intermodal and combined transport hubs, which will help relieve congestion on the major roads. Intermodality will be developed not only for freight moved (connecting ports up to the primary land transport networks, multi-modal hubs, containerization) but also for passenger traffic (especially rail links to airports).

As the future of the rural environment is closely linked to that of the urban framework, particular attention will be paid to promoting medium-sized towns. Besides improving road services, new 'in-

termediate speed' rail technologies will connect these towns to the major urban centres served by the high-speed train network.

Advanced telecommunications networks will also reach medium-sized towns, which will enable them to develop high-level services. In some cases, co-operational networks could be established to enable the smaller towns to carry out special projects (promotion of university centres, regional airports, etc.).

In order to adapt to the new constraints imposed by the CAP and GATT, the rural economy will move towards extensive farming, but with added-value in terms of quality so as to be able to take advantage of new market segments. Production of quality foods will be increased and extensive crops for energy production will be developed gradually. The loss of agricultural income will be compensated by the diversification of rural activities, particularly into tourism (farm holidays, etc). This will have a braking effect on falling employment in the rural areas. It is estimated that 300 000 jobs could be saved in this way in the whole of the Atlantic area.

As the demand for fish and related products grows, the constraints imposed by the common fishing policy will have to be counterbalanced by a greater fluidity in supply on the European markets. Aquaculture will expand thanks to gradual improvement of coastal water quality and interregional technical cooperation.

The supply of tourism products is set to change in two interdependent ways. Products need to be brought into line with the new demand, and all the resources of the Atlantic regions need to be developed, particularly those of the hinterlands. Professional training will also be improved considerably.

The greatest asset of the Atlantic regions, the high quality of their environment, will be enhanced and capitalized upon by transfers of know-how.

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An improved balance in the urban framework will favour smaller towns, thereby limiting congestion in the metropolitan centres and relieving pressure on the coastal zones, especially in the southern part of the Atlantic arc.

Special measures will be taken to assist the highly peripheral island regions, primarily aimed at consolidating the rural population. In the Scottish Islands, the population will be stabilized by maintaining agricultural activities, even if these are marginally profitable. Along with compensatory measures, the promotion of high-quality products could help stabilize the situation.

The Community will encourage cooperation with third countries, particularly in the case of the French overseas departments (with the rest of the Caribbean).

This intervention-based scenario is ambitious, but in line with the risks of marginalization of the Atlantic area. It can be described as 'a comprehensive qualitative leap'.

## **Proposals and recommendations**

In order to give the intervention-based scenario as great a chance of success as possible and to counterbalance the main negative tendencies identified in the trend-based scenario, a number of strategies need to be implemented.

### **Promoting integration to end isolation**

- The Atlantic economies need to be better integrated into international and European economies (strengthening of transatlantic economic links; integration of Atlantic economies with the rest of the European Community through increased specialization and competitiveness and improved infrastructure; cooperation with Central Europe).

### **Developing scale economies and synergies in technology and production; encouraging business layouts**

- Development of technological research through cooperation (engineering sciences, biology and marine sciences, agronomic sciences, electrical and electronic engineering, anti-pollution and environmental protection technologies, etc.).
- Synergies in technology transfer. Promotion of productive investment.

### **Increasing the development of internal resources**

- Increase in added-value and industrial processing for agricultural and fishery products.
- Development of forestry, particularly in the southern part of the Atlantic arc.
- Development of coastal marine resources (aquaculture, shellfish farming, oyster farming).
- Revamping of coastal tourism products and development of tourism resources in the hinterlands.
- Promotion of interregional cooperation in the above areas.

### **Breathing life into the regions through a dynamic urban framework**

- Maintenance of the dynamism and attractiveness of small and medium-sized towns in rural areas through investment in infrastructure and facilities. Provision of development opportunities through access to new transport and telecommunications technologies.
- Development of urban networks for joint facility, infrastructure and service projects.

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### **Adapting training to the new production imperatives**

- Further development and adaptation of the various initial and continuing training systems with a greater consideration of changes in regional labour markets.
- Improvement of consistency in the supply of training schemes.
- Promotion of interregional cooperation and exchanges in training.

### **Enhancing and integrating transport systems**

- Better internal and external access to and from the Atlantic regions in terms of infrastructure and transport services and integrated transport system and nodes.

Two categories of infrastructure require modernization:

major transnational or transregional infrastructure designed to improve connections between the Atlantic regions and the rest of Europe and to facilitate trade within the Atlantic area;

intermediate infrastructure designed to remove pockets of intraregional isolation and establish or maintain a balanced urban framework.

- Development of interregional sea and air services. Modernization of port facilities and infrastructure to port hinterlands. Development of land/sea and road/rail intermodality. Promotion of some Atlantic regional airports as hubs and of air routes between peripheral regions.

### **Better management of the Atlantic environment**

- Enhanced control of coastal development, inspired by the principles of the European Coastal Charter.

- Better control of urban growth (promotion of medium-sized towns; priority given to developing public transport);
- Maintenance and improvement of water quality;
- Improvement of facilities for treatment of industrial waste;
- Development of a healthy economic base around small urban centres to counteract the desertification of some rural areas.

### **The need for an increase and shift in Community support**

- Community funding must take account of new destructuring factors (sharp decline in defence industry activities, eastward shift of the European centre of gravity).
- Qualitative improvements need to be made in Community funding; coordination between Community support frameworks to deal with larger-scale spatial objectives, particularly in border areas; strategies are required for distributing the profits and gains generated by the high-performance technology used on the major transport corridors.
- Community programmes specifically aimed at the Atlantic arc are required involving the environment, research, technology transfers, etc. Increased funding for interregional cooperation is also desirable.





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## Foreword

'The prospective study of the Atlantic regions' is the first in a series of transregional studies which constitute the second phase of the Europe 2000 programme. These studies are complementary to the general reports (on demography, transport, factors involved in location, urbanization and the future development of cities, etc.) outlined in the Europe 2000 document approved by the Commission in October 1991.

The studies aim at providing a better understanding of Community land-use problems in a geographical group of regions belonging to several EC Member States. This geographical framework has been chosen for its relevance, in preference to studies carried out by individual States or regions on their own areas.

The initial work programme,<sup>1</sup> which was drawn up in April 1990, defined eight geographical areas for study, including one for the five new *Länder* added after German unification:

1. Atlantic regions (from Scotland to the Canaries, in five Member States: Spain, France, Portugal, Ireland and United Kingdom).
2. Western Mediterranean (from Andalusia to Rome, in three Member States: Spain, France and Italy).
3. Central Mediterranean (Mezzogiorno and Greece).
4. North Sea (in four Member States: Denmark, Northern Germany, United Kingdom and France).
5. Centre capitals (in six Member States: the Benelux countries, Germany, France and United Kingdom).
6. Alpine and perialpine regions (in three Member States: Germany, France and Italy, and also in Switzerland and Austria which are candidates for membership).

7. Interior regions (in two Member States: Spain and France).

8. The five new German *Länder*.

Moreover, it was judged necessary to evaluate the repercussions on Community territory of the changes occurring in non-member European countries. This idea, already included in the study on the alpine and perialpine regions of Switzerland and Austria, has been developed in three further studies for:

1. the four Nordic countries which are members of EFTA (three of which are also candidates for EC membership);
2. the 12 countries of the southern and eastern Mediterranean (SEMC) associated with the Community (three of which are also candidates for membership);
3. the countries of Central and Eastern Europe (CEEC) and the western parts of the former USSR.

The division of the area of study, determined by the European Community, is based on geographical and socioeconomic criteria and on emerging solidarities between the regions of the Atlantic area. However, these divisions are in no way prescriptive. They do not uphold the view that only the relations between the Atlantic regions should be open to prospective examination. The anchoring of the Atlantic area to the rest of Europe and its transcontinental relationships are also part of the subject for study.

The study has been carried out under the aegis of the Centre européen de développement régional (CEDRE) by a large number of experts from the different countries and regions in the Atlantic area. The sources of basic information (analyses, diagnoses, forecasts, plans, programmes, etc.) have essentially been the regions and States themselves. The authors wish to thank the regional authorities for the substantial documentation they have pro-

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<sup>1</sup> Page 23 of the 'Europe 2000' document.

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vided since the start of the study in autumn 1990. Quantitative data, particularly statistics, have mostly come from Eurostat, for reasons of homogeneity and comparability.

Only in a limited number of cases have regional and national bodies been called upon to provide statistical data.

The provisional final report presented in April 1992 was submitted for consultation to various Directorates-General of the Commission of the European Communities, the five national governments and the Atlantic Arc Commission, in which most of the regional authorities participate. It was also examined by the Spatial Development Committee which brought together land-use planning representatives from the Member States. The present final report has largely taken account of the suggestions and remarks coming out of the consultations in so far as they corresponded to the objectives and spirit of the study.

The challenges facing the Atlantic regions are of a particular kind:

- Firstly, their economies are being increasingly opened up and activities are being deregulated, which places them in a situation of greater competition, whereas they used to be protected before. The single European market is becoming more of a reality, which exposes them to even more competition.
- Secondly, changes in technicoeconomic systems are forcing them to get to grips with all the new processes that are being applied to expanding and declining activities alike, so that it is no longer certain that the factors which in the past played a determining role in the expansion of the dominant activities in these regions will have the same intensity in the future. Finally,

the peripherality of these regions in relation to most of the major cities of Europe is set to increase, when the opening-up of the Community to the East keeps them still further away from Europe's centre of gravity and influence.

In the face of these ever-greater challenges, these regions have undeniable handicaps. They have a large and not very competitive primary sector, many of their activities are in decline or at least confronted with serious redeployment problems, and the number of factors they possess that are likely to 'make all the difference' (high-level tertiary sector, research and technology transfer activities, etc.) are by no means the most developed.

In these circumstances, the main questions revolve around the following themes:

- What are the characteristics and situation of the economies of the Atlantic regions, particularly in relation to the contemporary external and internal challenges they have to face?
- How able are the Atlantic regions to generate new resources for the future? On what bases are the regions currently evolving and what mechanisms exist to encourage their development? Where is this likely to lead them?
- Which development strategies could be adopted? How can their potential best be exploited?
- Is the new nature of the challenges (increasingly open economies, intellectualization of the production process, etc.) likely to bring the Atlantic regions closer together or will it increase their division and autonomy?
- On which bases can the integration of the Atlantic regions be strengthened both with the rest of Europe and amongst themselves?
- Which shifts should be made in Community policies to enable the Atlantic regions to blossom, to strengthen their integration in Europe and develop interregional cooperation?

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# 1. Presentation of the Atlantic area

## 1.1. General characteristics

### 1.1.1. A geography of contrasts

The Atlantic arc is the European Community's longest coastline, stretching 2 500 km from the Shetland Isles (northern Scotland) to Cape St Vincent (Algarve). The Faeroe Islands (shipping) are not part of the Community.

The Atlantic regions cover 625 541 km<sup>2</sup>, nearly 28% of the area of the Community. If we limit ourselves to the continental portion with Ireland and the Atlantic regions of the United Kingdom and exclude overseas islands and regions (Canaries, Azores, Madeira, Martinique, Guadeloupe and French Guiana), the total is brought down to 521 453 km<sup>2</sup>, i.e. 23% of the Community's territory.

The islands have a combined area of 13 088 km<sup>2</sup>, 0.5% of the Community's territory, while French Guiana alone, which can be treated as an island on the edge of Amazonia, has a land area of 91 000 km<sup>2</sup>, one sixth of the area of metropolitan France. The Scottish archipelagos, which by statistical abstraction are included with the Highlands, account for over 5 000 km<sup>2</sup>.

#### **The apparent unity of the Atlantic regions due to the presence of the sea masks the rather marked contrasts between them**

Regarding relief, only the French Atlantic regions (except for the Armorican massif and the Pyrenees) and the central regions of Ireland are particularly flat. In most of the other regions, medium-sized mountains, and in places high mountains, occupy a considerable part of the territory. Scotland, Wales and especially the Cantabrian coast have the most uneven relief. Most of the mountain relief dates

back to the Primary era. This is the case of the Caledonian chain and its extensions (Scotland, Wales and the most of Ireland) and the Hercynian fold (the south of Ireland, Cornwall, the Armorican massif, the mountains of Portugal and Galicia). Only the Cantabrian cordillera, extended by the Pyrenees, is concomitant with the Alpine fold. The combination of mountains and sea in a large number of Atlantic regions (west coast of Scotland and Ireland, Wales, Channel coast of Brittany, Galicia, etc.) has formed highly characteristic drowned valleys (*rias*) where mud flats are revealed at low tide. Elsewhere, alluvial deposits have straightened the coastline (from southern Brittany to Aquitaine, and the Portuguese coast).

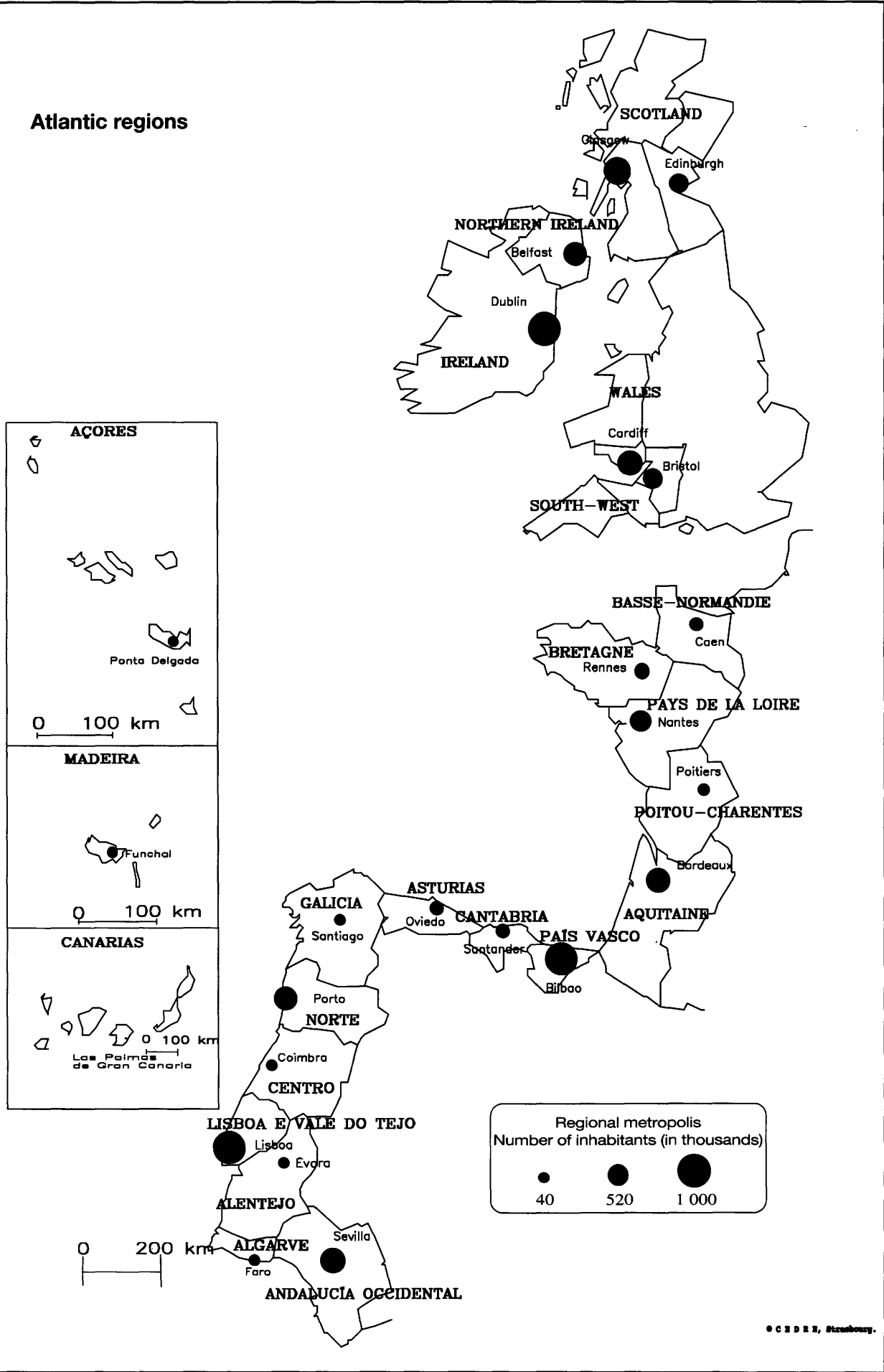
The contrasts found along the Atlantic arc of Europe can be extreme: the 250 or so kilometres of the Aquitaine coast is practically straight, whereas the Highlands and Islands of Scotland have a particularly indented coastline of some 8 000 km.

The Atlantic coast has a number of wetland areas with a rich biological content. The climate of the Atlantic regions is essentially oceanic, except for the Portuguese coast (south of the Douro) and the Andalusian Atlantic coast which, because of their latitude, are quite clearly Mediterranean. In Asturias and Biscay, the line of the Cantabrian mountains forms the climatic limit between the wet zones to the north and the dry, continental zones to the south. Only where the mountains form a block do intermediate and more continental zones occur, such as the Lugo basin in Galicia.

The oceanic climate has several constant features, such as the small variation in temperature between the mild winter and the cool summer, or the high annual rainfall, which, except in the past few years, usually exceeds 1.5 m in the Basque Country, Galicia and the western coasts of the British Isles. The oceanic climate is, however, not without its excesses, with frequent jumps in temperature and sometimes very violent storms. The almost constant wind makes it difficult for trees to grow, and



**Atlantic regions**



**Atlantic islands and archipelagoes**



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is the cause of the bareness of the mountains of the British Isles and of the Breton moorland. In Cornwall, forests cannot survive at an altitude over 500 m, and in Scotland, trees are rarely found growing at over 300 m. In the flat areas, especially in Ireland, peatbogs are frequent. In the southern part of Atlantic Europe, some Mediterranean species such as pines, vines and ilex are to be found amongst the oceanic species; thorn-covered moorland also occupies a large area. Despite the oceanic climate and because of the relative drought of recent years, fires cause a lot of damage.

The characteristics of the ultraperipheral regions that differ radically from those of the continental regions (tropical climate, hurricanes, earthquake zones, etc.) are not discussed here.

A common geographical characteristic of the Atlantic regions is their peripherality in relation to the Community's centre of gravity. This varies in intensity depending on the region. It is of course much more accentuated in the Scottish, Irish, Galician, Portuguese and Andalusian regions than in the central part of the Atlantic arc. With European economies opening up to the East, the peripheral nature of the Atlantic regions is further accentuated. The degree of peripherality of the different parts of the Community was measured quantitatively several years ago in a study carried out by Professor Keeble on behalf of the European Community. As his results are well known, we shall not be covering the same ground in the present study.

### **1.1.2. Natural resources and the lack of economic development**

The resources of modern economies are becoming increasingly immaterial. Japan is a striking example of this. The theory has been put forward that the more an economy is dependent on material resources, the less advanced it is.

The interrelationships between the economies of the Atlantic regions and the exploitation of their resources are examined below.

#### ***1.1.2.1. Agricultural and forestry resources: diversified but under-exploited***

The dominant agricultural and rural character of many Atlantic regions gives the impression of there being a great deal of potential for exploitation in these areas. This is looked at from two viewpoints: firstly, resources linked with soil quality and, secondly, the potential resulting from the common agricultural policy.

Regarding resources, not many of the Atlantic regions have rich soils. The most favoured zones are the French Atlantic regions, the central plain of Ireland, the coastal plain of central and northern Portugal and the irrigable zones of the Algarve and Andalusia. Agriculture in these areas is highly (and sometimes excessively) intensive (breeding, cereals, vegetables, wines and Mediterranean products for the southernmost regions).

Many other Atlantic regions are clearly less favoured because of their relief, their soil quality or their climate. This is the case of the Atlantic regions of the United Kingdom (where the areas of fertile plains are very limited), the south of Ireland, the Cantabrian coast (with its jagged relief), the plateaux of central and southern Portugal and the non-irrigable zones of western Andalusia where the arid climate is a handicap to intensification.

From the point of view of the potential arising from the common agricultural policy, agricultural production in the Atlantic regions, owing to the mild humid climate, largely falls into the surplus sectors (milk, meat and cereals) and is in competition with the great plains of northern and central Europe that specialize in the same sectors but where productivity is clearly higher. As regards the CAP, the future of the Atlantic rural economy does

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not lie in the intensification of agricultural production but in the enhancement of the agri-foodstuffs industries, i.e. in an injection of know-how.

As regards non-surplus products (vegetables, fruit and high-quality wine), the potential is not negligible, but involves limited areas along the Atlantic coast. The forestry potential is restricted by the climatic factors outlined above. The areas specializing in forestry are limited (the Landes in France for pinetrees, central and southern Portugal and western Andalusia for cork oak and eucalyptus).

#### *1.1.2.2. Large but fragile sea resources*

The economy of the Atlantic regions is closely tied to the sea, whether because of the role played by maritime transport or because of the resources the sea holds. Changes are occurring in this area. Overfishing is exhausting fish stocks, both in coastal and deep-sea waters. Fishing and fish processing, which have traditionally been an important part of coastal economies, are being more and more strictly controlled by the European Community to allow the species to reproduce. Their economic impact will therefore decrease. The potential lies in the exploitation of marine resources in other ways, notably aquaculture (fish, crustaceans, oysters, shellfish, seaweed, etc.). This is a field that generally requires advanced technology and a high degree of scientific knowledge to ensure productivity while complying with environmental standards.

The exploitation of the sea's mineral resources is also envisaged in the long term. This sector also calls for advanced technology.

To sum up, the changes that will have to be faced in the exploitation of marine resources demand a qualitative jump in technology.

#### *1.1.2.3. Underground resources: the strength of the past, the constraints of the present*

In the past, the economies of a number of Atlantic regions were built on mining resources (the Scottish Lowlands, South Wales, the Basque Country, Asturias, Cantabria and western Andalusia). In some of these regions, the minerals and fossil fuels have been exploited, but without major repercussions on the regional economies: lead and zinc in North Wales, Brittany, the Basque Country and the west of Ireland, tin in Cornwall and Galicia, tungsten in Galicia, mineral extraction in northern and central Portugal and oil and natural gas in Aquitaine.

Except in a few special cases, depleted resources, soaring operating costs and cheaper imports from outside Europe have progressively made mining and the metal industry obsolete. Modern metallurgical facilities (for steel and aluminium) in coastal areas are no longer dependent on local resources. Traditional mining and metallurgical activities, which for a long time used large quantities of local labour, have often hindered industrial diversification, the spirit of enterprise and the emergence of small and medium-sized businesses.

Only the economy of the east coast of Scotland is heavily influenced by underground resources (North Sea oil and gas).

#### *1.1.2.4. Vulnerability of activities as a result of the change from coal to oil*

The progressive change-over from coal to oil during the 20 years after the war led to refineries and petrochemical plants being sited in the particularly numerous deep-water ports of the Atlantic arc. But these space-consuming activities that create little in the way of regional wealth and employment and that, moreover, destroy the environment, were hard hit by the crises of the 1970s and 1980s which caused many units to close.

	Refineries	Chemical and parachechemical industries
Spain	Bilbao, La Coruña, Huelva	San Sebastian, Bilbao, Santander, Gijón
France	Donges, Rennes, Pauillac, Ambès, Bordeaux	Brest, Nantes, St Nazaire, La Rochelle, Rochefort, Bordeaux
Ireland		Dublin
Portugal		Lisbon, Sines
United Kingdom	Grangemouth, Milford Haven, Swansea, Belfast	Grangemouth, Glasgow, Ardrossan, Londonderry, Belfast, Milford Haven, Swansea, Newport

#### 1.1.2.5. Many traditional industries

Despite industrial diversification, which has been speeded up by European integration, traditional industries are still of great importance in the Atlantic regions.

In addition to the coal, steel and textiles industries, shipbuilding is still an important activity in the Scottish Lowlands, Belfast, South Wales, the Basque Country and Asturias, and in port towns such as Cherbourg, Brest, Lorient, St Nazaire, La Rochelle, Bordeaux, Bilbao and Gijón. The textiles industry is concentrated in Dublin, Wexford, Cork and Limerick in Ireland, and in the northern region and the Castelo Branco area of Portugal.

In Portugal, the shipyards and steelworks are concentrated in the Lisbon-Setubal area.

#### 1.1.2.6. The mainly coastal tourist industry

Tourism is an important and even the main activity for many Atlantic regions. The regions from Brittany southwards clearly have more favourable climatic conditions.

Tourism is mostly a coastal, summer activity; but there may also be local tourism, which is spread throughout the year (United Kingdom).

Tourism resources should be examined from the viewpoint of tourist demand and its evolution. It then becomes clear that the Atlantic regions have many relatively underexploited resources. This particularly involves the architectural and historical cultural heritage of which there is a considerable wealth in the Atlantic regions, particularly with respect to Romanesque art. This heritage is however scattered and tourist circuits have to be designed in order to develop it.

The same applies to the natural wealth of the hinterlands and gastronomic resources, which are particularly well developed in the French and Spanish Atlantic regions.

The development of these resources corresponds to current trends in demand towards low-season, short-stay tourism with a dominant cultural and quality element and is being achieved by a fairly fundamental revamping of the tourism products on offer in the Atlantic regions.

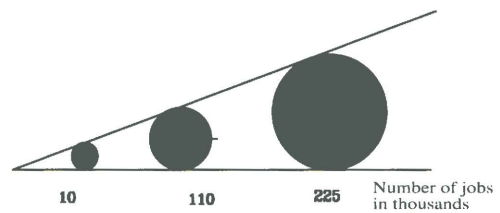
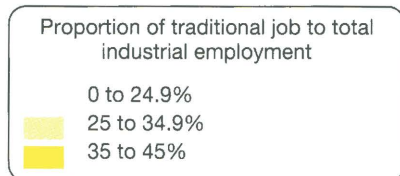
The intensification of tourism in certain zones has brought planning problems (illegal development, buildings unsuited to their environment, etc.) and problems concerning the deterioration of some natural features and the landscape.

#### 1.1.2.7. An under-exploited geo-economic position

The Atlantic regions are geographically closest to America. Some of them carry out a large amount of regular business with a number of countries on the American continent. These relationships result in large part from the people who went to those countries during the periods of emigration.

Thus, Ireland has a close relationship with the USA, the Basque Country and Galicia with

## Importance of traditional industrial sectors



(c) C.E.D.R.E.Strasbourg  
Source:EUROSTAT

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Venezuela and Argentina, and Portugal with Brazil and the USA.

From the economic cooperation viewpoint, these relationships could doubtless be strengthened and broadened, especially as the North American countries are showing a great interest in the single market.

The relative geographic 'proximity' of the American continent does not, however, bring any marked advantage to the Atlantic regions.

Although there are almost 190 active ports in this zone (including those on islands) with a loading and unloading capacity of over 371 million tonnes, the Atlantic regions have already lost their role as the maritime continental interface between the Americas, Asia, Africa and Europe, whereas the great ports of northern Europe, particularly Rotterdam, have become the sea gateway to the old Continent.

In short, the decline of the Atlantic ports can be explained by a situation that is often fragile, which is the consequence of bad forecasting of the evolution of world maritime transport and keen competition between neighbouring ports with neither coordination nor a common vision of the future.

This lack of coordination can partly be blamed on the national policies in terms of port development. For many years, these policies took no account of the European dimension nor of the necessary complementarity of the ports and the Atlantic regions.

Combined (intermodal) transport, though underdeveloped at present in the Atlantic regions (with the exception of the ferries between the Continent, Great Britain and Ireland), could represent a considerable opportunity.

#### *1.1.2.8. Quality space in need of development*

Because of their peripherality, their relatively low population density and their often accentuated re-

lief, the Atlantic regions have a resource which is becoming rare in many central regions of Europe: reserves of space and a generally high-quality environment. These are factors in their favour in the growing demand for a better quality of life.

Although they may not be enough to induce significant, permanent migration into the regions, unless perhaps for retirement migration, these factors are at least able to contribute to the retention of a population that might emigrate to the more central regions.

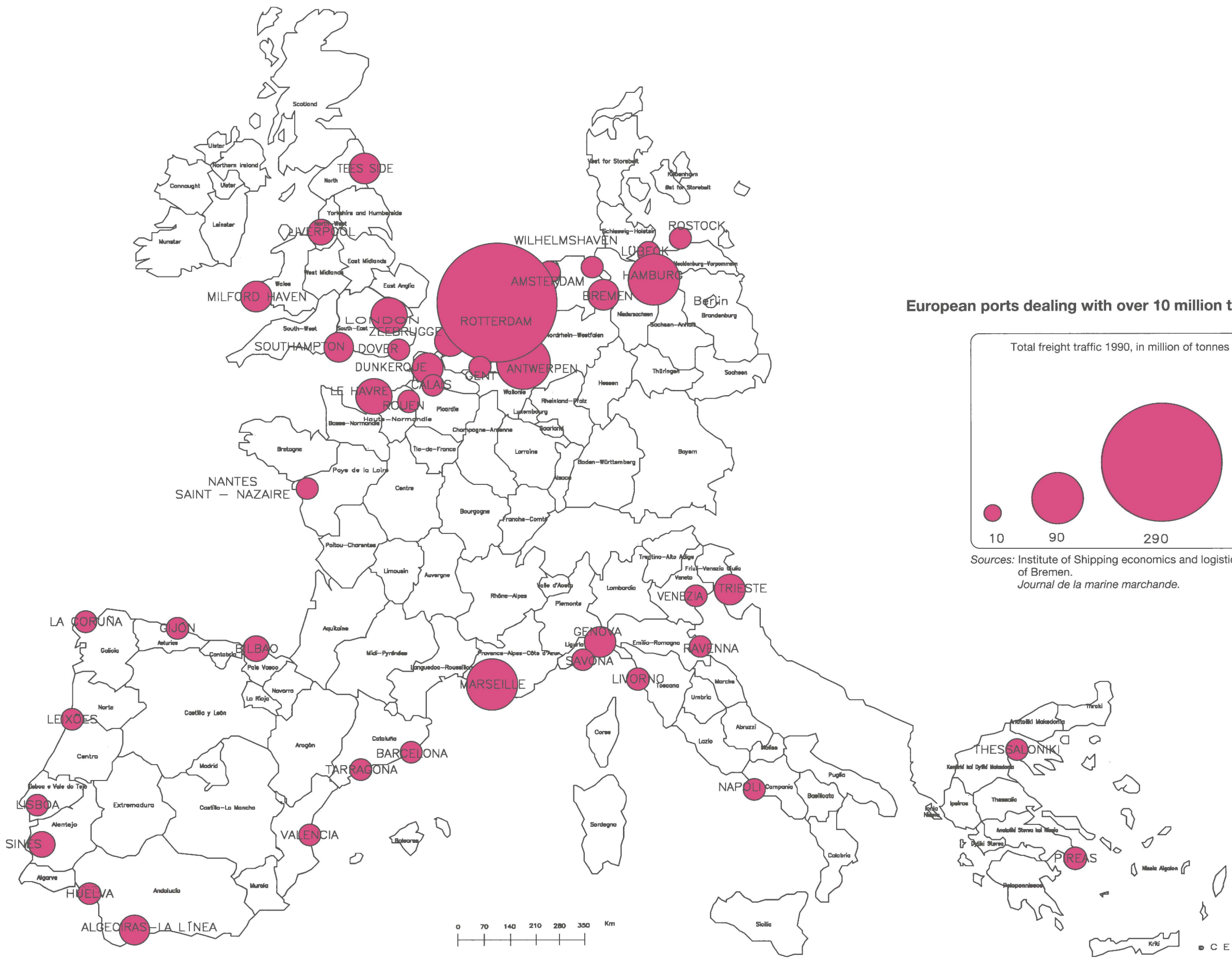
This analysis does not, however, suggest that there are no space and environmental problems in the Atlantic regions. Some traditionally industrial regions and cities (Belfast, Glasgow, the South Wales coast, Bilbao and Asturias) have to undertake large-scale efforts to reclaim a quality environment, and others, particularly the maritime regions (Brittany, the Shetlands, Galicia and La Coruña) have to safeguard theirs (fragile environment threatened by accidental pollution and oil spills).

Furthermore, the coastal areas are particularly sought after, and in certain regions have already paid the price of urbanization, tourism and industry, although the damage is in no way comparable with what has happened on the Mediterranean coast. The growth of certain large conurbations on the southern Atlantic coast and increased car ownership in the absence of efficient urban public transport systems are giving cause for concern. This is especially the case in Lisbon and Oporto.

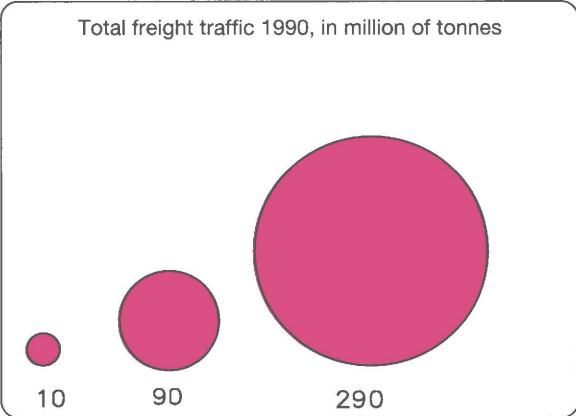
### **1.1.3. Human resources and dynamics**

#### *1.1.3.1. Population, space and migrations: Population data and change between 1981 and 1989*

The Atlantic regions are home to 16% of the Community's population, i.e. 51 497 000 inhabitants in



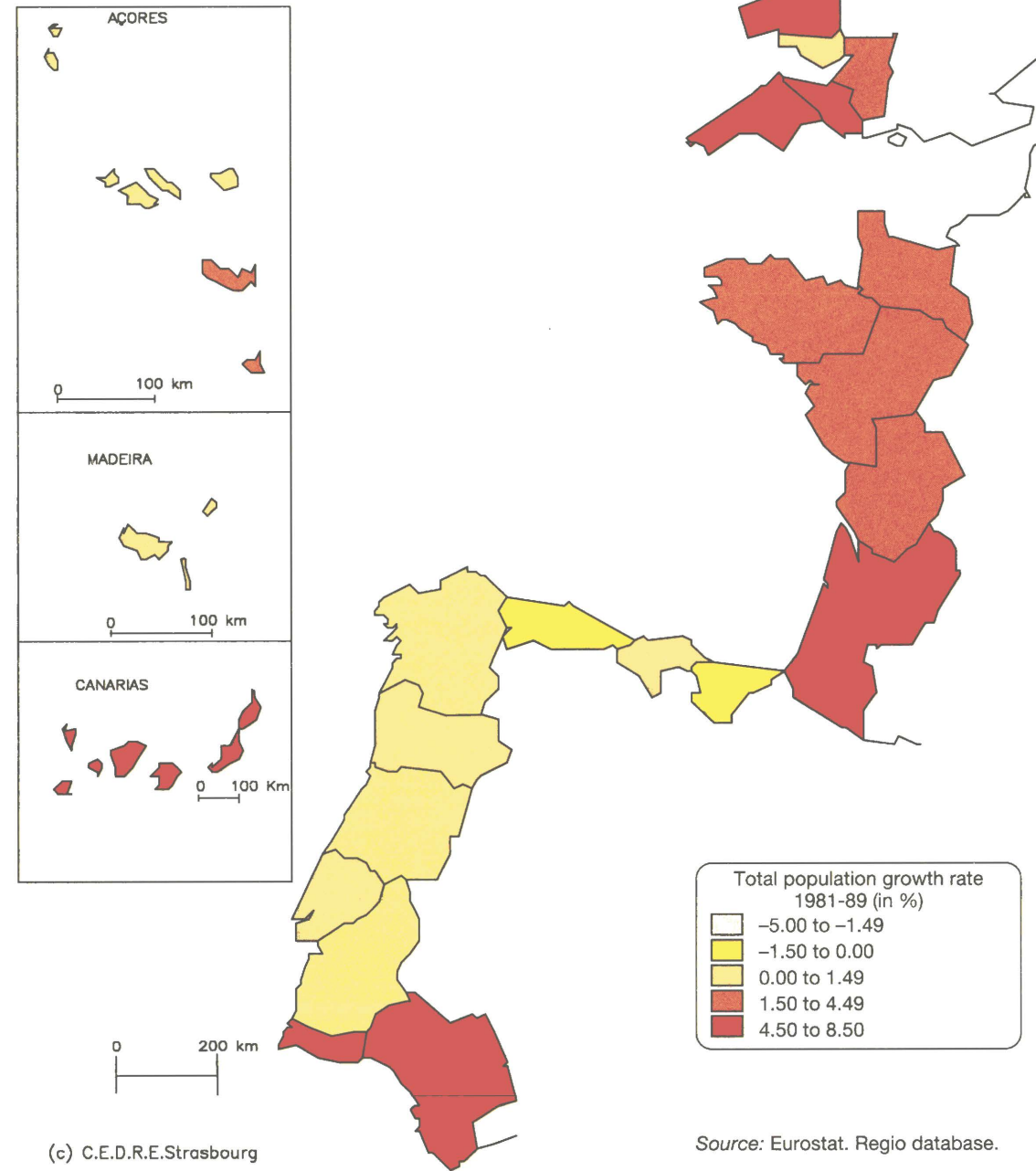
European ports dealing with over 10 million tonnes in 1990



Sources: Institute of Shipping economics and logistics of Bremen.  
Journal de la marine marchande.



### Contrasted demographic change



almost 28% of the land area. Compared with the Community average (144 inhabitants per km<sup>2</sup>), they are relatively underpopulated (81.7 per km<sup>2</sup>), but regional disparities are great. Some urban and industrial regions are very densely populated (482 per km<sup>2</sup> in South Wales, 302 per km<sup>2</sup> in the Basque Country, and 277 per km<sup>2</sup> in Lisbon and the Tagus Valley) whereas some rural and peripheral zones such as the Scottish Highlands and Islands only have 9 per km<sup>2</sup> and Alentejo has 22 per km<sup>2</sup>.

Around 22% of the population of the Atlantic regions is under 15 years old, whereas the Community average is 19%. This is the result of a higher birth rate (14‰ as against 12‰) but this

demographic vitality is tending to decline. The youth population of the Atlantic regions, although decreasing, still remains one of their assets (difference between the population of under-15s compared with the Community average: 1982 = + 4.7; 1987 = + 3).

This decrease results, on the one hand, from a high propensity of young people of working age to emigrate from the less developed regions (central Portugal, Alentejo, Ireland, Northern Ireland and Galicia) and, on the other hand, the arrival of a large retired population combined with local senior citizens in the southern regions such as South-West England, Aquitaine and the Algarve.

### Population of the Atlantic regions

Regions	Area (km <sup>2</sup> )	Density 1989	Population 1991 (1 000)	Population 1989 (1 000)	Annual change
Borders, Central, Fife, Lothian, Tayside	17 863	104	1 856.61	853.7	- 0.018
Dumfries and Galloway, Strathclyde	19 899	123.5	2 542.7	2 458.8	- 0.41
Highlands, Islands	30 610	8.9	267.3	274.1	+ 0.31
Grampian	8 707	58	483	503.5	+ 0.53
Northern Ireland	14 147	111.8	1 564.4	1 583	+ 0.14
Ireland	68 896	51	3 443.4	3 515.2	+ 0.26
Clwyd, Dyfed, Gwynedd, Powys	17 138	65	1 069	1 121.3	+ 0.60
Gwent, Mid, South and West Glamorgan	3 628	482.8	1 744.4	1 751.9	+ 0.05
Avon, Gloucestershire, Wiltshire	7 470	273	1 961.9	2 040.8	+ 0.50
Cornwall, Devon	10 275	145.4	1 392	1 494	+ 0.92
Dorset, Somerset	6 105	183	1 029.3	1 117.7	+ 1.07
Lower Normandy	17 589	79	1 346.6	1 388.8	+ 0.39
Brittany	27 208	102.5	2 708	2 789.1	+ 0.37
Loire Region	32 179	94.7	2 915	3 050	+ 0.55
Poitou-Charentes	25 809	61.7	1 542.7	1 593.6	+ 0.20
Aquitaine	41 308	67.4	2 646.5	2 784.9	+ 0.60
Basque Country	7 261	293	2 143	2 127.8	- 0.08
Cantabria	5 298	99	525	527.1	+ 0.05
Asturias	10 565	106.8	1 130	1 129	+ 0.01
Galicia	29 434	95.4	2 815.5	2 808.6	- 0.03
Northern Portugal	21 297	162	3 410.1	3 457.9	+ 0.17
Central Portugal	23 270	74.5	1 763.1	1 734.7	- 0.20
Lisbon and the Tagus Valley	13 194	250	3 261.6	3 309.5	+ 0.18

Regions	Area (km <sup>2</sup> )	Density 1989	Population 1991 (1 000)	Population 1989 (1 000)	Annual change
Alentejo	27 078	20.3	578.5	550.6	- 0.60
Algarve	4 960	68.1	323.5	338	+ 0.55
Western Andalusia	31 471	97	2 813.6	3 053.3	+ 1.06
Canaries	7 273	203	1 372.2	1 476	+ 0.92
Azores	2 247	106.3	243.4	238.9	- 0.23
Madeira	794	3.2	252.8	253.9	+ 0.05
Guadeloupe	1 779	214	328	380.9	+ 2.01
Martinique	1 102	322.9	326	355.9	+ 1.14
French Guiana	90 000	1.2	105.5	111.1	+ 5.3
Atlantic regions	625 854	81.7	49 821.2	51 062.5	+ 0.31
EUR 12	2 253 300	144	316 266	325 208	+ 0.35

Source: Eurostat.

The age distribution in the Atlantic regions also shows disparities.

Some regions have a very high proportion of under-14s, as in Ireland (28.7%) and Central Portugal (25.8%), whereas South-West England only has 18.5%. It is the same with the over-65s; this age-group is overrepresented in Scotland (17.6%), Alentejo (16.7%) and the South-West England (23%).

The 15 to 64 age-group represents 63.6% of the population of the Atlantic regions, while it accounts for 67.1% of the Community population as a whole. The Atlantic regions therefore have a relative deficit in their working populations, and this is tending to increase. In 1982, the 15 to 64 age-group accounted for 63.8% of the total population of the Atlantic regions, whereas it made up 65.4% of the total Community population. The proportion has certainly increased since that time, but more slowly than the Community average. The result has therefore been an increase in the relative shortfall of the population of working age. However, the proportion of people at work among the Atlantic population is higher than the Community average (54.1 and 53.7% respectively).

The growth in the population of the Atlantic regions between 1981 and 1989 reached 2.5% and that of the Community population as a whole was 2.8%, but forecasts show that by 2015, the Atlantic population will be stagnating while the Community population will be in decline.

But these averages mask very wide interregional and intraregional disparities. In the 1980s, depopulation began or continued in certain isolated rural regions where natural conditions were difficult, such as inland central Portugal, in certain traditionally industrial zones such as South Wales and the Scottish Lowlands, particularly the Strathclyde and Lothian counties, and the province of Guipuzcoa (Bilbao) in the Basque Country.

In contrast, population growth was largely positive in the 1980s in South-West England, all the French regions (except for certain rural departments where the population tended to stagnate), in Northern Portugal, Lisbon, the Algarve and Western Andalusia.

A more precise analysis reveals that this demographic growth essentially benefited the coastal and urbanized zones. Coastal capitals like Dublin and Lisbon are experiencing a demographic boom,

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and the populations of the towns of South-West England and the French Atlantic coast have also risen.

Looking at the balance of migration movements, tendencies showing the capability of some regions to retain their population and attract migrants can be highlighted even if the numbers of migrants are relatively low.

**(a) Case of increasing attraction by coastal zones**

The coast is attractive because of the quality of its environment (e.g. the counties of Dyfed and Powys in Wales, Devon and the French coastal departments). In some cases, dynamic cities form the attraction (in the Gironde, the Algarve and Lisbon). This causes problems of internal imbalance for the regions concerned.

**(b) Case of lower attractiveness of densely populated areas**

Areas like Somerset and Dorset, Gloucestershire, Wiltshire, Ille-et-Vilaine, Finistère and Loire-Atlantique still show a positive migratory balance, but this is diminishing.

**(c) Case of a growing number of departures from some industrial and rural zones**

Some regions are showing a recent negative migratory balance.

The counties of Mid and West Glamorgan, a traditionally industrial area and therefore particularly sensitive to current changes, have seen a lot of their workforce leave in recent years.

In other regions, the migratory balance is going deeper and deeper into the red. In some particu-

larly isolated rural areas in Ireland, northern Portugal, central Portugal and Alentejo, the deficit is growing. Also concerned are the departments of Orne, Sarthe and Deux-Sèvres. The same is happening in the traditionally industrial regions undergoing redeployment: not only are they not attracting new workers, they are also losing them (the Basque Country, Asturias and the Cadiz province).

The trajectories of current interregional migrations in the Atlantic areas show identical trends: the Atlantic regions are still the departure regions for the young, underqualified population, but are increasingly becoming more and more the destination regions for the older population.

*1.1.3.2. Problems of the national and north/south labour market*

Of the 25 Community regions with a projected annual workforce change rate of over 1.8% during the 1990-95 period, 19 are Atlantic regions. The projected annual workforce growth rate for the 1990-95 period is 0.77% for the Atlantic regions and only 0.25% for the Community as a whole.

The characteristics of the labour market in the Atlantic regions reveal rather different but relatively homogeneous typologies within a single country.

There are three typical situations:

- Relative prosperity (relatively high per-capita GDP, large number of jobs in retail services, high proportion of agricultural employees, welfare state, etc.). This model generally corresponds to the British regions, particularly South-West England.
- The importance of old industries. Employment in industry is high, growth is slowing down, the population is ageing and there are redeployment problems. This is the case of the Basque Country.
- A large degree of rurality. Employment in agri-

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culture is high, and the working population is relatively old. With varying changes, this is the case of Galicia and the Portuguese regions (except Lisbon).

Many regions are in intermediate situations between these three main types.

The French Atlantic regions benefit from a relative prosperity but also suffer from the importance of old industries. Cantabria and Asturias are experiencing redeployment problems and also have a high proportion of agricultural jobs.

Ireland, Lisbon and the Tagus Valley are developed areas and also suffer from a large degree of rurality.

The Algarve and Andalusia seem to be a special case, with heavy dependence on both retail services (tourism/trade) and non-retail services jobs (administration) as well as on agriculture; this is a peripheral economic situation that tends to be found on islands.

The evolution of the labour market in the Atlantic regions depends particularly on a number of factors.

- The demand for jobs is very sensitive to the ageing of the working population in certain regions (Ireland, Spain and Portugal), the increase in the number of women at work (still low in many Spanish regions), the effects of immigration from outside Europe and the strengthening of existing imbalances in the adequacy of supply and demand (underqualified jobseekers, youth unemployment, long-term unemployment, etc.).
- The job supply is affected by the degree of vulnerability of the activities being restructured (industry, agriculture, fishing), and inversely by the degree of dynamism of innovative activities (biotechnologies, new communications technologies, etc.). The coexistence of dynamic,

innovative, productive structures requiring specialized skills with declining traditional productive structures makes transfers of labour difficult and segments the labour market.

Divergent problems can therefore be detected between the southern and northern Atlantic regions.

For the southern regions, one of the first challenges to be taken up should be the improvement of the level of basic training and qualifications of young people. This is all the more urgent and necessary because of the gap that is likely to open between an increasingly specialized demand and an insufficiently dynamic supply.

These regions will be confronted with the growing risk of losing their skilled workforce to the more dynamic regions and the highly attractive regions (in large countries), while emigration to other Community countries will tend to diminish and be reserved for highly qualified people. From 1993 onwards, the Spanish and Portuguese labour force will have freedom of movement throughout the Community (end of the transitory period of membership). As Portuguese labour is cheaper than Spanish labour, there is a risk of tension, particularly in border areas.

The northern regions will have to give priority to isolated cases of socioprofessional marginalization and the increase of various forms of job instability and insecurity (women, service activities, industrial subcontracting).

The most dynamic and attractive regions (south-west England, Aquitaine, Brittany, Lisbon and the Tagus Valley, and Wales) will have to deal with the increasing feminization of the labour market and occasional breakdowns in the supply and demand for specific qualifications.

#### *1.1.3.3. Training imperatives*

The improvement of human resource capabilities is based on three essential tasks:

- 
- raising the level of basic training;
  - improving and developing technical education;
  - matching supply and demand on the labour market.

#### **(a) Raising the level of basic training**

The information available on levels of training varies greatly from one country to another, so that only very approximate comparisons can be made. We thus often have to resort to national averages.

Of the Atlantic regions of the United Kingdom, Northern Ireland and Scotland have levels of training well below the national average. The proportion of the population with no qualifications at all reaches 40% in Northern Ireland and 37.3% in Scotland, compared with 33% nationally. The proportion of the population with only apprenticeship training is 12.2% in Northern Ireland and 11.1% in Scotland, as against 7.1% for the United Kingdom as a whole. The population that has been in higher education to at least first degree level is only 12.6% in Northern Ireland and Scotland, compared with 14.8% nationwide, with south-west England showing 14.7% and Wales 15.2%.

In the French Atlantic regions, the level of general training is lower overall than the national average. The Loire Region and Poitou-Charentes have the highest proportion of the population with only basic technical training (CAP or BEP certificates). The proportion of the population that has studied to baccalaureate level is lower overall than the French average, except in Aquitaine and Brittany, which approach the national figures.

The proportion of the population with a higher diploma (at least two years of study after the baccalaureate) is also lower in the Atlantic regions (an average of 7.5% as against 9% nationwide).

The French Atlantic regions have nevertheless been able to take advantage of a general improvement

in national training levels in recent years. The proportion of the population with no stated qualifications fell between 1982 and 1990 by 58% in Brittany, 55% in the Loire Region, 51% in Aquitaine, 46% in Poitou-Charentes and 40% in Lower Normandy, whereas it reduced by 53% nationwide.

The proportion of the population having gone through higher education (at least two years of study after the baccalaureate) increased during the same period by 29% in Poitou-Charentes, 26% in the Loire Region, 25% in Aquitaine, 19% in Lower Normandy and 17% in Brittany against 25% nationwide. Two regions in serious need, Poitou-Charentes and the Loire Region, have therefore caught up better than Lower Normandy, despite its less favourable starting level.

In the Spanish Atlantic regions, there are sharp contrasts in training levels. At the top, there are zones with high levels of training, with large numbers of university graduates or people with the baccalaureate or an equivalent technical qualification. This is the case in the provinces of Guipuzcoa and Vizcaya in the Basque Country. At the bottom, there are areas with very low levels of education and a high proportion of illiterates or people who never completed training. This is the case particularly in the rural provinces of Galicia (Lugo and Orense) and Andalusia (Cadiz and Huelva). Between the two, there are areas where the incidence of the institutional representation of education in the collective mind is high. This makes basic general education an important objective, particularly in Asturias, Cantabria and the province of Alava (the Basque Country). In recent years, large efforts have been directed towards raising the level of training, particularly since Spain's accession to the European Economic Community and the country's eligibility for the European Social Fund.

In Portugal, the level of training of the workforce was very low for a long time (in central northern Portugal, inland central Portugal, Alentejo, the Al-

garve, the Azores and Madeira). In 1987, 72% of the working population had left the education system at the age of 12; 11% could neither read nor write; and only 3% had gone on to higher education. Rapid progress has been made in training in recent years, especially since Portugal joined the European Economic Community and became eligible for the European Social Fund.

In Ireland, the education and training system has improved considerably over the past 15 years. In 1982, out of that part of the population that had left school and training centres, 26% had no qualifications, 37.4% had completed the first cycle of the secondary level, 31.2% had completed the second cycle of the secondary level and 4.4% had completed higher education. Before, many students left secondary education without completing it, whereas recent trends show that 90% of the students who start to study for the leaving certificate now actually obtain it. Disparities in training levels between regions can be explained by the difference in the availability of the appropriate structures, and also the large degree of rurality which is an important factor.

Given the strong correlation between the hierarchy of the university system and the urban hierarchy, on the one hand, and the fact that training mobility seems to be very closely linked to the mobility encouraged by economic development, on the other, the need for a deconcentration of university facilities is imperative for development and for restoring regional balance. The university potential of the French Atlantic regions is currently being enhanced. As well as the principal cities, this policy is also benefiting smaller towns to which the first cycle of university studies are being decentralized (St Brieuc, Quimper, Alençon, La Roche-sur-Yon, La Rochelle, Bayonne, Périgueux, Agen). However, although the recasting of higher education facilities helps reduce disparities, it is most frequently limited to the first cycle of university studies, tending to produce overrepresentation in that area. Students in the first cycle of university stud-

ies in the Caen, Nantes and Poitiers education authority areas account for 64, 60.6 and 63% of all students respectively, whereas the national average is 53.4%. Postgraduate students in the same education authority areas account for 9.4, 10.9 and 11.3% against a national average of 15.4%.

This type of university decentralization is fairly widespread.

To cope with the growing numbers of students in Galicia (a 50% increase between 1985 and 1989), two new universities are being built in La Coruña and Vigo, with university facilities scheduled for Pontevedra, Orense, Lugo and El Ferrol.

In Ireland, universities have been built in Galway and Limerick.

In Portugal, medium-sized towns are also benefiting from this university decentralization. Teaching institutes, such as the Faro Polytechnic, are being established in rural areas in order to develop research, local activities and professional training.

But the larger and older universities are still centralized. The table below shows the proportional distribution (in %) of lecturers and researchers in Portuguese universities (Portugal: 100%)

Technical University of Lisbon	22.2
University of Oporto	18.5
Classical University of Lisbon	18.2
University of Coimbra	15.8
New University of Lisbon	5.9
University of Minho (Braga-Guimaraës)	5.0
University of Aveiro	4.3
University of Tras-os-Montes (Vila Real)	3.0
University of Evora	2.8
University of the Azores	1.9
University of Beira Interior	1.5
University of the Algarve	0.9

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The teaching potential of higher education reflects the known regional disparities: concentration in Lisbon's central pole – 46% of the total number of lecturers and researchers – and limited distribution in the rest of the country, in Oporto, a secondary coastal centre, and Coimbra, an inland centre with a long university tradition. Student numbers increased substantially during the 1980s, but the number of those completing their course of study (four years) was low.

A shortage of technological training (baccalaureate and above) is revealed, and students coming out of classical higher education, in humanities for example, are currently finding it very difficult to get into the regional employment market.

In the United Kingdom, higher education facilities are long established and relatively numerous in south-west England and Scotland (Bristol, Exeter, Cheltenham, Plymouth, Glasgow, Edinburgh, Dundee and Aberdeen). Student numbers continue to grow, but with a relative limitation owing to strict selection before entry. For example, the number of students in the Scottish universities rose from 42 271 in 1977/78 to 48 431 10 years later.

**(b) Better adaptation of the supply and demand on the employment market through the development of technical education**

The pressure on the employment market at regional level in the next few years can be evaluated by combining the projected workforce growth rate for the 1990-95 period with the unemployment rate in 1990.

This highlights regions such as Andalusia, Northern Ireland and Ireland, which had a high rate of unemployment in 1990 and have a sustained projected workforce growth rate for 1990-95. These regions are already facing great pressure on the employment market, which could be aggravated if the job vacancies do not increase sufficiently.

In Ireland, in 1989, almost 50% of those who left school with no qualifications were still unemployed 12 months later, as against 28% of those who had obtained a qualification and 9% of those who had completed their secondary education. The provision of suitable professional training for young people and the guarantee of sufficient jobs to keep young people in their home regions are the challenges that will have to be taken up, especially by Andalusia, Northern Ireland and Ireland.

The French Atlantic regions and Galicia are confronted with the same trends and therefore with the same challenges, but unemployment problems are not so serious and the projected demographic pressure on the employment market is lower.

However, training priorities for Asturias, the Basque Country, Scotland and Alentejo are diversification and the development of professional and continuing training so as to assist with the redeployment of workers from traditional industries who might otherwise swell the already high numbers of migrants.

In Wales, the Algarve and central Portugal the high projected workforce growth rate for 1990-95 and the relatively low unemployment rate mean that the main tasks are to attract jobs, assist in business start-ups and implement new types of technical training to suit the new requirements.

The counties of south-west England and the regions of northern Portugal and Lisbon, with their low unemployment rates and high projected workforce growth rates for 1990-95 due to their degree of attractiveness to workers, will have the challenge of continuing to increase the number of skilled jobs on offer in buoyant sectors without marginalizing the non-skilled or underqualified labour force.

Overall, in the short term, the projected increase in the size of the workforce in the Atlantic regions in 1990-95 may result in a greater risk of unemploy-



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ment for unskilled workers and also for those who are underqualified or who do not have the right qualifications to suit actual requirements. Increased difficulties for women and school leavers in penetrating the labour market are also possible.

In the long term, however, against the background of an ageing working population in a context of advancing technological innovation and intensifying competition, retraining and continuing professional training carried out by companies themselves, or in their partner institutions, will be the most appropriate methods of obtaining a skilled workforce.

Also, the long-term decrease in the number of young people coming onto the employment market leads to the belief that youth employment problems will be of a more qualitative nature (adapting the supply to the demand for skills) than a quantitative one.

Given the interest shown by employers in technical qualifications (particularly high level and specialized), the growing Europeanization of the employment market and the increasingly intensive globalization of production, it is vital that training methods and the content of technical courses be adapted and developed to suit the new requirements. It is also important to bring initial and further training closer together and to encourage a closer partnership between the authorities, businesses and the unions.

Besides large-scale investment in basic technical training facilities (engineering and higher technical training schools) convergent trends can be seen in the retraining of workers and in continuing training.

In the United Kingdom, new objectives were introduced in 1991:

- the skill standards should be determined by industry and validated at the national level;
- the training should be available as far as possible at local level;

- the qualifications have to be based on national standards.

Professional training, youth training, trainer training and training within companies was restructured in 1991 by the creation of TECs (training and enterprise councils) in England and Wales and by LECs (local enterprise companies) in Scotland. These new bodies, controlled by businesses, base their work on detailed knowledge of the local employment market, whereas the old ITDs were sectorial, national bodies with representation from employers, the unions and training organizations. In this context, forecasting and evaluation methods for professional training programmes are developing rapidly.

In Ireland, government policy also involves giving bosses the greatest responsibility for training the workforce. The FAS (Training and Employment Authority) supervises professional workplace training and in 1990 set up the Industrial restructuring training programme (IRTP), specifically designed to help Irish industry prepare for 1992 and the single market. There are close links between training and industrial development: recruitment plans are worked out with the strategies implemented by the IDA (Industrial Development Agency) in mind. Training programmes in business management have been improved in the past few years.

The National Manpower Forecasting Unit was set up in 1990. It is planned to create regional consultative committees to ensure consistency between training programmes and the requirements of local industry.

In France, it is becoming more and more widely accepted that the relationship between employment and training can no longer be dealt with through linear and mechanistic adequation procedures. The need for a single infraregional framework for collecting and circulating local statistical information is becoming greater.

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These preoccupations have resulted in the creation of regional employment and professional training units which provide assistance to local and regional decision-makers on initial and continuing training. They can also be instruments for concertation, forecasting and analysis on training strategies. Evaluation procedures are playing an increasingly important role in this field. Consistency between training programmes is therefore enhanced and the training available is better structured.

In Spain, the labour market is characterized by high unemployment, particularly amongst young people, and by a large number of long-term unemployed. The government's employment and training policy therefore concentrates on job-seekers, with the training of those in employment largely left to the companies concerned. Among the priorities of the national integration plan are:

- training for young people and the long-term unemployed;
- training in rural areas and in areas of industrial redeployment;
- work integration and back-to-work schemes for women, underrepresented in some sectors of the economy.

The 1990 reform of the education system has given all students in secondary education the opportunity of receiving a basic professional training and technical professional training. So there is now coordination between the new vocational training dispensed in the education system and the vocational training (including continuing training) managed by the Employment Ministry and its regional directorates.

The Autonomous Communities have powers in education, but do not officially have any regarding continuing professional training. However, they are taking an increasingly active role by adopting measures complementary to State action in support of training. Currently, some powers are being trans-

ferred to the Autonomous Communities (the Basque Country and Asturias). As in other countries, forecasting, programming, consultation and evaluation are being brought together by the creation of 'centres of collaboration' and 'district councils' (consejos comarcales). Round-table discussions are held locally on employment and training planning.

In Portugal, the past few years have seen a relaunch of technical professional training. Since the beginning of 1989, professional schools have gradually been established with local economic partners. Portugal is currently experiencing particular problems due to the shortage of skilled labour, especially in the metal and mechanical industries, construction, tourism and telecommunications. Since 1990 training programmes have mainly aimed at intermediate-level technicians and highly skilled personnel. Although it is the companies themselves who finance training for their employees, the public sector also contributes to the financing of continuing training. Public expenditure on continuing professional training is increasing rapidly (+ 37% between 1988 and 1989).

A particular problem is posed by the huge proportion of small businesses. These have not yet got together or organized themselves to look for joint solutions to their professional training problems.

Despite the progress made in recent years in initial and continuing training, the level of professional qualifications remains one of the major stakes for the future of the Atlantic regions, for it is the only thing that will raise the technological level of businesses and ensure their growth in the single market.

#### **1.1.4. The Atlantic regions and Community momentum**

The accession of the various Atlantic regions to the European Economic Community was spaced out over almost 30 years (1957-86). The economic development of these regions still remains imprinted with their very different experiences.

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In France, Community membership was marked by the implementation of the common agricultural policy which, with its price guarantees and the opening-up of new markets in north-west Europe, reduced the rural exodus. It also brought with it industrial development together with an active policy of spatial planning and industrial decentralization, particularly into the western regions.

But the recession of the 1970s hit labour-intensive industries particularly hard. Moreover, the reform and tightening-up of the CAP and Community fishing policy during the 1980s have had restrictive effects on the basic activities of the French Atlantic regions.

The relative prosperity of the Community has, however, given rise to endogenous industrialization, particularly in the food-processing sector.

When the United Kingdom joined the European Economic Community in 1973, its Atlantic regions were weakened by an increasingly ageing industrial base and by the redirection of commercial activities towards Europe at the expense of the Commonwealth. Accession to the Community had no appreciable effect in the agricultural sector due to the low numbers of agricultural workers. In contrast, the negotiations entered into on joining the European Economic Community for another form of subsidy – the European Regional Development Fund – provided aid for restructuring industry and infrastructure.

Fishing was a particularly sensitive issue, especially in the islands off the north of Scotland, because of the implications of the policy of free access.

When Ireland joined the Community, the country was still very inward-looking and its economy was largely founded on raw agricultural products primarily and almost entirely destined for the British market. The abolition of the protectionist policy in

the early 1960s enabled the sustained development of industrialization, of which a large number of foreign investors took advantage. Many companies set up industrial plants in the country, motivated by the presence of an abundant supply of cheap labour. The industrial framework is not however free of fragility.

EC membership enabled Ireland to take advantage of guaranteed income for its agriculture, and especially of substantial aid for modernizing its infrastructure, training, and the development of industry and tourism.

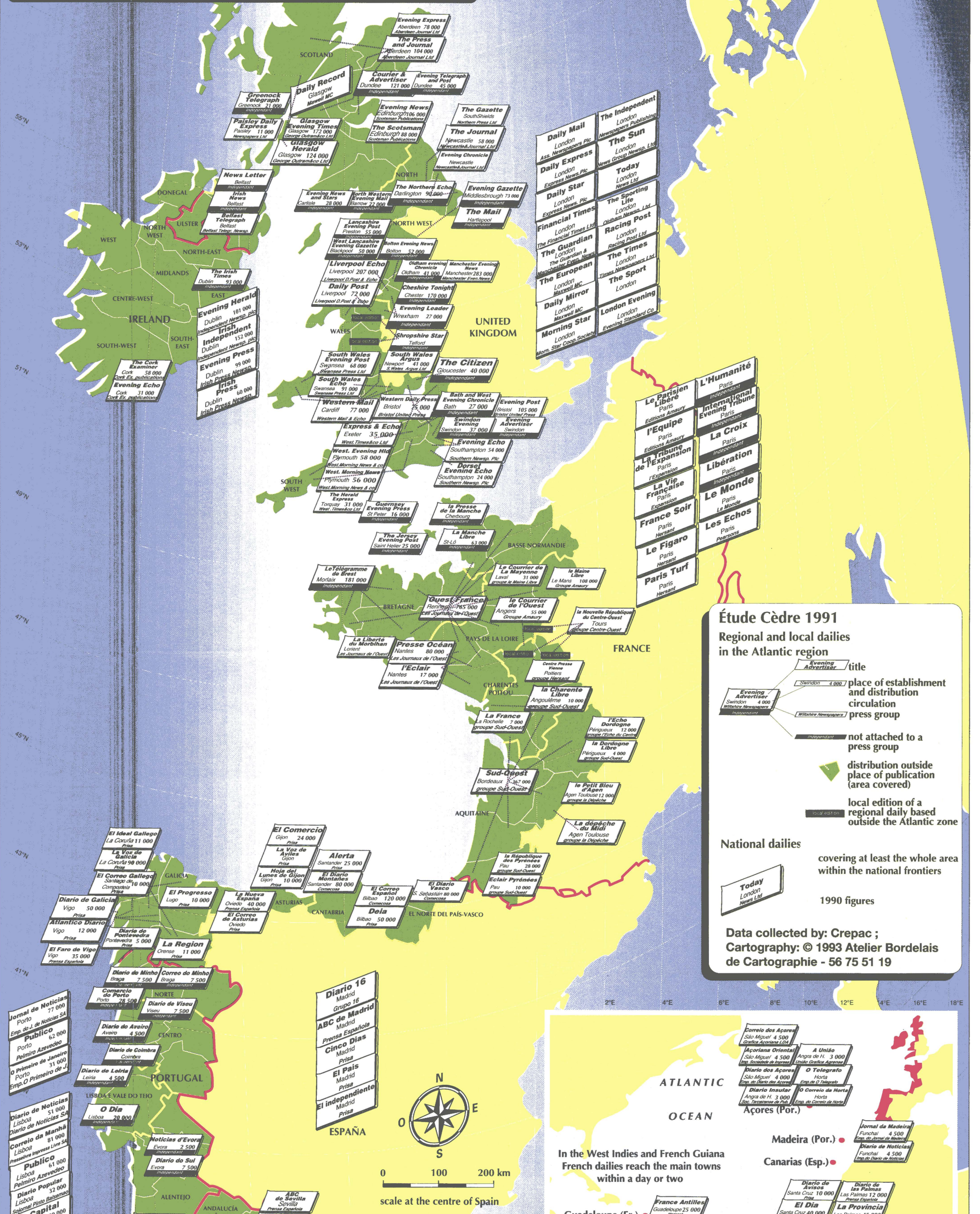
Spain and Portugal became members of the Community in 1986 – their late accession was due to political reasons – but each country had a different economic starting-point.

When the Franco regime fell, the Spanish economy owed more to the boom in tourism than to its industrial base. The return to democracy and the prospects of EC membership encouraged a phenomenon of industrial renewal. The Atlantic regions, despite their high degree of rurality and the importance of their traditional industries, began to take advantage of it, albeit in a modest way.

Community membership – with an initial transitory stage which is now being completed – gave a welcome boost to the economy. The Spanish Atlantic regions were however less favoured than others since their agriculture is more affected by competition from other EC countries and restrictions under the CAP than those regions with Mediterranean-style agriculture, and adapting to the common fisheries policy (CFP) has been a

# the daily press

in the Atlantic regions



### Étude Cèdre 1991

#### Regional and local dailies in the Atlantic region

- title**
- place of establishment and distribution**
- circulation**
- press group**
- not attached to a press group**
- distribution outside place of publication (area covered)**
- local edition of a regional daily based outside the Atlantic zone**

#### National dailies

- covering at least the whole area within the national frontiers**

1990 figures

Data collected by: Crepac ;  
Cartography: © 1993 Atelier Bordelais de Cartographie - 56 75 51 19

#### In the West Indies and French Guiana

French dailies reach the main towns within a day or two

- Guadeloupe (Fr.)**
  - France Antilles Guadeloupe 25 000
- Madeira (Por.)**
  - Jornal de Madeira Funchal 4 500
  - Diário de Notícias Funchal 4 500
- Canarias (Esp.)**
  - Diário de Avisos Santa Cruz 10 000
  - Diário de Las Palmas Las Palmas 12 000
  - El Día Santa Cruz 40 000
  - La Provincia Las Palmas 45 000
- Açores (Por.)**
  - Correio dos Açores São Miguel 4 500
  - Jornal da Manhã Açores Ponta Delgada 4 500
  - Diário dos Açores São Miguel 4 000
  - Diário Insular Angra de H. 3 000
  - Diário Insular Angra de H. 3 000
  - O Correo da Horta Angra de H. 3 000

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painful business, even though it has opened up access to new fishing areas.

The Atlantic regions are also hit by Community restrictions on basic industries, especially steel. The resources of the Structural Funds are none the less becoming operational in the provision of infrastructure.

Portugal's post-war prosperity was fragile and only superficial. The currency was strong, but per-capita income was among the lowest in Europe. Also, the economy was only balanced by the export surplus of the colonies which compensated for the deficit of metropolitan Portugal.

The large natural increase in population, the overpopulation of the rural areas of the north with its tiny farms and the huge agricultural estates of the south that were unable to absorb the labour force led to massive emigration. In addition, 10 years before it joined the European Community, Portugal had to take in 700 000 citizens repatriated from its former African colonies, 7% of the resident population. Portugal does have traditional industries (leather, textiles, cork processing, etc.) but most of its industry is recent.

The tradition of an open economy was a favourable factor in the context of Community membership, particularly as regards industrialization. Money from the Structural Funds is gradually changing and improving amenities, especially the transport infrastructure.

The more Mediterranean-style agriculture is less sensitive to the tightening of the CAP than the other Atlantic regions are, but its structures are extremely fragile and underproductive.

### **1.1.5. Cultural solidarities with a historical background**

Long before the ocean of conquests, voyages and trade, the Atlantic was the prime corridor for contacts and trade between the regions along its coast until primacy passed to land-based infrastructures.

The historical role of the Atlantic Ocean as a major communications route highlights an important cultural feature that is common to many cities: a great openness to the world, whether in the adventuring sense like St Malo, famous as a base for privateers, or Seville, the starting-point for Christopher Columbus's expedition, or in the financial sense, like Nantes, or in the intellectual and political sense, as in the case of Portugal. The cultural solidarity between these regions is largely based on their maritime character and the existence of so many ports. With the sea in their blood, the inhabitants of these *finis terrae* have always been great travellers. Names such as Magellan, Jacques Cartier and Samuel de Champlain bear witness to this taste for discovery.

During the course of their travels, the Celts of the sixth century left their mark in many places (place-names, monuments, artefacts), in Ireland, Brittany, Galicia and Portugal. But these historical affinities are not sufficiently well established in the mind to forge a Celtic Atlantic identity. Only those regions strongly impregnated by a Celtic heritage, like Wales, Ireland, Scotland, Brittany and Galicia, promote contacts and cultural events. Finding expression in the Celtic regions as in the Basque Country, mutual recognition and the encouragement of diversity are proofs of a persistent desire for cultural autonomy.

Given the globalization of trade and the economy, and also of cultures, it has proved necessary to promote these regional cultures to safeguard their diversity and authenticity, but it is also necessary to encourage and support creativity (for example, a Basque publication helps make young writers

# radio

in the Atlantic regions

55°N  
53°N  
51°N  
49°N  
47°N  
45°N  
43°N  
41°N  
39°N  
37°N

2°E 4°E 6°E 8°E 10°E 12°E 14°E 16°E 18°E



**Étude Cèdre 1991**  
regional and local radio stations

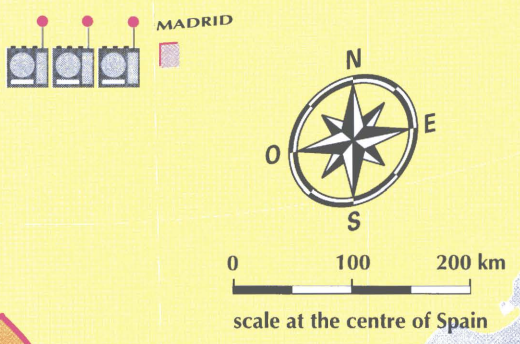
- public
- ♣ public, bilingual French/Breton
- ⊕ public, bilingual French/Gascon
- under the auspices of an autonomous authority (Spain)
- independent, private
- private, belonging to a network
- ⊗ private, bilingual French/Basque
- ⊠ private, bilingual French/English
- ♣ private, bilingual French/Breton

**radio station broadcasting nationwide**

public    
 private

each station is shown at the studio site 1990 data

**Data collected by: Crepac ;  
Cartography: © 1993 Atelier Bordelais  
de Cartographie - 56 75 51 19**



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better known by publishing their works, and also to limit the drain of artists towards Madrid and Barcelona).

To give traditional regional cultures the chance to adapt to the new challenges while preserving their authenticity (based on the historical), and their vitality, (based on the active participation of the population), cultural cooperation projects are now receiving support, initiated by the media.

Some joint projects between the media of the Atlantic regions are already under way, such as joint news programmes in several regions: 'Celtic Horizon' (FR3 the Loire Region and Brittany, RTE Dublin and BBC Scotland); 'Eurosud' (FR3 Aquitaine, FR3 Poitou-Charentes, TVE Basque Country, RTP Lisbon); 'Pyrénées-Pirinéas' (FR3 Midi-Pyrénées, FR3 Aquitaine, TVE Basque Country, TVE Catalonia, TVE Aragon).

General and economic information programmes about the Atlantic arc will soon be produced jointly by a number of regional television channels on the Atlantic. Likewise, a festival under the aegis of the Celtic Film and Television Association is held each year in a different Celtic country and provides a place for professionals from the various regions to meet and promote their work. It also has the aim of encouraging and developing film production and cooperation between professionals. These media contacts help foster an interregional Atlantic identity.

In contrast, interregional cooperation in the press has so far been limited, because of the multitude of daily newspapers and the fractured picture that this produces, with the exception of *Ouest-France*, read in Lower Normandy, Brittany and, the Loire Region with a circulation of 765 000 and *Sud Ouest* (Charentes-Aquitaine) with a circulation of 367 000.

These two daily newspapers are alone in expanding outside local and regional boundaries, whereas

most of the daily papers are limited to an urban area (*Comercio de Porto*, circulation 28 500; *El Diario de Cadiz*, circulation 28 000; *The Cork Examiner*, circulation 58 000) or to a district or county (*Dorset Evening Echo*, 24 000) or at best a region (*Diario de Algarve*).

The density of local and regional radio stations is very uneven in the Atlantic regions. They are relatively well distributed in correlation with population densities, except in the United Kingdom.

In Portugal, the density is high, but the radio stations are exclusively private and independent, whereas in Spain and France, the density is lower and a high proportion of the stations is also private, but they mostly belong to one of the national networks. In Ireland and the United Kingdom, the density of local and regional radio stations is low; in the United Kingdom they are mainly public and in Ireland mainly private.

Some bilingual radio stations exist and confirm the vitality of some of the regional languages, operating in French and Breton, French and Gascon and French and Basque.

These two examples reveal that the local and regional distribution of two such essential media as the press and radio is very uneven, and that most of them (the profusion of daily newspapers in the United Kingdom and the profusion of radio stations in Portugal) cannot in their current state (except in France) contribute to a large degree of integration between these regions in which local particularities predominate.

Neither should it be forgotten that the Atlantic regions have been areas of emigration since the 19th century. Many 'Atlantic' emigrants are to be found all over Europe, especially in the capital cities and industrial areas, and all over the world, particularly in America (the Irish and Scots in the USA, and the Portuguese and Spanish in South America). These people are scattered far and wide

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but are linked to their mother country by many strong informal contacts.

For example, the inhabitants of the Azores maintain cultural links with Brazil, and with the USA and Canada where there is a large diaspora. The cultural links between County Donegal (Ireland) and Strathclyde (Scotland) are also very close, thanks to the emigrants. From existing links, new cultural exchanges could be encouraged between the areas of emigration and their destination areas (America and European urban and industrial areas).

The safeguarding and development of links and cultural identities between Atlantic regions will be all the stronger if they are underpinned by an economic rationale. In this case, the development of sea routes between regions is a determining factor. The boom in ferry crossings between Lower Normandy, Brittany, south-west England and Ireland, and those serving the Cantabrian coast, shows the progress made by economic links between these regions beyond human contacts.

Recent trends for both passenger and freight traffic on the Plymouth-Santander line are significant; there were 84 500 passengers in 1987, 121 900 in 1989, and 149 600 in 1991; freight increased from 34 400 tonnes in 1987 to 53 400 tonnes in 1989, reaching 109 700 tonnes in 1991.

Another example is the Roscoff-Plymouth crossing, which resulted from a local initiative to boost exports of early vegetables from the Léon district to Great Britain. Little by little, this route, and the others that have been opened since (particularly Caen/Ouistreham-Portsmouth) have developed proportionally to the growing number of tourists. Brittany Ferries carries over 2.5 million passengers a year, and these sea crossings make a large contribution to the development of tourism in Brittany and Lower Normandy, and to the resurgent interest in traditional local cultures, especially in Brittany.

Sea routes are not an isolated example. Through the ever-greater interference between economics and culture, a new potential for exchanges of experience and know-how is available.

- *Students*

Twinning projects between the schools and universities of the Atlantic regions and student exchanges should be given support. This type of project enhances foreign language skills and broadens cultural knowledge.

University exchanges already exist between Rennes and Santiago de Compostela, Brest and Cadiz, and Poitiers and Coimbra. The Coimbra University network is a well-known example.

- *Work skills and technology*

There is a lot of potential for exchanges involving training programmes and know-how, since the Atlantic regions are currently having to cope with the decline and restructuring of their traditional industrial and agricultural activities. Exchanges based on common economic and social problems build useful contacts.

Thus, Galicia has established links with the Loire Region, based on an exchange of experience in aquaculture, an important economic activity in both regions. Other themes for cooperation have followed, such as training programmes in rural tourism.

This type of exchange seems all the more necessary as the southern Atlantic regions seem to be deliberately moving towards intensive development, whereas the northern Atlantic regions are currently drawing lessons from these 'productivist' experiences in agriculture, tourism and the environment.

- *Tourism*

In recent years, large efforts have been made by local populations to keep their historical and cul-



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tural heritage alive and make it more widely known; some initiatives have given rise to cultural events, such as the Puy-du-Fou sound and light show in Vendée, or the enhancement of historic sites (Lough Derg in County Donegal, a former place of pilgrimage). These still rare cultural 'products' built up by a local momentum have pioneered genuine microregional development.

Cooperation based on common economic potential such as tourism would enable these reserves of culture and nature to be developed. The cooperation between the French and Spanish regions for the development of the Pilgrims' Road to Santiago de Compostela is one example. Other cultural tourist itineraries based on the art of the Romanesque period would be worth studying.

#### **1.1.6. Limited economic solidarities**

The Atlantic Ocean was a zone of intense traffic, thereby creating strong economic and trade links (some still exist: there are many trade exchanges between the United Kingdom and Portugal). International trade gave prosperity to several large Atlantic cities such as Bristol, Nantes and Bordeaux (from the triangular trade between Europe, Africa and America) and also Oporto, Lisbon and Seville.

The traditional importance of the large-scale trade to the Americas and Africa contributed to the establishment of an old processing industry, based on imports of exotic foodstuffs from overseas (cocoa, coffee) and various consumer goods, all along the coast and particularly in the south-west of England, and the Nantes, Bordeaux and Lisbon areas. Another aspect of this merchant tradition is the marked politico-military character of the pre-capitalist commercial momentum. The States (England, France, Spain and Portugal) always kept a close eye on commercial activities with strong warlike connotations. This hefty presence of the nation States in the economic and social life of the Atlantic arc area was a constant feature.

Coastal navigation (cabotage), a determining factor until the mid-19th century, gradually faded away, and throughout Europe freight transport increasingly relied on the waterways network, the railways and on the road network then under construction (invention of tarmac and asphalt, etc.).

Once indispensable for moving large volumes of goods from one place on the continent to another, access to the sea was no longer a necessity. Similarly, the expansion of colonial empires, which resulted in the prosperity of some Atlantic cities, was followed by decolonization and the shrinking of port traffic and the decline of the trading and industrial activities of these city ports.

Special trade relations between the Atlantic regions have arisen for historical reasons, such as those between the United Kingdom and Portugal, and Portugal and Aquitaine, or for reasons of proximity (between Ireland and the United Kingdom, the Basque Country and France, and Galicia and Portugal).

However, this is not always the case. Lower Normandy and Brittany, though only separated from the United Kingdom by the English Channel, have relatively weak trade relations with Great Britain, though they are certainly expanding. Also, the formerly strong trade relations between Portugal and the United Kingdom, and Ireland and the United Kingdom, are now tending to slacken.

France is one of the main clients of the southern Atlantic regions (Galicia, Andalusia, the Basque Country and Portugal), while the prime destinations for the products of the northern Atlantic regions are Germany, the Netherlands and Scandinavia. The increase in exports from the Atlantic regions to the Netherlands in recent years is significant, whereas total French and Spanish exports to the Netherlands are falling, and exports from the Atlantic regions to neighbouring countries, i.e. Belgium and Luxembourg, are decreasing. Exports from all the Atlantic regions to the Iberian penin-

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sula have made great and rapid progress over the last few years, at much steadier rates than the national averages.

In contrast, some trade relationships have worsened, particularly those of the French Atlantic regions and those of Portugal with Italy, Belgium, Luxembourg, Ireland and the United Kingdom. Today, most of the Atlantic regions occupy only a small place in the trade exchanges of their respective States (except Ireland and Portugal) despite the length of their coastline, which is the gateway to the Atlantic for the whole of Europe.

The weakness of the trade and particularly of the exports of these regions says more about their low propensity for seeking to capture outside markets than about their low economic weight, since the contribution made by these regions to national wealth is, for most of them, twice as great as the relative value of their exports.

Besides the weakness of trade, it is interesting to note that the trade balance of the Atlantic regions is, in general, less imbalanced than that of their respective States. However, this comparative advantage tends to deteriorate, revealing the vulnerability of regional economies that are no longer protected in a context of trade growth and internationalization.

More than 60% of the Atlantic regions' exports go to EC countries. The more central countries of Europe (Germany, Italy and the Benelux countries) are the major customers of the northern Atlantic regions. Over 45% of exports from the three regions of north-west France go to those countries, whereas the latter take less than 27% of the total exports of Northern Ireland, Andalusia, Galicia, the Basque Country and Ireland.

The rate of penetration in the countries that form the backbone of Europe therefore varies greatly among the Atlantic regions. The peripheral regions mentioned above are particularly badly positioned

with respect to those markets. They have greater trade links with the other Atlantic countries (United Kingdom, France, Ireland, Portugal and Spain). The geography of exports seems to be linked to the degree of peripherality of the Atlantic regions.

Although these regions look out across the Atlantic, due to their geographical position, they send relatively little of their output there. Nevertheless, exports from all the Atlantic regions to the USA are growing rapidly, but are only really noteworthy for a few regions (Scotland, Aquitaine and the Basque Country) and for specific products (electronic equipment, food products).

The geographical orientation of Atlantic region imports is almost identical to that of their exports. Trade between the Atlantic islands and their mainland countries remains proportionally high: finished products and consumer goods go from the continent to the islands, and fruit, flowers and other agricultural produce go in the opposite direction. Sectorial analysis of the type of exports of the Atlantic regions confirms a preponderance of heavy raw materials, especially agricultural, and a shortage of products with a high technological content.

In 1989, exports of foodstuffs from the French Atlantic regions represented over 30% of total French exports of these products in value terms.

The food industry is one of the few in these regions that shows a high degree of globalization. But this advanced level of specialization also reveals the poor performance of other industrial activities. Except for the high proportion of exports of manufactured goods (electronics, household appliances), and metallurgical products, especially transport equipment, i.e. products with low added-value and low technological content, few other industrial activities are well developed exportwise.

A breakdown of imports also shows up this deficiency, as does the dependence of the Atlantic regions on outside supplies of fuels, chemicals and capital goods.

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Nevertheless, between 1980 and 1988, exports of electronic equipment, household appliances, capital goods and chemicals increased, at the expense of exports of worked metal products. This meant an increase in exports of finished products and those with higher added-value.

But it should be pointed out that, in the same period, imports of capital goods, chemicals and consumer goods continued to rise, so the Atlantic regions still showed a deficit in these determining sectors.

The low trade weight of the Atlantic regions, along with their geographical and sectorial orientations, show how vulnerable these peripheral economies are when confronted with the double challenge of increasingly open economies and technological change which puts them in a difficult competitive position.

Interregional projects could help make businesses more dynamic on the international scene.

Interregional projects of varying size and involvement could be based on:

- Existing special trade relationships;
  - (i) arising from history (Portugal/United Kingdom);
  - (ii) arising from proximity (Basque Country/Aquitaine, Galicia/Portugal);
  - (iii) arising from their geographical situation (the northern Atlantic regions and the less peripheral regions trade more with the central zone of Europe, whereas the westernmost regions do more trade with the closer Atlantic countries with more accessible markets);
  - (iv) and which could also arise from the sea routes now enjoying a boom period (Roscoff-Plymouth, Caen-Portsmouth).

- Reciprocal offers of special market outlets (Netherlands, Iberian peninsula, and the USA).
- Regaining lost markets (Italy, Belgium and the United Kingdom).
- Complementarity in key industries such as:
  - (i) the food industry (Normandy, Brittany and the Loire Region with the United Kingdom, Spain and Portugal for early and other vegetables and wine);
  - (ii) metal products (Brittany, north-west Spain, the Basque Country and the United Kingdom);
  - (iii) biotechnologies and new materials, high potential industries still to be developed.

## **1.2 Territorial organization and specific areas**

### **1.2.1 A generally imbalanced urban framework**

The general picture of the urban areas<sup>1</sup> of the Atlantic regions can be broken down as follows:

- A small number of urban areas with a population of over 500 000 inhabitants: Bordeaux, Nantes, Cardiff, Belfast, Oporto, Bristol, Edinburgh, Bilbao, Gijon/Oviedo, Glasgow, Seville, Lisbon and Dublin (the last two capital cities are now approaching the one million mark).
- A large majority of towns with populations of 90 000 to 230 000, with urban areas of 100 000 to 320 000 inhabitants.
- Some regions with a low rate of urbanization – towns with populations of only tens of thousands: northern Scotland, North Wales, north-east Portugal, the Algarve and Alentejo.

The ratio of space to population density indicates the relative effects of different types of urbanization. For example:

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<sup>1</sup> An urban area is taken to mean the town or city itself, the built-up area and nearby towns within a radius of 30 km.

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- Small areas with high population density: south-west Wales, south-west England (Dorset, Somerset, Avon, Gloucestershire and Wiltshire), and the Basque Country.
  - Small areas with medium-sized population density: Cantabria.
  - Small and medium-sized areas with low population density: Grampian region, North and Mid-Wales, and the Algarve.
  - Medium-sized areas with medium-sized population density: Dumfries and Galloway, Strathclyde, Borders, Central, Fife, Lothian, Tayside, Northern Ireland, Cornwall and Devon.
  - Large areas with high population density: the coastal zone of northern Portugal, Lisbon and the Tagus Valley.
  - Large areas with medium or low population density: Scottish Highlands and Islands, Ireland, Brittany, the Loire Region, Poitou-Charentes, Aquitaine, Asturias, Galicia, central Portugal and Alentejo and Western Andalusia.

Because of the small number of cities of over 500 000 inhabitants, the Atlantic urban system is bottom-heavy. Moreover, it is singularly insufficient to combat the growing attractiveness of the great urban centres like London and Paris which leads to the regional disintegration and the peripheralization of Atlantic towns and cities.

Nevertheless, the large Atlantic cities (national and regional capitals), which have long been characterized by the movement of people, goods and capital, are still in a somewhat dominant position, strengthened by the natural tendency to concentrate high-level activities in one place (e.g. Lisbon, Bilbao, Glasgow and Dublin). This concentration sometimes hampers the development of nearby urban units, without providing much for the hinterlands of the metropolises themselves. The urban framework seems to be imbalanced in as much as the vast rural areas far from the major cities continue to depopulate due to a lack of sufficient relay

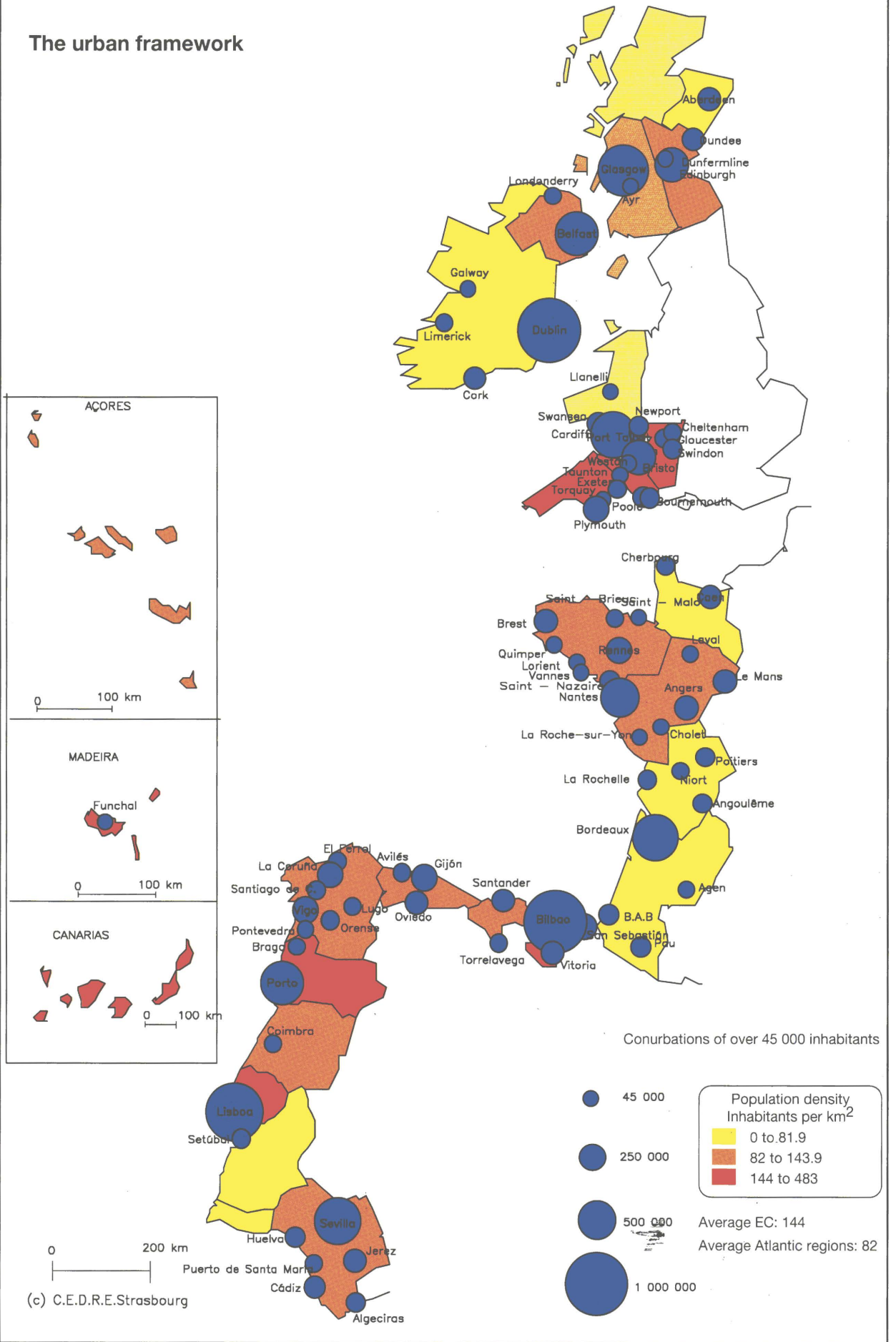
centres. In northern Scotland, the Algarve and Alentejo, there are gaps in the hierarchical organization of the urban network. Thus, in many regions, urbanization is strongly polarized: Grampian (Aberdeen: 186 000 inhabitants), Northern Ireland (Belfast: 295 000 inhabitants), Asturias (Gijon: 256 000, and Oviedo: 190 000 inhabitants), Cantabria (Santander: 190 000 inhabitants) and central Portugal (Coimbra: 80 000 inhabitants). Compared to the European average, these structural centres are small-scaled.

Three major types of urban structures typical of the towns and cities of the Atlantic regions can be isolated.

The traditional industrial urban system is characteristic of the UK Atlantic regions, the Basque Country, and, to a lesser extent, the Cantabrian coast. This system is coherent and almost complete, but is mainly going through a period of redeployment. These cities have to take on new functions and create a new urban model. The industrial cities have to face sectorial crises and are looking to reclaim industrial wasteland and, in doing so, regain their attractiveness. Apart from a few exceptions, these towns and cities, which are mostly involved in secondary and port activities, have not looked to 'technopolis' developments as a solution, as their fate is much more tied up with their capacity to free themselves from outdated traditions and adapt their urban functions so as to remain or become regional capitals. Glasgow, for example, is now recognized as a city of culture.

The second type, known as 'southern' or colonial, takes in those urban areas that were long dependent on transit flows. They still have a considerable influence on their surrounding areas and this tends to hamper the development of the other urban units in the region. Their main problems relate to the internal organization of their outward expan

# The urban framework



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sion; the need for better connections with other towns, so as to make them local anchoring points for the population and workforce in order to encourage their role as local centres of development. This type of urban system, lagging behind in development, is predominant in central and southern Portugal.

The third type, the median urban system, is based on an uncontested capital city that is recognized by the medium-sized satellite towns that act as relays. These smaller towns have features that give them a counterbalancing effect and an independent existence. Major cities of this type on the Atlantic coast (Rennes, Nantes, Bordeaux and Oporto) are moving in the direction of establishing their Atlantic specificities. They will need to consolidate their influence and their present structures by developing their urban planning in a way that will substantiate their claim to the status of European metropolitan centres.

### **1.2.2. The emergence and growing importance of new urban activities**

#### *1.2.2.1. Services*

The presence of tertiary activities is generally higher than the Community average in terms of jobs, either because the primary sector provides few jobs in regions such as south-west England and Scotland, or because the secondary sector is weak, as in Brittany.

The old centralist traditions of the United Kingdom and France have an effect on the location of trading services, which are concentrated in the national capitals. However, cities like Glasgow, Edinburgh, Nantes and Bordeaux provide a counterbalance. In Portugal, the dominant position of Lisbon is being diminished by the fairly rapid development of service operations in Oporto.

Overall, the Atlantic regions typically have a low degree of sophistication of services compared with the average of large urbanized regions in Europe.

#### *1.2.2.2. Advanced services*

### **Advanced services are beginning to multiply in the Atlantic regions**

The high-level tertiary sector is developing in the urban centres of the Atlantic regions and, above all, is diversifying: training and research establishments are being opened, and information and consultancy activities, new communications technologies and financial services are being developed.

Between 1974 and 1985, the total number of jobs in the services sector increased by 18.6% in south-west England, 10.4% in Wales, 10.2% in Scotland and 12.2% in the United Kingdom as a whole, but the number of jobs in business services increased much more rapidly in south-west England, by 76% (Wales 42.6%, Scotland 32.4%, United Kingdom 34.8%).

### **But growth is concentrated and therefore uneven**

The supply of advanced services (multinational companies and service centres), which also conditions demand, is largely concentrated in the major urban areas: Dublin, Edinburgh, Glasgow, Bilbao, Lisbon and Seville. For reasons of scale economy, the big service companies tend to set up along certain corridors or in zones near large centres of influence and decision-making. But their location costs often induce prices for their services that are beyond the means of smaller businesses. Demand (from the small and medium-sized businesses) is widely scattered whereas the supply is highly concentrated, and the supply and demand are only brought together in the major conurbations. In the Atlantic regions, the highest demand for both traditional and advanced services has been in Scotland, the Basque Country and the Dublin and Lisbon areas.

Demand is growing in regions such as south-west England, Aquitaine, western Andalusia and the

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Oporto area. These regions are still insufficiently equipped.

In the other Atlantic regions, there is a real dependence on the larger urban centres, especially the better equipped national capitals with their larger skilled workforce. The dependency of the Spanish Atlantic regions on Madrid and Barcelona is one example.

Also, due to the importance of industrial subcontracting and the large number of decentralized firms, the majority of businesses are subject to decision-making centres located in the national capitals (south-west England, Brittany and Lower Normandy).

**Like the supply, the demand is still largely restricted to traditional services**

The clear predominance of a demand for traditional services (legal, fiscal and accounting services) is hampering the progress of advanced services, as is the attitude of abhorrence shown by many bosses with regard to such services, particularly in regions with a strong industrial tradition.

For instance, the demand for management services and international business services is still limited, and therefore the supply is also scarce. However, the demand for trade services is high and is increasing faster than the supply.

In the financial sector, with the exception of Dublin and Lisbon (two capital-city financial centres that are not very dynamic because they are situated in poor, peripheral countries of the Community), the peripheral Atlantic regions offer only local services and are only relays between their head offices and local businesses, particularly through a dense network of bank branches.

For example, financial establishments in Lower Normandy and Brittany offer only a limited range

of services and mainly specialize in financing the property market, small and medium-sized businesses and local authorities. The main reasons put forward to explain this lack of scope are the closeness to Paris, the food industry tradition, and difficulties in recruiting and retaining well-trained managerial staff. However, to meet the existing demand, new business banks like NSM and BGP have set up in Bordeaux in recent years in order to deal with the problems arising from transfers of viticultural property.

The financial centres in the French regions tend to be satellites of the Paris stock market, whereas in the United Kingdom, despite the extreme centralization of financial activities in the London area, Edinburgh manages to maintain its function as a regional financial centre.

The largest financial centres are striving to safeguard their autonomy, and in order to maintain a major role in the development of areas of financial competence, will have to offer new instruments and financial advice to businesses.

**All this, in spite of the progress made by communications technologies**

The new communications technologies make it possible to deal on the financial markets from any provincial centre with the appropriate equipment and trained staff. The many new techniques available in information and communications have led to a greater externalization of services (there are a few examples of note, such as the relocation of the head office of Lloyds Bank to Bristol, part of the trend towards the decentralization of services from the London megalopolis to the South-West) but at the same time the structural adjustment resulting from the same technological changes is contributing to the centralization of tertiary activities.

For example, since the beginning of 1991, the French regional stock-exchanges have lost their

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monopoly on trading in the securities registered on their lists, which accelerated the centralization of stock-exchange services in Paris. This trend is justified by the concentration of company head offices in the capital, the cost of the infrastructure and the equipment used in stock-market operations, the sophistication and globalization of operations and the existence of a favourable economic, political and financial environment.

So, the regional stock exchanges in Bilbao, Bordeaux and Nantes, where there are many financial, banking and business headquarters, are being called upon to take on new functions, especially by multiplying convenience/local services, preparation for stock-market flotation, valuations and consultancy.

High-level services are determining, significant factors for the future, in so far as it is a highly innovative, international, centralized sector in a stiffly competitive environment.

Therefore, the main challenge for the Atlantic regions is to equip themselves with tailored services that are capable of meeting the existing demand, and then increase it, since one of the weak points of the Atlantic regions lies in the low density of business headquarters. This deficit arises from the peripheral and rural nature of these regions, long aggravated by the lack of communications infrastructures.

### **1.2.3. Restructuring in rural areas**

The Atlantic regions are largely rural. Agricultural production has traditionally occupied almost the entire rural space, and this has shaped the landscape and structured the environment.

Because of the double mutation of agriculture (demographic and economic) and the diversity of the rural areas, the change is strongly contrasted, but the rural areas are all undergoing rapid transformation. They are diversifying: some are breaking up, others are re-forming.

Demographic change in recent years differs widely from one rural area to another. Some are experiencing a general exodus: Scotland, the west of Ireland, Alentejo, Galicia and Cantabria. Others are stagnating, such as northern Portugal, the Algarve, western Andalusia and certain isolated, profoundly rural departments in the west of France. In other areas, such as Cornwall, Devon, Somerset and Dorset, the population aged 65 and over is increasing at a proportional rate.

At the same time, a general trend can be identified: intraregional migratory movements tend to swell the intermediate centres, while the countryside continues to empty.

The Atlantic rural areas can be divided into several types:

- Urbanized rural areas, close to urban and/or tourist concentrations; these areas have already completed their demographic agricultural evolution and are well advanced in the diversification of production (crops, extensive/intensive livestock farming) and activities (services/tourism).
- At the other end of the scale from this first type are the deep rural areas, so called because they are isolated, not easily accessible and with limited development potential. In most cases, only subsistence farming survives.
- Between the two are the agricultural rural areas where a distinction can be made between:
  - (i) rural areas whose topography includes a plain or particularly rich, fertile soils (in valleys or on coastal strips) and which specialize in industrial crops or market gardening. Intensive growing methods are used, resulting in an overexploitation of water resources and leading to increased externalization of the food-processing sector;
  - (ii) the traditional dairy production areas of mixed pastureland and woodland which



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are currently experiencing demographic regression and changes in agriculture, and are faced with the twofold problem of the survival of the many underproductive holdings and the management of the rural areas which are under threat of being abandoned;

- (iii) rural areas which are enhanced by farmers branching out into activities such as farm holidays or light industry. These areas are, however, made fragile by a lack of competitiveness and the fact that the activities are not directed towards the more buoyant markets.

#### **1.2.4. The islands: A special case of non-integrated areas**

##### *1.2.4.1. The 'ultraperipheral' islands*

With a population totalling nearly three million, the ultraperipheral regions (the Azores, Madeira, the Canaries, Martinique, Guadeloupe and – a case of 'neo-insularity' – French Guiana) are Atlantic territories of Europe. Their situation does, however, have characteristics of its own and poses very different problems from those of the European coast. This situation, therefore, deserves a special approach, and the following outline is consequently only a succinct examination of the issues involved.

The geographical position of these regions brings them somewhat nearer, or in some cases binds them more closely, to other continents. The Canaries are only 100 km from Africa at their nearest point. Madeira is further from the Iberian peninsula than it is from Morocco. The Azores are about a third of the distance between Portugal and the USA. The Antilles belong to the Caribbean archipelago and French Guiana is part of South America.

Most of these territories are fragmented because of their archipelagic configuration: the seven inhabited islands of Guadeloupe stretch over 250 km,

the seven Canary islands over 500 km, the nine islands of the Azores over 600 km, while the inland villages of French Guiana are isolated by the immense Amazonian forest. The climatic conditions of these regions (tropical in the Antilles and Guiana, with the risk of hurricanes, etc.) or their volcanic nature and seismic vulnerability (the Azores etc.) also differentiate them from the other Atlantic regions. There are also economic and social differences, and sometimes cultural ones (the Creole culture of the French overseas departments).

Although they differ among themselves on many counts, these six regions can particularly be distinguished by their generally very low level of wealth compared with the rest of the Community (51% of the Community average in terms of GDP per capita in the best cases), and by the seriousness of their social problems: massive unemployment, emigration, social inequalities, housing crisis, etc.

In 1986, the unemployment rate in the Atlantic islands was almost double or triple the Community average, with 22% in French Guiana, 27% in Guadeloupe, 31% in Martinique and 27.3% in the Canaries. The figures were lower for the Azores and Madeira, but these were distorted by traditionally high emigration or by the existence of unemployment disguised under cover of craft industry jobs and smallholdings.

Economically, the Atlantic island regions largely rely on the primary sector, which is a particularly important job provider, in view of the often extreme fragmentation of the land and the generally very high number of farmers.

In 1986, over 88% of agricultural holdings in the French departments of America and 95% of those in the Canaries were under 5 ha. In Madeira, the average was 1.47 ha. In the Azores, where the economy is mainly reliant on agriculture, the average was 5 ha. This fragmentation signals the existence of a large number of farmers (17 250 in Guadeloupe, 12 531 in Martinique, 101 100 in the

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Canaries, 23 610 in Madeira and 26 307 in the Azores).

In these regions fishing tends to play a secondary role, although, particularly in the Canaries, it is not negligible. In the West Indies, fishermen go out on small boats and sell their catches on the shore as soon as they return.

In the Azores and Madeira, the exclusive economic zone is of considerable size, but the continental shelf is not extensive; activities based on swordfish and tuna fishing are being developed.

In the tertiary sector, which is generally well developed relatively speaking, tourism offers the best prospects. The Canary Islands have 178 000 beds and were visited by 4.25 million tourists in 1985. Madeira (11 000 beds; 0.4 million tourists) is also relying heavily on tourism for development, while Martinique (2 451 rooms), Guadeloupe (4 503 rooms), the Azores (2 300 beds) and, in a more modest way, French Guiana are expanding.

The size of the public sector varies between regions. It is still comparatively small in the Portuguese archipelagos (which finance most of their own administration) but substantial in the French overseas departments where State transfers and advantageous working conditions reserved specifically for civil servants count for much. In 1982, the tertiary sector accounted for over 80% of the gross added-value of these three regions, and the non-retail tertiary sector alone represented 33 to 43% depending on the region.

In terms of trade, the exports of the Atlantic islands only cover a fraction of their imports (53% at most for the Azores, but under 20% for the Antilles). Most of the trade is with the respective home countries (62 to 78% for imports and 56 to 71% for exports with the exception of the Canaries), with the rest of the Community taking the back seat. Overall, the Community exports much more to these territories than it buys from them (which puts the aid granted to them into perspective).

As a general rule, trade between these territories and the American continent is small (French Guiana and the Canaries also exporting to Africa are exceptions). Trade between the islands is insignificant, except between the French overseas departments, which form a separate market in the Caribbean.

Trade with the continental Atlantic regions varies greatly depending on the country. The Portuguese archipelagos do most of their seaborne trade through the ports of Lisbon and Leixoes and their air traffic goes to Lisbon, Oporto and Faro. The Canaries, on the other hand, trade through many different ports on the Spanish mainland (at least half of the islands' trade passes through Mediterranean ports). The main air links are with Madrid, Málaga, Barcelona and Seville.

Most of the seaborne trade of the French overseas departments goes to Atlantic ports (Le Havre, Rouen, Dunkirk), although traffic to the Mediterranean is not negligible.

Air traffic goes mainly to Paris and Marseilles, although there are some services to Nantes, Toulouse and Bordeaux.

The great majority of tourists to these regions come from Europe. In the French overseas departments and the Azores, most are from the home countries, but British and German tourists predominate elsewhere.

#### *1.2.4.2. The Scottish islands (Western Isles, Orkney, Shetland)*

Although their proximity to the European continent and their relatively higher standard of living differentiate them from the islands discussed above, the Scottish archipelagos are also marginal regions of the Community, because of their insularity, extreme fragmentation and sparse population.

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Agriculture is well developed in the Orkneys where the soils are rich, but it is more of a sideline activity in the other areas (small-scale sheep farming, peat, etc.). In the Western Isles, only 25 of the 5 000 holdings provide full-time work. Farming does, however, help the inhabitants cope with economic difficulties and acts as a brake on the desertification of the rural areas.

Fishing and aquaculture are activities of prime importance because of the proximity of the rich deep-sea fishing grounds of the Atlantic and the North Sea (cod, herring, haddock, mackerel, crustaceans, salmon farms). In the Shetlands, this activity is the mainstay of the economy (136 boats, catches of 30 000 tonnes landed in 1988). The

depletion of fish stocks, due to overfishing by industrial fleets from the Continent, poses serious threats to island fishermen.

The secondary sector is very limited (shipbuilding and tweed weaving in the Hebrides, the food industry in the Orkneys and Shetlands, etc.) The northern islands have large installations for the North Sea oil industry (ports of Sullom Voe and Flotta) but the number of jobs has been limited since the completion of building work.

Despite the environmental richness of the islands, tourism is still limited by the cost of transport and by climatic contingencies.

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## 2. Dynamics, mechanisms and prospects: Methodological considerations

### 2.1. Main features of the prospective approach

#### 2.1.1. Identifying the major challenges

After highlighting the general characteristics of the Atlantic regions, their assets and handicaps, dynamics, mechanisms and bottlenecks, we now need to identify the major external and internal challenges facing them to give us an idea of their future prospects. Their future will be conditioned by their ability to confront and successfully meet these challenges. The main features considered are given below.

- The globalization of the economy, the opening-up of Eastern Europe and the completion of the single market, through the resultant intensification of competition and search for competitiveness, are essential challenges for these very inward-looking economies that have so far been protected.
- The acceleration of the adaptation and renewal of the still too numerous traditional productive structures and the restructuring of coastal activities (fishing and tourism) are more and more urgently required in order to cope with developments in technology, changes in the technicoeconomic paradigm and the raising of the level of basic and professional training of the growing workforce.
- The continuation of efforts to open up the regions and end isolation through a policy of networks and the improvement of transport services is an essential factor for encouraging the integration of isolated, fragmented areas, and the emergence of interregional solidarities independent of the major flows of the central European zone.

- Guarantees for transitional conditions for better occupation of the land area, the reversal of trends towards polarization, the development of coastal areas and the depopulation of many rural areas are indispensable for safeguarding a quality environment that is also attractive.

#### 2.1.2. Levels of uncertainty

It is important to position the various dynamics and mechanisms identified in the Atlantic regions in relation to the future.

They can be roughly divided into three categories:

- (a) Those about which there is little uncertainty, as the main underlying features of the mechanisms are already known.

This is particularly the case for:

- Natural population changes. Most of the people who will be living in the Atlantic regions in the year 2000 have already been born. Birth and death rates show little variation and it is possible to make projections of the age pyramid. The demographic projections have been produced using the Demeter model: a trend projection has been made for the 1990-95 period, based on the 1985 situation, and the long-term projection is for 2015.
- Major transport infrastructure. The infrastructure of the year 2000 and even of 2010 is either already in existence or mostly scheduled. Normally there is a period of 10 to 15 years between the programming of transport infrastructure and its completion (motorways, high-speed rail lines, etc.). Two horizons have been chosen for evaluating the various projects for modernizing or building infrastructure: 1995 and 2015.

The first of these enables the identification of work nearing completion and/or scheduled for completion in 1995, and the second helps identify the long-term projects that are already un-

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der way or still in the planning stage and for which no financing has yet been earmarked.

- Heavy equipment in areas of innovation. Setting up large research stations and other facilities, putting together specialist teams and making them operational will also take about 10 years.
  - Economic profiles and the overall distribution of activities. A deep rural region has little chance of becoming a services-oriented, urbanized region within 10 years. Similarly a region of industrial redeployment has little hope of effecting radical change towards high-demand sectors in such a short time.
- (b) Those of average uncertainty, depending on their sensitivity to the changes occurring in the general context or on the interventionist stance of the policies that are implemented.

This can involve:

- Tourism, which is expanding rapidly in some areas of the Atlantic arc, as demonstrated by recent developments on stretches of the French and Cantabrian coasts.
- The way R&D (research and development) operates and the mechanism for innovation in production capacity. The low impact of R&D work carried out in many Atlantic regions on the industrial production system could be improved relatively quickly if other organizational systems were applied.
- The way the training system operates and its impact on the labour market. Even if training systems were seriously disrupted in the short term, changes could only have a real impact on the regional labour markets a few years later, given that training programmes last several years. Depending on the degree of interventionism, no significant improvement can reasonably be obtained in under five years.
- Economic development financing systems. This is another area that shows a certain inflexibility

that prevents positive action from achieving change in the short term.

- Business services. Change in this area is rarely spontaneous; it is dependent on regional markets where change is slow to come about.
  - The powers and organizational impact of local authorities. Increasing decentralization and regionalization in some countries may eventually boost momentum in the private sector.
  - Regional cultural identities which, with greater affirmation, may have a positive influence on company strategies and attitudes towards migration.
- (c) Those of great uncertainty, through a heavy dependence on changing or variable external factors.

This is the case for:

- Agriculture and fishing, hard hit by changes in Community policy which are likely to have a radical effect on jobs and income, with knock-on effects on the economy of a whole section of territory.
- Defence industry activities, which have a strong presence in the Atlantic regions and which are badly affected by defence budget cuts in every country due to the developments in the international situation.
- Some industrial activities that are slowing down. Their fate – continuation, mutation or closure – is in the hands of decision makers outside the Atlantic regions. This can be the State, for the public sector, or private sector decision-makers who may wish to relocate production.
- Intra-regional or inter-regional migratory movements. Periods of rapid change can be entered into, resulting from changes in the agricultural and fishing sector, the speed of industrial redeployment or the liberalization of the labour movements from Spain and Portugal with effect from 1993 onwards.

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- Impact of the new phase of European integration, whether it be the single market or the future economic and monetary union. At present, economic centralization and concentration is accelerating, often at the expense of small and medium-sized businesses especially because of the generalization of joint-contracting operations.
  - Developments in major trade movements and decisions to relocate activities, linked to the changes in Eastern Europe.

### **2.1.3. Principles used in working out the scenarios**

Once the varying degrees of uncertainty and the relevant invariable factors have been highlighted, scenarios can be used to outline possible future development, first thematically, then regionally; development will be shown as varying with the degree of political and economic intervention, and not with the economic growth rate or with any other indicator of the socioeconomic situation.

The thematic and regionalized scenarios are preceded by an analysis of the current situation, highlighting strengths and weaknesses, mechanisms and internal bottlenecks, i.e. the events and characteristic trends of the past 10 years.

The first scenario, the trend-based scenario, uses the prolongation of the long-term trends identified from the analysis of recent developments, to various extents, but in a context unchanged by current interventionist attitudes.

The second scenario, the intervention-based (or voluntarist) scenario, is also based on the long-term trends identified in the diagnosis, but future developments are modified or accentuated by political and/or economic intervention initiated at all levels, from local through regional and interregional to Community level. They also assume the existence of a voluntarist attitude among the working forces of the economy and society.

## **2.2. Method for thematic analysis and forecasting**

The first phase of the prospective study uses a thematic approach; the scenarios are broken down into sections dealing with different characteristic problems in the Atlantic regions. Developments in these problem areas will have a strong influence on the future of the regions. The external context, the rural economy, the marine and fishing economy, industrial structures and areas of innovation, the tourist economy infrastructure networks and the environment are dealt with here.

The use of this vertical logic enables us to draw attention to the key problems, constraints and opportunities inherent in each theme. Each sectorial analysis is subdivided into three sections: the current situation, and development prospects in both a trend-based and an intervention-based hypothesis.

Linking up current and future developments in each problem area enables us to identify and give a better evaluation of the seeds of change, the breaking-points, the signs of hope, the risks involved and the possible price to pay for them. This approach reveals what is at stake overall for the whole of the Atlantic area.

### **2.2.1. The external context**

A prospective study of a territory covering one third of the European Community must take account of developments in the international environment, whether in other industrialized countries, newly industrialized countries or, above all, in Eastern Europe. All the changes taking place in the international context have considerable repercussions on the Community and the policies it implements. The Community has dynamics of its own and a number of changes in Community policies are likely to have significant impact on the Atlantic regions. This is why the prospective study starts

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with an examination of the changes in the international context and within the Community itself.

### **2.2.2. The rural economy**

The extent of the changes arising from demographic and economic developments in the agricultural sector and from the changes in the CAP highlighted in various microregional case-studies has led us to use a synthetic approach to consider the specializations, the very uneven performance of this still important activity, and also the development prospects based on reforms in the common agricultural policy, on the agricultural land area worked by today's farmworkers and by the numbers projected for the future. Finally, we have looked at the consequences of these developments on the occupation and management of rural areas (extensive or intensive character, diversification of products and activities).

### **2.2.3. The marine and fishing economy**

The exploitation of aquacultural resources is an activity common to all Atlantic regions. The distribution of these resources is an increasingly delicate business because of the limits imposed on catches and the rise in competition. The current and future analysis of development in this sector is largely based on the interplay of these factors and the possible positive and negative effects on the Atlantic regions. The impact of restructuring through the reduction of fishing fleet capacities is all the more important as many jobs on land and at sea depend on it, and because the diversification of fishing is increasingly necessary. Investment is also required to ensure good levels of productivity and to comply with the health standards in force.

### **2.2.4. The tourist economy**

Tourism resources are examined from the angle of supply and demand and the changes in them. Sporting and cultural activities in a quality environment are increasingly appreciated, and in parallel, tradi-

tional tourist amenities are jeopardized by well-equipped facilities offering high-quality services.

Against this background of major developments that are shaping the future of the tourist economy, the trend-based scenario is based on a slight improvement and diversification of the supply of tourist products and the continuation of the concentration of tourists along the coast during the summer, whereas the intervention-based scenario relies on the creation of authentic, quality tourist products through environmentally-friendly methods.

### **2.2.5. Industrial structures and areas of innovation**

The general analysis of industrial structures highlights a high proportion of declining industrial activities and activities confronted with the great challenges of globalization and technological adaptation. These handicaps corroborate the imperative that has already been forced on these industries by current economic and technological change, i.e. the need to make a comprehensive qualitative leap forward.

The analysis is completed by an overview of business demography and research potential and by a series of case-studies of poles of technology and areas of innovation, which are the key to technological modernization and the spread of technology.

The trend-based scenario looks at the situation in which the dissemination of new technologies is limited, because it is ensured to scattered centres without much influence. This underlines the increasing risk of marginalization for the Atlantic regions within the European Community.

In contrast, the intervention-based scenario paints a situation in which research and technological innovation has been widespread, through the en-

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hancement, multiplication and networking of poles of technology and transfer structures.

### **2.2.6. The competitiveness of the regions (visible and invisible infrastructure networks)**

This is a crucial problem for the Atlantic regions in the West of Europe, which are mostly suffering from a degree of continued isolation which is hampering their economic integration.

First of all, a general analysis was done on the existing land, sea and air infrastructures (air infrastructure was taken as being the regular flights available from regional airports), telecommunications (satellite coverage, land-based transmitter networks, etc.) and the media, completed by a specific study of the level of connections from the regions to transport infrastructure networks.

Connections with the main modes of transport (motorways, dual carriageways, railway lines, commercial ports and airports) in each microregion of about 500 km<sup>2</sup> was first of all evaluated in terms of minimum access time from the main town of the area (equivalent to NUTS 3) then adjusted according to the supply and existing or projected connections for the time-scale chosen. This quantitative method is based on the calculation of a connection indicator ICON(i) which is the sum of the connection time to each network (T<sub>m</sub>) weighted by their relative importance and the level of service, and additional times resulting from the absence of a particular infrastructure (T<sub>u</sub>) or from the discontinuity of a network (T<sub>g</sub>), with, if necessary, the evaluation of an alternative network with a substitution penalty (P<sub>s</sub>).

$$\text{ICON}(i) = (1 + P_s) [T_m + T_u + (P_g \times T_g)]$$

The variables selected were: the interurban motorway network, the roads shown on the road traffic map of Europe produced by CEDRE and the ICDT in 1985; the rail network of European importance,

with the main lines from the Thomas Cook map; ports with non-crude oil traffic of over one million tonnes and airports with over 100 000 passengers a year on scheduled flights.

The weighting parameters retained, based on the relative importance of the various means of transport, were: 0.25 for roads, 0.30 for motorways, 0.15 for railways, 0.15 for the presence of a port and 0.15 for the presence of an airport. In order to take account of the level of services and the level of satisfaction with the various transport modes, weighting parameters were used, based on average traffic speeds for land infrastructures, and the amount of traffic for ports and airports.

Also, in order to take account of their insular character and the resulting network discontinuity, additional connection time for land infrastructures was estimated at 10 hours for Ireland, nine hours for Northern Ireland and five hours for Great Britain. An additional three hours was determined to take account of the difference in gauge on the Spanish and Portuguese railways.

This quantitative method, based on the calculation of an indicator of the level of regional connection (ICON), enables curves of iso-accessibility to be drawn and to demarcate the most easily accessible areas and the most isolated, at present and by 2010. The forecast of the situation for 2010 is based on current construction and improvement plans for the different modes of transport that have been scheduled by the regions and States by the year 2010.

The essential features of the different transport infrastructure studies have enabled us to give an overview of the current situation, highlighting the deficiencies, the missing links and breaking-points, but also the main lines that are emerging which will help accelerate the opening-up and integration of the Atlantic regions, particularly those in the Iberian peninsula.



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A certain structuring of the Atlantic zone can be detected, dominated by a way of thinking that encourages radial-concentric systems and polarization. This leads us to take a closer look at the probable effects of the current construction programmes once completed, and the possible progress that might be made to counteract this state of affairs.

The trend-based scenario uses a study of the various projects under way which are improving access to the Atlantic coasts, particularly in the Atlantic regions and the Basque Country.

This scenario sets out to show that the development of infrastructures, if not carried out in networks with the development of sea, air and combined transport and of telecommunications, can contribute to and even increase the marginalization of the Atlantic regions.

This is why the intervention-based scenario not only recommends the completion of the scheduled land-based infrastructures, but also the enhancement of transport services, particularly by air and sea, and improved complementarity between the different modes of transport.

### **2.2.7. The environment**

Due to the pluridisciplinary character of the environment, the stakes involved and the impact it has, the synthetic, qualitative approach was used.

The analysis phase showed up the main pressures and deteriorations inflicted on the environment in the Atlantic regions. On the whole, the environment in these areas is of good quality, which therefore makes it an underestimated and underexploited asset.

The trend-based scenario emphasizes the probable risks of increase in the pressures that have been identified, especially on the most vulnerable areas, which also happen to be either the most coveted or the most rapidly abandoned.

The intervention-based scenario looks at the need for increased awareness amongst the population and polluters, to strengthen the protection policy and, above all, to implement an integrated environment policy for better management of coastal, urban, rural and forest areas.

## **2.3. Method for regionalized analysis and forecasting**

This second phase of prospective analysis is based on the same continuous approach, i.e. an analysis of the current situation, and projected development in trend-based and intervention-based scenarios, but it uses horizontal and spatial logic.

The general analysis is syntagmatic: it highlights the spatial and regional stakes and impacts of current and projected development in the main sectors of activity, the main projects, and the problems examined earlier. For this territorialized approach, the Atlantic arc was divided up geographically into nine groups of regions. These groups have a certain homogeneity and consistency, in the spatial and economic sense and because of the existing internal interdependencies with regard to employment, economic development and spatial planning. The groups, from north to south, are:

- 1 Scotland and Northern Ireland;
- 2 Ireland;
- 3 Wales and South-West England;
- 4 Lower Normandy, Brittany and the Loire Region;
- 5 Poitou-Charentes and Aquitaine;
- 6 The Cantabrian coast (the Basque Country, Cantabria and Asturias);
- 7 Northern Portugal and Galicia;
- 8 Alentejo, the Algarve and western Andalusia;
- 9 The islands.

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These divisions are not proposals for territorial planning areas, but are designed to highlight the stakes, problems and interests common to several regions, the elements of conflict and complementarity and existing or potential solidarities.

For each group of regions, an analysis has been made of the current socioeconomic situation, based particularly on changes in job provision in the main sectors of activity over the last 10 years and on the inherited and current development processes.

The trend-based scenario uses projections of changes in the workforce and in jobs in the main sectors of activity, and highlights the potential risks of increased imbalances in the labour market or the improvements in it. Persistent handicaps and bottlenecks are brought to the fore, as are the opportunities provided by buoyant sectors and the potential for job creation and interregional cooperation.

The intervention-based scenario isolates the areas in which political and/or economic intervention appears to be necessary to the continuation of integrated, consistent development. In this context, guidelines are formulated for regional and Community policies, based particularly on existing or emergent interregional solidarities and networking possibilities.

This regionalized method of forecasting makes it possible to highlight local planning needs.

## **2.4. Method of synthesis used in drawing up the scenarios**

Prospective reflection by synthesis provides the cross-examination of the thematic viewpoint and the regionalized viewpoint, i.e. between overall and localized requirements. In so doing, it places potential large-scale cooperation on a background of regional situations with fairly short perspectives. For the Atlantic regions as a whole, this

reveals a series of seeds of change in gestation, which will open out to varying extents depending on the cumulative load of handicaps of the various Atlantic areas. The synthesis converges towards a general trend-based picture and a general intervention-based picture, reflecting not only the state of the Atlantic regions in 10 or 15 years' time, but also – and perhaps, especially – the processes that will be in operation. The real contrasts will only show up at a later stage in the future.

## **2.5. The cartographic approach**

The cartographic approach is based on several types of representation at different scales, but in every case gives preference to the overall structure of the Atlantic regions and a look at the stakes and mechanisms from the regional point of view.

We must distinguish between analytical maps, synthetic maps and conceptual maps. Analytical maps transcribe the raw statistical data provided by Eurostat, the Statistical Office of the European Communities, or by regional statistics organizations. These maps, by their very nature, which is the application of figures to a surface, generally cover the whole of the Atlantic area. It should, however, be noted that the statistics are not homogeneous (differences of definition, calculation, lack of information, etc.), that the time-series are close without being identical (preference has been given to developments taking place in the 1980s) and that the regional divisions (NUTS 2) may mask strongly marked intraregional disparities (Scotland is a case in point) and the phenomenon of coastal concentration, and finally that some series of figures that were incomplete at regional level have been approximated from the national level (this is the case for Portugal, in particular).

Due to the geographical configuration of the Atlantic regions (extending over more than 2 000 km), the incomparability and scattered nature of a lot of data, preference has been given to the macro-spatial scale. Thematic synthetic maps have been

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put together using indications, significant parameters or matrix ordinates for demographic purposes, or based on mathematical models for multimodal interregional accessibility maps, for example. Also, some maps are the spatial representation of concepts put forward in the analyses or in the scenarios, and thus emphasize the sensitive areas where handicaps and present and future problems accumulate, but they also highlight the potential available.

Because of the mass of information, but especially the heterogeneity and scattered nature of the information, only those variables which seemed to us to be significant have been retained, either alone or in

combination. So, with the aim of positioning each region in relation to the Atlantic regions as a whole, the thresholds selected correspond in most cases to the average.

The synthetical maps are built around an organizational concept and set out to differentiate between the regions. An underlying feature of these maps is the hierarchization of data – with the consequent elimination of some (only major facts are retained), by the selection of statistical indicators, and by the need for a general reading. The choice of this method of representation substitutes a reading of the whole for a point-in-time reading.

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## 3. Thematic analysis and forecasting

### 3.1. The external context

#### 3.1.1. The international context outside Europe

The Atlantic regions, covering one third of Community territory, are not insensitive to the changes and mechanisms of the international environment. At present, those represent both opportunities and potential threats.

##### 3.1.1.1. *The United States of America*

The economic prospects for the USA are not promising, at least for the next four to five years, and the structural problems could even make adjustments necessary throughout the decade.

In the next few years, the European economies will therefore have to adapt to a fairly morose US domestic market, linked with an aggressive attitude on the part of the most efficient US businesses in those sectors in which the European Community is showing a significant trade deficit. Furthermore, US investment in Europe, despite affinities with Ireland and the United Kingdom, will show an increasing tendency to choose central locations in relation to the single market, especially for operations dealing with product distribution.

Moreover, US pressure in the GATT talks will probably have a fairly negative effect on the Atlantic regions of the Community.

From a theoretical point of view, affinities should develop between the two sides of the Atlantic, but the gaps in current relations should not be underestimated (only the English-speaking Atlantic regions of the Community, such as Scotland, Wales and Ireland have substantial economic links with North America), and neither should the disparities

between the economies of the two sides of the ocean be underestimated.

In its search for contacts in the Community, the east coast of the USA, with its high concentration of industry and services, is attracted by the more central regions with similar economies. Finally, the current recession in the USA is not favourable for economic expansion.

##### 3.1.1.2. *Japan*

After capturing markets by exporting its production, the Japanese economy is now starting to export its factories and is relocating its banks and insurance companies offshore. By doing so, it is securing itself against possible protectionist action, dealing with a potential labour shortage at home and ensuring control of its supplies and its financial circuits.

Although the Japanese economy is having to cope with difficult adjustments now and for the next few years, especially regarding internal deregulation, it still represents a very serious challenge for the European economy through:

- attempts to corner the single European market;
- the development of high-level services and advanced logistical systems within the Community, generating large capital gains;
- its import coverage through its own factories abroad, to the detriment of European products;
- the capture of the main outside sources of technology, particularly European ones.

The peripheral regions of the Community, of which the Atlantic regions are a part, should benefit in a small way in the next few years from Japanese start-ups (i.e. new businesses) and direct investment. These will be increasingly concentrated in the areas closest to the main markets, especially in Germany.

There are, however, a number of exceptions to these tendencies, since some Atlantic regions have

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been the scene of Japanese start-ups in recent years (Scotland, Wales, Aquitaine and Portugal).

### 3.1.1.3. *The developing countries*

Basing itself on the theory of growing interdependence (international trade is increasing faster than production), the World Bank (*Economic prospects and their probable effect on poor countries, 1991*) forecasts overall growth in the developing countries, though there will be marked contrasts.

Per-capita income in Africa should only increase by 0.5% per year, as against 3.8% in Latin America, whereas South-East Asia will get richer by over 5% per year.

Even if there is a notable upturn in activity in the industrialized countries, the knock-on effect will be slight or even non-existent in Africa, owing to the erosion of its export capacities and the inelasticity of the demand for tropical products. The prices of raw materials, from which Africa gets over 90% of its foreign-exchange income, fell by 40% between 1973 and 1990. The proportion of staple commodities in world trade is steadily decreasing, and now accounts for only 5% of the total.

The contrasted evolution of the developing world handicaps Europe, since it is close to the most disadvantaged continent, Africa, where market growth is slow, and often negative, whereas the continent has a thriving demography which will approach one billion inhabitants by the end of the century. The dialectics between Europe and the southern shores of the Mediterranean basin, in terms of migratory flows, industrial and trade cooperation, etc., will take up a large part of the coming decade.

However, the relations between certain regions and Latin America should not be neglected. This is particularly true for the Basque Country and Galicia with the Spanish-speaking countries (Venezu-

ela, Argentina, etc.) and of Portugal with Brazil. Portugal, as the gateway to the Community and the single market, is becoming an attractive area for Brazilian investment.

### 3.1.1.4. *The East European countries*

The fall of Communism in the East, also manifested in the collapse of an empire, has had the direct consequence of transferring a large part of the responsibility for refloating the drifting economies of half the continent onto the shoulders of Western Europe, and especially the European Community.

The Community therefore finds itself with a second periphery, for the moment outside its confines. Instability or even collapse in this region, with the ensuing troubles, would undoubtedly affect the Community deeply and would probably destabilize it. In demographic terms, the East is a heavy-weight: a population of 110 million in Central and Eastern Europe, and 280 million in the former Soviet Union.

The changes occurring to the east of the Community contain great factors of uncertainty, and may result in different scenarios. Even without lingering on the worst-case scenario of civil war breaking out in a nuclear environment, it can be envisaged that democratic regimes will find it impossible to achieve stability and development, in a context of deep economic recession, although there are notable differences between countries.

Besides countries or territorial units succeeding in their economic take-off, a new Third World could appear on the Community's doorstep. The emergence of new markets in the East could be limited; migratory flows will probably intensify, rendering the Community environment subject to quasi-permanent instability, with serious consequences in the future.

There is also a more optimistic type of scenario in which the initial costs to the Community, albeit

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high, would be compensated in the long run by a larger integrated prosperous area and by a greater boost to European industry.

This will require more comprehensive forms of cooperation in a wide variety of areas: macroeconomics (loans, currency, etc.), trade (partnership agreements), finance (paying off debt), education, technology (transfer of established technologies), industry (management, privatization, redeployment), agriculture (product development), services (financial, tourism, business, distribution and communications services), the environment, transport equipment and networks, etc.

In this scenario, the Community provides assistance to a secondary peripheral area, still on the outside for the moment. This is not without any consequences on the development of the Community's own peripheral areas, particularly the Atlantic regions. Obviously, there are areas of competition between the two peripheries: basic labour-intensive industries (iron and steel, textiles), agricultural production (cereals, dairy products, livestock farming), tourism, location of foreign investment, and, of course, Community funding. The need for the Atlantic regions to make a qualitative leap forward seems to be all the more vital if this competition is to be overcome.

### **3.1.2. The European context**

#### *3.1.2.1. The completion of the single market*

Many studies, varying in their degree of speculation, have been carried out in recent years on the potential effects of the single market in the regions. The findings are sometimes contradictory. We therefore restrict ourselves to a number of remarks of general interest.

- Thanks to the economic stimulus and the restructuring brought about by the Community mechanism and the Single European Act, changes can be observed in the notion of scale

economy. From now on, the physical size of a business is no longer necessarily a determining factor.

In industry, the producer becomes the person who is in possession of the design, the sales force and the final assembly. In this context, the extension of the market tends to produce a concentration of 'strategic' powers, and hence an increase in the effects of contractual dependence, much greater than large-scale movements of production factors on the geographical level. The deregulation of services amplifies this tendency. We can expect to see twin changes in this area: on the one hand, the location of 'network heads' (logistics, distribution, information, etc) in the central areas of Europe, and, on the other hand, the progressive substitution of imported services for local or regional services when the latter are not competitive enough, as, here again, scale and network economies play a major role.

This does not mean that there will be elimination and relocation, since services have to be provided close to the customer. However, we should expect to see a geographical concentration of strategic functions, along with the rationalization of decentralized work structures (job cuts, automation).

In this context, the European periphery runs a serious risk of having its dependence on the outside increase at the decision-making level, without this automatically accentuating disparities in the short or medium term through the usual indicators (employment, unemployment, productivity, income, etc.). Nevertheless, the most dynamic countries and regions of the Community will benefit more from the single market by concentrating the top-level functions of the European networks on their own territory, with the advantage of the large capital gains that these functions produce.

- A second aspect arising from the single market involves the attitude of investors from outside Europe, which is changing significantly. Whereas for several decades foreign invest-

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ment, particularly from the USA, favoured a number of peripheral regions of Europe (Ireland and Scotland), they are now being directed more towards the central zones and into services, particularly distribution networks.

- A third aspect involves Structural Fund policy, which is starting to have a noticeable impact in the priority regions, particularly regarding infrastructure and the improvement of levels of training. This is especially sensitive in the Iberian peninsula. Spain and Portugal are now nearing the end of their phase of integration into the Community; the transitory periods for certain sectors (movement of workers, agricultural policy, etc.) will end in the next few years. In only five years of Community membership, progress has been impressive and restructuring has been rapid, but this momentum has rather marked geographical disparities and there are areas of crisis locally.

The Cecchini report forecast a kind of interregional division of labour under the combined effect of the single market and the membership of countries with relatively low economic and technological levels, but this has not happened. The intrasectorial relationships in the economy have continued to develop. There is, however, an exception to this process, in northern and central Portugal, where large-scale investment has taken place in recent years in labour-intensive industries with a low skill factor. These moves towards a European subcontracting function are further jeopardized by the opening-up to East European countries, which may pose a serious competitive threat to these locations for the very same reason that encouraged them: low labour costs.

- The completion of the transitory period in 1993 will establish a free movement of labour from the Iberian peninsula. There is always a very large labour cost differential between basic wages in Spain and Portugal (from one to three). This brings fears, especially in border areas, of the replacement of Spanish workers by Portu-

guese workers, who have an excellent reputation.

### *3.1.2.2. Scope of the EEC-EFTA Agreement on a 'European Economic Area'*

The Agreement signed on 22 October 1991 between the European Economic Community and the member countries of the European Free Trade Association will not have a considerable short-term effect on the Community economy. Firstly, the seven EFTA countries have a total population of only 32 million, and, secondly, trade between the European Economic Community and EFTA has already been considerably liberalized and developed, as the EFTA countries are the Community's main trading partners.

The EFTA countries have relatively well developed industrial and services sectors, so they would mainly be in competition with the strong central areas of the European Economic Community. The Atlantic peripheral regions would seem to be less concerned by economic exchanges than by particular special agreements, such as the fishing rights granted to Community vessels or the EFTA countries' contribution to a cohesion fund for the less well-off areas of the European Economic Community.

The Agreement seems to go much further in the long term, being used as a springboard for Community membership. Austria, Sweden and Finland are interested, and similar voices of approval are being heard in Switzerland.

### *3.1.2.3. The prospects for economic and monetary union*

Among the prospects for EMU (economic and monetary union) decided in Maastricht, we must differentiate between the position of the governments and that of businesses. For a number of

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national governments, EMU means a substantial effort must be made in the direction of economic and monetary discipline. The escudo entered the ERM (exchange-rate mechanism) recently (April 1992), while the drachma still remains outside; the peseta and pound sterling have wide fluctuation bands. The UK Government, supporting plans for the 'convertible ecu', raised fears regarding the difficulty in fulfilling economic convergence obligations during the first stage of EMU.

Germany fears that the degree of convergence of the economies may be insufficient to be able to manage the national economies jointly, but its economic and monetary policy is felt by the French to be too expansionist and therefore a potential generator of inflation and instability.

The business picture is completely different. Businesses express the need for a stable environment on which to base their forecasts, investments and development. They do not have the right weapons to protect themselves from currency fluctuations which often result from largely unforeseeable political decisions, creating unexpected competition and diverting customers elsewhere.

Furthermore, even larger gains in productivity should be inspired by a single currency, especially in those countries with weak currencies, through the lending rates available to businesses. The 'mutualization of the cost of money within the Community' that should result from EMU ought to allow lending rates in those countries to be cut by a generous third.

So, for the Atlantic regions, the prospects for the arrival of EMU should not represent a handicap to development. In Portugal, Spain and Ireland, we could even expect to see more favourable conditions for business development, even if, in the short term, their competitiveness may be affected.

### **3.1.3. Implications of external factors for the economy and businesses of the Atlantic regions**

#### *3.1.3.1. The degree of vulnerability*

From various points of view, the characteristic activities of the Atlantic regions will be affected by the completion of the single market.

The determining factors are, first of all, the abolition of non-tariff barriers (technical standards), the reduction in price differentials, the importance of scale economies, and the current degree of openness of the markets and the importance of intra-Community trade, etc. Bearing in mind these four factors and the influence they exert on different activities, three large groups of activities can be identified for the Atlantic regions:

- a 'high sensitivity' group, in which demand increases, the technological content is high, there are large public orders and strong scale economies: this group accounts for 20% of all activities (telecommunications, food industry, information technology, shipbuilding);
- a 'moderate sensitivity' group. The main threat is from newly industrialized countries; this group would account for 30% of all activities (automotive and other transport construction, electrical equipment, textiles, household appliances, etc.);
- a 'low sensitivity' group, whose activities are directed towards local, fragmented and specific markets, as international trade is expensive. This takes in 30% of jobs.

An analysis of present activities reveals that a high proportion of them (almost 50%) will, in the medium term, be faced with increased international competition (which may even be something totally new for them) and they will not therefore be drawn by domestic demand with the same force as in the past.

This is the case for activities which will soon have to increase their level of globalization (food indus-



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try, timber industry, telecommunications, etc.), or activities that are already internationalized and in which the offensive from outside is set to become stronger (construction of all kinds of transport, mechanical and metallurgical products, etc.). The fact that there is often only a low level of specialization and that the businesses themselves are mainly small and medium-sized means that there is a relative lack of monopolistic positions.

Taking all the present industrial activities together it can be seen that the greater proportion of them (38% of the workforce based on 1988 figures) will have to deal with low-growth markets (textiles, footwear, agricultural equipment, timber industry, etc.).

The results of this typology reveal the proportion of 'activities in decline' to be more than a third, with equal proportions of activities that are 'expanding' and 'mature'.

Furthermore, all economic activities will, of necessity, be affected by a strong innovative breakthrough, in terms of both products and processes. Within the Atlantic regions, based on the norms of penetration of activities innovation, it is calculated that, while all activities will be affected by innovation, the proportion of those that are most exposed is about 80%. Only 20% of them will enjoy a relatively peaceful period, technologically speaking, in the next few years.

### *3.1.3.2. Impact of foreign start-ups*

Direct foreign investment (from Europe and elsewhere) plays a considerable role in the economy of the Atlantic regions. However, this role varies widely from one region to another, both in its historical development and in its intensity.

The first wave of foreign start-ups in the Atlantic regions began in the 1950s. They were motivated in some cases by the desire to capture protected

markets. This was the reason behind British start-ups in Ireland during the period of import substitution.

At that time, they mostly involved the manufacture of basic consumer products (foods, detergents, vehicles, etc.). As well as the domestic market, the British presence in Portugal and American start-ups in the peripheral regions of the United Kingdom (Scotland and Wales) was aimed at product exports.

The 1960s and 1970s saw a rapid growth in foreign start-ups in the northern areas of the Atlantic regions. At first, this wave of investment had nothing to do with European integration and the Common Market, as it concerned Ireland and the peripheral regions of the United Kingdom, which were not members. It can mainly be explained by the existence of cultural and linguistic ties, since the large majority of the investment came from the USA and was made in the search for cheap labour with a view to product exports.

The economic crisis in 1973 did nothing to slow down foreign start-ups in the UK and Ireland, as that was the year both countries joined the European Community. American companies stepped up the action, using the islands as a base for capturing the EC markets.

Since the end of the 1970s, foreign start-ups in most of the Atlantic regions have changed in type. With the effects of the recession and the arrival of a new international division of labour, it is access to the European market, rather than cheap labour, that seems to have been the attraction over the past 10 years.

In the past 15 years, foreign industrial investment has gone into the more technologically advanced types of production (machines, pharmaceuticals, instruments and electronics), but only some production segments are affected, those that are not too demanding on skill levels, technological input, services and outside suppliers.

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A more detailed analysis by country is given below.

### **Atlantic regions of the United Kingdom**

In Scotland, the number of foreign start-ups grew steadily from 1950 to 1980. The number of factories went up fivefold and the number of jobs tripled. For several years now, takeovers of local businesses have become more common, but have not replaced new start-ups. European and Australian firms have been the ones most involved in acquisitions. However, the setting-up method used depends on the sector concerned: takeovers of British firms are most widespread in sectors such as the paper and publishing industries, whereas new building is the rule in the electrical, electronics and electronic instrument industries.

Still in Scotland, industrial employment in foreign firms increased by 7.9% between 1985 and 1989, whereas the total number of industrial jobs fell by 6.4% during the same period (takeovers of British businesses did not play a negligible role in this phenomenon). In 1987, foreign industrial investment in Scotland accounted for one quarter of total industrial investment. Added-value per employee in foreign companies exceeds the figures for British firms by 80%.

The jobs created by foreign investment have been concentrated in the central belt, particularly in Strathclyde.

In Wales, the majority of foreign start-ups have been in the south (mostly US investment) whereas the north, less industrialized and less developed, has attracted much less investment, and this mainly from Europe.

Northern Ireland has also attracted a number of foreign start-ups.

### **Ireland**

Between 1960 and 1973, foreign investment favoured the less developed areas of the west of Ireland, with 60% of start-ups going to the 'designated areas'. They account for 58% of total industrial jobs in the mid-west, 49% in the north-west, 43% in the south-west and 43% in Donegal.

During that period there were many start-ups, mostly American, in the area of 'mature' technologies (i.e. not dependent on locally-based specialists and services) such as textiles, clothing, footwear, plastics, etc. Production was mainly for export.

It should also be noted that the decline in industrial employment between 1981 and 1987 affected foreign businesses less than local firms, and the contribution made by foreign start-ups to the recovery since 1987 has been larger than that made by local businesses.

### **French Atlantic regions**

Foreign start-ups have also been a development in the French Atlantic regions, but to a lesser extent. This type of investment has traditionally been located in the north-east of the country. It can further be noted that foreign locations today are based on the national locations of yesterday; they reinforce, accentuate and perennialize pre-existing spatial disparities.

In the five French Atlantic regions, the number of jobs in foreign industrial establishments showed only slow overall growth in the period from 1971 (when they provided 69 852 jobs) to 1988: growth of 8% with marked regional variations (+ 103% in Aquitaine and - 59% in Brittany).

### **Spanish Atlantic regions**

In Spain, foreign industrial start-ups have mainly been attracted to areas with 'cluster' economies,

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close to the European markets. They are concentrated in relatively high-technology activities in the Madrid area and Catalonia.

In the past few years, Andalusia has become Spain's third region for foreign industrial investment after Madrid and Catalonia and ahead of Valencia. These locations nevertheless tend to increase interregional imbalances, except in Andalusia.

In the current atmosphere of European integration and preparation for the single market, most foreign start-ups are involved in the business services, banking and insurance sector. In Spain and Portugal, the proportion of capital flowing in from the rest of the European Economic Community has risen substantially since 1986 and now accounts for over two thirds of the total in each country. The major urban centres (Lisbon, Madrid and Barcelona) have mainly benefited from this investment, which has only made a limited contribution to the development of the Atlantic regions as a whole.

## **Portugal**

In the four years after joining the Community, direct foreign investment in Portugal increased even faster than in Spain, especially from 1987 onwards when growth rocketed (ESC 360 billion in 1989). In the first six months of 1990, the volume of foreign investment was higher than for the whole of the previous 10 years.

The very low relative cost of Portuguese labour seems to be the main determinant, which brings fears that Portugal may become a 'subcontracting area' of the Community, owing to the overspecialization of investment in labour-intensive industries.

The start-ups tend to widen interregional disparities and the phenomenon of coastal concentration. Low-technology exporting manufacturing compa-

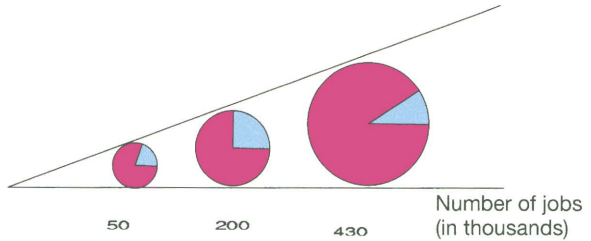
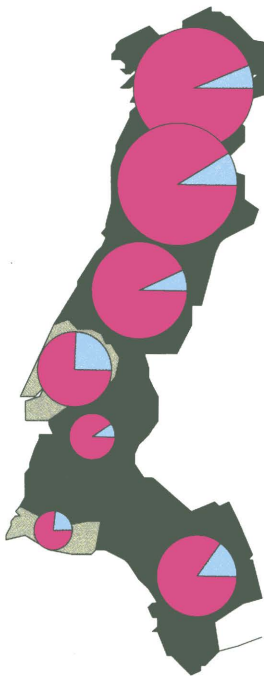
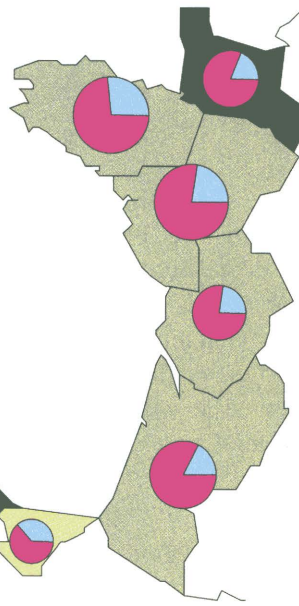
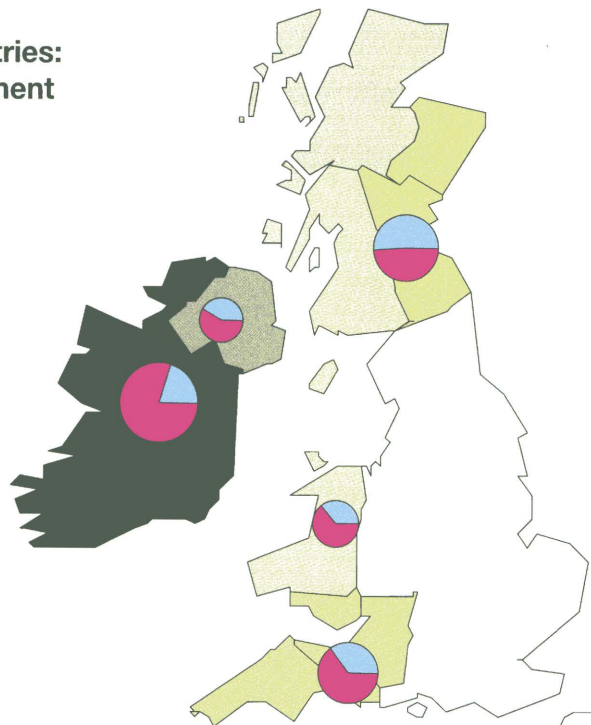
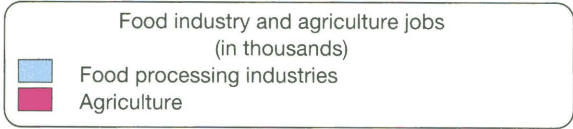
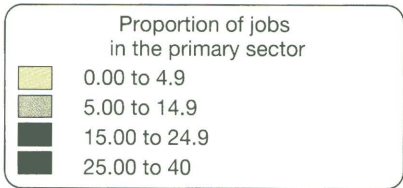
nies have located in the sectors in which Portugal presents comparative advantages (textiles, clothing, timber, paper, printing and publishing, china and porcelain) and therefore in the areas in which these industries were already present, i.e. mainly along the coast from Braga to Setubal, already the most developed area. In central Portugal, for example, the three coastal districts (Aveiro, Coimbra and Leiria) account for 86% of foreign start-ups in the region, accentuating the industrial character of the area.

More recently, foreign investment has increased in higher technology sectors, particularly in automotive construction.

### *In conclusion:*

- When foreign start-ups are motivated by external savings or by accessibility to the main European markets, locations generally strengthen developed areas still further.
- Foreign investment has played and continues to play a leading role in the dynamics of the Atlantic regions. In some cases, this has done much to reduce interregional disparities. But the new international situation seems to be leading foreign start-ups down the road to increased disparities.
- Among the less positive effects of foreign start-ups in the Atlantic regions, it has become clear that where local businesses are taken over, local services and suppliers are more often than not replaced by services and suppliers from the more central regions, and even from outside the Community. This is particularly the case in Scotland, which has seen an increase in the use of services and suppliers from London and the south-east.

# Agriculture and derived industries: a determinant factor in employment



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## 3.2. The rural economy

### 3.2.1. Analysis

#### 3.2.1.1. Agriculture still of prime importance

The rural economy of the Atlantic regions is still largely based on agriculture, especially if local processing of agricultural production is included (the food-processing industry occupies more than 15% of the workforce in Ireland, Brittany, the Loire Region, Poitou-Charentes, Cantabria and Galicia). The current changes in agriculture are also having consequences in other important sectors of rural life (craft industries, retail trade, services, food processing, etc.). It should be remembered that the Atlantic regions cover 23% of EC territory, with 15% of the Community's population, but they have 28% of the agricultural land area (ALA) and 24% of all agricultural workers.

With 2.8 million of the 12 million agricultural workers in the Community, that is almost one in four, the Atlantic regions are Europe's leading agricultural production area, and, at the same time, one of the areas of the Community that is most exposed and sensitive to the major challenges constituted by the saturation of the world markets. The CAP (common agricultural policy) reforms will certainly affect these regions.

Agriculture in the Atlantic regions represents a major challenge for European construction if disparities are to be phased out. The European Community must regulate (i.e. reduce) agricultural production, as outlets can no longer be found for the surpluses on the world markets, promote new ways of using the land abandoned by agriculture in order to cut overproduction, and continue its efforts to maintain decent incomes for a sufficiently large number of farmers (farm income is stagnating despite a reduction in the agricultural population of 35% over the past 25 years).

#### 3.2.1.2. Types of agriculture in the Atlantic regions

There are great disparities between the regions in the size of agricultural holdings, and clear divisions between the north, the centre and the south. In the northern regions (British Isles), holdings are large on average (Scotland: 164 ha; Wales: 48.5 ha; south-west England: 48.6 ha).

The French regions and Ireland are characterized by an average size of agricultural holding between 19.4 ha (Aquitaine) and 33.2 ha (Poitou-Charentes).

In the Spanish Atlantic regions and Portugal, owing to the predominance of small holdings, the average size is around 3 ha (central Portugal) – 2.4 ha if the Canary Islands are included – with the sole exception of Alentejo, where the average is 31.6 ha.

Great disparities are to be found not only in the size of agricultural holdings, but also in production levels and livestock sizes. The only common characteristic is the predominance of mixed arable farming.

Topographical constraints lead to the predominance of mountain-type agriculture in the hinterland of the Cantabrian coast, in inland areas of Portugal, around the French-Spanish border and in the Highlands of Scotland.

The breakdown of the agricultural land area into forestry, permanent pasture and arable land varies according to the bioclimatic conditions, pedological conditions and others. Forests occupy large sections of Galicia, central Portugal, Alentejo and Aquitaine, while permanent pasture accounts for over 60% of ALA in the Basque Country, Cantabria, Asturias, Lower Normandy, Wales, Scotland, Ireland and Northern Ireland. Hence the large degree of specialization in these areas in livestock farming, dairy farming and mixed extensive farming.

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Arable land accounts for over 50% of ALA in Brittany, the Loire Region, Poitou-Charentes, Aquitaine, northern Portugal, central Portugal, Alentejo, the Algarve and in the Lisbon and Tagus Valley region; hence the predominance of mixed arable farming.

### *3.2.1.3. Signs of fragility: A large, ageing agricultural population and low productivity*

Within the Atlantic regions, the still large and mostly family-based agricultural population is unevenly distributed. The Community's agricultural workforce represents 8.6% of all workers, whereas it accounts for over 35% of workers in Galicia (39.3%) and central Portugal (35.7%), between 20 and 30% in Alentejo (27.2%), the Azores (24.2%), northern Portugal (23.8%) and Asturias (21.6%), and between 15 and 20% in Cantabria (18.4%), Ireland (15.8%) and Lower Normandy (15.3%).

In contrast, agricultural workers account for less than 5% of the total workforce in Northern Ireland (5%), the Basque Country (4.4%), south-west England (4%) and Wales (3.5%).

By virtue of demographic change alone, this agricultural population, still large especially in the less developed regions, will shrink quite radically in the next few years. The proportion of farm owner-managers over 55 years old is high in many regions: 87.3% in Galicia, 73.6% in the Basque Country, 79.2% in Asturias, 69.3% in Cantabria, 60.6% in central Portugal, 66.4% in Alentejo, 70.4% in the Algarve and 78% in Northern Ireland.

Another sign of fragility is that, although the Atlantic regions have 24% of all Community agricultural holdings on 28% of the ALA, they account for only 18% of the standard gross margin. The disparities between the Atlantic regions are wide

and reveal a north/south opposition and generally fairly poor economic performances for agricultural holdings. The highest standard gross margins per farm are to be found in the northern Atlantic regions (Scotland: 37.3, south-west England: 36.7 and Poitou-Charentes: 22.8) and the lowest in the southern regions (central: 2.4, Galicia: 2.9 and northern Portugal: 3.5).

### *3.2.1.4. Application of the common agricultural policy*

The common agricultural policy set itself two main objectives:

- to increase the quantity and improve the quality of agricultural products in order to meet the needs of consumers in the single market;
- to raise and regulate farm incomes while protecting the environment.

Although for a long time these two features did much to support each other, the complete success of the first seems more and more incompatible with the second, thus revealing the need for the reform of the CAP.

Under the influence of the CAP, the technicoeconomic approach led to indisputable improvements in land yields and worker productivity, both in terms of self-sufficiency in agricultural produce and in growth in incomes.

However, this situation has deteriorated, due to its own success, as the price policy that acts indirectly on incomes through increases in production has led correlatively to overproduction that is difficult to control.

On this point, recent trends in agriculture in the Atlantic regions are quite striking. For instance, regarding overproduction, it is interesting to note that between 1980 and 1988, arable land area increased noticeably in Andalusia, Brittany, the Loire Region and Poitou-Charentes.

### Characteristic indicators for Atlantic farming

Regions	% employment in the primary sector	Number of hectares in mountain areas	% of woodland to total area	% of arable ALA to total ALA	% of permanent pasture to total ALA	Dominant technico-economic orientation	Total gross standard margin Number of holdings	Number of ha of ALA Number of holdings	ALA/AWU (ha)	% of holdings with a working time of less than 50%	% of farm managers over the age of 55
Scotland	5.1	4 546 900	15	21	79	Mixed livestock Sheep and goats	37.3	164.1	83	23.9	45.6
Northern Ireland	5.1	—	1.1	31	68.9	Dairy farm Mixed livestock Sheep and goats	11.8	23.5	20.7	16.9	78
Ireland	15.8	—	8.6	19.1	80.8	Meat production Specialist livestock Herbivores	8.8	22.7	19.3	31.2	50.7
Wales	3.5	—	2.2	17.5	82.4	Mixed livestock Sheep and goats Dairy farming	23.4	48.5	28.5	21.3	48.2
South-West England	4	—	2.5	44.3	55.4	Mixed livestock Dairy farming Mixed farming	36.7	48.6	22.8	29.1	48.6
Lower Normandy	15.3	—	0.9	36.5	63.2	Dairy farming	15.9	25.1	18.4	23.7	50.7
Brittany	13.1	—	1.4	81.7	17.8	Dairy farming	20.2	19.2	13.2	22.5	43.5
Loire Region	13.9	—	0.9	64.2	33.1	Dairy farming	20.8	27.6	17.7	21.6	42.4
Poitou-Charentes	13.2	—	2.2	21.2	73	Mixed farming	22.8	33.2	23.8	24.8	47.3
Aquitaine	14.1	—	3.4	57.7	30.5	Wine growing Mixed farming	18.7	19.4	11.8	27.6	50.3
Basque Country	4.4	145 800	7.5	36	60	Mixed livestock Dairy farming	6.5	7.2	5.3	38.1	73.6

Regions	% employment in the primary sector	Number of hectares in mountain areas	% of woodland to total area	% of arable ALA to total ALA	% of permanent pasture to total ALA	Dominant technico-economic orientation	Total gross standard margin Number of holdings	Number of ha of ALA Number of holdings	ALA/AWU (ha)	% of holdings with a working time of less than 50%	% of farm managers over the age of 55
Cantabria	18.4	154 200	1	19.3	89.9	Dairy farming (cattle)	5	7.2	6.2	6.1	69.3
Asturias	21.6	331 500	7.6	7.3	91.3	Diary farming Mixed livestock Sheep and goats	4.5	6.5	5	40.3	79.2
Galicia	39.3	237 100	18.8	43	52.9	Dairy farming Mixed livestock Herbivores	2.9	3.1	2.2	40.6	87.3
Northern Portugal	23.8	590 000	34.3	57.2	10.6	Mixed farming with herbivores	3.5	3.4	1.8	38.6	58
Central Portugal	35.7	313 200	48.1	62	11.4	Mixed farming with fodder crops	2.4	3	3.05	45.5	60.6
Lisbon and the Tagus Valley	10.1	-	40.4	56.7	3.5	Mixed farming with fodder crops	5	4.9	3.75	53.3	56.4
Alentejo	27.2	24 400	27.5	-	-	Mixed farming with fodder crops	8.8	31.6	21.2	55.6	66.4
Algarve	13.6	-	50	59.4	4.9	Mixed farming Fruit and vegetables	6.3	5.3	4.2	47.5	70.2
Andalusia	18.4	1 399 100	0.7	26.8	22.5	Mixed farming Mixed livestock	4.8	14	16	76.2	55.1
Canaries	10	67 300	1.4	36.5	13.4	Mixed farming Fruit and vegetables Horticulture	3.3	2.4	2	70	66.5
Azores	24.6	116 700	4.8	11.2	11.1	Mixed farming Fruit and vegetables	3.8	4.6	4.9	63	52

Source: Eurostat 1987.



Land-tax pressure is still heavy and encourages farmers to clear land for cultivation and sow cereals on boggy land, for example.

The application of milk quotas brought about a reduction in livestock sizes in Scotland, Ireland, the Loire Region and Lower Normandy, but in parallel has caused problems in other markets through diversification into sheep rearing in Scotland and Ireland, and pig breeding in Brittany and Galicia.

Regarding cereals and oilseed crops, existing specializations (oilseeds in Andalusia and Poitou-Charentes, maize in Aquitaine) are tending to increase.

### 3.2.1.5. The Atlantic rural areas

As the population density figures show, the Atlantic regions are largely rural, but the changes occurring in them differ widely, owing to the variety of their handicaps and assets.

Changes in typical indicators between 1980 and 1988

	1980	1988	% change
	In thousands of hectares		
<b>Arable land</b>			
Andalusia	2 556	2 635	+ 3
Brittany	1 534	1 598	+ 4.1
Loire Region	1 430	1 564	+ 9.1
Poitou-Charentes	1 246	1 372	+ 10
	In thousands of heads		
<b>Cattle</b>			
Scotland	2 294	2 035	- 11.3
Ireland	5 826	5 637	- 3.2
Loire Region	3 381	3 171	- 6.2
Lower Normandy	2 056	1 911	- 7
<b>Sheep</b>			
Scotland	5 470	6 624	+ 21
Ireland	2 344	4 991	+ 112.9
<b>Pigs</b>			
Brittany	5 278	5 986	+ 13.4
Galicia	1 326	1 500	+ 13.1
Andalusia	924	1 526	+ 65.1

Source: Eurostat.

The rural areas on the Atlantic are undergoing rapid transformation. This is further accelerated by current demographic and economic changes in agriculture. These changes are affecting the rural areas in terms of land occupation, employment, and the creation of wealth in and through agriculture, and also because of the increase in urbanization. Some rural areas are breaking up, some are re-forming and others are diversifying.

Using various parameters such as topography, the importance of the primary sector, types of agriculture, extent of multiple activity and the pressure exerted by other economic activities, we can establish a typology for the Atlantic rural areas.

- (1) The deep rural areas include mountainous areas where access is difficult and development potential is limited: the Scottish Highlands, the Cantabrian cordillera, North-East Portugal, Tras-os-Montes, Beira Alta, the inland mountain areas of Portugal, and isolated upland areas such as Mid-Wales, inland areas of the rest of Wales, Galicia and the Grampian region. These 'forgotten', often well-forested rural areas are losing their agricultural and rural populations, and some are on the way to desertification.
- (2) The agricultural rural areas include, on the one hand, those rural areas where agriculture is still of the traditional type, and therefore fragile, but where it is still a major direct or indirect job provider (Galicia, Cantabria, Asturias, Northern Ireland, north-west and mid-western Portugal, the Dordogne, Poitou-Charentes, the Loire Region except for Maine-et-Loire, and Lower Normandy except for Calvados) and, on the other hand, rural areas with a high agricultural production and processing capacity (Brittany, Aquitaine except for the Dordogne, Maine-et-Loire, Calvados, western Andalusia and the wine-growing or market gardening valleys of the Loire, the Gironde, the Douro, the Tagus and the Guadalquivir).

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- (3) Some rural areas have multiple activities. They still appear to be very agricultural but are gaining structure and impetus from complementary activities such as rural tourism in Ireland, Cornwall and Devon and light industry in northern and central Portugal.
- (4) Lastly, the prime rural areas are situated either close to densely populated zones, which include south-west England except Cornwall and Devon, Strathclyde, South Wales and the outer fringe of conurbations of over 100 000 inhabitants, or else close to tourist coastlines (the Algarve and all the hinterlands of the Atlantic tourist coastlines). These areas are subject to permanent or seasonal external pressures from urbanization and/or tourism, and are therefore going through a period of social and landscape reorganization.

This functional typology of rural areas can also be looked at from a more qualitative angle:

- forgotten rural areas;
- rural areas with traditional, fragile agriculture;
- rural areas with modernized, dynamic agriculture;
- diversified, protected rural areas;
- threatened rural areas on the urban fringe;
- threatened and 'rediscovered' rural areas on the coast.

The rural areas can no longer be wholly sustained by agriculture, but if they do not retain their environment and their better quality of life, it is difficult to imagine them attracting new inhabitants, activities and businesses. So the opportunity for renewal and for meeting the important challenges for their future lies in the availability of space that is still intact. This puts them in a favourable position compared with regions in which the concentration of activities and population results in additional economic and social costs which will require solutions as soon as possible.

## 3.2.2. Prospects

### 3.2.2.1 *Trend-based scenario*

Atlantic Europe is mostly involved in mixed farming, but there are some marked regional specializations, particularly in surplus production areas. These will be subject to restrictions (milk and cereal quotas) or price decreases (beef, sheep meat and cereals). Also, the mainly traditional-style Atlantic agricultural holdings will tend to increase yields, which are still low in comparison with those of northern Europe. Faced with the globalization of trade and the implementation of the CAP reforms, Atlantic agriculture is fragile and is being restructured in order to meet the new imperatives (fewer workers, fewer holdings, smaller cultivated area, diversified production). The economic approach that aims to produce higher yields is reaching limits that must be given attention, as much for the sake of safeguarding the environment as for dealing with the potential risks of desertification when cultivated areas are rapidly abandoned.

The main constraint in reforming the common agricultural policy is that the policy is based on average values. However, European agriculture shows deep contrasts from region to region. For example, 6% of cereal-producing farms occupy 50% of the cereal-planted land area, and their production accounts for 60% of the total; 15% of all dairy farms produce 50% of the EC's milk; 10% of cattle farms have 50% of the total EC livestock. The present system does not take sufficient account of the incomes of the large majority of small and medium-sized family holdings, since 80% of the support given out by the EAGGF goes to around 20% of farmers.

The Atlantic regions have a large number of areas in which agricultural activities have reached critical thresholds for survival. Desertification is increasing or threatening many mountainous regions that are disadvantaged by topographical conditions (altitude, marshland, forests, etc.). Agriculture is in

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danger of disappearing, or at best surviving only in the best exposed valleys, or just a sparse number of token farms will remain. Slight variations in income can have considerable consequences in one way or another. Diversification of activities in rural areas is hardly possible at all in the poorest regions. Rather than starting from its guiding principles, the consequences of the CAP reforms can be better understood by looking at their detailed application, i.e. at the microregional level. The reforms will be implemented in successive stages and the Commission does not expect them to be in full swing before 1997. Some are questioning the principles of the reforms, particularly the abandonment of the joint-responsibility clauses which were more favourable to smallholdings.

As the GATT talks run into conflict, and sometimes widely differing points of view are put forward within the Community, prudence dictates that we should try to picture the future only in fairly general terms, with as little reference as possible to the economic situation. We have therefore chosen the ratio of agricultural land area per agricultural worker, which reflects the state of agronomic technologies in the regions and which is further justified by the fact that, in the next 10 to 15 years, many types of agricultural production and activities may experience change.

In addition, this indicator shows the average level of income and perfectly illustrates the disparities over the whole of the Atlantic arc, and to a certain extent shows the social situation in the regions.

The rapid changes seen in the types of production found in each region do not help in the formulation of any long-term reasoning, despite the interest of an analysis of that kind both in terms of income and the size of the workforce.

This ratio appeared to be a significant structural parameter of the state of the agrorural system, and therefore useful as a basis for simulations of agricultural and rural change in the Atlantic regions,

particularly in estimating the number of agricultural workers, which represents both the work factor and the main workforce of the rural population. It has the merit of being simple and directly interpretable. Moreover, the ALA is not subject to rapid variation, certainly not enough to distort our interpretation of the results for the different hypotheses.

The hypotheses retained do of course depend on the respective current states of the regions, and the characteristics and tendencies to be found in them. It is thought that variation would be greater in the French regions that are going through rapid transition than in the British and Portuguese regions: the rural exodus is almost finished in the British regions, and the Portuguese regions will experience a lot of resistance to rapid change.

A strong correlation is revealed between the combination of production factors that act in favour of size and income, but this cannot continue indefinitely, as the cumulation of increases in production areas and yields is threatened by the need to reduce production surpluses and safeguard the environment. The 'uncoupling' of quantities and prices required to avoid perpetuating overproduction carries with it the risk of having the following mechanical effects.

The regions for which a low increase in ALA per worker is projected (+ 10%) are Scotland, Northern Ireland and Wales. These regions of relatively low agricultural density already have typically high cultivated areas per worker (74 ha in Scotland and around 40 ha in the other two regions).

The significant extensification or even desertification of these isolated, unproductive areas is very likely to limit the impact of demographic and economic agricultural change.

In contrast, the regions which will have to carry out restructuring and for which a sharp increase in cultivated area per worker is forecast are Lower Normandy, Brittany, the Loire Region, Aquitaine,

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the Basque Country, Cantabria, Asturias, Galicia, northern Portugal, central Portugal, Lisbon and the Tagus Valley and western Andalusia. These regions will have to deal with a large decrease in the number of agricultural workers resulting from the ageing of the population, especially in the Spanish regions, and a low level of renewal. Traditional, underproductive, small and medium-sized holdings will disappear at a faster rate. Average cultivated area per worker will thus increase and extensive methods will be developed, but the abandonment of land for agricultural use is not excluded (set-aside, fallow land, tree planting, protected natural areas, etc.).

Lastly, the regions for which the projected increase in the number of hectares per agricultural worker is approximately 20% are south-west England, Ireland, Poitou-Charentes, Alentejo and the Algarve. These regions, typically with either wide diversification of agricultural activities (growth: the Algarve and Ireland, or closeness to urban areas: south-west England) or an already high level of extensification (Poitou-Charentes, Alentejo) seem to be less affected by the demographic and economic changes in agriculture.

Small and medium-sized family holdings that provide full-time employment for at least one manpower unit will remain predominant. Nevertheless, this category will be the most affected by the combined effects of demographic and economic change. The very heterogeneous group of part-time farmers and those coming up to retirement will decrease in number, as will the average number of holdings. However, the evolution and the renewal of this category will result as much from agricultural factors as from non-agricultural ones (jobs available in rural areas, pension levels, welfare transfers, etc.).

In a general context of lower farm prices and consequently lower margins per planted hectare, the level of intensification chosen by farm managers

will have to be more suited to production conditions in each region, even on each holding, than in the past. This will involve agronomic potential, the immediate economic environment (presence of food-processing industries) and the skill level of the farm manager.

Thus, the best farmland and the areas best supplied with efficient food-processing industries will be able to cope with the highest level of intensification.

Intensive agriculture is increasingly being blamed for surpluses, pollution and the fall in product quality, and will be greatly penalized compared with its extensive counterpart.

Extensification of production may also hamper the modernization of agriculture (permanent pasture instead of fodder crops). This may have a negative effect on competitiveness, particularly regarding the competition from breeders in the eastern countries. As production conditions become less favourable, the level of intensification will fall to that of the most extensive systems (extensive sheep rearing etc.). These extensive systems will not necessarily be unprofitable, but they presuppose a significant reduction in fixed costs and the number of workers. Extensification will be implemented best by those farm managers who have had the proper training and advice.

The fall in prices and the growing role of the market in the choice of production system increases competition between farmers and between regions. The regions will tend to specialize in production that will bring the highest revenues, but present specializations will generally persist.

In the disadvantaged areas, production volumes are expected to decrease overall. At best, holdings will survive by becoming larger and extensifying production, but the poorest land will be abandoned sooner or later.

### Present and future regional distribution of agricultural workers

Regions	Active population	Agricultural workers	ALA (x 100 ha)	Ha/worker	Trend-based scenario			Intervention-based scenario		
					Hypotheses (in %)	Ha/worker	Workers (2 000)	Hypotheses (in %)	Ha/worker	Workers (2 000)
Scotland	2 445 000	77 000	5 753	74.70	10	82.20	69 988	10	82.20	69 988
Northern Ireland	661 000	28 000	1 038	37.10	10	40.10	25 885	10	41.10	25 885
Ireland	1 323 000	171 000	5 700	33.30	20	39.90	142 857	10	36.60	155 738
Wales	1 246 000	39 000	1 651	42.3010	46.50	36 505	10	46.50	36 505	
South-West England	2 239 000	84 000	1 767	21.00	20	25.20	70 119	10	23.10	76 494
Lower-Normandy	649 000	86 000	1 414	16.40	50	24.60	57 480	20	19.70	71 777
Brittany	1 188 000	149 000	1 511	10.10	50	15.20	99 408	20	12.10	124 876
Loire Region	1 316 000	154 000	2 496	16.20	50	24.30	102 716	20	19.40	128 660
Poitou-Charentes	683 000	74 000	1 860	25.10	20	30.10	61 694	20	30.10	61 694
Aquitaine	1 112 000	135 000	1 690	12.50	50	18.80	89 894	20	15.00	112 667
Basque Country	804 000	28 000	205	7.30	5010.90	18 807	20	8.80	23 295	
Cantabria	183 000	27 000	167	6.2050	9.30	17 957	20	7.40	22 567	
Asturias	430 000	74 000	315	4.3050	6.50	48 461	50	6.50	48 461	
Galicia	1 171 000	401 000	924	2.3050	3.45	287 826	30	3.00	300 000	
Northern Portugal	1 825 000	390 000	1 039	2.70	4.05	256 543	30	3.50	296 857	
Central Portugal	760 000	283 000	886	3.10	50	4.70	190 537	30	4.00	221 500
Lisbon	1 569 000	148 000	849	5.7050	8.70	99 298	50	8.70	99 298	
Alentejo	332 000	54 000	1 648	30.50	20	36.60	45 027	10	33.60	49 048
Algarve	126 000	16 000	269	16.8020	20.20	13 317	10	18.40	14 619	
Andalusia West	1 025 000	195 000	1 523	7.80	50	11.0	130 170	20	8.60	259 295
	21 087 000	2 613 000	32 705				1 844 489			2 117 022

NB: Hypotheses: positive variation 1988-2000 of the ratio of hectares per worker.

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It should also be noted that besides joint market organizations, the reforms encourage early retirement, the set-aside of land, the afforestation of farmland and the use of environmentally-friendly growing methods. It is not easy to give a precise picture of the types and systems of production that will be adopted as a priority in the next few years, but there will be increased concentration, and the specializations and major choices made in the past few years will mostly survive. However, this does not exclude modifications in production methods (the move from intensive to extensive practices), or even substitution (the change-over from cattle breeding to pig or sheep rearing).

Regarding cereals, the application of the CAP reforms should bring about a drop in production and prices, and therefore extensive methods will over time gain ground in regions such as south-west England, Scotland, Brittany, the Loire Region, Poitou-Charentes and Aquitaine.

The fall in cereal prices will also boost the relative competitiveness of white meat at the expense of red meat. The grass-based systems of disadvantaged zones with marked pedoclimatic constraints (predominantly in Wales and Ireland) run the risk of being further penalized.

However, the more intensive sheep and cattle systems in the crop-growing areas will benefit from cheaper cereals or will receive a premium per hectare for cereals consumed on-site.

Small areas of cereals grown for sale in mixed farming systems will probably be abandoned and could be compensated by increased production of non-quota items (fruit, vegetables, flowers).

Farmers specializing in milk or beef production are particularly common in Ireland, Northern Ireland, Lower Normandy, Brittany, the Loire Region, Cantabria and Galicia. They will have to cut overall production still further and will be encouraged to extensify. But despite the application of

compensatory measures, the small and medium-sized holdings that are underproductive because of the widespread use of traditional methods or because they are on poor land in disadvantaged areas might, in the short term, be faced with the threat of extinction, especially as in these fragile areas there is a majority of older farm managers/owners who will not be replaced.

The trend-based evolution of the Atlantic rural areas as a whole is largely founded on changes in agricultural activities, but also increasingly on the development of other older or more recent rural activities, i.e. industry, the craft industries and tourism.

In the deep rural areas and the fragile agricultural rural areas, industry, crafts and local services are in decline due to the process of depopulation and restructuring that hits small firms hard because they are not very competitive. Local provision of services in the country areas deteriorates, moving to the small towns that are the last bastion against desertification.

In the more dynamic rural areas, the restructuring of the food-processing industry will continue, with increased integration upstream. The major groups will become the main actors and will continue to be the only ones to benefit from breakthroughs in biotechnological research.

The urban fringe areas are looking increasingly attractive to space-consuming businesses which are seeking to relocate in easily accessible areas close to densely populated zones and therefore close to potential markets. But the attractiveness of these prime areas accelerates their disappearance beneath asphalt and brick, a phenomenon that is difficult to control due to the lack of adequate planning tools. The relatively recent tourist and recreational functions of rural areas are starting to develop, but are limited to sites that are particularly attractive because of their natural, historic or cultural heritage.

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All the rural areas will probably have to cope with greater risks of destabilization and even deterioration of their environment, through lack of maintenance or through not being used for farming (increased risks of erosion, landslip, abandoned land, forest fires, etc.), or else through more intense agricultural and economic use of the land (increased pressures, pollution, etc.).

### 3.2.2.2. *Intervention-based scenario*

The disparities between the trend-based scenario and the intervention-based scenario arising from the evolution of the agricultural land area per 'agricultural worker' parameter, allows us to anticipate a differential of 300 000 agricultural workers.

Interventionist action to slow down the rate of decline in the number of agricultural holdings needs to be envisaged for those rural areas that are heavily dependent on agriculture, such as Galicia, Cantabria, Alentejo, western Andalusia, Lower Normandy, Brittany, the Loire Region and Aquitaine.

In these regions, action in favour of farmers is a priority and should be based on encouraging product development and increasing added-value through a higher level of processing of raw agricultural products (ready meals, etc.) and promoting their high quality (labelling, etc.), and at the same time improving marketing (direct sales, larger distribution channels). Action should also aim to encourage product diversification (new crops: fruit, flowers; new types of rearing: small-scale breeding, game birds, goats, etc.; organic and energy products) and new activities (tourism, gastronomy, cultural events, craft industries).

In the still largely agricultural rural areas, it seems necessary to encourage farmers to become rural entrepreneurs; to do so, training, advice and investment assistance should be given, possibly through economic development structures. This

would also imply more active management of public subsidies and strengthen links between the actors and their immediate natural and socio-economic environment and among the local population (solidarity networks, associations, etc.).

The main foundation for this interventionist policy of rural development is the large degree of participation and mobilization of agricultural workers and the whole of the rural community in order to maintain and strengthen their activities, while accepting the grouping of services to some extent. The enhancement of potential and endogenous capacities (aids to investment for modernizing under-competitive production structures, subsidies for professional and continuing training) is also necessary in order to make existing sectorial mechanisms more widespread. This is the case for tourism in Ireland and the hinterland of the Atlantic coast, and rural light industry in central and northern Portugal.

In the particularly fragile and inaccessible mountain areas, the threat of desertification looms large, and has already begun in the most isolated parts. The trend-based evolution of these areas would appear to be irreversible, but what is less so is the progressive, insidious degradation of their natural environment (forests, heathland, marshes, peat bogs, etc.), which is increasingly vulnerable due to its idleness and lack of maintenance. These areas need to be protected and given economic and/or ecological functions. This could include the enforcement of forestry policies specially designed to suit local pedoclimatic conditions (limiting the spread of the eucalyptus in Portugal and the popular in France in favour of species that would be more useful for developing the timber industry), encouraging the creation of natural parks open to the public with varied leisure activities (sport, culture, etc.) and areas reserved for hunting and scientific research.

Lastly, in the rural areas that have to a large extent been structured or destructured by urban or tourist

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pressures, improvements need to be made in controlling and planning the built-up areas (the preservation of historic central districts and control of urban sprawl) and the country areas (the creation or extension of green belts), especially in the southern regions, as the need for green open spaces will grow, and authentic landscapes and rural habitats will be increasingly sought after.

### **3.3. The marine and fishing economy**

#### **3.3.1. Analysis**

##### **Importance of fishing activities**

The Atlantic regions' fishermen land 2 500 000 tonnes of fish, shellfish and crustaceans with an initial market value of ECU 2.9 billion. There are large disparities in the distribution of sea produce landed from region to region (generally EEC level II regions).

Three regions can be clearly separated from the rest in terms of catch sizes: in order, the Noroeste region of Spain, Scotland and Brittany. These three regions between them land 60% of Atlantic region catches. Close proximity to large resources gives Scotland a considerable comparative advantage. For the other two regions, the advantage is a little less clear-cut. Two region States come next, Portugal and Ireland. The size of these two entities goes some way to explaining their position in the list.

An analysis of the value of fish landed indicates that the three leading regions sell only 54% of the total landed value, and their place order changes: Noroeste, Brittany, Scotland. This indicates better catch valorization in Brittany and Noroeste.

The cumulative total of the three highest values for the species released onto the market reveals very

variable degrees of specialization of production from region to region: a heavy concentration of over 50% of the total in Poitou-Charentes, Northern Ireland, Portugal, Cantabria and Scotland. Poitou-Charentes is heavily dependent on shellfish, Northern Ireland on prawns and hake, Portugal on hake and mackerel, Cantabria on hake and albacore, and Scotland on demersal fish (haddock, cod). The Cantabrian and Noroeste regions, Aquitaine and the Loire Region have a lesser degree of specialization, but it is still higher than, or equal to, the average for all the Atlantic regions. Wales, Ireland, Brittany and Suratlantica have a rate of specialization of under a third of the total landed value, which means that their catches are sufficiently diversified.

It is important to note that practically all the main catches of all the Atlantic regions are subject to quotas. This means that unless new resources can be found inside or outside the exclusive economic zone (EEZ), catches will not increase significantly. The best that can be hoped for in the short term is a levelling-off of landed catches.

The Spanish region of Suratlantica has by far the highest average landed price, two-and-a-half times higher than the Atlantic average. This is due to the species involved (shrimps, swordfish and many high-value species). If this is combined with the low proportion of specialization, this region is certainly one of those best situated with regard to the exploitation of resources. If the regions with a high shellfish-producing potential are discounted, Cantabria, Brittany, south-west England and Wales are above the average for the Atlantic regions. High-value species are the main reason for this. Conversely, Scotland, Portugal and Ireland have very low average prices as a consequence of their so-called 'industrial' species (demersals, sardines, anchovies).

From the point of view of the analysis of production, there is no clear north-south opposition. There is more of a typology of regional disparities, re-



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sulting from the type of resource fished and the destination of the catches according to the type of valorization.

With a production value of ECU 2.9 billion from nearly 2.5 million tonnes of sea produce, the Atlantic regions account for 36% of total European tonnage and 49% of total value. The average price is therefore significantly higher than the Community average. The regions specialize in cod, hake, prawns, angler-fish, haddock and oyster farming. Ways of diversifying the fishing industry need to be found. Some avenues have already been explored to some extent for industrial-type fishing fleets (grenadier, sabre, ling, etc.) both inside and outside Community waters. The value of Atlantic aquacultural production, other than shellfish, is estimated at between ECU 150 and 200 million (after a period of stagnation, trout consumption has made a recovery in some markets: the Netherlands, Italy and the United Kingdom; salmon consumption has risen, mostly in France). The shortfall between regional production and demand is filled by imports from non-EC north European countries. However, Scotland and Ireland are well placed.

Other species could eventually be produced but the production costs and market conditions will have to change before sustainable development can be embarked upon (eel, sturgeon, etc.).

#### **Modern production methods in the north, traditional methods in the south**

The Atlantic regions' fishing fleet is made up of 28 146 vessels (excluding 8 891 non-motorized units in Portugal) with a gross registered tonnage (grt) of 981 088 and power of 3 148 074 kW. The fleet is manned by 137 791 fishermen.

The distribution of fishing boats by region is very uneven. Portugal and the Noroeste region of Spain have practically twice as many units as the next

regions down the list. These two regions between them have 46% of the total number of Atlantic arc fishing units. Brittany, Cantabria and Scotland come next, with 8–10% each. The southern regions of the Atlantic arc account for 60% of the fleet.

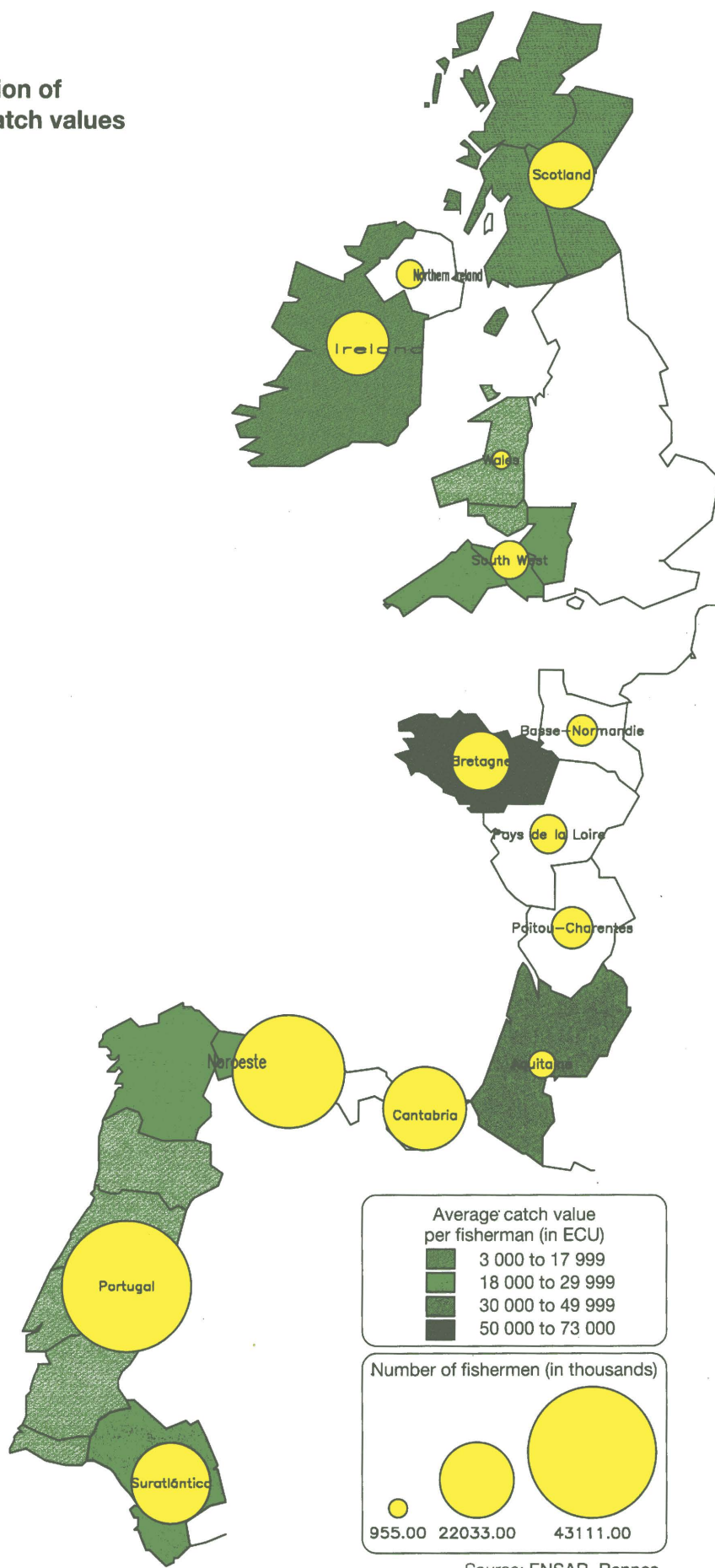
An examination of gross registered tonnages reveals that the four Iberian regions come at the top, with 70% of fleet tonnage. With slightly more than 100 000 grt, Brittany ranks equal with the last Iberian region, then comes Scotland with 72 000 grt. The other regions have only 11% of the total between them.

This can be explained by the dominance of small, independently owned coastal fleets in these regions, more common here than elsewhere, and by the predominant role played by oyster farming in the southern part of France. This distribution provides a partial indication of regional deep-sea fishing capacities, even if we consider that the 'number of boats' factor only partly explains the position of the Iberian regions. Except for Portugal, the grt is proportionally higher than the number of vessels.

Much more significant are the analyses in terms of power, bearing in mind the European policy of aiming to reduce the fishing effort. From this point of view, Noroeste is in the lead by far with 620 000 kW, followed by Brittany with 455 000 kW, Scotland and the other Iberian regions, which together account for almost 52% of the power used in the Atlantic regions as a whole.

If the figures for the Atlantic regions as a whole are compared with data for the whole of the Community, it can be seen that the Atlantic area has 27% of the Community fishing fleet, 50% of its volume, 46% of fishermen and 40% of its engine power. Any reduction in power would first of all affect the southern regions of the Atlantic arc, and, to a lesser extent, Brittany and Scotland. The statistics for fishermen are not homogeneous, espe-

**Uneven distribution of fishermen and catch values**



(c) C.E.D.R.E.Strasbourg

Source: ENSAR, Rennes.

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cially regarding the inclusion or exclusion of part-time fishermen. The Atlantic fleets employ almost 138 000 men. The Iberian regions employ three quarters of the fishermen of the Atlantic areas. Portugal is in the lead by far (43 111), followed by Noroeste (30 641), Cantabria (15 207) and Suratlantica (13 845). The next three regions have much lower levels of employment: Scotland (8 711), Ireland (7 750) and Brittany (6 503). As with capital, most of the on-board jobs are concentrated in the Iberian regions. This leads us to believe that any form of effective restructuring would give rise to big social problems in these regions.

For a clearer picture of the situation in terms of capital and employment, average engine power per vessel can be used as a useful indicator to correct the 'number of boats' effect of the regional presentation of total available power. The most powerful ships (over 150 kW) are found in Northern Ireland, Ireland, Suratlantica, Brittany and Scotland. Around the average for the Atlantic regions are Cantabria, Aquitaine, Poitou-Charentes and Noroeste. This classification illustrates the types of fishing practised (essentially trawling) and the fleets that have most recently undergone redeployment (Scotland). At 112 kW, the average power of the Atlantic regions' ships is over 40% higher than the Community average. The Atlantic north-south division can then be seen in another light. The majority of modern powerful fleets are to be found in the north.

Conflict over access to resources is still rife. This is mainly the result of the practical application of rights of access, especially in the Bay of Biscay between French and Spanish fishermen. There are also conflicts involving the practice of different fishing methods, between trawling and fixed techniques (line nets, drift nets, cages) in hake fishing, for instance. Conflictual situations, real or potential, exist between inshore fishermen and deep-sea trawlers or between the industry and leisure activities, etc.

Fishing quota policy combined with the high power capacity of certain fleets can only lead to conflicts that will worsen over time resulting in the falling profitability of fishing vessels.

Conflicts such as these can only be resolved by increasing contacts between the fishermen of the various regions so that all points of view can be made clear and non-bureaucratic solutions can be found. To this end, action to explain properly the situation and to provide training must be undertaken as soon as possible. Innovative experiments in bringing fishermen from different regions together in a single organization could, perhaps, go some way towards more rationalized management.

Access to fishing zones outside EC waters, such as the North American grounds, is highly regulated and the catches authorized are increasingly limited. There are also the African waters, off Morocco for the Spanish and off their former colonies for the Portuguese. The Spanish and French tuna fishing fleets operate mostly off the West African coast and in the Indian Ocean. Access to these zones is heavily dependent on the agreements signed by the appropriate countries with the European Economy Community regarding fishing in the EEZ. Catch limits must therefore be expected in the future. However, the setting-up of joint companies by some operators in the Atlantic regions (Brittany, Noroeste, Portugal, etc.) brings hope for future development.

### **Uneven performance**

Landed tonnages per boat put Poitou-Charentes in first place, but this is a distorted figure due to oyster farming activities. Scotland and Ireland have the highest productivity, two to three times higher than the average for the Atlantic regions. Next come Brittany and Noroeste, with over 100 tonnes per boat.

Average values per boat are significant, not counting Poitou-Charentes. The only regions with more

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than the Atlantic average are Suratlantica, Scotland, Brittany and Noroeste. This approach quite clearly alters the picture given by average tonnages, in terms of both ranking and the importance of deviations from the average.

These are the regions that obtain the best economic results and that have a large amount of added-value. Apart from the British regions and Portugal, the other regions are not far away from the average value of ECU 101 572, which is 80% higher than the European average (ECU 57 323).

Apparent working productivity puts Scotland in first place (64 tonnes per fisherman), followed by Brittany (53 tonnes) and Lower Normandy (49 tonnes). The only regions below the Atlantic average (18 tonnes) are Wales, Cantabria and Portugal. The European average is 23 tonnes per fisherman.

The value produced per fisherman puts all the French regions in front, as they produce between 2.5 and 3.5 times the Atlantic average. Only Scotland attains this level. Portugal is clearly lower. The Atlantic average is slightly higher than the European average. A good indicator of efficiency is the ratio of tonnages and values to vessel power. When compared with the figures obtained for tonnages per boat, analysis of landed tonnages confirms the position of Scotland, Ireland and Noroeste.

The figures for landed value per kilowatt confirm the position of the French regions (except Aquitaine), but reveals Noroeste and Suratlantica as being very efficient fishing regions.

Calculation of landed tonnages and values per grt also confirms the results given above.

It is usual to compare the southern Atlantic regions (Iberian peninsula) with the northern ones. This is valid for a number of absolute indicators (number of fishermen, number of fishing boats), but is less clear in terms of efficiency. From this point of

view, the best placed regions are Scotland, Brittany, Noroeste and Suratlantica.

### **A painful but inevitable reduction in fishing fleet capacities**

With the depletion of stocks of traditional north Atlantic species (herring and cod) in the 1970s, catches of other species increased rapidly, first mackerel and then the rest. This resulted in a general depletion of fishing resources. The only measures that could be taken to safeguard and reconstitute fish stocks were international ones, hence the enormous difficulty in finding solutions.

Between 1982 and 1987, the gross registered tonnage of the Community fleet rose by 83% when Spain and Portugal joined. In order to reduce catches in northern European waters, Iberian fishermen have only a limited right of access in the Atlantic and none at all in the English Channel and the North Sea.

To try to correct the imbalance between available resources and fishing fleet capacities, regulatory mechanisms have been adopted at Community level:

- authorized annual catches for each species in each fishing zone;
- national quotas;
- Community licences to protect sensitive species off the Orkneys and Shetlands and in the Irish Sea;
- multiannual guidance programmes to decommission non-efficient units and assist with fleet modernization and new construction;
- preservation measures (mesh sizes, minimum fish landing sizes, etc.).

The catch quotas and other regulations are aimed at guaranteeing the equal distribution of resources and the preservation of fish stocks. Because of the

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increasing globalization of the sector and the resulting fierce competition, fishermen are faced with the problem of maintaining profitability in the short term.

Given the economic and social importance, and high degree of specialization of the fishing industry in the Atlantic regions, particularly in the south, restructuring risks being a brutal process if the target of a cut in Community fisheries of at least 40% is retained instead of the modest reductions of recent years (3%). The breaking-point of the current policy is revealed in the gap between the targets of capacity reduction and their implementation, on the one hand, and between the total allowable catches (TACs) and set quotas and effective catches, on the other.

#### **Nevertheless, potential does exist**

Seafood-processing businesses are concentrated in Scotland, Brittany and Noroeste (especially Galicia), regions which have the necessary know-how and a good reputation.

In the northern regions, in the UK and Ireland, the industry has largely rationalized production capacities, invested in innovation and adapted to the consumer markets. The modernization process has started in France, but not in the southern regions. The process is crucial, since the eating habits of the Iberian peninsula's population offer considerable market potential.

Contrary to agricultural production, fishing products are in short supply while demand is clearly growing. Aquaculture therefore constitutes an under-exploited complementary resource. In view of the growth and diversity of the demand, the business is not sufficiently developed, and this means that there are a lot of opportunities in the Atlantic regions.

The aquacultural resource needs to be developed, particularly in Lower Normandy, Brittany, Cant-

abria and Galicia, but because of the deteriorating quality of northern waters (hence the trade in seed-oysters between French and Galician oyster farmers), limits to development may appear if the investments required to achieve European hygiene standards are not made.

Any further limitation of catches will inevitably entail a significant fall in profits if the fishing effort remains the same. The fishing effort restrictions announced can only be coped with if accompanying social measures are taken, especially in the southern regions.

The development of regional fisheries cannot be dissociated from that of the industry as a whole. More efficient processing and greater valorization could improve the economic situation for all concerned, including fishermen. The sector is still restructuring and things are changing rapidly. In view of increasing globalization, it would be harmful to the interests of Atlantic region fishermen for production units to move away from local fishing areas. The long-term consequence would inevitably be that the production units would relocate elsewhere, with all the economic and social effects that such a move would have on the regions.

The conflicts between the various actors could certainly be resolved through better training and through giving more consideration to discriminatory factors when policy is formulated.

#### **3.3.2. Prospects**

If we are looking at a horizon of 10 to 15 years, the main factors in European fishing will be:

- a large surplus fishing capacity (overinvestment) compared with available and usable resources;
- the staggered entry of the Spanish and Portuguese fleets (1995 and 2002) into the whole of the European exclusive economic zone;
- the rapid introduction of new technology: new

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fishing vessel designs, improved efficiency of vessels and fishing gear, satellite monitoring, on-board computer systems, etc.);

- the possible harmonization of employment and social security conditions for fishermen;
- the increasing globalization of the fishing industry, particularly through seafood-processing industry strategies.

Until recently, the system was regulated essentially by adjusting the permitted catches of some species in line with stocks (total allowable catches and quotas), adopting regulations on fishing techniques, minimum prices (this involves only 1 or 2% of total landings), and standardization of product marketing. This will be completed by controls on fishing activities (licences), the introduction of hygiene standards at every level of the industry, modifications to quota regulations, etc.

This will have a number of consequences for the Atlantic regions, as the demand for seafood products will keep increasing at a steady rate.

Three prospective scenarios have been drawn up, based on contrasting hypotheses on the reduction of engine power. It is impossible to predict the long-term evolution of fish stocks, as the dynamics of each species and their possible interrelationships are not accurately known. Therefore:

- the effects of the environment on the evolution of fish stocks are not taken into account in biological models;
- it is very difficult to establish a proper segmentation of the fishing fleets, if only to separate trawlers from the rest on a regional basis. The calculations have been made on the basis of 'all things otherwise being equal' and are based on the structural changes noted between 1988 and 1992, and when that was not possible, on those for 1988. Regarding engine power, the situation as of the beginning of 1992 has been used in every case.

Scenario 1 (S1) considers that there will be no further reduction in engine power between now and the year 2000.

Scenario 2 (S2) assumes each country will continue its efforts to reduce engine power at the existing rate until the year 2000, apart from Ireland and Portugal, which would be working at the European average rate.

Lastly, Scenario 3 (S3) looks at the situation in which each country reduces its fishing vessel power by 2.5% a year, to compensate for the effects of technological progress.

### **The reduction of engine power is not a panacea**

The most widely used indicator of fishing effort reduction is the decrease in kilowatts. Hence, catches (except perhaps for trawlers) are not necessarily proportional to the engine power of fishing vessels. There is, therefore, a high risk of relative inefficiency regarding the preservation of resources if, at the same time, no attempt is made to regulate all the components of the fishing effort, particularly through technical measures. Limitations on catches allow the pressure on the different fishing methods to be reduced.

On the other hand, there is certainly a risk of induced negative economic effects. The quasi-mechanical consequences involve shipbuilding, maintenance and fuel supplies, downstream industries and employment. Fleet modernization is the only way of partially offsetting the effects of some of these phenomena.

Decommissioning vessels will cause major economic problems, especially in regions that are the most heavily dependent on the fishing industry.

By reducing their fishing effort, the regions that have a high correlation between the size of landings and engine power (Scotland, Ireland, Lower

**Projected change in landed values for the year 2000**  
(million ECU)

Region	Situation, 1988	S1	S2	S3
Scotland	380	350	215	275
Wales	9	8	5	6
South-west England	61	55	35	45
Northern Ireland	23	20	15	15
Ireland	90	90	50	55
Lower Normandy	93	80	60	70
Brittany	466	420	280	430
Loire Region	110	100	65	80
Poitou-Charentes	176	160	105	130
Aquitaine	51	45	30	40
Cantabria	211	190	160	160
Noroeste	695	635	530	530
Suratlantica	330	300	250	250
Portugal	158	140	110	130

Normandy, Brittany and Noroeste) will contribute to a better management of resources.

But at the same time, the regions with the most powerful fleets (Scotland, Brittany and Noroeste) will be the ones most affected by decommissioning, and they are also the regions with the highest levels of human and capital productivity. From the economic point of view, they have the most efficient vessels. The path between improved economic performance and the preservation of resources is therefore a very narrow one.

Bearing in mind the hypotheses we have retained (constant prices and proportionality of landings and engine power), the findings are identical to those for the changes in engine power.

**Growing risks of fishing becoming concentrated in a few centres outside the Atlantic regions**

The policy of annual TACs and quotas will be modified to provide multiple species, multiannual

TACs and quotas. Some are already recommending that quotas for individual vessels should be brought in alongside the licensing system. If the Community authorities do not issue precise rules on individual allocations, there will inevitably be a market for regulatory instruments. Major fishing centres will be constituted, with a power of attraction that will depend on the level of competition.

The existence of a regulatory instrument market will lead to vessels and facilities becoming concentrated in particular areas, with no regard to regional or national structures. This type of concentration will be found in ports with competitive infrastructures and good connections to the rest of the industry, i.e. those either close to the markets or connected to them by cheap, fast and reliable communications networks.

Most of the regions that correspond to these criteria are outside the Atlantic arc. The only French port that fits is Boulogne-sur-Mer, currently undergoing rapid restructuring. Lorient and the other Breton ports are not as well positioned. Noroeste in Spain has more to offer from this point of view.

The fall in local supplies combined with the growth in demand for seafood will lead to price rises or the abandonment of less profitable species. Processing businesses will be in a difficult position. They will have to rely more on imports, particularly of demersal fish. In order to curb price rises and maintain the present location of processing structures, there will be greater pressure to increase international competition and lower import duties. The geographical position of some of the Atlantic regions (Scotland, Ireland and Western France) would not encourage the development of their processing industries in such a situation. The only way to deal with the situation would be to help maintain or create small and medium-sized businesses, through reliance on local know-how and integration with the whole of the fishing industry, including having efficient fishing ports.

### Projected change in driving forces in the year 2000, based on 1988 data

Region	Situation, 1988 (kW)	S1 Low hypothesis (kW)	Change from 1988 to S1 (%)	S2 High hypothesis (kW)	Change from 1988 to S3 (%)	S3 Average hypothesis (kW)	Change from 1988 to S4 (%)
Scotland	352 493	314 000	-10.9	198 000	-43.8	255 000	-27.6
Wales	35 724	32 000	-10.4	20 000	-44.0	26 000	-27.6
South-west England	83 586	74 000	-11.4	47 000	-43.7	55 000	-34.2
Northern Ireland	76 234	68 000	-10.8	43 000	-43.5	55 000	-27.8
Ireland	212 260	160 000	-24.6	112 000	-47.2	130 000	-38.7
Normandy	82 453	74 000	-10.2	50 000	-39.3	60 000	-27.2
Brittany	456 123	410 000	-10.1	275 000	-39.7	333 000	-27.0
Loire Region	111 553	100 000	-10.3	67 000	-40.0	81 000	-27.3
Poitou-Charentes	40 311	36 000	-10.6	24 000	-40.0	294 000	-21.5
Aquitaine	67 104	60 000	-10.6	40 000	-40.0	49 000	-26.9
Cantabria	358 773	337 000	-6.0	273 000	-23.9	274 000	-23.6
Noroeste	619 125	582 000	-6.0	471 000	-23.9	472 200	-23.7
Suratlantica	297 349	280 000	-5.6	226 000	-23.9	227 000	-23.6
Portugal	354 986	355 000	0.0	248 000	-30.1	288 000	-18.8

NB: In all cases the greatest efforts need to be made by the major fishing regions which are already the most productive: Scotland, Brittany, Noroeste. To a lesser extent, Ireland and Cantabria will also have to make significant reductions.

The search for new resources outside the Community is one way of assuring the survival of fishing units, but it involves either very specific types of fishing or prospecting for new resources and new fishing areas. The only fleets likely to be able to take advantage of such resources would be the larger and more dynamic ones (conversion of company vessels and the larger independently-owned vessels). This solution could only be implemented in those regions that have this type of fleet: Brittany, Scotland, Noroeste.

#### Only the most widely diversified Atlantic regions will be able to adapt

The regions with widely diversified fishing industries will be able to cope more easily with the crisis that is looming (Brittany, Wales, south-west England and Ireland). In some regions, some ports will fare better than others. In Aquitaine for ex-

ample, the Arcachon area has the multiple disadvantages of a less favourable geographical location, unfavourable natural conditions and little room to manoeuvre in reducing its fishing fleet further. In Brittany, some of the Finistère ports are certainly in the best position for dealing with future challenges.

Aquaculture, which looks promising for diversification in south-west England, Wales, the French Atlantic regions, Cantabria and Galicia, is still underdeveloped compared with the growth and diversity of the demand. Moreover, there are obstacles to current development, such as compliance with European hygiene standards.

#### Negative consequences for employment, particularly in the south

The southern regions (Portugal, Cantabria, Noroeste and Suratlantica) employ half of all Atlantic



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are fishermen. Along with Ireland, these regions have the largest crew ratios. With Wales, they have the lowest productivity figures per fisherman, and the same applies to the landed value per fisherman. Harmonization of working and social security conditions will hit these areas hard. This, added to the effects of disinvestment, will cause serious employment problems, given the number of jobs connected to the fishing industry and the fact that there is little opportunity for redeployment in these areas. Jobs created in aquaculture will suit neither the skills nor the mentality of fishermen made redundant because of the depletion of fishing resources.

If the catch/kW ratio is taken as being pertinent, (hence the substitution of capital for labour, the difference in productivity between labour and capital and the difference in fishing methods are not important factors), the regions which would be most affected by control of the fishing effort are those where the ratio is highest. In terms of quantity, this would be Cantabria, Scotland, Ireland and Noroeste; in terms of value it would be Lower Normandy, Noroeste, Suratlantica, Brittany and Scotland.

For the moment, only the biological aspect of the work on the preservation of resources has been tackled, and that only partially. Analysis of past phenomena has shown that the determining factors occur further downstream in the system than at the biological regulation level.

### **3.4. The tourist economy**

#### **3.4.1. Analysis**

##### *3.4.1.1. Tourist attendance*

Because of the wide variety of tourist accommodation and the heterogeneity of statistical sources, it is difficult to make a comparative analysis of

tourist visits. However, Scotland, south-west England, Ireland, the Algarve and the Canaries are important tourist regions (with intense tourist activity in comparison with their populations).

The Borders, Central, Fife, Lothian and Tayside regions together have an annual 5 800 000 overnight stays; Dumfries and Galloway and Strathclyde have 6 700 000; and Devon and Cornwall have 5 600 000.

However, for the other regions, only the number of hotel nights is available. This gives 4 513 000 for the Algarve, 5 835 000 for Aquitaine, 5 821 000 for Brittany and 19 351 000 for the Canary Islands.

Typically, the further south, the more international the clientele

Due to their climate and their peripheral location in Europe, the Atlantic regions have, in the past few decades, suffered from heavy competition from the Mediterranean regions. The level of tourism development is generally lower on the Atlantic than around the Mediterranean.

This explains why there has been a recession in tourism (a fall in the number of overnight stays) on the northern Atlantic coasts (south west England and Wales) combined with redeployment in the hotel and catering sector.

In the French Atlantic regions, the number of overnight stays by French tourists grew between 1983 and 1986, except in Lower Normandy, where it fell by 3.1%. Growth rates ranged from 5.3% in Poitou-Charentes to 1.9% in Brittany, but in the same period they reached 14% in Languedoc-Roussillon on the Mediterranean coast.

In contrast, in the Spanish Atlantic regions, the rise in the number of overnight stays during the 1980s reached considerable proportions (up by between 50 and 75%). The tourism boom of the 1980s was

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most noticeable along the Cantabrian coast. In 1980, there were 295 300 hotel nights in Cantabria as against 529 000 in 1989, while Galicia had 1 016 700 in 1980 as against 1 525 400 in 1989. The same trend was observed in the three Andalusian provinces which totalled over 1 188 200 hotel nights in 1980, attaining 1 892 900 in 1989.

However, the attraction of the Mediterranean regions has faded somewhat recently (pollution, excessive heat). The tourism demand is changing. This should bring increased opportunities for the Atlantic regions, if they can find ways of meeting the need.

#### *3.4.1.2. The decline of traditional structures and the boom in well-equipped, quality structures*

Since the start of the 1980s, holidays have become more widespread throughout the year. This has been accompanied by a reduction in the length of stays and a marked increase in spending. This form of tourism, shorter and with a greater outlay of money, has favoured well-equipped accommodation structures that offer quality services. The Atlantic regions typically have a high concentration of non-approved accommodation which is singularly unsuited to meeting the demand.

Proof of this can be found in the fact that they attract few foreign tourists although their number abroad is growing, hence the current acceleration of closure of traditional hotels in holiday resorts that are in need of regeneration. For example, in Devon, a fall of 13% in the number of hotels was recorded in the period 1982-89, but it is interesting to note that 45% of the hotels that closed were in Torquay, and that 25% of them were converted into holiday flats, nursing homes, retired people's homes, etc.

Changes of use such as these are evidence of the decline in the traditional forms which until lately

were so much a part of the tourism boom along the Atlantic coast. They also indicate how it can be renewed, for example through better equipped hotels and luxury hotels with sports facilities.

Facilities of this type are increasingly favoured and have the advantage of attracting more than the usual domestic summer clientele.

The other booming upmarket sector of recent years is business tourism, in which a great deal of investment has been made (construction of conference and convention facilities). The rate of development is still slow because most towns and cities do not have the hotels and services to match. This explains the limited range of attraction of cultural events in particular, and is also due to late recognition of the potential of urban tourism.

#### *3.4.1.3. Growing attraction of sport and cultural activities in a quality environment*

The Atlantic regions are benefiting from the growing demand for action holidays in a high quality environment.

Sports activities, particularly water sports, form the basis for tourism development along the Atlantic coast.

Given the increasing attraction of sports activities and the possibility of turning them into tourism products with high added-value, there has been a large number of major development projects (marinas, golf-courses, leisure parks) in recent years. More often than not, however, these projects do not integrate well with their environment.

This type of large expensive development reveals the change in direction taken by tourism, from the 'social' tourism of the 1970s towards a more up-market tourism in the 1990s.

More and more golf-courses are appearing. In the Loire Region, for instance, there were only seven

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18-hole courses in 1980. By 1991, there were 22. The number of marinas continues to grow apace, particularly along the French Atlantic coast.

The upmarket tourism that is currently experiencing a boom on the Atlantic arc is commercial in nature. Spa towns are a good case in point. Health tourism, which is currently the vogue, is an asset for a number of Atlantic regions that have a tradition of spa tourism (the south-west of France and north-western Spain). But in recent years, growth has levelled off, except in the spa resorts that are part of a major private chain and which therefore benefit from large-scale investment and efficient marketing. The target clientele is fairly well-off, and the companies have increased their business by widening the range of therapies available, improving accommodation quality and diversifying the range of other available activities (leisure, etc.).

The wealth and variety of the natural heritage of the Atlantic regions make them perfect for many sporting activities (rambling, water sports, angling) and learning-based activities, such as those organized by many nature parks. After the 'passive' protection measures of the 1970s (listed sites, national and regional parks and nature reserves), the last few years have seen the arrival of operational structures designed to develop the tourism potential of the protected resource (ecomuseums, events, guides).

Apart from their very attractive, high-quality natural environment, the Atlantic regions also have a very rich architectural heritage. They have a high density of listed, protected monuments of historical and architectural interest. Castles and stately homes, religious buildings, particularly those from the Romanesque period and those on the Pilgrims' Road to Santiago de Compostela, attract tourists in large numbers. The management and promotion of these sites are determining factors, as are appropriate road signs. This has given rise to thematic tour itineraries with a cultural component.

There has also been an increase in the number of visits to historic monuments, particularly when events such as sound and light shows are staged there. This is a way of making culture come alive, something which is increasingly sought after by tourists.

The desire to get back in touch with nature and the countryside and with a natural and cultural heritage scattered over a wide area has helped fuel the boom in rural accommodation. For example, the number of beds available in French country *gîtes* doubled between 1976 and 1985; the number of village *gîtes* trebled, and the number of guest rooms grew fivefold.

#### *3.4.1.4. Potential in need of development*

The tourism sectors that are currently expanding require heavy investment that cannot be made profitable by seasonal use alone; hence the move to increased capacities in suitable accommodation. But it is also a good idea to extend the season by encouraging locally-based tourism (nearby towns, holiday homes) and develop activities which are unaffected by weather conditions. These amenities need to be suited to local demand, but also need to be well integrated into the environment, otherwise tourists will go elsewhere, as has happened in the Mediterranean regions, where the 'artificial' look of the resort developments has proved offputting.

Except for occasional major building developments on the coast, private investment has been limited, as indicated by the fall in the number of hotels and the growing number of beds available in rural tourism. Small structures, particularly owner-managed hotels, are finding times hard, as the high turnover in tourism-related businesses proves. Many of them suffer from a lack of advice and capital at crucial stages in their development. This has given rise to demands for better coordinated counselling in tourism development.

Intensive exploitation of tourism potential is increasingly the result of outside investment, at-

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tracted by the relative availability and low cost of sites in a high-quality environment.

The highest rate of occupation is achieved by well-equipped and well-managed accommodation, where an efficient reservations system is also a determining factor. Catering facilities in this type of accommodation sometimes feature local specialities on their menus (mostly in France and Spain), which are particularly popular with guests.

Also it is interesting to note that many castles and stately homes in the country offer accommodation, sometimes with high-quality restaurants.

The valorization of a natural potential available in the hinterland corresponds to changes in the demand which is moving towards the intermediate season, with shorter stays and a higher culture and quality content. Expansion in this sector will be achieved by renewing facilities and creating tourism products.

Against the background of increasingly sophisticated activities, accommodation and services (package holidays, tours, etc.), appropriate training proves to be in short supply. Over 50% of bosses and employees in tourism in the Atlantic regions have no qualifications. This is because of the seasonal and insecure nature of jobs in the tourist industry, but it also has a negative effect on the quality of services.

It therefore seems necessary to build on the quality aspect and encourage the creation of tourism products based on local resources. Efficient organization should also be encouraged in order to reduce the fall in revenue from tourism and further develop local potential.

Both promoters and private citizens from the Spanish Basque Country, experiencing difficulties in their own region, are investing in Aquitaine, attracted by lower property prices. For the same reasons, Lower Normandy and Brittany are seeing an influx of capital from the United Kingdom.

The quality of the environment is a first-class asset for the Atlantic arc, which benefits from large preserved areas, a rich and varied natural and cultural heritage and well-known quality tourist centres.

### **3.4.2. Prospects**

#### *3.4.2.1. Trend-based scenario*

The wider spread of holidays throughout the year is likely to continue. Although they are staying for shorter periods, tourists are spending more. This short-stay, higher spending type of tourism benefits well-equipped accommodation structures that offer quality services. Moreover, with the Mediterranean and Adriatic losing popularity, new opportunities are emerging in the Atlantic regions.

An analysis of the situation according to the various types of tourism does, however, present a rather mixed picture.

- Upmarket tourism (health, relaxation) based on heavy investment (thalassotherapy, marinas, golf-courses, leisure parks, etc.) is developing in coastal areas (southern Brittany, southwestern France, the Basque Country, the Algarve and Andalusia).

These 'fixing' facilities are accompanied by luxury building developments with quality services which attract the better-off tourists from home and abroad. Improvements to the range and quality of the services on offer mean that the clientele is more evenly distributed throughout the year. However, there is surplus capacity which is concentrated in a few major centres that are overcrowded during the summer.

- Business tourism, so far restricted to the Atlantic cities, could expand quickly, especially as the cities have a distinct shortage of facilities.

The speed of growth in business tourism will depend on the attractiveness and regularity of the international and cultural events that are staged,

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and also on the international functions (top-level tertiary sector, research activities, etc.) of the Atlantic cities.

- Given the small amount of improvement so far made in terms of tourism products and the rising level of competition from outside Europe, the traditional structures that have largely contributed to the tourist economy until recently are in decline. Traditional hotels which are under-equipped are closing at an ever-faster rate in seaside resorts that are looking for new ways to attract customers; non-approved accommodation, of which there is still a considerable amount, is likely to be increasingly shunned by tourists, especially by those from abroad who are arriving in greater numbers every year.

In the southern tourist areas, prices are being repeatedly lowered to face competition from the Mediterranean regions, but only the most profitable and productive units will be able to cope.

Fears of a more general nature are also put forward.

- Tourism is organized in a fragmented way and suffers from its small-scale nature. There are problems with promotion, marketing, reservation management, and poor knowledge of foreign languages – which become major handicaps when dealing with foreign clients.
- ‘Discovery’ tour packages (beauty spots, historic monuments, leisure parks, nature reserves, ecomuseums) seem to be able to attract a growing number of tourists, mainly from Europe and with an increasing number of senior citizens. However, unless there is a marked improvement in activities that are unaffected by the weather and a wider range of tourism products is made available, Atlantic tourism will remain seasonal, concentrated both in time (summer) and space (the coast). Many tourist structures will no longer be profitable enough.
- The development of worldwide, tour-operator-

controlled tourism brings with it the risk of promoters (often from outside) gaining a stranglehold on the coast. This will entail conflicts over the use of space – space that can be used for a variety of purposes and which is therefore highly prized – and will also raise the question of the expatriation of the income produced by tourism.

- In trying to be as near to the sea as possible, tourist developments do not always fit in well with their environment. The risk of artificialization and the deterioration of the coastal environment is therefore greater. Only properly developed sites have sewage systems of an acceptable standard.

The deterioration of particularly sensitive coastal environments will continue due to insufficient protection and persistent aggression.

#### *3.4.2.2. Intervention-based scenario*

This scenario is based on the development of tourism that harnesses local potential with authentic, high-quality tourism products in an environmentally friendly framework.

- The demand for action holidays in a quality environment is continuing to grow. People from the neighbouring regions and other regions of Europe come for short but frequent stays and spend more.
- Tourists are directed towards areas other than the traditional coastal resorts and towards other centres of interest (cultural, industrial, agricultural, historical, etc.).
- The coastal resorts with their rich pasts have modernized by improving their environment and diversifying their activities (wider range of water sports, golf, thalassotherapy, cultural tourism, etc.).
- The coast is protected by strict land-use regulations and the installation of sewage networks.

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However, natural sites with amenities are open to the general public.

- Traditional accommodation structures have been replaced by establishments offering a wide range of services of improved quality.
- Coastal tourism is increasingly balanced by inland tourism. This has been achieved by developing the wealth and variety of the natural and architectural heritage, with a boom in water activities, rambling, trekking, river tourism, etc.

In the southern areas where mass tourism predominates, the pressure of the high-summer season is generally being relieved by the wider spread of holidays throughout the year and the growing number of senior tourists, extending the season at both ends.

With better promotion and marketing of tourist products, country resorts are becoming more attractive and the boom in rural tourism continues (Ireland, Wales, the west of France, Galicia and Cantabria).

The tourist industry involves local people who design thematic tours to enable visitors to get to know various aspects of the region (landscape, architecture, craft industries, culture, cuisine). The quality of accommodation in country areas has improved. Farm holidays are now a full-time activity for farmers who are restoring the rural habitat and organizing themselves to provide training and better product marketing.

Small, independently-owned tourist structures, especially hotels, are now having an increasingly difficult time. This has led to the creation of operational structures for the promotion and management of new products, such as semi-public companies, which will help curb the expatriation of revenues from tourism.

To break their isolation, scattered accommodation units or tourist activities have become stopover sites on sightseeing or cultural tours, thus offering

products with higher added-value. Giving tourist activities a greater quality dimension is an important objective.

There is a need to promote the extension of tourism to the hinterlands and to develop it in areas where the coastal aspect is not predominant so as to bring new resources to rural districts and encourage the deconcentration of mass tourism.

In line with this is the objective of reducing the impact of new development on coastal areas. This type of tourism, which is better integrated into the local and regional economy, aims to take advantage of the better quality of the environment in the Atlantic regions without artificializing and spoiling it.

Mass tourism continues to develop in the southern Atlantic regions which are increasingly attractive to European tourists, particularly elderly people, thanks to a diversified range of products that have retained a high level of quality.

Environmental preservation has become a major priority. With a more environmentally-friendly approach to tourism, the Atlantic regions are looked at more from the point of view of 'ecoculture'.

## **3.5. Industrial structures and areas of innovation**

### **3.5.1. Analysis**

#### *3.5.1.1. Industrial structures*

The industrial activities of the Atlantic regions are just as diversified as in the other major zones of the European Community, but there are a few activities that predominate.

- Activities based on metals and minerals represent over 20% of industrial employment in Scotland, Wales, south-west England, Lower Normandy and the Basque Country.

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- Food processing. The processing industry is very varied (dairy products, cooked meats, salted meats, vegetable and fish canning, etc.) and is one of the typical activities of the Atlantic regions, particularly in terms of the value of production. It also has an important knock-on effect. The production units are heterogeneous with traditional family businesses alongside powerful groups, often foreign-based, for whom food processing is only part of their business.
  - Textiles and clothing. In the United Kingdom, the textiles industry is mainly concentrated in the Midlands, but south-west England, Scotland and Northern Ireland are still able to hold their own, to some extent, against chemical fibres. The textiles industry is no longer a dominant sector in the west of France, except in a few areas such as the Loire Region and the Charentes. In the Spanish Atlantic regions there is a series of small textile and leather production units, even though the eastern regions of Spain are more active in this sector which is going through a period of change. In Portugal, textiles still seem to be the leading branch of industry (Oporto, Braga and Castelo Branco) and still account for over 35% of industrial employment in northern Portugal and over 22% in the central region.
  - The timber and furniture industries. This sector is not very well developed in the United Kingdom but is an important business in the west of France and Portugal.
  - Manufacture of transport equipment. This is a diversified sector, with shipbuilding well represented in south-west England, southern Brittany, the lower Loire area, Galicia and Asturias; there is automotive construction in the west of France and Portugal, railway construction in Asturias and the Basque Country, and aeronautical construction in Wales, Aquitaine and the Loire Region. This sector makes up over 15% of total employment in Aquitaine, Cantabria and Asturias.

These regional specializations are limited and are more 'by market niche' than 'by pole of attraction', in the sense that they correspond to the presence of activities which are isolated because there are no dominant centres and no complementarity with connected activities.

Furthermore, the Atlantic regions typically have industrial activities that are in decline. This corresponds to a relatively low capital intensity and a low technological content.

Regarding business demography, there are widespread changes in the productive capacity towards small and medium-sized enterprises. The movement is noticeably faster in southern and coastal areas.

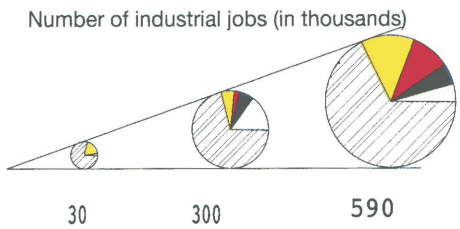
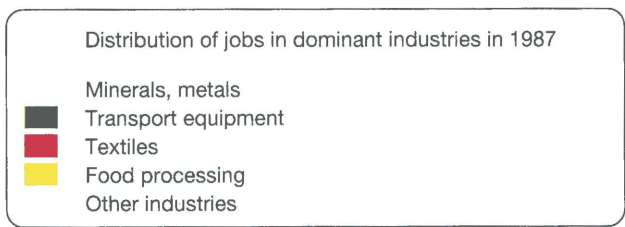
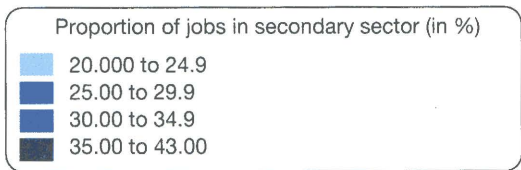
The predominance of traditional industrial activities, particularly in the slow-growth, primary sector processing industries where concentration is expected to occur, does not encourage the emergence of a strong demand for research and high technology, since the businesses are mostly small and medium-sized, not very outward-looking and not really prepared to collaborate with each another.

The relative specialization of the Atlantic arc in labour-intensive industries, and the relatively large number of businesses involved, has not encouraged the substitution of capital for labour, which means that structural deficiencies have a braking effect on the technological modernization of the productive capacity.

The absence of a powerful and innovative industrial base removes local and regional research still further away from the industrial world and increases the dependence of many regional economies on State policies or major multinationals.

The excessive dependence of some regions on State-controlled activities such as military or paramilitary aeronautical construction makes them par

# Regional distribution of employment in dominant industries



(c) C.E.D.R.E.Strasbourg

Source: ENSAR, Rennes.



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ticularly fragile (south-west England, Aquitaine and the Basque Country). Diversification or substitution of activities is the only way to stabilize local economies.

High-tech or very specialized businesses (electronics, information technology) do not have much contact with local universities and look more to the outside, through European or even international networks. This is confirmed by the spin-off effect and low level of integration of some companies, who do not hesitate to relocate production to the Pacific. It is therefore insufficient simply to create high-tech businesses in order to say that the situation is changing; these businesses need markets.

When a high-tech industrial framework emerges, the companies are either totally dependent on a national or international structure (Ireland, Scotland, Brittany and Portugal), or they become self-sufficient with their own market, or else they relocate because there is no local market and transport and communication costs are high. It is difficult for this kind of very narrow market to develop in areas which have little industrial diversification.

The idea of creating poles of excellence, based on sea production or food processing is worthy of consideration, despite the narrowness of the local market. There is a considerable gap between a state-of-the-art microenvironment of this kind and the local economic environment. The stake here is to develop a 'middle-tech' industrial framework which would be a client-user of the advanced technology. But this type of industrial requirement is scarce, except in the canning sector.

This shows that the problem lies not only in the fact that industry in these areas is traditional in type, but also in the low level of development in the capitalistic sense, particularly in southern third from Galicia round to Andalusia, and in inadequate positioning on the world market. One solution would be to encourage modernization in the

less developed traditional sectors by increasing the volume of equipment per manpower unit, but this would involve greater efforts in training and industrial diversification.

### 3.5.1.2. *Areas of innovation*

In solving structural problems, ensuring modernization and, above all, spreading the use of new technology, an essential role is played not only by research centres but also by science and technology parks and transfer structures. Most of the Atlantic regions have a university and research base, but few centres reach the critical threshold in terms of scale and diversity, apart from Edinburgh, which is oriented more towards the North Sea than towards the Atlantic. The major centres of research with representation from a wide variety of areas include Glasgow, Edinburgh (Heriott Watt), Bristol-Bath, Rennes, Nantes and Bordeaux. Other centres, such as Dublin, Bilbao, Oporto, Lisbon and Seville, have a smaller range but a good deal of potential.

Current changes and the efforts that are being made in Spain and Portugal towards research and development will no doubt eventually correct the present imbalance, in which much of the research potential (between one half and three quarters) is concentrated in the French and British Atlantic regions.

There are marked differences in the dynamics of innovation from region to region. The best developed zones of the Atlantic arc have already made the change-over to the post-industrial economy, mostly in the growth area of advanced 'grey matter' services (south-west England), whilst others are still in the pre-industrial era. In between are regions which are battling with the consequences of heavy specialization in industrial sectors that are now in relative decline, as in Scotland, the Basque Country, the Loire Region, Galicia, Asturias and Wales, or regions that are trying to go

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straight from a predominantly agri-food economy to one that is strong on technological innovation, as in Ireland, Brittany, Aquitaine and Poitou-Charentes.

The less developed countries and regions in the study area are tending to become more and more dependent on basic research centres outside their areas, because they do not, or do not as yet, have the means to help their own poles of basic research reach the critical threshold required to produce new technology. An essential part of modernization is the dissemination of technology. Therefore, if one of the links in the chain from research to production is missing, the spread of technology is slowed down. This is the important role played by poles of technology and transfer structures, which are, for the most part, still concentrated in the northern regions.

The main science and technology centres are situated in Scotland (Silicon Glen in particular), Ireland (Limerick), France (Rennes-Atalante, Atlant-pôle in Nantes and Bordeaux-Technopolis), the Basque Country (Zamudio) and Andalusia (Cartuja 92 in Seville).

Technology transfer structures are also more numerous in the northern regions, represented by the CRITTs in France (about 30 in the west) and EOLAS in Ireland. These structures meet the technological needs of over 6 000 businesses and have proved to be a good tool in assisting with adaptation.

There are three major imperatives for the Atlantic regions, confronted as they are with the changes in the technicoeconomic paradigm:

- to increase unit sizes (scale economy effects) either by internal growth or by bringing units together, the latter being the better option. Above all, this involves the basic activities of the Atlantic regional economies, where businesses are on average still not large enough

(food processing, metals, textiles, mechanical engineering, electrical and electronic equipment, etc.);

- to spread technological innovation in order to put firms into a new technicoeconomic paradigm;
- to develop a range of high-level tertiary activities at various points on the Atlantic arc so as to be able to provide the same services as the more central regions of Europe.

### 3.5.2. Prospects

#### 3.5.2.1. *Trend-based scenario*

Industrial activities are, in general, very much exposed to the major challenges of the present.

#### **Challenges arising from changes in technology**

The new application of science and technology to both products and processes will modify the

capital-to-labour ratio and make productive systems increasingly 'intelligent'. The sectors most affected will be food processing, information technology, aeronautics and shipbuilding.

These changes are already under way and will make it necessary to raise the level of qualification so that the labour force can adapt to greater complexity, more flexibility and increased specialization in production units.

In order to benefit from scale and training economies, it will be in the interest of every company to focus on its main business while joining powerful networks of interdependent businesses in which the production units develop all sorts of complementarities through partnership and joint contracting.

### Regional distribution of specialist centres

Centres	Medicine, life sciences		Agronomics, marine sciences		Biology, physics, chemistry, materials		Electrical and electronic engineering		Engineering sciences						
		%	%		%	%		%	%		%	%			
Scotland	6	18.7	46.1	8	16.6	26.8	6	13.0	36.7	8	23.5	49.9	8	38.0	56.9
Wales	7	21.8		3	6.2		5	10.8		5	14.7		2	9.5	
Northern Ireland	1	2.8		1	2.0		2	4.3		1	2.9		1	4.7	
South-west England	1	2.8		1	2.0		4	8.6		3	8.8		1	4.7	
Ireland	1	3.1		4	8.3		3	6.5		2	5.8		3	14.2	
West of France <sup>1</sup>	4	12.5	15.6	11	22.9	33.3	8	17.3	28.1	6	17.6	23.4	3	14.2	23.7
South-west France <sup>2</sup>	1	3.1		5	10.4		5	10.8		2	5.8		2	9.5	
North-west Spain <sup>3</sup>	3	9.3	21.8	8	16.6	24.9	4	8.6	19.4	3	8.8	11.7	1	9.5	9.5
Southern Spain <sup>4</sup>	4	12.5		4	8.3		5	10.8		1	2.9		0	0.0	
Portugal	3	9.3		3	6.2		4	8.6		3	8.8		2	9.5	
Total	32	100		48	100		46	100		34	100		21	100	

<sup>1</sup> Lower Normandy, Brittany and the Loire Region.

<sup>2</sup> Poitou-Charentes and Aquitaine.

<sup>3</sup> The Basque Country, Galicia and Cantabria.

<sup>4</sup> Andalusia and the Canaries.

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The labour-intensive areas are likely to lose their attraction if they have a large, unskilled labour force (Ireland, Portugal and even western France) when companies, particularly foreign ones, design their location strategies. There is also a growing need for readily adaptable production sites with a maximum of transversal, readily available functions, with universities, research centres, technology transfer structures and a range of services close by. It is vital that these research, technology and service structures be integrated in vast networks, which is possible with the proper complementary telecommunications infrastructures (teleports; etc.).

### **Challenges arising from the globalization of the markets and the increase in international competition**

Very exposed sectors are those with either a large technological content, such as electronics, in which progress is constantly being made, or sectors that produce standardized goods (electrical equipment, textiles, household appliances). They will survive because they are competitive in providing good value for money. The threat from the newly industrialized countries and Eastern Europe will continue to grow.

The sectors less exposed to this type of challenge are either those producing sophisticated goods for which few firms have the required technology, or those producing specific goods (craftsman-made products).

### **Challenges arising from market developments**

Depending on the implications of the challenges that have been identified and the relative size of each sector, regions can be classified into several categories.

Taking a trend-based view, some regions such as

south west England are going to find it easy to adapt upwards since they already have experience of new techniques and a fairly wide range of mostly buoyant sectors. Industry is moving away from its predominantly conventional manufacturing base towards one with a marked technological base, in telecommunications, electronics, professional equipment and space technology.

Other regions are going to adapt downwards since their technological weaknesses will be compensated by a greater mobilization of manpower and proper integration into the distribution circuits for mass consumption products. This will involve all the Portuguese regions, except Lisbon, and could eventually lead to increased marginalization and loss of added-value.

The largest group of regions contains those in which adaptation is already under way, i.e. more or less capable of changing their productive system to enable them to enter into the new dominant technicoeconomic paradigm and face increased competition. Thanks to massive foreign investment and high-quality universities and poles of technology, regions such as Wales, Scotland and Ireland are catching up quickly, as are the Basque Country and Aquitaine, but this is due more to their internal dynamics (a strong network of firms of all sizes, directed towards the more buoyant sectors). Slower to catch up are the western regions of France, in which the development and spread of new technologies will not create enough jobs to absorb the workforce made redundant in agriculture and fishing, and by industrial redeployment (electronics, metallurgy, transport equipment manufacture).

The last group is made up of regions such as northern Ireland, Cantabria, Asturias and Galicia. These areas are not in a position to meet successfully the challenges that face them. They are weighed down by the millstone of industries in need of redeployment and are unable to generate new activities quickly because of the lack of ap-

### Impact of the main determining factors in activities according to region

	Exposure to technological challenges				Exposure to international competition			Exposure to product cycle	
	Upward adaptation	Downward adaptation	Poor situation	Adapting	Very high	Average	Low	High	Low
South-west England	X						X		X
Wales	X				X	X			X
Scotland	X								X
Ireland				X	X			X	
Northern Ireland				X	X			X	
Lower Normandy				X		X		X	
Brittany				X	X				X
The Loire Region				X		X		X	
Poitou-Charentes				X		X			X
Aquitaine				X		X		X	
Basque Country				X	X			X	
Cantabria			X			X			X
Asturias			X		X			X	
Galicia			X			X			X
Northern Portugal		X			X				X
Central Portugal		X				X			X
Lisbon				X		X		X	
Alentejo		X				X			X
Algarve		X					X	X	
Western Andalusia		X					X		X

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appropriate structures that would enable them to gain access to new technologies and acquire skills in them.

This trend-based scenario reveals an eventual total job deficit of between 1.9 and 2.4 million jobs (i.e. practically no improvement over the current situation), but also, and more importantly, it reveals the increasing marginalization of the Atlantic regions compared with the European regions as a whole.

In this scenario, we see polarizing forces developing in the western regions towards the continental zones and the major European capitals. These forces will be all the stronger, given the relative weakness of the urban provision in the Atlantic regions, a major handicap in a context marked by the attractive power of the great cities where the products of the future are being developed (training, research and culture).

#### *3.5.2.2. Intervention-based scenario*

The regions are showing themselves determined to adapt to meet these new challenges and to take steps to encourage redeployment. The spread of progress is often slow and limited. Interventionist policies are compensating for the tendency to concentrate activities around a few centres.

#### **Better link-ups between production activities and research and innovation have been encouraged**

There are two possible subscenarios: one in which Europe is not very well integrated and in which new technologies are spread by only a few efficient regional centres, and one in which Europe is much more integrated and in which the spread of innovation, particularly through cooperation, is effected over much wider areas.

In both cases, the existing poles of technology become stronger and heavy infrastructure is im-

proved so as to bring the Iberian peninsula into full contact with the rest of the Community.

Among the regions with a high capacity of innovative production and integration are:

- south west England, which, with its twin poles of Bristol and Bath, is experiencing fast growth because it has a wide range of high-level services;
- Wales, where high-tech growth is rapid and where the six large universities should be able to exert sufficient attractive power to bring in advanced technology companies and generate high-level training and jobs in activities involving biology, marine sciences, engineering, optoelectronics and electronics.

Scotland has a large number of research centres and universities that could have a powerful knock-on effect (11 000 public sector researchers and 6 000 in the private sector), since they are involved in advanced areas (Silicon Glen) and structured by close working relationships between the various actors. Other regions prove to have a large capacity for innovation but a lesser one for integration. This is the case of the Basque Country, which is still proving relatively unattractive to outside capital despite recent developments, but its technological capabilities are strengthened by a well-developed research sector and new high-performance small and medium-sized businesses in the Bilbao area (Zamudio technology park).

In Aquitaine, the industrial base is moving towards higher added-value production, such as chemicals, pharmaceuticals, industries using new materials, electronic equipment and space technology, but also in less buoyant areas in which there are still market niches to exploit, such as food processing. To do so, it is necessary to reinforce the research potential (material sciences, applied mathematics, production system technologies) and transfer structures.

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The west of France, characterized by the heavy dependency of its research units on centres elsewhere and by excessive industrial specialization in conventional consumer goods, is even more a victim of the scattered nature of the research effort. This intervention-based scenario implies an enhancement of scientific and training potential, and a reduction in the number of missing links between research and production so as to increase the added-value of agricultural and fishing product processing industries and to encourage the development of the most innovative types of small and medium-sized businesses (electrical engineering, telecommunications, etc.).

Improved contact between the regions of the west of the Community appears to be a way of creating a competitive base which, rather than creating an isolated subgroup within the Community, would give the peripheral regions better opportunities for integration.

Cooperation between regions is taken as being non-exclusive, varying according to centres of interest and available opportunities, and having different end-purposes. This can involve establishing the complementarities between the profiles of the economic actors and their functions so as to create poles that would offer as wide a range of skills as possible, but which would also bring actors with similar functions together so as to create poles which would reach the critical threshold that would make them effective and give them credibility.

For example, south west England could coordinate efforts in engineering sciences, cooperating with the Loire Region (Nantes), the Basque Country (Bilbao) and Lisbon. This is rather a weak sector overall, but it could help speed up industrial redevelopment (Glasgow, Nantes and Bilbao).

Wales would be a major element in a network dealing with biology and marine sciences, in collaboration with Brittany, the Loire Region, Galicia and Ireland.

The agricultural vocation of many Atlantic regions could lead to vigorous, concerted action in the areas of food-processing technology and agricultural product development, based on an accumulation of skills (the west of France, Ireland, Galicia and Andalusia) and a strong potential in agronomic research.

One ambition of the Atlantic regions is to set up telematics networks (south-west England, Ireland, Scotland, Brittany, Poitou-Charentes, etc.) as a starting-point for collaboration on specific activities (particularly in the maritime sector).

The potential of electrical engineering and electronics is developed by intensifying the links between leading regions such as Scotland (Silicon Glen), Wales, south-west England (Plymouth is a major centre of private research), Ireland and the French Atlantic regions (Brittany: CNETT Lannion) in both research and industrial applications.

A major opportunity is opened up in new materials between the French and British Atlantic regions, which employ 28 and 36.5% of all researchers in their respective areas.

Another potential area for interregional cooperation is the fight against pollution, especially agricultural and marine pollution, and the preservation of fragile natural environments.

Priority would therefore be given to organizing networks in the different areas of interest in which the regions have comparative advantages (applied technology in agricultural and marine production) and in areas in which a certain threshold needs to be reached in order to gain international credibility (materials, electronic engineering, science, telecommunications, etc.).

Portugal and the Cantabrian coast have a smaller capacity for innovation and integration. It is vital that these areas should not be trapped for too long in a downward development strategy and the cri-

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sis affecting the iron and steel industries, shipbuilding, automotive construction (the Cantabrian coast) and textiles (Portugal). Therefore there is a need for encouragement to diversify and modernize the industrial framework through efforts in the direction of investment and training. Also, the research effort needs to be improved, as it is currently limited to innovation transfer strategies. The poles of technology in Portugal need to be strengthened and directed towards areas of research that correspond to economic needs. Oviedo University should focus its research potential in agrobiolgy and chemistry.

Nevertheless, these centres vary in their ability to promote the spread of innovation to their surrounding areas. Most of them are still too small and too involved with their own development. There is less probability of 'dissemination-integration' than of 'segmentation-dissemination', with its dichotomy of new technologies and more traditional sectors.

### **3.6. Communications and telecommunications networks**

#### **3.6.1. Analysis**

##### *3.6.1.1. Level of regional connections to the main transport networks*

An indicator was formulated in order to determine how well the different regions were connected to the main transport networks. It revealed that many Atlantic areas are still very isolated.

Ireland, Northern Ireland and especially the islands of the north of Scotland still have access problems, as do the inland areas of the Iberian peninsula.

The areas that are structured by regional centres are well served and have good connections to fast transport infrastructures. Easily accessible central areas like these are few in number and either form

corridors along rivers and fast transport routes or pockets of regional urban centres.

Distinctions can be drawn between the areas where access is difficult. Isolation results from their geographical configuration (islands, peninsulas), natural obstacles (mountains), poor infrastructure (some coastal areas, rural inland districts) or borders (France-Spain, Spain-Portugal).

The Atlantic ports are not really connected to the huge combined transport network that is being developed in Europe. The railway provides an efficient service from the richer and central regions of Europe to the Atlantic ports, and no large-scale plans for improvement have so far come to light.

The motorway network is not adequate to serve many regional ports either, whether in north-west Spain, the French Atlantic coast (until the 'route des estuaires' is built), some parts of the Portuguese coast and the north-south (i.e. Scotland-Devon) corridor in the United Kingdom.












Therefore multimodal platforms are rare in ports along the Atlantic arc, and there is little joint action between neighbouring regions to improve consistency and efficiency.

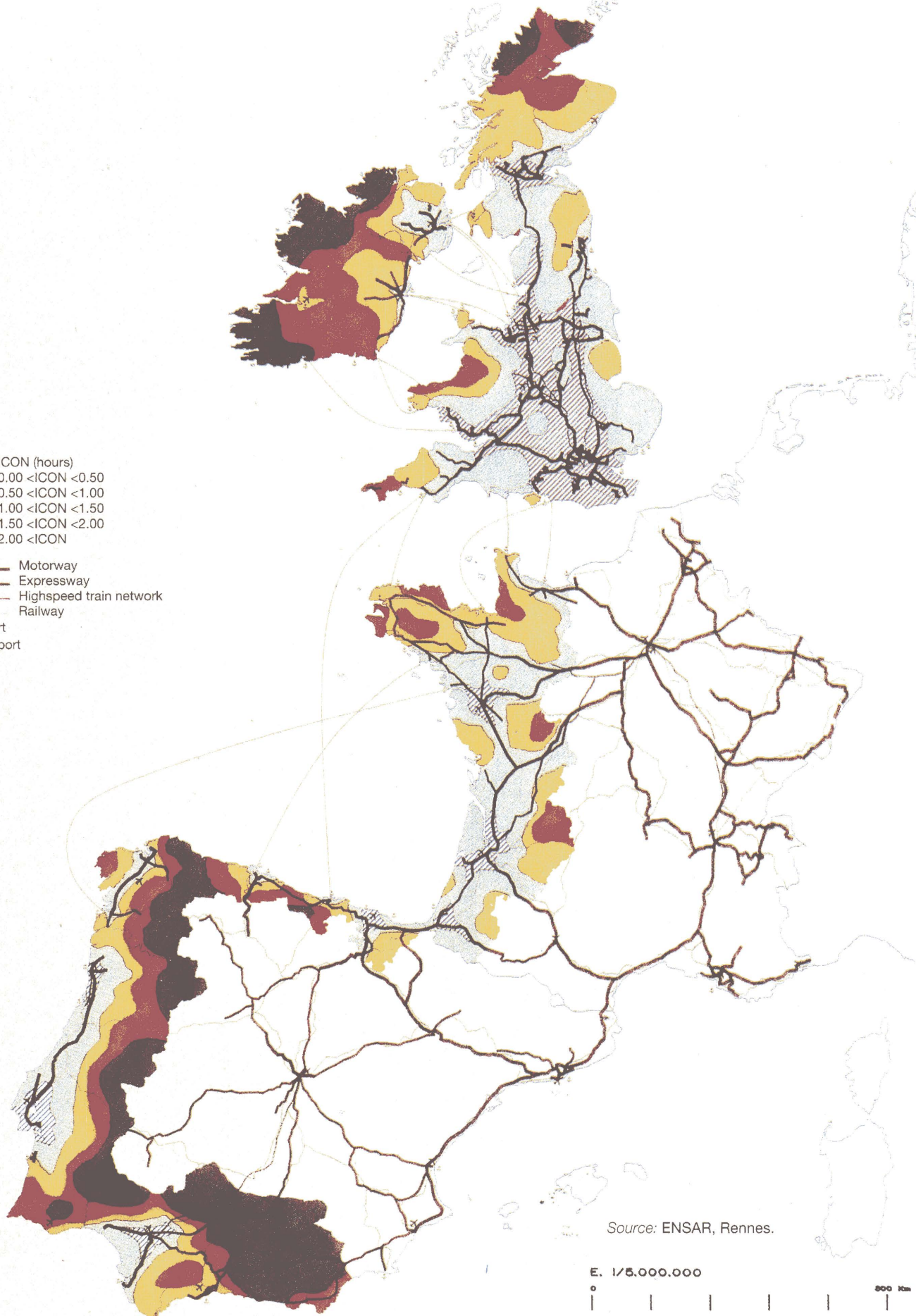
However, a few ports, such as Bilbao, Liverpool and Nantes, are trying to adapt, albeit with limited financial resources.

The northern part of the Atlantic area (United Kingdom) has efficient but underused infrastructures; the central zone (France) has a shortage of container facilities, while the south (Spain and Portugal) is already partly containerized and has traffic that could justify the creation of multimodal platforms. But all along the Atlantic arc there are many transport centres dealing exclusively in road traffic, and these have been developed close to ports without harnessing any of the port's potential (e.g. Bayonne).



**Regional connection to transport infrastructure networks  
(situation planned for 1995)**

- ICON (hours)
-  0.00 < ICON < 0.50
  -  0.50 < ICON < 1.00
  -  1.00 < ICON < 1.50
  -  1.50 < ICON < 2.00
  -  2.00 < ICON
-  Motorway
  -  Expressway
  -  Highspeed train network
  -  Railway
  -  Port
  -  Airport

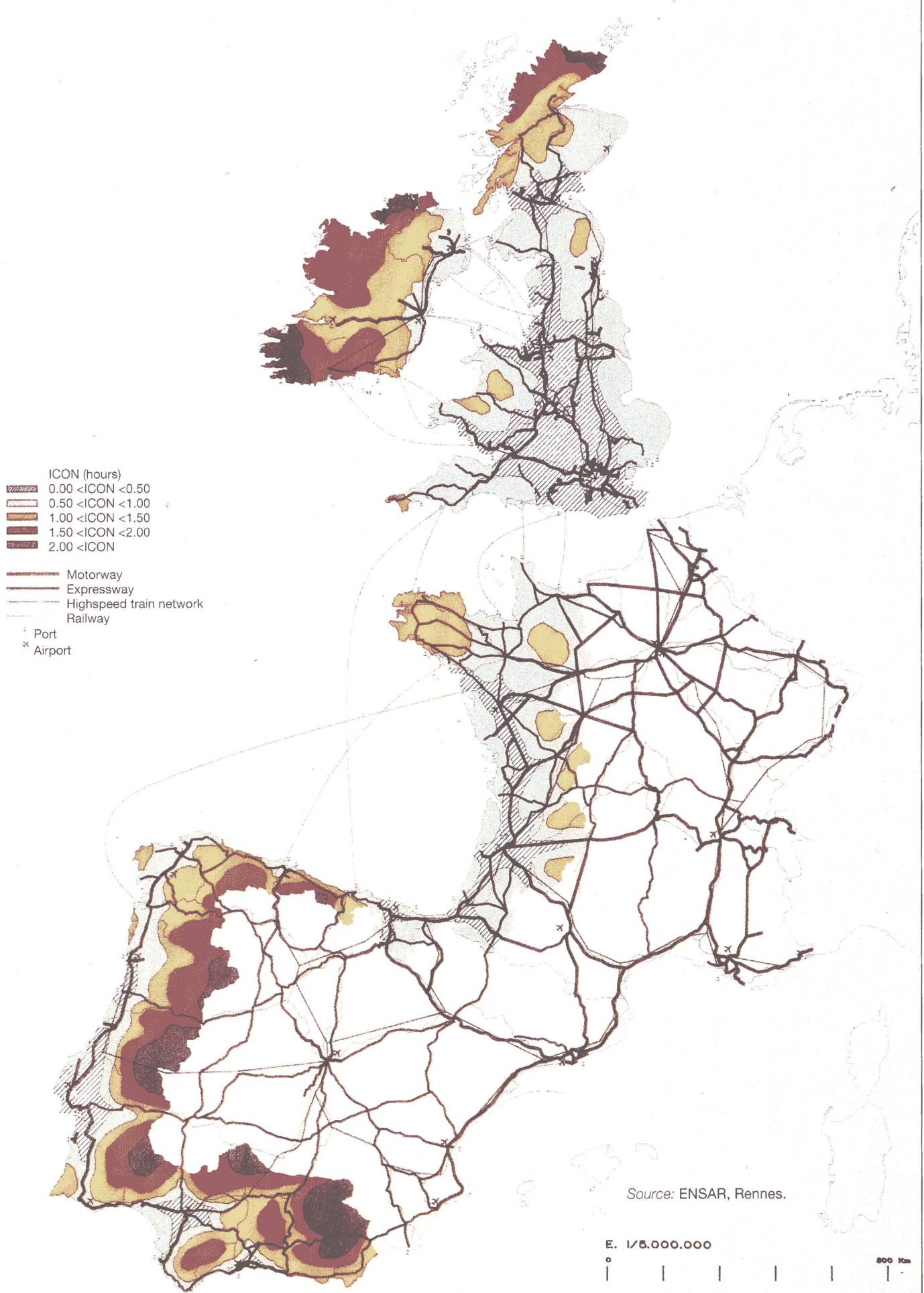


Source: ENSAR, Rennes.

E. 1/5.000.000



**Regional connection to transport infrastructure networks  
(the situation in the year 2010)**



- ICON (hours)
- 0.00 < ICON < 0.50
  - 0.50 < ICON < 1.00
  - 1.00 < ICON < 1.50
  - 1.50 < ICON < 2.00
  - 2.00 < ICON
- Motorway  
Expressway  
Highspeed train network  
Railway
- Port  
Airport

Source: ENSAR, Rennes.

E. 1/5.000.000



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### 3.6.1.2. *The road network: A lack of interregional and transverse links*

Access to the Atlantic regions from their national capitals is mostly provided by the old radial road networks and recent improvements to them. However, the Spanish Atlantic regions and the inland areas of Portugal still have poor connections to their capital cities.

Within the regions, there is a generally low level of isolation. Between regions, however, the situation is much worse. As a result, new links are being built with the 'backbone' of Europe and new north-south routes which will provide the structure to the Atlantic arc.

The new transverse routes will improve connections between the Atlantic regions and neighbouring inland regions, and the central regions of Europe. There are a number of programmes at various stages of completion: the Nantes-Lyons dual carriageway, the Centre Europe Atlantique road, the motorways-linked trans-European highway (Clermont-Ferrand-Périgueux, Bayonne-Bilbao-Santander – with a great deal of uncertainty about the Asturias section) and the Viseu-Vilar Formoso-Salamanca-Valladolid route (a long way behind schedule on the Spanish side).

Besides the east-west connections, north-south routes are also emerging such as:

- the Portsmouth-Glasgow route which will counterbalance the London-Sheffield-Edinburgh corridor. Among other things, this west coast route could help promote existing ferry crossings between south-west England, Brittany and Lower Normandy;
- the route des estuaires, (i.e. the estuary route running along the French coast from Calais to Bayonne) currently under construction, will serve the French Atlantic coast and help improve links between regional capitals and extend port hinterlands. This will provide new

potential for complementarity and cooperation between cities and ports;

- the La Coruña-Faro axis linking the north to the south via Oporto and Lisbon and forming the 'backbone' of Portugal's road system is still incomplete; the Viana do Castelo-Oporto and Santarem-Levia-Setubal-Faro sections still remain to be built.

### 3.6.1.3. *The rail network: A largely centralized system*

The rail infrastructure plays a secondary role in the Atlantic regions and has many shortcomings.

The Spanish and Portuguese networks are outdated and inadequate to today's requirements (the FEVE trains serving the Cantabrian coast are a perfect illustration): commercial speeds are very slow, and the gauge difference necessitates unloading and reloading at the French border. Hence the need for a modern standard gauge rail link for the Irún-Burgos-Valladolid-Vilar-Formoso corridor.

With their radial structure, the French, British and Irish systems do not favour links along the coast. This is why, after the electrification of the Paris-Cherbourg line, a similar treatment is required for the St. Malo-Bordeaux and Tours-Le Mans lines. Services from Paris to the principal towns and cities of the French Atlantic regions have been greatly improved since the TGV Atlantique was launched in 1989–90. But since then, the SNCF has tended to pass onto local authorities the care of unprofitable local services.

In the United Kingdom, the rail service to ports with ferry connections to north-west France is unsatisfactory, with north-south traffic having to transship via London. The west coast London-Glasgow route does, however, have a faster commercial speed than the east coast London-Edinburgh line, which is an advantage for passengers. It is also used for most freight move-

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ments between London and Scotland: this results more from the containerization of freight than the commercial speed factor.

#### 3.6.1.4. *Sea transport: Time for a relaunch*

##### **(a) Characteristics**

Most of the Atlantic ports are small and have little variety of traffic. They are still trying to shake off the memories of a glorious past and are looking for ways of breathing new life into their business.

The largest ports in the Atlantic regions are Milford Haven (32.3 million tonnes), Bilbao (25.2 million tonnes), Algeciras (24.5 million tonnes), Nantes (25 million tonnes), Sines (22.5 million tonnes) and Lisbon (14.3 million tonnes): as can be seen, none of them exceeds traffic of 35 million tonnes. In recent years, the gap between the Atlantic ports and the major north European ports of Hamburg, Rotterdam, Antwerp and even Le Havre, has widened still further. The total traffic of the Atlantic ports only outweighs that of Rotterdam by 80 million tonnes. The Dutch port handled over 290 million tonnes in 1990. In contrast, the total traffic of the five main Atlantic ports listed above amounted to 144 million tonnes.

A relatively small part of the cargo going to and from Europe now passes through the Atlantic ports, which seem to have lost the role as the gateway to and from Europe as they used to be in previous centuries.

##### **(b) Changes in sea traffic and port activities**

During the past few decades, the Atlantic ports have faced strong competition from northern Europe and the Mediterranean, whether because of major economic and political upheavals on a global scale (the effects of decolonization at the end

of the 1970s) or within Europe (economic development differentials).

The ports on the Atlantic arc are above all ports of regional importance for their hinterlands, and have a limited influence even when they display a certain specialization.

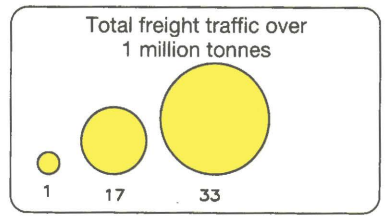
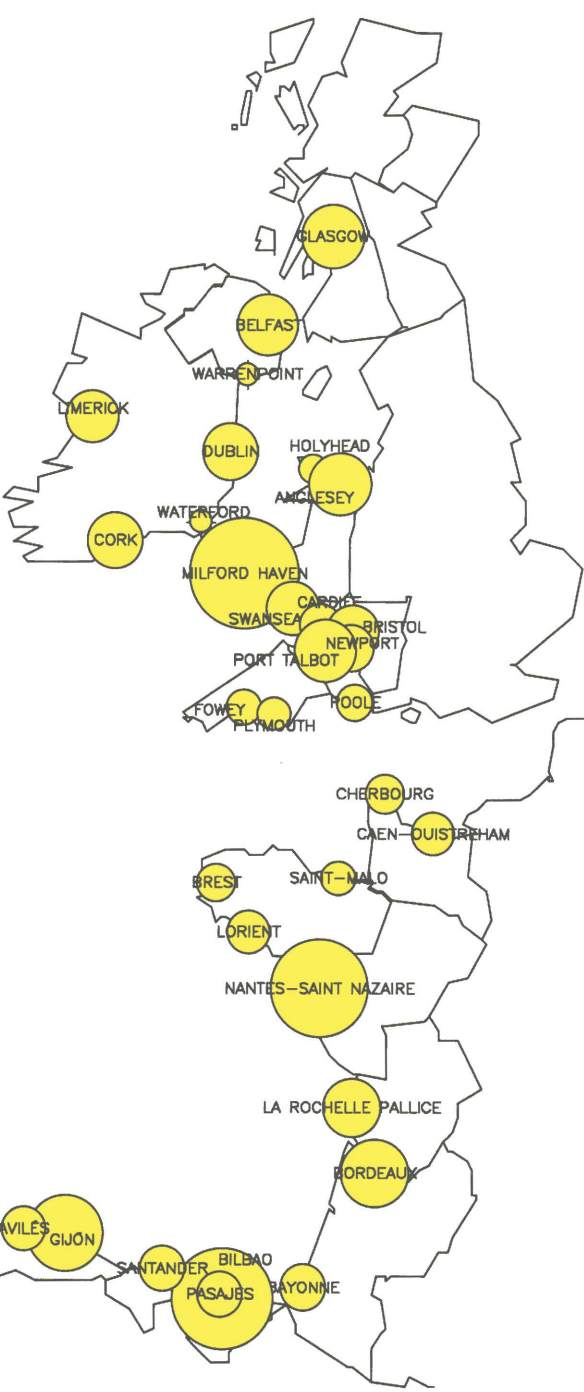
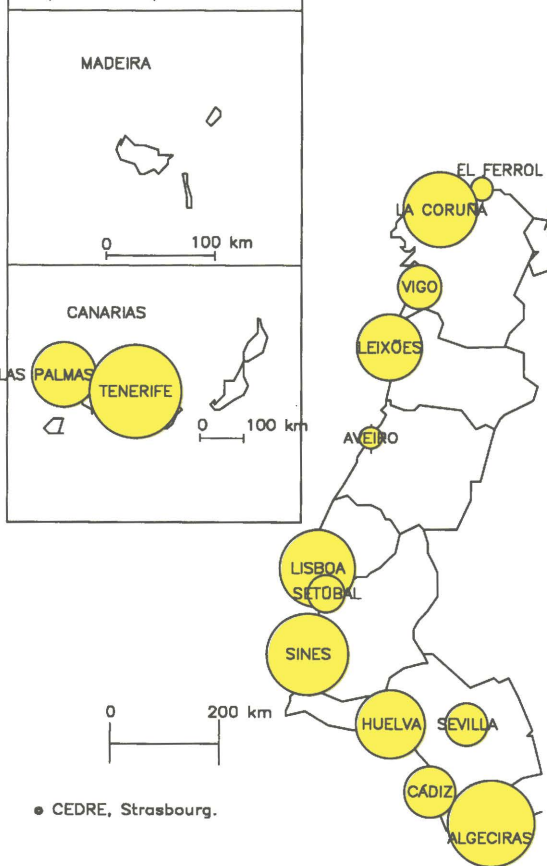
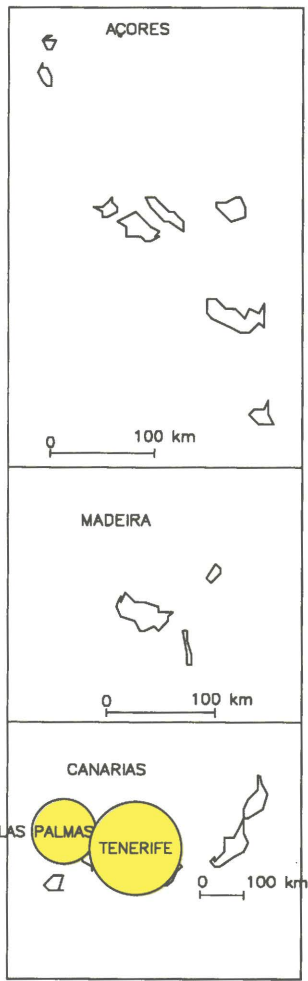
- Containerized traffic of cargo is small, between the Atlantic ports themselves or from elsewhere. Apart from Algeciras (transit port for two big Danish and American shipping lines) there is no large container port on the Atlantic.

Containerization has developed slowly in the Atlantic regions, at a growth rate of 2 to 3% per year over the past 10 years. This is due to the shortage of appropriate port facilities, and is also due to a lack of products suitable for containerization for export from these regions.

The situation is such that value-added goods produced in the Atlantic regions are exported worldwide via the modern ports of northern Europe and the Mediterranean. The best example of this is Bordeaux wine destined for the North American continent, via Antwerp and Rotterdam after crossing France and the Benelux countries by road.

- There is still too little container feeder traffic between Atlantic ports to rival road haulage and significantly increase the tonnage of loaded and unloaded containers on the Atlantic arc. However, it is worth noting that a Nantes-Warrenpoint-Ellesmere Port route has recently been opened.
- Liquid bulk traffic in the Atlantic regions is stagnating, despite the steady increase in the traffic of crude oil ports such as Milford Haven, with almost 33 million tonnes, which is considered as the leading Atlantic port in terms of tonnage.
- While dry bulk traffic is an important feature for north-west Spain (imports of minerals and exports of iron and steel products), it is less so in France, the United Kingdom and Ireland. Due to the heavy industry crisis in northern

# Principal Atlantic ports



Source Institute of Shipping Economics and Logistics of Bremen  
Journal de la marine marchande

0 200 km  
● CEDRE, Strasbourg.

**Results of regional commercial ports in the Atlantic arc – 1990 figures**

Regions	Ports	1990 (tonnes)
Shetland	Lerwick	641 000
	Sullum Voe	36 000 000
	Scalloway	19 203
Orkney Islands	Kirkwall	10 000
	Flotta	8 600 000
Strathclyde	Clyde ports (including Glasgow)	8 665 000
	Ayr	818 000
	Girvan	6 866 000
	Troon	189 000
Dumfries and Galloway	Stranraer	1 535 000
	Kirkcudbright	800
Northern Ireland	Warrenpoint	1 003 000
	Bangor	21 344
	Belfast	6 943 000
	Corelaine	136 000
	Strangford	3 000
	Larne	3 734 000
	Carrickfergus	768 000
Ireland	Dundalk	255 567
	Drogheda	873 284
	Dublin	5 750 000
	Dun Laoghaire	281 000
	Wicklow	177 000
	Arklow	217 000
	Rosslare	595 000
	New Ross	1 000 000
	Waterford	1 084 000
	Greenore	374 000
	Cork	5 400 000
	Kinsale	217 706
	Bantry	595 000
	Limerick	4 659 000
Foynes	856 000	
Galway	384 099	
Wales	Llandules	497 773
	Caernarfon	102 945
	Anglesey Marine	7 723 000
	Holyhead	1 253 000
	Fishguard	383 000
	Milford Haven	32 669 000
	Mastyn	235 000
	Swansea	5 078 000
	Port Talbot	7 616 000
	Barry	857 000
	Castell Nedd	775 000
	Cardiff	2 615 000
Newport	3 303 000	
Avon	Bristol	4 925 000

Regions	Ports	1990 (tonnes)
Somerset	Watchet	484 000
Devon	Plymouth	1 524 000
Dorset	Poole	1 891 000
Cornwall	Par	613 000
	Fowey	1 702 000
	Charlestown	56 019
	Falmouth	325 000
Lower Normandy	Caen Ouistreham	2 672 280
	Cherbourg	2 232 045
	Granville	151 002
Brittany	St Malo	1 692 406
	Le Guildo	7 082
	Le Legue	338 247
	Paimpol	12 315
	Pontrieux	102 191
	Treguier	120 872
	Lannion	31 025
	Moriaix	58 851
	Roscoff Blosson	478 380
	Brest	2 010 783
	Landerneau	23 290
	Le Fret (Crozon)	3 000
	Camaret-sur-Mer	250
	Douarnenez	77 118
	Loctudy	4 818
	Pont l'Abbé	9 948
	Quimper Corniguel	185 353
Concarneau	97 808	
Lorient	2 746 987	
Vannes	37 159	
Loire Region	Redon	100 000
	Nantes St Nazaire	24 000 000
	Port Joinville	36 690
	Les Sables d'Olonne	501 188
Poitou-Charentes	La Rochelle Pallice	6 387 873
	Rochefort	374 243
	Tonnay Charentes	580 073
	Royan	75 454
Aquitaine	Mortagne-sur-Gironde	13 010
	Libourne	68 826
	Bordeaux	9 446 774
	Bayonne	3 320 010
Basque Country	Pasajes	3 365 971
	Bermeo	55 433
	Bilbao	26 646 149
Cantabria	Santander	3 348 611
Asturias	Aviles	2 985 553
	Gijón	12 717 359

Regions	Ports	1990 (tonnes)
Galicia	Ferrol	1 040 139
	la Coruña	12 361 000
Northern Portugal	Vigo	2 879 423
	Leixões	8 796 577
	Oporto	290 000
Central of Portugal	Aveiro	1 168 935
	Figueira de Foz	626 097
Lisbon and the Tagus Valley	Lisbon	13 444 926
	Setebal	2 055 920
Alentejo	Sines	15 639 877
Algarve	Portimão	144 940
	Faro	306 052
Andalusia	Huelva	10 105 191
	Cádiz	4 497 138
	Seville	2 727 564
Azores	Ponta Delgada	712 899
	Horta	145 000
	Angra do Heroísmo	334 462
	Vila do Porto	290 065
	Santa Cruz	13 721
Madeira	Funchal	768 791
	Porto Santo	25 778
Canary Islands	Las Palmas	8 351 367
	Santa Cruz de Tenerife	21 450 675

Spain, the port authorities are now questioning the future of such traffic. Their own future indeed closely interacts with the economic vitality of these regions

- Coal, which in the past used to generate a great amount of movement between the Atlantic regions and beyond, now only provides a small amount of traffic, even though it is still to be found in many ports in the area.
- Exports and imports of lumber stock and sawn timber represent a market with a slow growth rate, but several Atlantic ports have specialized in it to some extent, particularly Nantes, La Rochelle and Lisbon. This traffic can be partly explained by the presence of an important furniture industry in the Atlantic regions. However, the ports' catchment area is at most contained within a 300 to 400 km radius.
- Chemicals are not particularly important for

Atlantic ports, as the chemicals industry is not well developed in the hinterlands.

- In contrast, ro-ro (roll on/roll off) traffic, i.e. ferries, has increased considerably between several Atlantic regions (Brittany, Ireland, Devon, Cantabria and Lower Normandy) mostly on the initiative of one of the regular operators in the area, Brittany Ferries.

In conclusion, as Category II traffic in most of the Atlantic ports serves the immediate hinterland, investments to improve connections to the central regions of Europe cannot be justified on these grounds. There is indeed a risk that the Atlantic arc's natural identity might fade away.

The decline in the maritime role of the Atlantic coast may be illustrated by the region's fleets and ships. The main companies in the area are now the



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new ro-ro operators like Brittany Ferries (Brittany) and Vaporesz Suardiaz (Galicia and Asturias). The great shipping lines that once brought prosperity to this long sea coast no longer have pride of place.

The great Atlantic shipping operators have already gone elsewhere or have gone out of business. The Atlantic regions no longer have a network of conventional operators.

#### *3.6.1.5. Air transport: A large number of small airports with few interregional routes*

Air transport, which has been expanding in recent years, is vital for the Atlantic regions because of their peripheral position. The Atlantic arc has a large number of airports (218 have been identified) but their range of destinations and frequency of flights are uneven.

Based on the number of regular flights, the main airports are Lisbon, Bordeaux, Dublin, Oporto, Glasgow, Santiago and Shannon.

These airports are characterized by:

- a wide range of destinations to the main urban centres of the central European area;
- a large number of transatlantic flights, maintaining important historical links: Ireland/USA, Portugal/Brazil, Galicia/the Americas, Bordeaux/west Africa. Lisbon is the only airport with flights to both Africa and America. Shannon, Glasgow and Dublin have a large number of connections to America. However, no Atlantic airport has any flights to Asia.

The poor connections between the main Atlantic airports are a result of the limited level of trade between the peripheral regions, but also result from an insufficient supply to stimulate a real demand. Lisbon has regular flights to Dublin, Bordeaux and Santiago, but none with the British Atlantic regions. Only Oporto airport has an Atlantic interregional route (regular flights to Bordeaux twice a week).

The main regional airports with European connections only are Faro, Seville, Nantes, Bilbao, Aberdeen and Edinburgh. These airports are relatively well connected to the major European cities, but very poorly connected to the Atlantic ones. For example, there are no regular flights from Faro to any other Atlantic city except Lisbon, and yet it has regular services to Copenhagen, Orly, Brussels, Gatwick, Zurich and Birmingham. However, these airports do tend to have good connections to other Atlantic cities in their own countries.

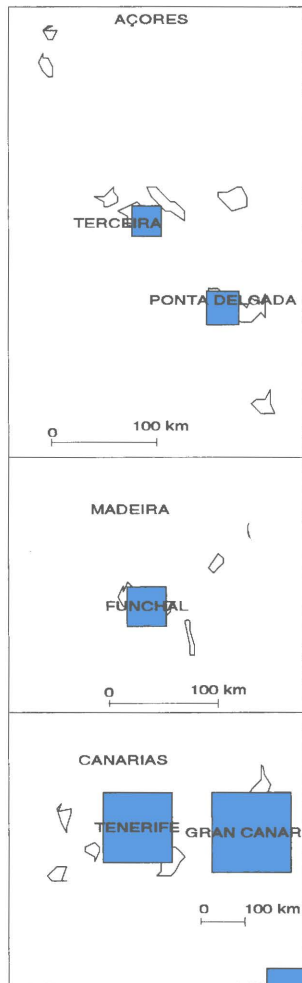
Routes from other significant regional airports, such as Cork, Bristol, Bournemouth, Cardiff, Biarritz, Jerez de la Frontera and Gijón, are limited to a few European capitals: Paris, Brussels, London, Amsterdam and Dublin, depending on the airport.

Apart from Cork, which has regular flights to Brest, Rennes and Nantes, these airports have few regular connections with other Atlantic airports, except with neighbouring cities. Therefore, this reveals that the Atlantic airports, which are numerous but mostly small, provide regular short haul services but few interregional and long haul routes.

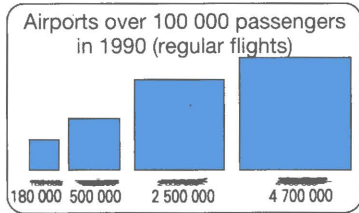
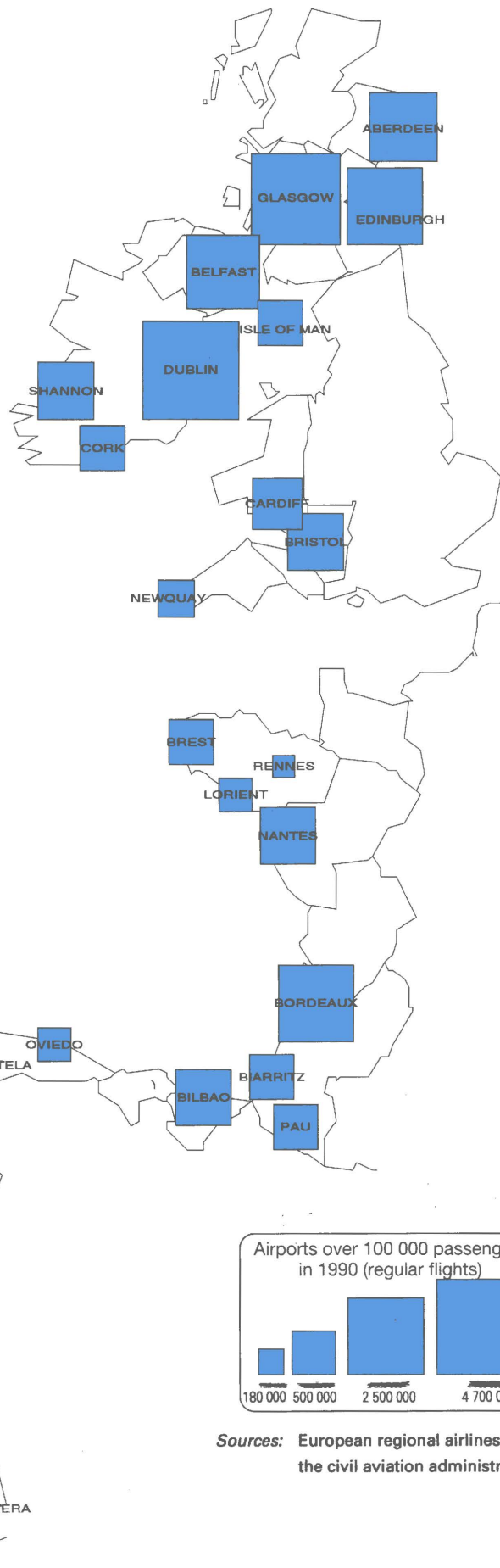
Some regions with few airports and a restricted range of flights are particularly disadvantaged: the Highlands, Cantabria, central Portugal and Alentejo.

For the Atlantic regions, the main challenge is to find regional airlines that could provide direct flights to major European airports and other Atlantic cities to bring the Atlantic regions closer together without having to connect at increasingly saturated national hub airports. This is all the more crucial since air deregulation, following recent EC directives, should ease the development of interregional links to complement national and international flights. However, the development of regional airlines will have to deal with many problems arising from competition with the major airlines.

# Principal Atlantic airports



© CEDRE, Strasbourg.



Sources: European regional airlines and the civil aviation administration

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### 3.6.1.6. Telecommunications networks

#### (a) A fragmented picture

The traditional media (press and radio) which are a way of expressing local identity present a segmented picture. In the Atlantic regions, there are 108 different entities (newspaper groups or independents) that publish regionally or nationally. Historically, the sphere of influence of each press entity corresponds with that of the main town of its area. The development strategies of regional press groups compared with those of national groups also confirm this.

The low level of Atlantic transnational and cross-border cooperation also reveals that these different areas are not integrated. The only agreements in existence are those between newspapers in the Basque Country and Aquitaine. The television landscape is also very varied (85 television channels) especially in the United Kingdom and France, but hardly at all in Portugal. The deficit of southern Atlantic regions is obvious.

The development of television networks is linked to the extension of cable networks which give rise to private national thematic or local channels, hence the need for the Atlantic regions to promote the spread of cable.

#### (b) Ways of integrating new communication technologies

The breakdown and broadcast of the traditional media give the Atlantic regions a fragmented aspect. But integration will be made easier by the new communications technologies which eliminate the constraints of time and distance.

Teletext systems exist in all the Atlantic countries, but with varying degrees of development and different, incompatible technical standards. Transnational information exchanges by teletext are minimal compared with domestic exchanges in every country

There is considerable potential for development in this area, provided that:

- efficient access facilities (the French Teletel system accessed through the international Minitelnet telephone network,) and the communications networks or the Infonet network, and superstructures are available.
- networks such as Numeris (a service-integrated digital network) are developed.

Satellite coverage of Atlantic Europe is not consistent. It is provided by the fringe areas of coverage zones centred on northern and central Europe.

National policies are the most common, but Ireland and Portugal are still on the sidelines. There are only a few satellite programmes common to all the Atlantic regions of Europe.

Land-based television networks in Atlantic Europe also provide uneven coverage and are markedly less dense than in the central European area. The peripheral regions have poor provision or none at all. Gaps in the network at the French-Spanish and Spanish-Portuguese borders mean that signals have to be sent by longer routes or cannot be sent at all.

To stimulate the economic development of the new communications technologies, the regions must become coordinators for different networks, depending on their economic specificity. Training efforts are also necessary in order to guarantee job opportunities.

### 3.6.2. Prospects

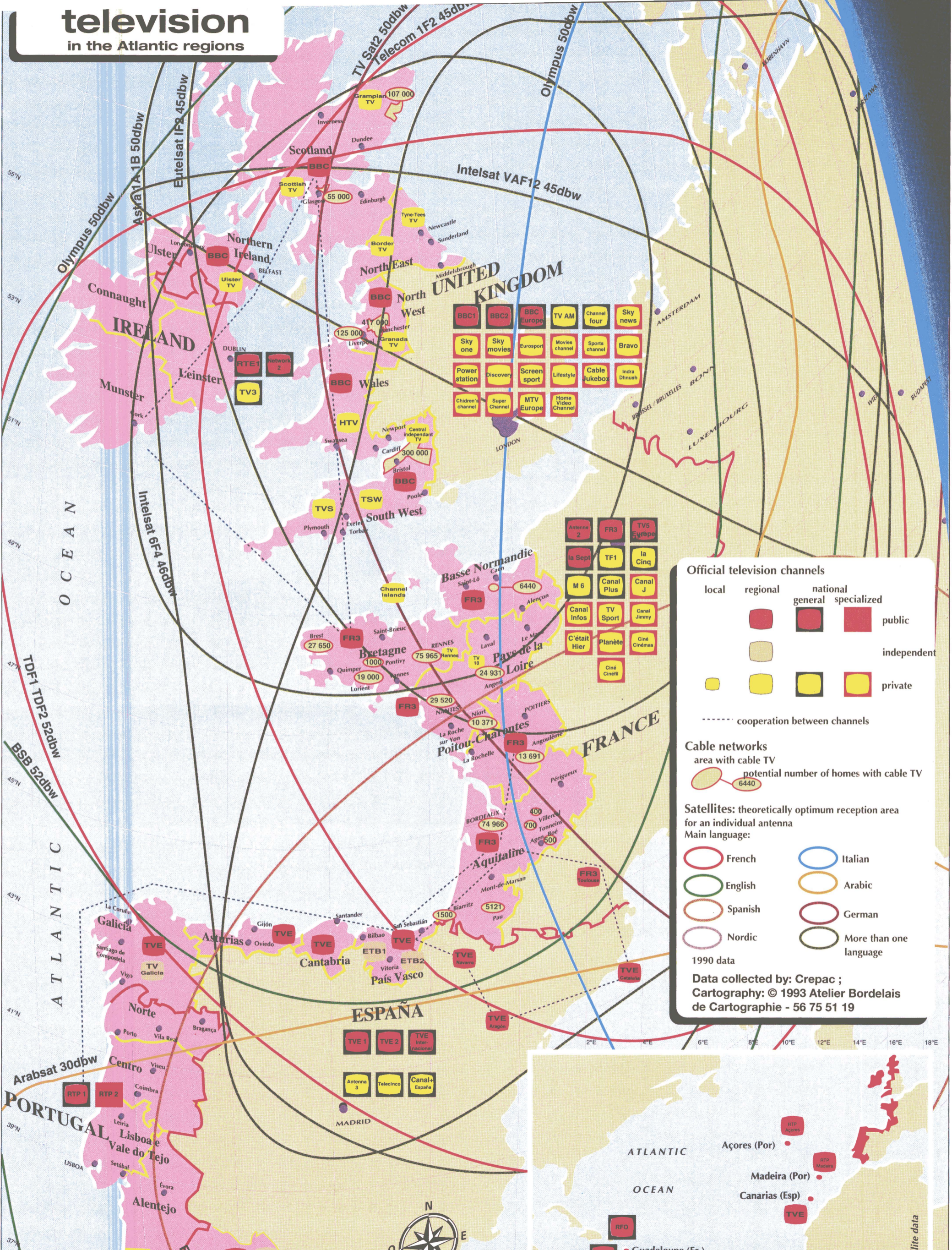
#### 3.6.2.1. Trend-based scenario

The road infrastructure projects which are under way or scheduled will bring some improvements.

The isolation of Cornwall will be reduced thanks to improved road links to London and connections to its ports.

# television

in the Atlantic regions



**Official television channels**

local	regional	national general	national specialized	
				public
				independent
				private

----- cooperation between channels

**Cable networks**

area with cable TV

potential number of homes with cable TV

6440

**Satellites: theoretically optimum reception area for an individual antenna**

Main language:

	French		Italian
	English		Arabic
	Spanish		German
	Nordic		More than one language

1990 data  
 Data collected by: Crepac ;  
 Cartography: © 1993 Atelier Bordelais de Cartographie - 56 75 51 19





# RADIO NETWORKS

- Beams between relaying stations (Eurovision)
- National contribution circuit (Eurovision)
- Beams between relaying stations (non-Eurovision)

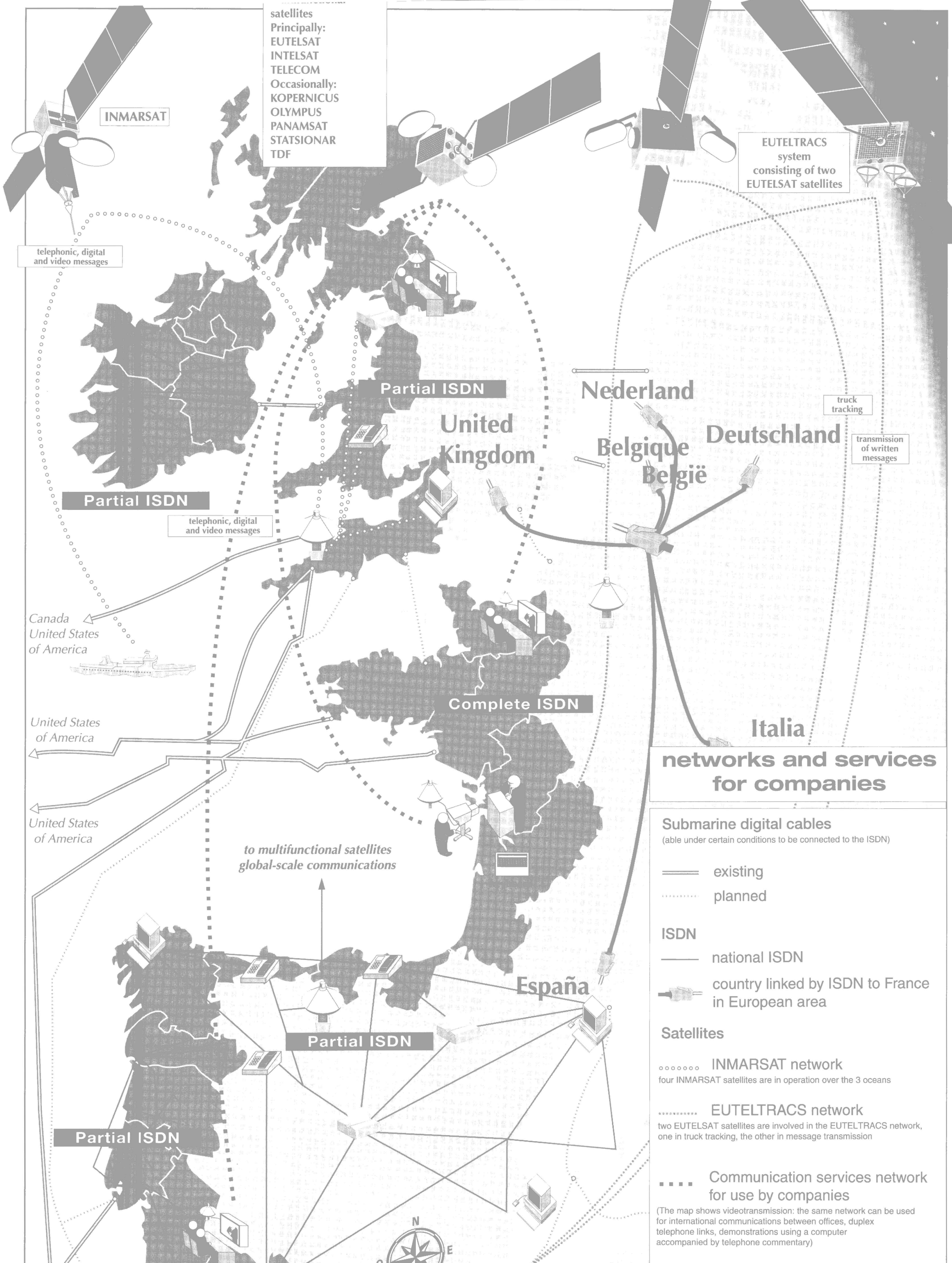
Source: European Broadcasting Union 1989



0 800 km







satellites  
 Principally:  
 EUTELSAT  
 INTELSAT  
 TELECOM  
 Occasionally:  
 KOPERNICUS  
 OLYMPUS  
 PANAMSAT  
 STATIONAR  
 TDF

EUTELTRACS  
 system  
 consisting of two  
 EUTELSAT satellites

INMARSAT

telephonic, digital  
 and video messages

Partial ISDN

Nederland

United  
 Kingdom

truck  
 tracking

Belgique  
 België

Deutschland

transmission  
 of written  
 messages

Partial ISDN

telephonic, digital  
 and video messages

Canada  
 United States  
 of America

Complete ISDN

United States  
 of America

Italia

**networks and services  
 for companies**

Submarine digital cables  
 (able under certain conditions to be connected to the ISDN)

- existing
- ..... planned

**ISDN**

- national ISDN
- country linked by ISDN to France in European area

**Satellites**

..... INMARSAT network  
 four INMARSAT satellites are in operation over the 3 oceans

..... EUTELTRACS network  
 two EUTELSAT satellites are involved in the EUTELTRACS network,  
 one in truck tracking, the other in message transmission

..... Communication services network  
 for use by companies

(The map shows videotransmission: the same network can be used for international communications between offices, duplex telephone links, demonstrations using a computer accompanied by telephone commentary)

to multifunctional satellites  
 global-scale communications

Partial ISDN

España

Partial ISDN





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The western coasts of Scotland, Wales and Ireland will be better connected. Transverse routes in these peripheral regions, such as Glasgow-Inverness and Dublin-Shannon, will be modernized.

In addition to the completion of the 'route des estuaires', improvements will be made to the Caen-Cherbourg, Rennes-Lorient, St Malo-Rennes, Roscoff-Morlaix and Vannes-Nantes routes. Links to the north-south estuary road will be built from many ports and seaside resorts on the Atlantic.

The Cantabrian coast will still not be fully accessible, but a dual carriageway will link Santander to Valladolid and Oviedo to Aviles and Ribadeo.

The completion of the Lugo-Pontevedra-Santiago-Orense and Orense-Benavente primary routes will help improve access to Galicia, which will also have better connections to Oporto when improvements to the Oporto-Vigo trunk road are made.

Once the La Coruña-Oporto-Lisbon-Faro-Seville axis is completed, the entire Atlantic side of the Iberian peninsula will be linked up. This coastal route will be completed by a high-speed link from Cadiz to Algeciras and Malaga.

There will not be as much improvement to the rail network. The most important will be the completion of the TGV Atlantique network in France, with high speed sections as far as Bordeaux, Rennes and Nantes, and the construction of the Madrid-Seville high-speed line. The Cornwall-London rail link will be improved, as will the Paris-Cherbourg, St Malo-Bordeaux and Tours-Le Mans links in France. In the Iberian peninsula there are major projects under discussion, but it is not sure when they will materialize (high-speed links from Oporto to Lisbon and Irun to Madrid, and the Basque triangle). Also scheduled for improvement are the Santander-Valladolid, Seville-Algeciras and Seville-Málaga lines.

Redirecting the major land transport flows towards the west of Europe will give the Community a new

structure. However, this diversion of major flows which have so far passed through the national capitals will mainly benefit the French and Spanish regions, i.e. the more central zones of the Atlantic area.

The British Atlantic regions will benefit less from this move away from London towards the west because of the attraction of the Channel Tunnel. Also, there are still no direct links from the north of the United Kingdom to the Channel ports. However, the Bristol-Poole trunk road, now nearing completion, will provide connections from the Glasgow-Bristol route to the western Channel ports without going through London.

These axes will form corridors of attraction structured by largely inward-looking regional centres that do not spread their dynamic influence out to the most peripheral rural districts in their areas.

The Atlantic area will not really be integrated to the rest of Europe until it has good connections to the central zone of the Community. It will also need to be more outward-looking and avoid becoming merely a satellite area of a few major cities, or even being absorbed by them.

Various link-ups are being built to the main roads serving the central regions of Europe, such as the three dual carriageway transversal routes: the Loire Valley road from Nantes, the Centre Europe Atlantique road from La Rochelle and the trans-European highway from Bordeaux.

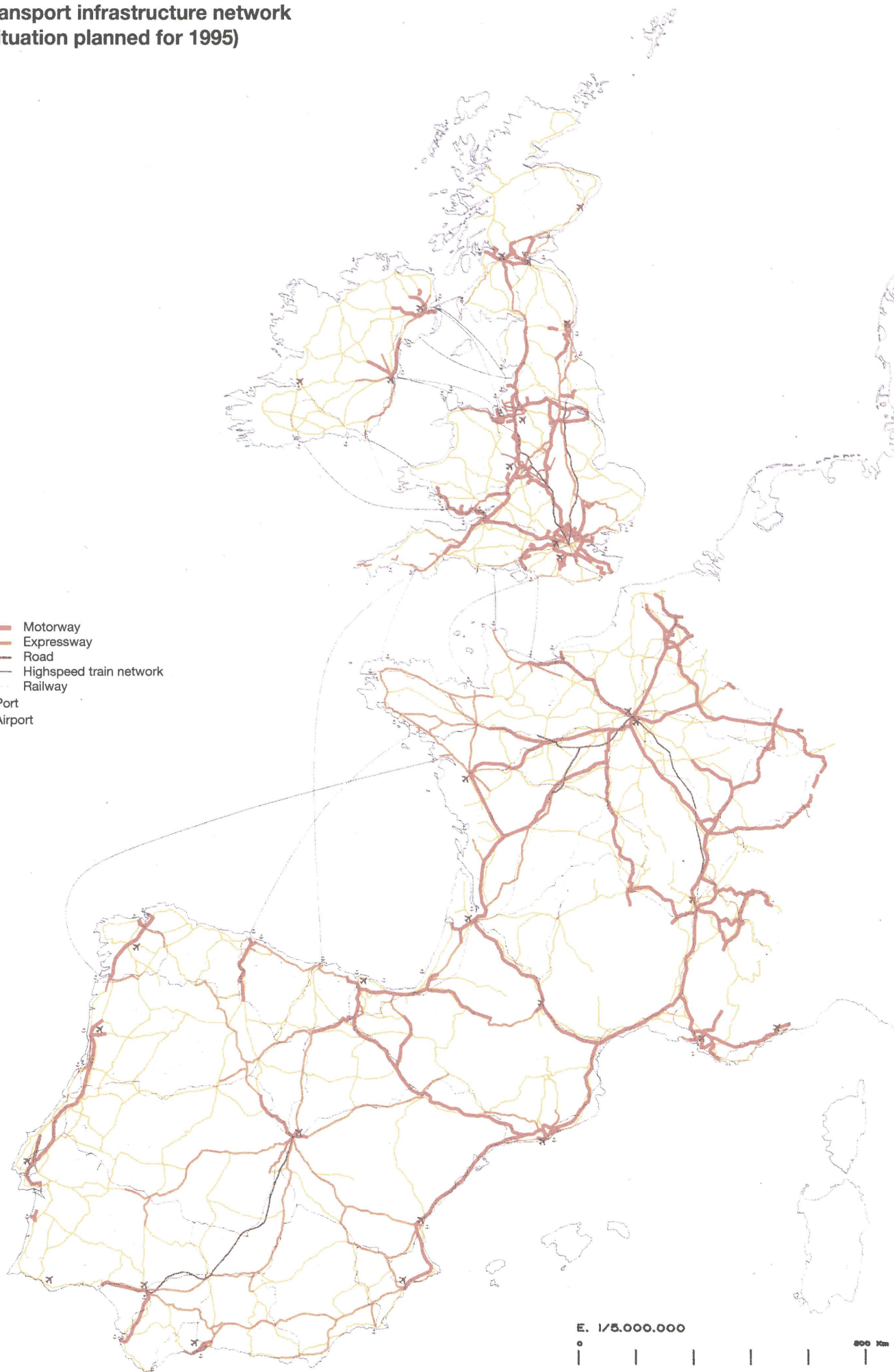
This will connect the Atlantic regions to the Rhône corridor without crossing Paris and will enhance the Atlantic area's role as a new maritime outlet.

The Trans-European route, which will link the western part of the Iberian peninsula and Aquitaine to the Lyons-Geneva-Chambéry triangle, will gradually be built; concurrently the Santander-Burgos route will be improved.

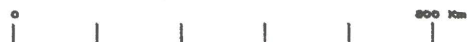
Other trunk roads providing structure and better access within the Iberian peninsula are being im-

# Transport infrastructure network (situation planned for 1995)

-  Motorway
-  Expressway
-  Road
-  Highspeed train network
-  Railway
-  Port
-  Airport



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proved, such as the Gijón-Seville axis which looks promising with prospects of a fixed link across the Straits of Gibraltar, and the Aveiro-Viseu-Guarda-Vilar Formoso transit road which will play an essential role in integrating Portugal into Europe, as long as improvements are also made on the Spanish side.

As things stand, the most peripheral regions will remain isolated, especially northern Scotland, the west and south-west of Ireland, the hinterland of the Cantabrian Coast and the inland areas of Portugal.

There will also be a few pockets of isolation in rural areas within Wales, Brittany and Poitou and in 'land's end' areas such as the tips of Cornwall, Galicia and the Algarve.

In contrast, the regional centres will be better connected, but risk being turned into satellites or even being completely absorbed by the growing influence of national capitals. The urban centres in these corridors will be increasingly well served, whereas connections to rural areas will deteriorate, relatively speaking. High-speed networks, aiming to be as profitable as possible, are going to induce the risk of peripheralizing the regions that do not have any; hence the need to strengthen the intermediate networks. In this context; efforts such as those made in France to maintain rural rail services through regional expresses will have to be continued.

As the French TGV Atlantique shows, high-speed lines mainly improve services to relatively large towns and cities, which are then closer to the capital timewise. In contrast, smaller towns, even those in the well-served corridors, and *a fortiori* peripheral rural areas are further away in relative terms

The new Atlantic area will therefore be structured around a smaller number of larger centres. Airport developments also confirm this trend.

Regional airports with international flights will continue to expand and modernize, as in Oporto, Seville, Santiago and Bilbao.

The airports with a smaller range of destinations will see slightly more passengers but will only have a limited structuring role. Increasingly stiff competition from the major airlines is hampering their development (Ireland, Brittany and south-west England).

Because of insufficient interconnections between the different modes of transport and the lack of interdependence and complementarity between the Atlantic cities that would reduce the influence of the national capitals, there is the risk that the Atlantic area will remain fragmented.

Based on current trends, air traffic within Europe is set to concentrate growth on the radial routes to the main European capitals. Investment will also be concentrated in the major airports. This threatens to limit and slow down the development of regional airports which is vital to improve access conditions to peripheral areas.

Air transport between peripheral regions has the following characteristics:

- a widespread and weak traffic with a very heterogeneous demand.
- a poor quality of service between peripheral regions.

There is real potential for interregional traffic, but it is not large enough to guarantee regular daily or twice daily flights.

Regarding maritime transport, there is no comparison between the Atlantic situation and the traffic generated by the industrial port complexes of northern Europe. In addition the general trend does not suggest an increase in activities on the Atlantic coast.

- Little growth is forecast for the dry bulk sector, except for agri-food products.

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While many Atlantic ports have specialized in importing fertilizers and soya, and exporting frozen meat and poultry and the newly home-grown cereals in Europe (maize, etc.), the new common agricultural policy and the GATT rounds pose a serious threat to this traffic.

Also, the ports of northern Europe have recently positioned themselves in this niche market without consulting the Atlantic ports. The consequence of this will probably be excess freight handling capacity for imports and exports.

Some regions like Brittany, Poitou-Charentes, and Aquitaine and Ireland to a certain extent, which have invested heavily in agri-food traffic handling, will be threatened in the short term.

- Crude oil traffic in the ports of northern Spain is stagnating and is also threatened by plans for pipelines between refineries and oilfields.
- Apart from the oil terminals of Sullom Voe (Shetlands) and Flotta (Orkneys), which handle more than half of Britain's North Sea oil production, the boom period of oil traffic is over, and the Atlantic ports will not be able to base their long-term strategies on it.
- The backwardness of most Atlantic ports in following the movement towards containerization is heavily significant. It will be a long time before there are any ports handling over 500 000 tonnes a year. Containerization requires large-scale investment and the Atlantic ports have a lot to do to catch up with the European leaders.
- Ro-ro traffic is more likely to increase in all the Atlantic ports. It is one of the most lucrative sectors, despite the enormous growth of the last 20 years.

This type of traffic, generating both freight and an important flow of passengers, has a great impact on the local economies of the ports of call. Atlan-

tic ports and regions which do not have a ro-ro service are now seeking to attract them.

There are several plans for new ro-ro routes within the Atlantic arc at various stages of development. The regions involved are Brittany, the Loire Region, Galicia, Northern Ireland, northern Portugal, the Basque Country, Devon and Wales.

However, although sea crossings (particularly between Brittany and Lower Normandy, and southwest England and Ireland) continue to attract a lot of passengers, especially from England, the Channel Tunnel will slow business down somewhat. The Tunnel will be fed by motorways to London and by regular Glasgow-Manchester-London rail service, whereas there is no direct rail link to the western Channel ports.

North-south ro-ro services in the western English Channel will inevitably be affected by the funnel effect of the Tunnel, despite improved ferry services and road connections to most ports.

The lack of land, sea, air and intermodal links between peripheral regions could widen disparities between areas, as could be fact that only the major centres will be connected to the new telecommunications systems.

For reasons of profitability, the 'foot-loose' telecommunications technologies will contribute to this process. Because of their low relative density and national policies, telecommunications networks still suffer from a lack of complementarity and cross-border connections (Spain and Portugal). This means that some Atlantic regions are still excluded, especially as regards networks with high added-value. Market deregulation increases the effects of competition and threatens to reduce access to the business centres of Europe from the Atlantic regions. The lowest prices and the latest developments in services are available first and foremost in the central regions.

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In the United Kingdom, for instance, the privatization of telephone services has hardly benefited the rural and outlying areas where no operators want to be in competition with the former public company.

The preference given to land-based transport infrastructures as opposed to sea and air transport will maintain or even worsen the relative remoteness of some Atlantic regions. As mentioned in the 'Europe 2000' report drawn up by the European Commission's Regional Policy Directorate, combined transport links (motorways, high-speed trains, sea routes) need to be set up to provide better connections between the peripheral regions and the centre of Europe and between themselves.

#### *3.6.2.2. Intervention-based scenario*

In this scenario, the policy for improved access to peripheral areas is much more comprehensive. It is based on an enhanced provision of services and is of more benefit to the peripheral regions. This not so much involves ambitious new infrastructure programmes that could not be completed by the year 2000 (apart from the new airport to relieve congestion in Lisbon) as a sound development of transport services, particularly by air and sea, and an enhanced complementarity between the different modes of transport.

Some land-based infrastructures have been improved, such as the inland road systems in the Highlands, Wales and the western coast of Ireland. The access roads to the inland areas of the Iberian peninsula are still in need of improvement.

But the Atlantic regions mainly need to provide themselves with 'gateways' and central communications hubs to ease access beyond the corridors and the main centres.

Intermodal transport must be a priority if the maritime peripheral regions are to cope with the in-

crease of national and intra-European traffic. This type of transport reduces the number of loading/unloading operations that contribute to the fragmentation of the Atlantic economic area.

Certain interregional air links are still in need of development, especially those between the most peripheral and isolated regions, and those relieving congestion at major national airports. In this context, good high-speed rail/airport links are essential.

Also, new avenues for interregional air services shall be further explored, such as shared-seat aircraft, the organization of air networks with services twice or three times a week and the twinning of stopover cities.

Shared-seat services make 8 to 12-seater aircraft available to businesses for use on low traffic routes at mid-range prices, the plane being based at the regional airport. Seat-sharing schemes are implemented through the creation of companies and local authorities.

The organization of networks ranging over low frequency routes enables the operating airline to make full use of its aircraft.

When there is insufficient potential for traffic between regional airports, twinning cities is one way of compensating for the increased cost of one or two extra stops by a noticeable increase in traffic. For example, a Brest-Poitiers-Bilbao-Santiago de Compostela route would help provide a better quality of service than the current route with connections at Paris and/or Madrid.

But whatever structure plans are drawn up for improving air services, efforts must focus on information, promotion, marketing, analysis and matching supply with demand.

Regarding maritime transport, the Portuguese, Spanish, French, Irish and to a lesser extent the British Governments have made it plain that they

**Transport infrastructure network  
(situation in the year 2010)**

-  Motorway
-  Expressway
-  Road
-  Highspeed train network
-  Railway
-  Port
-  Airport



E. 1/5.000.000  
 0 | | | | 800 Km

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want to boost their ports and commercial fleets. This has been accompanied by a certain amount of determination on the part of the European Commission. We may therefore hope to see an increase in maritime transport in the Atlantic regions. The foreseeable and highly prejudicial congestion of the main road networks in Europe by the year 2 000 also gives us reason to think that there will be an upturn in the maritime sector.

Increased trade with the developing countries (ACP States, etc.) will also breathe new life into the Atlantic ports as gateways to the New World and the former colonies.

However, maritime transport will have to be fully integrated into combined transport systems if it is to be a real alternative to congested road transport. In this scenario, the Atlantic ports will have to equip themselves with new facilities and find better ways of marketing their services to the major transport operations.

This implies that a change-over to containers and other modern methods better suited to short sea services is imperative in order to prevent the Atlantic ports being left out of the new combined transport structures in Europe of which they are not a part at present.

The Atlantic ports cannot implement such a change-over on their own, as they are not strong enough and do not receive enough support from their respective States or regions.

The European Commission's involvement will therefore be crucial in helping the Atlantic ports become part of these multimodal transport systems. The mechanisms used will need to be area-specific so that the ports in these regions can fill the gap that separates them from the ports of northern Europe. What is indeed required is a territorialized, common vision of maritime transport and its impact on regional economies.

Regarding sea links, the cooperation between the Brittany Region and the Brittany Ferries company is a good example. It was decided to draw up a joint structural plan for the development of sea routes along the Atlantic arc; this was achieved on the initiative of the regions as part of a comprehensive policy of support to transport as a whole, and maritime transport in particular. This structural plan has served as the basis for setting up several regular crossings between Atlantic regions, which has given them greater credibility.

In addition to this structural plan, communication between ports, previously only minimal, has been initiated by feeder operations but also by the Arcantel programme, which is cofinanced by the European Commission.

Communication is mainly in the form of electronic data interchanges (EDI) concerning the goods that have been loaded. This will enable the ports to become electronic information exchange nodes, essential in today's transport environment. With this system, the Atlantic ports can catch up with the northern European ports in information technology and telematics. They are now able to exchange cargo data with the major ports of Europe. This electronic communication capability is an invaluable tool for promoting and developing short sea services within Europe.

Part of the work of the Arcantel project was to provide ports with an automatic system for monitoring the position of ships by satellite. This is now used systematically by port authorities, the port community and shipping operators. It enables sea transport to become fully integrated into the combined transport system that will be in place by the year 2000 and on an equal footing with the other modes of transport involved.

This satellite ship-monitoring system is part of the European Commission's plans for an Atlantic vessel transport system, modelled on the Mediterranean system, in order to provide enhanced environ-

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mental protection, monitor polluting shipping operators and cut down on fraud.

In summary, the booming maritime and air transport, and also telematics systems, help redirect flows to the benefit of the Atlantic regions, as they are not fed by centripetal forces and do not systematically terminate in the major European centres, unlike land-based infrastructures.

### **3.7. The environment**

#### **3.7.1. Analysis**

##### **A varied, quality environment**

The Atlantic regions have a good quality environment and are attractive as a place to live because of the variety of landscapes and the absence of large urban concentrations. The Atlantic arc forms a reserve of attractive space, given the saturation of the Mediterranean coast and the growing demand for a quality living environment, and hence there is a need to preserve and valorize this highly prized asset. The conflict between preservation of the environment and economic expansion is particularly acute in Europe; a successful combination of the two is essential for the Atlantic regions. Nature is of no great concern in the central and eastern areas of Europe, since its protection is often artificial and covers only small areas. The challenge for the Atlantic regions is to protect their unspoilt areas and make the most of their variety in a context of increasing uniformity, while using them for economic and social purposes. But the economic development of this environment generates conflicts and pressures linked to the appropriation of these highly prized areas and the variety of users and interests.

### **The victim of powerful pressures from all sides**

#### ***Coastal concentration and urbanization***

Population densities in the Atlantic regions are low compared with the Community average (82 inhabitants per km<sup>2</sup> as opposed to 143 per km<sup>2</sup>) but there has been a marked increase in recent years, particularly along the coasts and in the urban areas centred on towns with populations of over 30 000.

The Atlantic coast is a victim of its own success: waterside complexes are being built in the south-west of France, Portugal and Andalusia, and holiday homes in south-west England, Brittany, the Vendée, Charentes and on the Cantabrian coast.

Urban sprawl is also a characteristic factor. On the fringes of large and small towns alike, the countryside is disappearing under new construction, accentuating the anarchic look of the urban landscape, particularly on the way into towns.

In Portugal, especially around Oporto and Lisbon, urban sprawl is extending onto good quality farmland, even though this is in strong demand by peasant farmers. In addition, makeshift dwellings, or more correctly, shanty towns, have mushroomed on the outskirts of the two cities.

In the French and British regions, rural areas have also recently been affected by the scattered development of private housing estates, especially along the valleys and main axes of communication.

The development of this kind of urbanization is all the more pernicious as it is encouraged by the decline of traditional agricultural activities and because rural local authorities rarely have proper land-use planning facilities.

Most of the Atlantic coast is suffering progressive damage, with the coastline retreating spectacularly



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in places. The area's economic and tourism asset is therefore deteriorating.

A lot of work has been done to protect the coastline with groynes, dykes and breakwaters, but the coast is being so intensively eroded that a comprehensive coastal policy is needed to tackle the problem and preserve the beauty and ecology of these areas. These are vital aspects if the coastal fringe is to be developed to its best advantage.

### ***Heavy pressure from tourism in time and space***

Because of the competition it offers for the use of coastal land and the prohibitive property prices that result, tourism rapidly becomes an exclusive activity. Overwhelming tourist numbers in July and August (when the population more than doubles along most of the coast) often causes irreversible damage to the natural environment (damage from trampling, disappearance of flora and fauna, increased risk of fire).

The Atlantic coast has an advantage over the Mediterranean in that it has better sea-water quality. But in order to develop seaside activities and diversify into health tourism (thalassotherapy), efforts need to be made to maintain or improve the quality of the water. Water quality in densely populated and industrial areas close to estuaries – South Wales, Calvados, Finistère, and the Loire and Gironde estuaries and the Basque Country – is poor and often not in compliance with Community standards.

Coastal water quality can be improved through better sewage systems in cities, country towns and seaside resorts, separating stormwater from sewage, and also through better control of polluting industries and activities and their effluents in the catchment basins, and improved town and industrial planning on the coast.

The quality of sea water is crucial for the future of seaside tourism and for aquaculture, which is well

developed in areas where the water quality is particularly good (west coast of the Manche department, Côtes-d'Armor, Charente-Maritime, Aquitaine and Cantabria). It should be remembered, however, that intensified aquaculture can also be a source of pollution.

### ***Polluting industrial activities concentrated on the estuaries***

Generally, the level of atmospheric pollution in the Atlantic regions is low. It is much more of a problem, however, in the regions that have a high proportion of traditional industries, such as Northern Ireland, the Dublin area, South Wales, the Basque Country, Asturias, Galicia, the Oporto area and Lisbon.

Estuaries are areas of important industrial and maritime activity (Glasgow, Cardiff, Nantes, Bordeaux, Lisbon, etc.). The concentration of industrial and household effluents in biologically fragile zones, deoxygenation and silting can combine to make all forms of life impossible, even to the point of becoming direct sources of pollution for the surrounding land. Estuaries are therefore zones at risk.

### ***Agricultural intensification: A threat to the natural environment***

The most serious problem in the Atlantic regions is organic pollution from livestock farming. The most seriously affected areas are Ireland, Wales, south-west England, the west of France and Galicia.

As farming has become more specialized and intensive, the traditional type of holding has tended to disappear. These were mixed farms, in which production depended on the quality of the land. Intensification has speeded up the loss of such habitats as salt pasture, healthland, marshland and hedgerows to gain more land for cultivation.

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River-water quality has sharply deteriorated in north-west France, Ireland and Spain owing to the high level of nitrates.

The adverse effects of intensive agriculture, which has been practised in the northern Atlantic regions since the 1960s and 1970s, is becoming apparent just as the intensification process is getting under way in the Iberian peninsula.

### **The environment: A victim of the economy**

#### ***Derelict industrial land***

With the closure of traditional activities particularly represented in the Atlantic regional economies (coal, iron and steel, engineering, shipbuilding), large tracts of industrial land have been left derelict in places such as Glasgow, Nantes, Bilbao and Gijón. In view of the current industrial redeployment situation, there is a real danger of more land experiencing the same fate. The urban landscape of these cities shows that industries are closely interwoven with the urban framework.

Extraction and production activities required a vast amount of space and large buildings that have become damaged over time and have proven to be unsuitable for other uses. Rapid redeployment of these sites is hampered by the risk of pollution and soil contamination, and the need for demolition.

#### ***Farmland and forest clearance***

Increased mechanization has led to the ploughing of pastureland, the destruction of hedgerows and the extension of maize production for fodder. The farm landscape in the northern Atlantic regions is becoming increasingly similar. At the same time, land that is difficult to work mechanically is soon abandoned.

In Portugal, land cleared for farming was soon exhausted. In the process of intensification, the poorer areas were left to run wild. As time went

on, the thin woodland was trimmed less regularly. However, forestry is a source of economic development that also safeguards the environment. The forests of the southern Atlantic regions are under serious threat from fire, a threat heightened by careless tourists and the lack of maintenance.

In recent years fires have caused the loss of 50 000 ha in Galicia, 30 000 ha in the Basque Country and 10 000 ha in Aquitaine. The areas at risk therefore need to be identified so that fire-fighting systems can be harmonized and preventive measures taken.

#### ***Wetlands***

The Atlantic coast has large areas of transition between the ocean and the hinterland. There are hundreds of thousands of hectares of marshland, mud flats and salt pasture that are among the most productive biological environments. These areas have exceptional biotopes that are worthy of protection.

The protection and optimum use of areas used for agriculture, fishing, industry and tourism are vital to the attractiveness of the Atlantic coast. Improved land-use planning is essential, both in urban and rural areas, as is the quality of water and other parameters, if the environment is to be protected and its many possible uses developed.

### **3.7.2. Prospects**

#### ***3.7.2.1. Trend-based scenario***

Changes in the population distribution of the Atlantic regions has a large influence on the environment.

Population growth in the Atlantic areas is slowing down but is still positive (up 5.6% between 1985 and 2015), whereas it is negative in Europe as a whole. However, there are still disparities between the various Atlantic regions.

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In 2015, the fastest growing regions will be North Wales, south-west England, the French Atlantic regions, Lisbon and the Tagus Valley, and Andalusia. Based on current trends, the most attractive and densely populated areas of these regions will be the coasts, especially those falling within the sphere of influence of large urban centres.

The trend towards polarization has been confirmed. Large cities such as Lisbon, Dublin and Bordeaux are still growing at the expense of rural areas. The smaller inland towns now have a major role to play in slowing down the desertification of many rural areas, especially the most isolated ones (inland areas of Scotland, Ireland, Poitou-Charentes, Galicia and Portugal) and as bulwarks against the centrifugal forces of the major cities.

Working in combination with the concentration along the coasts is the phenomenon of heliotropism. The south-western regions of England and France are popular with working as well as retired people. The attractive environment of these areas is drawing people from London, Paris and other major cities in ever-greater numbers. For example, population projections for Greater London point to a 14.2% decrease for the period 1985–2015, contrasted with growth of 28.5% for Cornwall and Devon, and 18.5% for Somerset and Dorset.

The growing pressure from urbanization will have an effect on the environment. There is, therefore, a need for local authorities to be more vigilant and for them to have appropriate planning tools to enable them to control the spread of urban areas, which is set to continue steadily along the coast. There is much competition for space, particularly in the southern regions.

Concurrently, the most isolated zones will continue to depopulate, as will the areas affected by industrial redeployment (the Basque Country, Asturias and South Wales).

The vast areas hard hit by agricultural and industrial decline will become more and more unattrac-

tive and increasingly difficult to manage and maintain, since they will not be put to economic use.

In the medium term then, the disparities in population distribution are set to widen, thus worsening environmental problems.

The Atlantic coast is a prime target for property developers looking for large areas of available land with environmental conditions that are harder and harder to find in Europe (the south-west coast of England, the French Atlantic coast and Portugal, especially the Algarve).

Uncontrolled urbanization, coupled with the shortfall in sewage systems, also make for deteriorating water quality in both seas and rivers. This has serious consequences in areas where the local economy is heavily dependent on high-quality water resources (aquaculture and seaside resorts, particularly in Brittany, Poitou-Charentes, Aquitaine and Galicia).

As the coastal areas become more densely populated and the number of different economic activities grows, the already fragile environment deteriorates at an ever-faster rate. This is due to a lack of consensus amongst the many different users on how to manage and protect it.

The quality of sea water in the industrial and urbanized coastal districts and around the estuaries will continue to deteriorate. Like a large number of coastal towns, many inland rural areas do not have proper sewage systems, if at all, which will have an increasingly damaging effect on inland water resources. This is particularly true in the regions that specialize in livestock farming (Ireland, Wales, south-west England and the west of France) where nitrate levels are high.

The level of agricultural pollution may increase in the Iberian peninsula as the move towards more intensive farming practices continues (livestock farming, market gardening, flowers, etc.). In the

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northern Atlantic regions, on the other hand, farming methods are tending to become more extensive (over 40 ha per worker in Scotland and Wales) and therefore less harmful to the environment.

The lessons drawn from recent experience in the northern Atlantic regions should prove useful for the southern areas which are deliberately going down the road to intensive farming. Their ecosystems are much more fragile and their water resources are much more vulnerable.

The rapid, speculative growth in eucalyptus planting in Portugal will cause environmental problems in the medium term, particularly as papermills will be opened, with all the pollution problems they provide.

In the French regions, there will be 20 to 30 ha of agricultural land per worker by the year 2000. Farming practices are set to remain largely intensive, with average levels of pollution equivalent to those found in the 1980s in many rivers (nitrate content of over 25 mg/litre).

In the northern regions, the demographic and economic changes of recent years have considerably reduced agricultural density. The land that has been left fallow is mostly of low agronomic capability. More land of this type will be abandoned, blotting the landscape as there is no real country planning policy and no other economic use can be found for it.

The wetlands, which are mostly managed extensively, are gradually being abandoned, put to new uses or subject to pressures that will lead to deterioration and ultimately to their destruction. If no measures are taken to protect them, they are most likely to become dumping grounds or disappear through drainage or landfill projects.

Industrial pollution is high in regions that still have a strong concentration of traditional industries, such as Northern Ireland, the Dublin area,

South Wales, the Basque Country, Asturias and the Oporto, Lisbon and Huelva districts. If nothing is done to increase awareness and no investments made to reduce pollution levels, atmospheric pollution will become an even more serious problem. Conversely, pollution levels are falling in the regions that have completed industrial redeployment.

The derelict land that can already be found in the redeployment areas will still exist (shipbuilding, textiles, etc.) and more will appear (iron and steel, etc. in Scotland, Asturias and other regions), because new uses cannot be found for the abandoned land and buildings.

Without intervention to deal with the derelict areas or, even better, to avoid them becoming derelict in the first place, the city's or even the region's image will be tarnished for a long time.

Despite the sluggishness of, or decline in, industrial and port activities, the estuaries remain vulnerable, as there is still a high risk of damage from untreated industrial and domestic effluents.

### *3.7.2.2. Intervention-based scenario*

In order to preserve its high quality, attractiveness and variety, the environment of the Atlantic regions must be protected against misuse and damage.

In the densely populated or much used coastal areas, the environment is very vulnerable and is already damaged. Beaches have been closed, as have drinking-water treatment stations; sales of shellfish have been temporarily banned etc. Action must be taken to increase awareness of the problems, provide facilities for reducing pollution and implement a system of fines on polluters.

Priority must be given to information and awareness campaigns in the regions that have started to develop most recently. The environment in these

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areas is deteriorating all the more alarmingly because technical and financial aid facilities are limited.

Moreover, environmental protection is seen as a barrier to agricultural and industrial development, and hence the need for experience exchange programmes between the more advanced and less advanced regions. This will show them that it is possible to create a solid base for economic development without damaging the environment, and they will then be able to apply the experience others have gained in using certain methods of cultivation, creating industrial port centres, and so on.

To deal with the increasing population densities on the coast, the extension of the big cities and urban sprawl in the countryside, a more systematic use of spatial planning is required. Better interurban public transport networks are also needed (Portugal and other southern regions), as are proper sewage systems (especially in seaside towns and holiday resorts).

Measures such as these are needed to safeguard the asset that the Atlantic regions have over the more central areas of Europe, the fact that there are no huge urban concentrations.

So to provide towns and cities with a better image and a better quality of life, these measures pay more attention to the urbanization of their surrounding areas (urban fringe development, building for industrial and commercial use), also seeking to promote town centres by capitalizing on their historical and architectural heritage and redevelop derelict land, making efforts to attract high-level tertiary activities.

Besides improving the management of urban and periurban areas, rural management will also need attention. In Scotland, Wales and Ireland, the move away from agriculture is well advanced and is seen as an opportunity for extending the system of country parks and nature reserves.

However, in the regions where agricultural density is still high, the need is felt to keep as much of the area in use as possible, by diversifying production and moving towards more environmentally-friendly farming practices, i.e. more extensive methods (better use of fertilizers).

In inland Portugal and Andalusia, policies aimed at protecting mountain and rural environments have been drawn up, which will also help limit desertification.

An integrated forestry policy had been implemented, dealing with the whole process from plans for planting or reforestation right through to exploitation. There is a growing number of incentives aimed at the use of a wider range of tree species and encouraging local ones in preference to the faster growing varieties.

More attention is being paid to the environmental impact of the papermills that have recently opened in Portugal. Fire-fighting and prevention methods have proved to be a vector for creating solidarity between the southern regions.

Farmers are now more aware of environmental problems and there are financial incentives to help them manage the countryside more effectively, and diversify their activities (development of rural tourism). They are also encouraged to grow crops that require less water and fertilizers, but to maintain a suitable type of plant cover for the soil to avoid erosion and acidification.

The quantity and quality of water resources are vulnerable, especially in the southern regions that are experiencing economic growth. As an aid to better management, protective perimeters have been set up around underground resources in France and the United Kingdom and around surface resources in Spain and Portugal. There is better monitoring of industrial and agricultural effluents, and polluters are located and fined if they have not invested in filtration or other treatment

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facilities. Because of the large number of users (aquaculture, industry, tourism, agriculture) there is much conflict over water resources, and so the principle of 'the polluter pays' is widely applied in order to reduce effluent pollution, which is such a hindrance to the development of coastal economies. Given the accumulation of pollution in some coastal and urban areas (estuaries, industrial towns, etc.) and the difficulty of evaluating and limiting its effect on the ecology and biology of the areas, specialist environmental research centres (23 such centres have been identified within the Atlantic arc) are becoming more involved in drawing up environmental policies. Their experience in basic research provides decision-makers with the data

they need in order to improve conditions in ecosystems in danger from human pressures.

As stated in the Regional Policy Directorate's 'Europe 2000' report, by the year 2000 there will be a network of nature protection areas in place, based on Community plans for a directive on natural habitats. Accordingly, 1 to 2% of the Community area would be effectively protected. It is thought that between 10 and 20% of the Community is of such importance for wildlife that it will be necessary to coordinate agricultural, forestry and leisure management, regional management and all regional policies.



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## 4. Analysis and prospects by region

### 4.1. Scotland – Northern Ireland

#### 4.1.1. Current situation

The population of mainland Scotland decreased by 1.4% between 1981 and 1991 but internal development is full of contrasts. Some regions such as Strathclyde (-1.5%), Central (-0.5%) and Tayside (-0.8%) have lost inhabitants while others (the more rural ones) have gained: Highland (+4.8%), Grampian (+4.4%), Borders (+2.2%), Dumfries and Galloway (+2%), Fife (+1.3%).

Economic performance in Scotland was quite good during the 1980s, especially in the second half. This was accompanied by significant restructuring between sectors of activity. Between 1987 and 1989, jobs in the primary sector (agriculture, energy) strongly decreased in Central, Borders, Fife, Lothian, Strathclyde and Tayside. However, they strongly increased in Grampian. Decreases in industrial jobs occurred in Borders, Lothian and Strathclyde; but significant increases occurred in Dumfries and Galloway. Jobs in the service sector progressed, particularly in Central, Strathclyde and Highland.

Activities connected with North Sea oil (64 100 jobs for the whole of Scotland, in companies which are fully dedicated to oil) are essentially concentrated in Grampian (51 800 jobs).

Growth in industrial productivity in the 1980s was more rapid than that of most of the industrial economies. Between 1980 and 1990 growth was an annual 5.2%, i.e. higher than the growth level of the United Kingdom as a whole, the USA, Japan, Germany, France, Canada and Italy.

Scotland comes out as an industrial heavyweight with its 650 000 jobs but it is weakening since it has to face a radical process of redeployment/

adaptation (the Clyde shipbuilding industry in particular, the clothing industry and the iron and steel industries).

A recent example of the closure of a steel factory (British Steel, south-east of Glasgow, in January 1992) reveals the abrupt decline of this type of mass employment industry and the extent of the repercussions as far as employment is concerned (1 220 redundancies anticipated and 15 000 local jobs put at risk). This example shows the industrial change that Scotland is undergoing at present and which will last for a number of years to come. Scotland lost 300 000 industrial jobs between 1971 (700 000) and 1987 (400 000).

Concurrent to this decline in the traditional industries, high-tech industries and services are developing at a rapid rate, but the mass effect of the traditional industries is creating an imbalance in employment. High-tech industries and services offer promising prospects but they will not generate sufficient jobs to compensate for the loss of jobs in the heavy industry sector: in the business park to be set up to ensure the redeployment of the south-east Glasgow area it is expected that 7 500 jobs at the most will be created over the next 10 years.

Growth in the Silicon Glen, where the high-tech sector is well represented, is certainly strong but makes up for (only) 50 000 jobs concentrated in 280 production units, a number of which include giants like National Semi-Conductor and Motorola.

The high-tech sector, like the industrial sector, is highly externalized both in investment (the USA and Japan) and in the distribution of the products made. Recent industrialization has been the work of national and international companies whose head offices are to be found outside Scotland (activity related to oil production and refining, electrical and electronics industries). These companies were drawn by the proximity of the numerous universities with excellent reputations (Edinburgh) and a strong specialization in engineering (Glasgow), by



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the creation of several business parks (Edinburgh, Glasgow, Dundee, Stirling and Aberdeen) and by local policies favourable to investment. The structure is therefore more and more dual in nature and this type of development is very fragile: local small and medium-sized businesses coexist with huge units controlled from outside having a low or even non-existent functional integration with a low spin-off rate.

One of the main contributors to the recent development of Scottish industry has been the electronics sector. This consists of very high-performance activities in the fields of information systems, electronics for the military sector, industrial instruments, semi-conductors and other components.

Between 1979 and 1991 production more than trebled in the Scottish electronics industry and in 1990 this sector employed 47 000 people, i.e. it accounted for about 13% of Scottish industrial employment. Numerous foreign companies have been attracted to this sector.

Only about 20 independent firms were created by the spin-off process and the low level of integration means that companies are relocating to the Pacific rim area, especially in the clothing industry.

According to the national Employment Department statistics, unemployment for the whole of Scotland reached 7.8% in 1990. It was higher in Strathclyde (9.9%) and Central (8.6%) but much lower in the Borders (3.8%), Dumfries and Galloway (5.8%), Grampian (3.3%) and Lothian (3.9%). Unqualified people (about half the total number of Scottish unemployed) are essentially hit by unemployment.

But current development is based on highly qualified professional people, and hence there are rising problems with professional training and the qualitative imbalance between supply and demand for labour.

The research centres and universities are a major driving force for development given the large number of university departments (445), as is the important international centre in Edinburgh where work in engineering, geology, mathematics and artificial intelligence is especially important.

The second great pole of attraction is Glasgow with its 119 departments, and its important work in the fields of computer science, electricity and physics. There are then a number of smaller centres which should not be forgotten such as Aberdeen, Dundee, St Andrews and Stirling.

The total number of research workers is thus 10 800, to which must be added a further 6 000 in the private sector.

In addition, it should be noted that Scottish universities have very close links with industry.

The existence of a very high-performance research base together with efforts towards industrial redeployment on the part of local organizations are determining elements in attracting investment from the USA and Japan. However, decision-making centres and research and development are largely concentrated outside Scotland which reduces its capacity to create new products.

Nevertheless, in June 1991, the service sector employed a total of 1.391 million people, or 70% of total Scottish employment. This is the sector which has shown the highest growth in terms of jobs.

Amongst primary and secondary activities in Scotland, forestry products and their industrial development are worthy of special mention. Regarding tourism, the potential is higher where there is greater diversity and quality of environment (lakes, mountains, islands, Edinburgh) and where sports facilities are developed alongside accommodation facilities.

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The effects of the recession since 1990 have been lighter in Scotland than in the rest of the United Kingdom. Employment has dropped less sharply and unemployment has risen more slowly (from January 1990 to March 1992, the number of unemployed in Scotland increased by 9.5% compared with 64.9% at national level). The unemployment rate for Scotland is now, for the first time, lower than the national average. GDP (excluding petroleum products) dropped in 1991 from 1.5% as against a national average of 2.5%. The decline in industrial production in 1991 was 2.8% for Scotland (excluding petroleum products) as against a national average of 4.7%. In that same year, overall industrial production dropped by 4.5% as against a national average of 5.2%. Construction increased by 0.7%, whereas the national average dropped by 8.8%.

In Northern Ireland, employment was remarkably stable between 1959 and 1989 but the distribution by sector has changed enormously. Industrial employment (excluding energy and water production) has fallen from 195 000 jobs in 1950 to 104 000 jobs in 1990 and only represents 18% of total employment instead of 36% in 1950. The service sector, both public and private, has increased considerably and now accounts for about 70% of total employment. But the public sector is considerable (38% of all employment). There has been a strong increase in this sector over the last 20 years, in security, the police force, health, social service and education. About 36 000 jobs were created in this sector alone, between 1970 and 1985. The security sector, in particular also saw the creation of 5 000 jobs in the private sector in the same period. The working population engaged in agriculture which numbered 45 817 in 1980 fell to 41 813 in 1990, i.e. a fall of 8.7%.

The performance of the economy on average has been weak. GDP per capita, which was 78.3% of the national average in 1980, was only 75.4% in 1990. The average income of households in 1990 was also 31% lower than the national average.

In 1990, the contribution of the various sectors to GDP was as follows: 4% for agriculture, 3% for energy and water, 17% for industry, 7% for the construction industry, 31% for the private services sector, 14% for the public services sector and defence and 15% for health and education. By decreasing order of contribution to production, the various industrial sectors are broken down as follows: 17% for the food industry, 12% goods, drinks and tobacco, 10% for leather for footwear and clothing, 8% for textiles, 9% for rolling stock and 3% for minerals, metallurgy and chemicals.

The traditional industries have seen a rapid decline. The quarrying plants have closed down. The metallurgy industry, which employed 3 059 wage-earners in 1980, only employed 1 978 10 years later. From 1980 to 1990 the textile industry saw the number of jobs drop from 16 390 to 9 542, and in the rolling stock sector from 13 842 to 10 361. In the food-processing sector, jobs dropped from 19 000 to 17 000. However, the industrial chemicals sector developed and jobs rose from 2 362 to 2 983 in the same period.

A large part (about 50%) of industrial employment originates from foreign investment, drawn in particular by tax concessions. This is a practice which has been in place for some considerable time since, between 1966 and 1971, it gave rise to the creation of 51 industrial production units and 11 600 new jobs. Most of these firms are of foreign origin and only carry out production activities, doing no research or development in the region. Numerous jobs are semi-skilled. The recession at the beginning of the 1980s led to the closure of a number of large foreign controlled firms.

Productivity is low (between 80 and 85% of the national average) and the cost of labour in the industrial sector is higher than the national average. The general level of qualification is low although there has been a considerable effort to improve this. Local companies tend to concentrate on the regional market. Industrial development of

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agricultural products is still insufficient. Services to companies, in particular those of an international nature, are not developed enough.

Unemployment here is the highest in the United Kingdom (14.8% in 1992) and although the proportion of the long-term unemployed is high, it has not changed much over the past two years in spite of the overall national recession. In some areas the unemployment rate is very high (> 30% in Strabane).

Unlike employment which has been remarkably stable over the past 30 years, the rate of unemployment has fluctuated greatly following the changes in the economy at the national level which, in turn, influence the migratory flow, demography and level of activity. The relationship between supply of employment and the level of unemployment is not close because of the low level of activity and factors of migration.

In spite of these rather unfavourable structural components, the economy of Northern Ireland has progressed in the last decade, especially in the second half. GDP increased by 3.5% annually from 1981 to 1987 and household consumption by 4.4% in the same period. Public expenditure, which accounted for 70% of GDP in 1979/80, accounted for only 65% in 1989/90. Production increased by 7% from December 1988 to December 1989 as against 3% for the national average. Over the past 10 years 28 000 jobs have been created in services in the private sector. Unemployment dropped from 17.7% in 1986 to 14.1% in February 1990.

These recent tendencies reveal a number of changes in the economy of Northern Ireland which are due to the renewal and diversifying of activities.

The population is unevenly distributed since Belfast, the centre and pole of attraction, has about 600 000 inhabitants, Londonderry to the north about 63 000 inhabitants and Newry to the south about 20 000 inhabitants.

The main university and research centre is the Queen's University of Belfast which specializes in agriculture and the food sciences, engineering, chemistry, medicine and the sciences. The rural areas are not well served in tertiary services, in particular services to business.

One of the main handicaps Northern Ireland has is its peripheral nature both in relation to the markets in the United Kingdom and those in the rest of the Community. Shipping, international air links and internal infrastructures are still inadequately developed. The land transport routes between Belfast and Dublin need to be improved. However, the telecommunications network has been modernized. A better anchoring to the single European market could be obtained by consolidating intermodal links with mainland Scotland.

The tourist potential is considerable, especially around the lakes, but remains underexploited. The hotel and catering sector is progressing, however, since the number of jobs increased from 15 000 in 1980 to 21 800 in 1990.

The environment is generally of a good quality, with the exception of some urban areas and former industrial zones which need to be given a new lease of life. A number of steps have already been taken in this direction over the past few years.

#### **4.1.2. Prospects**

##### *4.1.2.1. Trend-based scenario*

The trends in the labour market in the two areas show a number of similarities due to the presence of important heavy industries, but they differ greatly in their structure and their geography.

In Scotland, the decrease in the working population began in 1979 and is likely to continue (a decrease of 1.9% between 1988 and the year 2000 is projected, in spite of the increase in the number

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of women in the workforce). This fall is due to an increasingly ageing population (the under-25 age-group will fall by more than 20%) and to increased emigration. In contrast, in Northern Ireland the working population will increase considerably between now and the year 2000 (between 67 000 and 75 000).

In Scotland, the process of deindustrialization, which has already started is responsible for the relatively high rate of unemployment (10.1% in 1990 for the whole of Scotland and 12.1% for Strathclyde). The unemployment rate should decrease between now and the year 2000 to about half the current rate because of the decrease in the active population and a tendency towards an increase in the number of jobs available. This is, however, on the condition that the problems of adaptation and retraining are addressed. The current process of development is based on highly qualified professions whereas about half of all the Scottish unemployed have a low level of qualification.

The anchoring effect of the relatively high level of qualification required for employment offered and the presence of local research centres means that the endogenous process has probably begun even though the origin of the capital is external. The fact that high-tech industry has taken root is sufficient for one to consider that a new economic base has been laid.

Scotland becomes a driving force for development because of its very strong position in electricity and engineering, especially in Glasgow and Aberdeen where considerable experience in underwater engineering technology exists, linked to the off-shore petroleum industry. Added to that, it has experience in food-processing technology. The lack of services to business could, however, prove to be detrimental in the long term.

In Northern Ireland, the trend-based hypothesis should take into account the good performance of

the economy during the 1980s and the beginning of a change in the productive structures. The development of these structures must be kept distinct from the components of the labour market. Export-related industries will develop but at a modest pace, while industries which are not so competitive will continue to lose jobs. The development of the tourist industry will also take place slowly. The projected rise in the birth rate shows that the number of young people coming into the labour market will continue. Unemployment will not decrease significantly in the 1990s given that three new jobs are currently required to absorb one unemployed person (because of the simultaneous increase in the activity rate and the reduction in emigration).

In both regions, there is a considerable imbalance between town and country, the large towns mainly dominating all other urban centres, especially for top-level services.

In Northern Ireland, a number of urban areas and former industrial zones do not present a very attractive environment. In Scotland, Glasgow still carries the scars of its former industrial period but an important programme of urban renewal and economic redeployment is under way at present. Other Scottish cities, Edinburgh and the new towns in particular, present a much more attractive environment.

In both regions, the concentration of people and activities around the large urban centres continues to be detrimental to the smaller towns, and rural areas in particular have been directly hit by the process of depopulation.

The decline in the agricultural workforce continues, but at a slower pace since the process has been going on for some time. In a trend-based scenario the agricultural workforce should drop by 7 000 between 1988 and the year 2000 in Scotland and by 2000 in Northern Ireland. In Scotland, in particular, this is due mainly to people going into retirement. This trend will be accompanied by an

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increase in the size of production structures and a general extensification of livestock farming and crop cultivation. In a trend-based scenario the tourist industry would continue to make moderate progress but with no renewal of products offered in spite of some improvement in accommodation facilities.

As far as transport and accessibility are concerned, a number of zones will remain isolated, that is remote from the main transport routes, especially in Northern Ireland (with the exception of the coastal area opposite Scotland) and in some parts of the Highlands and the north and north-west of Scotland.

Only road connections from Belfast are due for improvement between now and the year 2000. As for Scotland, some routes are being improved: those between Glasgow-Fort William-Inverness, Inverness-Perth-Glasgow and Dumfries-Ardrossan.

The electrification of the Glasgow-Edinburgh railway line via Holytown has also been scheduled as has the rail-road link between Scotland and the Channel Tunnel.

The Plymouth-Glasgow route makes up an Atlantic corridor (2 x 3 lanes) balancing the London-Edinburgh corridor connected to the Channel Tunnel. The Scottish section of this southern corridor has recently been completed (A9 between Perth and Inverness). It is hoped that it will help to lessen the effect of the attraction of the Channel Tunnel on the Atlantic regions of Britain.

Connections with the west of the Highlands are to be improved. The secondary network of roads linked to the west coast axis and connecting the outlying Highland regions will be improved in the short term (Fort William-Mallaig; Inverness-Ullapool; Inverness-Lochinver; Inverness-Scrabster). This will permit improved links between the regional administrative centres and some of their more peripheral zones of influence (between the

Highlands and Islands off the west coast of Scotland).

The access to ports offering sea links to the islands of Arran, the Hebrides, the Orkneys and the Shetlands will be improved.

With its numerous airports, Scotland has good links with the European capitals and North America. Extensions to Glasgow airport have been scheduled.

The eastern part of Scotland has many more business and trading ties with the coastal areas of the North Sea than with the Atlantic regions.

There are two main corridors which make up the structure of the economy and business in Scotland: Glasgow-Plymouth and Edinburgh-London.

With the exception of Glasgow (which still carries the scars of its former industrial period although there is an important programme of urban renewal and economic redeployment under way at present), Scotland prides itself on its undeniable quality of life (the quality of its natural and cultural environment, the attraction of the new towns).

#### *4.1.2.2. Intervention-based scenario*

One of the major requirements in an intervention-based scenario in these two regions, both of which have been marked by industrial redeployment, has to be the intensification of vocational training and professional retraining, given that the new sectors being developed require a far better qualified workforce than that to be found in the declining sectors.

The second requirement must be to revitalize and enhance the endogenous industrial potential so as to limit the relative dependence on external investors, on the one hand, and to enhance the strong industrial potential in technological research (especially in Scotland), on the other hand.

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At stake is the conversion from an era marked by manufacturing activities linked to the strategies of international conglomerates with the risk of redundancies in an economic downturn, as at present, to an era in which activities are anchored firmly to internal requirements and are of a high technological level; hence the growing role of the top-level research centres (Edinburgh and Glasgow) and the new industrial centres such as Silicon Glen. The process should be facilitated by the fact that change has already begun and need now is to accelerate development by inciting the creation of new companies and by multiplying the structures for the transfer of research results to industry.

In Northern Ireland, a strategy allowing local companies to open up to external markets must be instigated so as to make them less dependent on the economy of the United Kingdom. Assistance from the public sector should be directed to training, research, quality and design. Access to innovative techniques must be improved for small and medium-sized businesses and company loyalty should be actively encouraged. Priority should be given to attract investment from foreign companies.

The development of new activities, the spin-off process and the enhancement of research would no doubt be facilitated by interregional and transnational industrial and scientific cooperation with other Atlantic regions and with the more central regions of Europe. It should not be forgotten that Scotland is far from being exclusively drawn towards the Atlantic and its coastal regions or countries, in spite of the high North American element in investment.

Improving the environment, whether it be of the former industrial zones or run-down urban areas or the general attractiveness of high-level services and equipment, should facilitate the process of change in a significant manner.

Bringing internal balance back to these regions could be done by relocating a number of high level tertiary functions (cultural, scientific, services) to smaller towns and secondary poles of attraction (Inverness, Perth, Dundee, Aberdeen, Dumfries, Londonderry and Newry). The development of these centres is more often than not dependent on the upgrading of land-based infrastructures.

The promotion of rural tourism and the diversification of agricultural production should contribute to a reduction in the flow from some rural zones, especially the inner and border regions of Northern Ireland. The development of tourism will necessarily mean an improvement in what is on offer and better training for operators. The potential attractiveness of Northern Ireland, particularly the region of the lakes, needs to be improved considerably as has been done in Ireland.

Promoting cross-border cooperation between Northern Ireland and Ireland should include making endogenous activities more dynamic (small and medium-sized businesses, tourism). In order to do this properly, transport networks between Belfast and Dublin need to be modernized.

The important peripheral nature of a large part of these regions means that serious measures need to be taken to reduce isolation, not only on the level of infrastructure and transport but also in telecommunications (especially in mainland Scotland). This scenario, if it was implemented, would go a long way to slow down emigration from Northern Ireland, give more internal stability to both Scotland and Northern Ireland and facilitate the process of industrial redeployment while maintaining minimum subsistence in rural zones.

## **4.2. Ireland**

### **4.2.1. Current situation**

Ireland continues to suffer from its peripheral position and the small size of its internal market.

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With the completion of the Channel Tunnel in 1993, Ireland will remain the only large area in the Community which has no land links. This means that interregional air and shipping links are very important for territorial continuity, especially those with Wales (sea links between Dublin and Holyhead and between Rosslare and Fishguard), as are links with the capitals and large cities of the Community to accelerate its European integration. Measures to reduce isolation are all the more crucial since an Irish motorway system is non-existent and the reduced rail network is in a state of neglect and disrepair. The southern links between Northern Ireland and the south coast via Dublin are poor but are being improved.

The level of unemployment in Ireland is high (16.9% in 1990) and over the past 10 years total employment has dropped more than 2% so pressure on the labour market is high. The natural annual increase in population between 1981 and 1990 was 30 700 but emigration accounts for an annual 20 500 which means 5.9 people per 1 000 inhabitants leave Ireland each year.

The marked expansion of the service sector is a positive note and a recent phenomenon following many years of weak internal demand. Prospects for continuing development are good (employment in the tertiary sector increased by 7.9% between 1981 and 1986) but the tertiary sector is mostly concentrated in and around Dublin. Urban areas are to be found mainly on the coastal area of the Irish Sea: Dublin (with a population of one million), Cork (population 173 694) and a network of small coastal towns (Dundalk, Drogheda, Bray, Rosslare and Waterford).

To the west, urban areas are also mainly on the coast (Sligo, Galway and Limerick). In the centre, the urban structure is mainly to be found around small centres such as Carrick, Athlone, Kildare, Carlow, Kilkenny, Cavan, etc. With a lack of urban centres of attraction and a very diversified economy, the tertiary sector here is very limited.

The potential for tourist development exists in the area of sporting or adventure holidays in pleasant surroundings with good quality facilities.

Because of the high level of intensity of employment (about 70 000 jobs in 1988), tourism has a potentially important role to play, all the more so since international tourism is on the increase. But competition is more and more fierce; 25 000 new jobs are projected in this sector in the short term. Prospects for growth are centred around the development of specific areas (Byne Valley, Ring of Kerry and the River Shannon) and on the definition and promotion of more sophisticated tourism products (golf, fishing, yachting, leisure parks).

The expansion of tourism for health, business and cultural purposes has been envisaged but requires a higher level of professional training on the part of those offering these services, improved accessibility for regional airports and enhanced tourist facilities and services in those towns which are lacking them, with the exception of Dublin.

Agriculture, still largely traditional (employing 14.9% of the active population but accounting for only 9% of GDP) and the high density in rural areas which results, contributes to a well-balanced economy and continued maintenance of the countryside: this is an important point if tourism is to be developed.

The agricultural system is based on numerous medium-sized family farms (33 ha per farm worker). Even so, the number of agricultural workers is falling (-9.7% between 1981 and 1986).

Livestock farming predominates (87% of gross farm production) and these products are well placed on international markets (beef makes up 30% of foodstuffs exports).

Obtaining the best return on this type of agriculture means diversifying (horticultural products, stud farming of horses, rabbit farming, goat farm-

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ing, rural tourism) and improving marketing and distribution in terms of quality and added-value, with better control of the processing chain.

Industrial jobs fell by nearly 20% between 1979 and 1987 (255 664 in 1979, 205 899 in 1987). The main sectors are textiles and clothing (-44%), leather goods (-33%), food processing (-24.8%), and production of rolling stock (-60%).

Growth sectors include chemicals (+3.5% between 1979 and 1987), office automation (+100%) and electrical construction (+29%). However, these highly productive sectors are represented by foreign companies (99%), which are predominantly American.

Recent trends in industrial employment show the duality of Irish industry. The sectors in decline are those specialist industries which are highly-labour-intensive and which saw their competitiveness and profitability drop in the 1980s, whereas the growth sector consists of companies belonging to multinationals requiring intensive work and which are not integrated into the local economy. But the foreign firms, employing about 90 000 people in industrial jobs, are the ones that created practically all the new jobs in the 1980s and 13 700 in 1990 alone. However, the new jobs in this modern sector do not yet compensate for the losses in the traditional industries. Even a growth rate of 2% in 1991 appears to be insufficient for the development of high-tech industries and a growth in jobs.

The share of research and development in relation to GDP in Ireland is below 1% and, in addition, is mostly in the private sector, i.e. dependent on groups' decision making. Research in the private sector is concentrated in electricity and electronics (36.8%), whereas research in the public sector is more related to industrial technology and food processing. The main poles of technological research are in biotechnology, process automation and micro-electronics with the National Microelectronic Re-

search Centre being considered as a centre of excellence in the design of analog circuits.

Ireland also has an agency for the promotion of science and technology (EOLAS) which helps to put university resources at the disposal of industry. The main technological centres are to be found in Cork, Dublin (Innovation Centre), Limerick (Plassey Technological Park) and Galway. Besides, this latter small international technological park shows that small centres can develop in spite of certain handicaps related to difficulty of access and the absence of private initiative.

## **4.2.2. Prospects**

### *4.2.2.1. Trend-based scenario*

With its young population and dynamic demography, the growth in the workforce between now and the year 2000 will be high (between 165 000 and 260 000 according to forecasts). This growth can only be absorbed with difficulty by an upward trend in employment (which has dropped by 2% in the past 10 years) even though a reversal of this trend is currently being observed. This recent dynamic recovery is not yet a general trend and numerous structural handicaps remain (low income, insufficient infrastructure, absence of towns serving as dynamic relays, etc.). There is, therefore, a real risk of increased emigration. The unemployment rate in Ireland is high (16.9% in 1990) and even if prospects tend to indicate a fall, job instability and insecurity for young people and those with insufficient qualifications will not improve. Even a growth rate of 2%, as in 1991, appears to be insufficient to raise the skill level to meet demand.

Agriculture is still very important in Ireland, particularly in terms of employment. In a trend-based scenario, by the year 2000 there will still be about 143 000 jobs in this sector with an average of 40 ha per farm worker which means some extensifi-



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cation of the system and the need to continue to promote rural tourism, an activity which is perfectly compatible. Employment in the fishing sector is becoming more insecure and is falling.

In a trend-based scenario, national industries (specialization in textiles, leather, and food processing in particular) will continue to decline whereas foreign investment, which could mark time in the years to come, drawn by more central locations in a post-1993 Europe, will not be able to make up for the losses in the traditional industries.

So with no scientific centre of a size to be self-sustaining, foreign capital of an immaterial nature will not be drawn. Growth will therefore be all the slower as Ireland continues to specialize in industrial manufacturing with a high assembly content including the high-tech sector, and the fraction of industry that has modernized is propelled by strong outside forces in a context marked by very tough competition, especially in electronics.

However, sectors such as chemicals, office automation, electrical construction remain dynamic. Urban structures and top-level services continue to present an imbalance. Dublin is getting stronger, in spite of the development of three other centres (Cork, Limerick and Galway). The disparities are growing between a heavily populated, dynamic east coast and a fast depopulating west coast.

This handicap is in addition to continuing difficulties of access in spite of improvements in internal connections due to the upgrading to motorway status of the Dublin-Dundalk, Dublin-Kinnegad and Dublin-Portlaoise roads and the upgrading to dual carriageway of the Dublin-Rosslare road by the year 2000. On the railway network, a direct goods line between the port of Rosslare and the port of Dublin is planned, and by 2010 the modernization of the Dublin-Belfast link should be well under way. However, the south, west and north-west will still remain underdeveloped in terms of sophisticated land transport. The regional airports are be-

ing upgraded and given air navigation equipment (Galway, Kerry, Sligo and Waterford): Shannon and Cork airports are continuing to expand and a new terminal is being built in Dublin. There is considerable investment in infrastructure and handling equipment in the ports of Dublin, Rosslare and Waterford. However, interregional transport services by air or sea, particularly with other Atlantic regions, are insufficient.

Because of geographical proximity, shipping routes and their potential for strengthening links between Ireland and Wales (improvement of shipping and road links in the Landbridge system) can only be improved, in particular in the context of European integration.

#### *4.2.2.2. Intervention-based scenario*

Limiting potential imbalances in the labour market in Ireland will require firm action on the productive structures.

As far as the industrial sector is concerned, only making endogenous firms more dynamic can prevent their progressive decline.

With State assistance, technological research centres (Dublin, Limerick and Galway) are developing and transnational cooperation in this field could give the necessary impetus. Relatively low labour costs for the time being make products competitive in the single market.

The diversification of agriculture which has already begun (horticultural products, stud farming of horses, rabbit farming, goat farming) must be continued and accompanied by an improvement in marketing and distribution in terms of quality and added-value. To carry out these objectives, efforts in training and advice given to farmers must be intensified as must efforts to those in the fishing industry, since many of them will be obliged to redeploy and retrain.

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Rural tourism will develop strongly which will both help ensure the settlement of rural populations and improve their incomes, and ensure the continued maintenance of the countryside and limit the tendency towards desertification.

The expansion of tourism for health, business and cultural purposes will continue with improvement in professional training for those offering these services, an enhancement of tourist facilities and services and improved accessibility.

A policy of decentralized development in high-level services will continue so as to diminish regional imbalances and enhance the attractiveness of small and medium-sized towns both for companies and for tourism. The domination of Dublin can thus be mitigated.

In the field of transport, measures to improve access to isolated and poorly serviced areas will be continued, in particular with the construction of a north-south dual carriageway ring road in the west of Ireland.

The improvement of new transport services will be as important as the improvement in infrastructures, especially the air and sea links with secondary centres and medium-sized towns.

The development of transnational interregional transport links will give new impetus to development in areas away from the capital. The quality of service on the sea links between Ireland and Wales will be improved considerably, especially with the setting-up of intermodal transport services and will greatly reduce the need to break bulk.

In this context, the tendency towards emigration will be limited especially for those with high-level training, and a high-quality endogenous economy (industries, agriculture, tourism) can emerge, thus mitigating the dependence on foreign investment.

## **4.3. South-west England – Wales**

### **4.3.1. South-west England**

#### *4.3.1.1. Current situation*

Regarding demography and employment, the 1980s have been very good to south-west England. However in the past two years the trend has been changing.

South-west England has had the highest rate of demographic growth of any of the regions in Britain with the exception of East Anglia, the main growth factor being interregional migration, especially from south-east England. This growth by migration has taken place mainly in the coastal counties of Cornwall, Devon and Dorset and has counterbalanced the often negative effects of natural trends. A large part of the migrant population is made up of pensioners. In other parts of the region the migratory movements have been more diverse, the active population being more mobile, and natural trends are often positive.

During the 1980s there was strong growth in employment in south-west England. The rate of growth in employment and services was higher than the national average.

Employment in industry and the primary sector grew less rapidly than the national average. Numerous factors contributed to this development: the proximity of London and the south-east, the attraction of the environment on high-tech industries, the multiplier effect on the economy of the interregional immigration flows, the high level of public expenditure in the defence sector which protected the industries of the region from the recession in the early 1980s and, lastly, the dynamism of the small and medium-sized businesses.

Unemployment has greatly increased in south-west England in the past two years. In September 1992

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the rate of unemployment in the south-western counties varied between 8 and 11.5%: Gloucestershire (8%); Wiltshire (8.2%); Somerset (8.5%); Avon (9.6%); Dorset (9.7%); Devon (10%); Cornwall (11.4%). Although the current rate in Wales (9.2% in September 1992) is lower than the national average, the growth in the number of unemployed has been twice as much as the national average since 1990 (+ 139% as against 74%). The general increase in unemployment over the whole of the region has been higher in the counties where the unemployment rate is the lowest: + 201% in Dorset and + 179% in Wiltshire and + 149% in Gloucestershire, whereas the rate of unemployment in 1992 was lower than 8%. On the other hand, the counties with a high rate of unemployment in 1992 (12.1% in Cornwall, 9.6% in Devon) had a slightly lower growth in the number of unemployed (+ 126 and + 119% respectively).

In a number of labour catchment areas, the increase in the number of unemployed over the past two years has been particularly high: + 426% in Warenham/Swanage; + 284% in Newquay and + 257% in Cirencester. A more detailed examination of the economic structures shows the reasons for this trend.

Although south-west England has the highest per capita GDP in the whole of the Atlantic arc, internal disparities in the region are significant. The counties of Gloucestershire, Avon and Wiltshire have a per-capita GDP higher than the British national average whereas those of Dorset, Devon and Cornwall in particular are lower. Disparities of the same order can be noted in average household income.

Primary sector activities are in decline, whether in agriculture, fishing (because of Community restrictions) or mining (uncompetitive). The same applies to employment linked to the forestry sector. This trend concerns the westernmost parts of the region (Devon and Cornwall in particular), the level of income being lower here, the proportion of

seasonal employment and the level of unemployment being higher and the problems of accessibility greater.

The industrial structure of south-west England is quite diversified, even contrasting. A number of areas are specialized in fairly traditional activities such as the footwear industry (North Somerset) or rubber (West Wiltshire) whereas others have more modern sectors such as the aeronautical industry (Avon, Somerset and Gloucestershire) or electronics-electrotechnical industry (Devon and Wiltshire).

The proportion of high-tech industries is generally high, especially in the large centres of the region. The defence-related industries (aeronautics, arsenals, etc.) were important job providers, well spread out over the whole of the region: Bristol/Bath, Weymouth/Portland, Cheltenham, Yeovil, Plymouth, north Wiltshire, etc. They are currently suffering from the drastic cuts in national defence spending. They account for a large part of the increase in unemployment over the past two years.

However, there are other causes for the increase in unemployment, especially the nationwide recession which has had a particular impact on small and medium-sized businesses causing numerous bankruptcies. This shows that the dynamism of this sector over the past decade had a very fragile base.

The service sector, also important in south-west England, is not exempt from problems either. Between 1983 and 1990, 292 000 jobs were created in south-west England in this sector, i.e. 84% of the total growth in employment.

Jobs in services to the business sector increased by 91 000 in this period. Growth was particularly significant in the counties of Avon, Wiltshire and Dorset. Jobs in insurance, the banking sector, and services for businesses concentrated especially around Bristol, Bournemouth and Cheltenham.

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Technological research in both public and private centres gave significant drive to the high-tech sector. However, employment in the banking sector began to decrease. As for tourism, which accounts for 10% of jobs in south-west England, it is declining particularly in the traditional holiday resorts specializing in long stay holidays (Weston-super-Mare, Torbay, Newquay, Weymouth, Minehead, Ilfracombe and other smaller centres), whereas rural tourism is not sufficiently optimized given that more than six million visitors come to Devon and Cornwall each year.

The decline in employment is also partially related to the inadequate level of professional training.

As for transport, the South-West Regional Planning Conference believes that the M4, M5 and M3/A303 motorways serve the region adequately, especially the northern and eastern parts, but that a number of links need to be improved to increase accessibility, particularly in the far south-west. Indeed it has no direct links, road or rail, with the Channel Tunnel and the north-south links connecting a number of western Channel ports and the region are insufficient. The existing rail infrastructure needs to be modernized substantially and electrified. Regular air links with continental Europe are inadequate and a large regional airport is lacking.

The quality of the environment is considered to be of paramount importance if south-west England is to remain a prosperous region. Some tendencies or situations are worrying in parts of the region, the deterioration of the urban framework and the effects congestion is having on large urban areas especially in the north and east of the region. More prosperous areas have a limited capacity for absorbing growth. There are other pressures on the coastal areas, much in demand for the voracious urban appetite.

#### *4.3.1.2. Trend-based scenario*

The South-West Regional Planning Conference forecasts an increase in the active workforce of 162 000 between 1992 and the year 2000 and of 94 000 to 115 000 for the period 2001-11. Regarding job offers, projections, even recent, made by specialized organizations, have only a relative reliability, given the worsening of the situation over the past two years. One can only assert that the growth rate in new jobs in the 1990s will be considerably slower than that of the 1980s. Foreseeable losses are substantial. In defence-related industries alone 50 000 jobs are threatened. These are mostly top-level jobs which could cause qualified people to emigrate. Agriculture, financial services, tourism, etc., will all shed jobs.

A number of improvements will probably be made in transport between now and the year 2000 such as the road links from Poole to the M4, from Swindon to Bournemouth, from Weymouth to the M5, from Swindon to Gloucester, from Minehead to the M5 and from Bristol to Southampton. But weaknesses will remain: access to the Channel Tunnel, the rail network of the region, access to the far south west and air links with continental Europe.

The deterioration of the environment and continued congestion in some large urban areas, added to local social problems linked to the rise in unemployment, will limit the attractiveness of the region for outside investors.

The decline of the rural and coastal areas dependent on tourism will continue through lack of diversification of activity.

#### *4.3.1.3. Intervention-based scenario*

In view of the challenge presented by the current situation and trends, a double strategy will be developed by:

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- improving a number of conditions for the region as a whole;
  - specific treatment of local problems in given areas.

Amongst the overall conditions to be improved are:

- the level of training;
- infrastructures and transport services;
- the overall quality of the environment;
- integration of the region into Europe.

The improving of the general level of training, which would take into account the characteristics of the labour market in the region, should enhance the general level of attractiveness of the region for outside investors, permit diversification and enable continued growth in the high-tech sector.

Major road and rail infrastructures will be improved so as to facilitate access to the Channel Tunnel. The central railway line will be modernized and electrified. The London-Penzance link via Bristol and Portsmouth and the Swindon-Gloucester and Exeter-Waterloo lines will also be improved.

Links with continental Europe will be made easier by the Tunnel, as well as through development of shipping links, especially from the ports of Plymouth and Falmouth towards the west of France, Ireland, Spain and Portugal as well as towards the North Sea. A number of regular, direct air links with some of the larger European centres will be established from a new central regional airport while the regional airports of Bristol, Exeter, Plymouth and Bournemouth would maintain regular air services with the airports in London.

In order to facilitate the transfer of rail freight through the Tunnel, an intermodal hub is planned in Avon with secondary hubs in Gloucester and Plymouth.

The effects of congestion in the large centres will be reduced by improving intraurban public transport in Bristol, Swindon, Gloucester, Exeter, Bournemouth and Plymouth, by controlling urban sprawl and directing growth to medium-sized towns, especially due to improvements in connections and telecommunications networks. New and attractive business parks would be developed for investors at the same time, in particular in Bristol, Bournemouth/Poole, Swindon, Gloucester/Cheltenham and along the M4 and M5 corridors.

Better integration of the region into Europe would be ensured by expanding commercial ties with continental Europe. To increased links with more central regions could be added new links with the Atlantic regions, especially if new transport services were developed. Integration into Europe would also gain ground through cooperation in the fields of technology (electronic and mechanical engineering), training, research (biology, the marine sciences), tourism and culture.

Problems specific to given areas would be treated individually. Centres with redeployment problems would be subject to a concerted effort on professional training and renovation of business premises and housing.

Areas left by military activities would be converted, fitted out and made attractive to new investors. Specific urban policies would be implemented in Bristol, Plymouth, Swindon, Gloucester, Bath and Exeter, and more green belts would be designated around urban areas.

Rural areas, especially in the far south-west, would be maintained at a satisfactory level of activity through the provision of better infrastructure and telecommunications, by further enhancement of local products and by promoting rural tourism. Diversification of the economy would also mean assistance to small and medium-sized businesses in the smaller urban centres by creating business parks.

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Areas dependent on tourism would need to see a renewal of tourist products – off season tourism and conferences – with more emphasis on short stays but with a high added-value content. More integrated products should be offered, in particular tours (historic centres with cathedrals: Bath, Exeter, Gloucester, Salisbury, Wells, etc.). Restructuring and tourist promotion should be concentrated in areas able to absorb the creation of new facilities without too much deterioration of the environment. These areas should also promote the diversity of their activities while taking great care to protect the environment, especially sensitive areas, by actively pursuing a policy of creating natural parks and protected coastal areas (national parks, areas of outstanding natural beauty, world heritage sites, heritage coast). South-west England would then be able to cope with the changes in its economy in a climate of relative prosperity while reducing internal disparities.

### **4.3.2. Wales**

#### *4.3.2.1. Current situation*

Economic redeployment and diversification of activity in Wales has been progressing strongly over the past three decades and accelerated in the 1980s. In 1960, 200 000 people, i.e. one fifth of the active population, were working in two sectors: coalmining and steel making. Today these two sectors employ about 30 000 people.

Since the end of the recession of the early 1980s, industrial production has increased at a rate which is double that of the national average. The number of production businesses subject to VAT (essentially small businesses) increased by 60% during the 1980s in comparison with a national average of 25%.

The highest performing industrial sectors in terms of growth during the 1980s were electrotechnical, instrument making, paper and publishing, food

processing, beverages and tobacco, timber and furniture, industrial vehicles, and metal products.

The endogenous industrial framework being weak, industrial redeployment and diversification needed to call massively on outside investment. Relatively low labour costs were a favourable factor. Attracting foreign investment is a long tradition in Wales. During the past 10 years about 1 000 production investments originating from outside the region created or ensured about 100 000 jobs.

The proportion of investment originating from outside the United Kingdom was considerable, since in 1990, 56 000 people were employed in industry by 250 foreign companies, which is about 25% of total industrial employment. Among the foreign companies represented by these investments are Bosch, Toyota, Sony, Ford, Dow Corning, etc. Given that the major part of Wales is rural in character, this investment has had important consequences for its economic structure.

The most important provider of employment in Wales is the tertiary sector (651 000 jobs in 1991, or about 68% of total employment). Public services (excluding education and health) and the defence industries are important (11.5% of employment in comparison with 9% nationwide).

A high proportion of growth in employment in the 1980s occurred in the business services sector, where Wales and its capital Cardiff are somewhat behind the other neighbouring regional capitals (Bristol and Manchester). Growth in the business services sector exceeded the national average by 15 points between 1985 and 1992, and this growth was mostly in South Wales.

The trend in the primary sector is much less positive. Agriculture, forestry and fisheries employed 18 000 people in 1991, or 1.86% of total non-independent employment. If mining and energy production is added, this becomes 9.2%. Welsh agriculture is highly specialized in livestock farm-

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ing (mutton and lamb, beef, milk). It is therefore subject to the CAP reforms. Farm incomes in hilly areas have dropped by 50% in the past few years.

Tourism plays an important part in the Welsh economy. It provided 95 000 jobs in 1991, and raised UKL 1.3 billion in revenue. After a drop in the early 1980s, recovery created 1 500 jobs annually on average between 1982 and 1987. The total number of tourists in 1991 was estimated to be 8.7 million of whom 640 000 came from outside the United Kingdom.

Internal economic disparities in Wales are considerable, the south and east being more developed. GDP estimated by county in 1991 showed that South Glamorgan reached 106.9% of the national average and Clwyd 92.7% whereas the counties of Mid Glamorgan (72.2%), Dyfed and Powys (77.8%) were well below. Gwent (85.5%), Gwynedd (81.1%) and West Glamorgan (85.4%) were on a level equivalent to the Welsh average (85.4%). The mechanics here are not all uniform. The economic levels of some counties increased significantly between 1979 and 1989 in comparison with the national average of GDP. This was the case in Clwyd which rose from 75.3 to 92.7%, Gwynedd (from 75.9 to 81.1%), Gwent (from 82.6 to 85.5%), South Glamorgan (from 102.5 to 106.9%). Others, on the contrary, saw their relative level decline during the same period: Dyfed, Powys (falling from 89.6 to 77.8%), Mid Glamorgan (from 76 to 72.2%) and West Glamorgan (from 94.2 to 85.4%). It should be noted that the disparities in household income are far less pronounced than those of GDP or unemployment.

Average household income was 85% of the national average, with variations ranging from 76.6% (Mid Glamorgan) to 90.3% (Clwyd). The average unemployment rate in Wales in September 1992 was 9.9% with variations ranging from 5.8% (Powys) to 11.9% (Mid Glamorgan). The other counties had figures much closer to the average: 8.8% (Clwyd); 9.4% (Dyfed); 9.6% (South Glam-

organ); 10.1% (West Glamorgan); 10.4% (Gwent); 10.9% (Gwynedd).

Within employment areas, the contrasts are even more marked, with significant pockets of unemployment, with a rate in December 1991 reaching over 12%: South Pembrokeshire (14.8%), Holyhead (13.8%), Aberdare (13.3%), Merthyr and Rhymney (12.7%).

The recession which has hit the United Kingdom over the past two years has, of course, had an effect on Wales. The drop in GDP (2.7% in 1991) production, investment and household consumption is much sharper than the national average while remaining lower than in other regions. From January 1990 to March 1992, unemployment increased by 44.6% in Wales, but by 188.9% in south-east England, by 118.2% in East Anglia and by 115% in south-west England. However, the economic structure of Wales is much more fragile than that of East Anglia or south-east England. In October 1992 the unemployment rate in the Welsh counties was above or around 10%, with the exception of Powys (5.6%). The recession has been felt not only in industry, where the number of bankruptcies in the last six months of 1991 was 80% higher than during the first half of 1990, but also in the tourist sector.

In the transport and communications sector there have been a certain number of improvements recently, for example the A55 road link along the northern coast of Wales, which has improved the access of these rural areas to the motorway network. The Conway tunnel is also a recent achievement. In general, the two areas with the best communications are the South Wales coastal belt (Newport, Cardiff and Swansea) and the northern coastal area as far as Bangor. The Cardiff/Wales airport has regular flights to Paris, Amsterdam, Brussels, Glasgow, Dublin, Belfast, Guernsey, Jersey and the Isle of Man. However, improvements are necessary both in regional and interregional infrastructures. In the former category can be

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placed the electrification of the rail networks in the north and in the south which run to Holyhead and Fishguard respectively and which should ensure growth in the amount of traffic transiting between Ireland and the Channel Tunnel (direct rail links to the Tunnel do not yet exist). The latter category includes the necessity of improving the road network serving the rural areas in the west and the centre of the region. The telecommunications networks are also lagging behind, especially in low urbanized areas.

Maintaining the vitality of the rural areas, which cover a large part of Wales, is a concern because of their weak economic level.

In addition to communications infrastructures, there are problems of training and services, both private and public, in the smaller urban areas.

The quality of the environment in Wales is good in general but former industrial activities have had a negative impact (South Wales valleys, coastal industries) which are still causing problems, in spite of efforts to redevelop industrial wasteland.

#### 4.3.2.2. *Trend-based scenario*

Regarding the economy, the projections made by Cambridge Econometrics<sup>1</sup> indicate that GDP, after a decrease in 1991 and 1992, should start to grow again on a national level from 1993. For employment, the estimates are less optimistic: employment should continue to decline until the end of 1993 then increase moderately until 1995.

The largest source of growth in employment will be the service sector, with an increase of 66 000 jobs between 1995 and the year 2000. Industrial employment will shed 39 000 jobs in the present decade.

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<sup>1</sup> *Regional economic prospects*, Cambridge Econometrics, January 1992.

The working population will continue to grow during the decade. In the late 1990s interregional migration will account for most of the rising trend here. The rate of interregional migration should go from 0.56% in 1990 to 3.14% in 1995.

According to Cambridge Econometrics, unemployment will increase until 1993 and then fall to a level of 6% by 1995. Growth in income will be lower than the national average, but will be quite high in the service sector.

A big question mark, however, is the duration of the current recession. Although the economic structure of Wales is less subject to overall economic conditions than previously, a prolonging of the current recession might, nevertheless, have serious consequences on business.

A recent study has indeed shown that for the past two years two thirds of Welsh companies suffered a significant drop in their turnover; three quarters saw their margins being substantially reduced and a half have reduced their labour force.

In the near future, two coal pits will be closed in South Wales. Another is also under threat of closure in North Wales. Jobs are also expected to be lost in Barry docks, Cardiff (Royal Infirmary), Hawarden (British Aerospace) and Llandudno (Hotpoint). In the western part of the region, the decline in the defence industries will probably lead to the closure of RNAD Trecwn and RAF Brawdy, meaning the direct loss of 600 jobs and an indirect loss of numerous other jobs. Clouds also hang over the refinery in Baglan Bay (BP). Even the electronics sector has been affected by the reduction in activity (AB Electronics). Jobs were also lost at the DVLA (Driver and Vehicle Licensing Agency).

Amongst the main factors influencing economic trends in Wales, the current decade will be very dependent on further foreign investment in industry, an increase in financial and business services and an expansion of technological research.



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As far as exogenous investment is concerned, an important financial outlay has been decided for the next five years by the Welsh Development Agency and the Welsh Tourist Board. However, two aspects remain uncertain: low labour costs (this has been a deciding factor over the past two decades) and growing competition from other countries for mobile investment (the Iberian peninsula and countries in Central Europe). Through a selective strategy of attracting investment to certain skilled areas (automotive spare parts, electronics, avionics, etc.), it should be possible to maintain the current investment flow if help from the public sector is also maintained.

The development of financial services, which has been encouraging these past few years (AA Insurance, Chemical Bank, Julian Hodge Bank, Hayter Brockbank, etc.); should continue due to an important reserve of female labour and to the redevelopment of a number of urban sites such as the Cardiff docks.

Encouraging signs are also perceptible in R&D. A science park is to be developed near Newport in collaboration with the Imperial College of Science, Technology and Medicine, London. Foreign companies located in Wales for some time are now beginning to promote research actively. This is the case, for example, of Sony in Bridgend.

In the tourist industry, where the Welsh themselves are faithful customers, great efforts have been made to attract investment (in addition to inducements for investment in hotel and hotel fittings, assistance is now also available for investment in tourist accommodation in farms and guest houses), to improve facilities and training (Welcome Host Scheme), and to improve marketing and promotion outside Wales. The current level of tourist attendance should thus be maintained.

From a trend-based perspective, the future of the rural areas in the centre and west of Wales cannot be considered optimistically. Rural depopulation

will continue and the departure of the young can only increase through the lack of diversification that the rigours of the CAP only exacerbate, because of insufficient substitute employment and lack of attractiveness of the smaller urban centres, itself conditioned by the level of services, communications infrastructures and telecommunications.

A number of large infrastructures will continue to progress (a second crossing over the Severn will be completed in 1996, and a second bridge over the Dee in North Wales has been proposed to facilitate links with north-east England), but intensification of transit flow from Ireland to the Channel Tunnel will be confronted with insufficiencies in the rail links from Holyhead and Fishguard and road traffic will therefore increase.

Another handicap to development will be the insufficient professional training given to young people and the lack of further education. Current structures only have a limited effect: among people having undergone the 'Employment training' scheme between February 1990 and January 1991, 21% found a full-time job, 7% part-time employment, 9% became self-employed and 49% are unemployed.

#### *4.3.2.3. Intervention-based scenario*

An interventionist approach would first of all have to improve diversification of economic activity. The weak internal industrial base would lead to increased efforts to encourage outside investors by putting forward the specificities and particularities of the region. The manufacturing of medical machines and equipment in the north could be developed, by putting emphasis on the attractiveness of the area for this type of industry. The food processing industries could be developed in the western part of the region and services, especially financial, and technological research and its applications in the south-east. The strategy of careful

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selection investment around given specialist centres could be continued, especially by the supply of specialized services and contacts between industry and technological research centres, both in Wales and further afield. The attractiveness of business sites would be enhanced by the redevelopment of urban sites and former industrial areas and an improvement in environmental quality.

The challenge posed by unfavourable trends in depressed rural areas would be mitigated by the further development of interregional transport and telecommunications structures and by a strategy to revitalize the smaller urban centres (business parks for small and medium-sized businesses, accommodation facilities in the tourist sector, maintaining public services for the population as a whole). As for agriculture, the efforts made by the Development Board for Rural Wales to develop and market new products should be intensified. Designating new 'environmentally-sensitive zones', which already cover 24% of the surface area of the region, would enable farmers to stay on the land through the financial assistance they would be given for maintaining the countryside (64 000 ha are already under contract to farmers). Intensifying rural tourism would also mean additional income for these farming communities.

As far as the large transregional infrastructures are concerned, the north and south rail networks which run to Holyhead and Fishguard need to be modernized and electrified, and sophisticated intermodal services need to be set up to facilitate links with Ireland, through to Dublin and Rosslare. Direct rail and road links with the Channel Tunnel should be implemented so as to create a smooth traffic with continental Europe. Air links with continental Europe from Cardiff airport should be developed, especially towards the Iberian peninsula, Germany, the west of France and the Baltic Sea.

New maritime links should be developed toward the Iberian peninsula and the west of France.

The training system needs to be improved and intensified so as to have a higher volume of highly skilled labour. This is essential to attract new and productive investment and to develop activities which will enhance the endogenous resources of the region (farm products, tourist resources).

#### **4.4. Lower Normandy – Brittany – The Loire Region**

##### **4.4.1. Current situation**

The improved access to the west of France is recent and is not yet complete. These three regions remain off the beaten track of national and international transport flows; hence the interest in completing the more coastal routes which would contribute to bringing the transit flows between northern and southern Europe more westward.

These western regions are linked to Paris through the motorway network, the upgrading of the road network to Brittany, and the high-speed rail link down the Atlantic coast (TGV Atlantique). The rapid road transit system has increased the influence of Paris which was already strong. But it has been kept to narrow corridors. Outside of the Paris-Caen, Paris-Rennes or Paris-Loire valley links, and apart from the few road links which have been recently improved such as the Rennes-Nantes road, the intraregional system is unsatisfactory.

There are numerous airports but individual capacity is small and regular links are limited, almost exclusively to Paris. There is only one which stands out and that is Nantes which has a million passengers annually.

The sea could have a unifying effect on this area but although ports are numerous, they are small or medium-sized, with the exception of Nantes-St Nazaire, and there is no real specialization in any of them which inhibits the emergence of economies of scale. The hinterlands of these ports are-

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often small and not easily accessible, which makes rises in market share difficult while the large European ports continue to expand.

While the road and logistics facilities increase and multiply to no apparent design, intermodal and combined transport infrastructures are underdeveloped. For all these reasons, the economic momentum of the economy of western France is more land-based than sea-based.

Urbanization in the Loire Region is very hierarchical, made up of large cities such as Nantes (population 500 000), Angers (population 200 000), St Nazaire (population 130 000) and Le Mans (population 190 000) and medium-sized towns such as Cholet (population 56 000), Laval (population 53 000), La Roche-sur-Yon (population 48 000) or Saumur (population 32 000).

Urbanization in Brittany is also graded, with the major internal centre of Rennes having a population of about 200 000, and a number of coastal towns (Brest: population 200 000; Lorient: population 116 500; St-Brieuc: population 84 000; Quimper: population 66 000; St Malo: population 50 000; Vannes: population 45 500).

Most of these coastal towns have seen population increases in the past few years, the trend towards coastal concentration being confirmed and this network of medium-sized towns is a good bulwark against rural depopulation and emigration to larger towns.

The urban structure of Lower Normandy is dominated by Caen and Cherbourg, the southern part of the region being particularly lacking in urban centres of any significant size, with the exception of Alençon which has a population of 40 000.

The two regions, the Loire Region and Brittany, seem to be demographically dynamic, the trend for the general population and workforce being on the

increase and the migration level positive, whereas that of Lower Normandy is less favourable.

There are several models of industrial development in the west of France represented by, for example, the St Nazaire basin, which is based on large nationalized companies. The Cholet area owes more to family-based, small and medium-sized businesses specializing in clothing and footwear, and Brittany's reputation is based on its dynamic food-processing industries.

The western part of France has no industrial tradition, however the industrialization of the 1960s has continued over recent years. The framework is made up of both a large number of small and medium-sized businesses and the subsidiaries of large companies established in particular since the beginning of decentralization in the 1960s.

New industrial branches have also appeared such as the automotive industry in Caen (Saviem), Rennes (Citroën), Le Mans (Renault), Angers (Scania) and electronics (Thomson, ITT, Alcatel, CETT).

However, this type of industry has only contributed to accentuating the dependence of these regional economies on a restricted number of sectors which are mostly not particularly promising, even more so since a large number of the head offices of these companies are located outside the region. These industries do not therefore contribute much to increasing the level of job creation, nor do they contribute to increasing the level of skills, rather they tend to rely on part-time, short-term labour and resort to considerable use of subcontracting industries.

These regions all have in common a preponderant food-processing sector, but the number of people employed seems to have stabilized overall in the past few years. The food-processing industries in Brittany represent about half the total industrial turnover and 29% of industrial jobs. Between 1987

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and 1990 the figures for the latter increased slightly from 53 784 to 55 997, especially in the meat and milk sectors where the quality of the products is recognized.

In Lower Normandy the food-processing industries, in particular meat and milk, have a strong position but prospects remain poor. Salaried jobs in the food-processing sector are on a downward trend (1984: 20 523; 1987: 19 596).

Labour is being reduced, or at best is stable, due to increased levels of productivity and too much specialization in sectors with little future.

These three regions have positioned themselves in industrial sectors where growth prospects for employment are slight (food processing, textiles, furniture, automotive, electronics, machinery and equipment, shipbuilding) either because of changes in the production process or because the international context is not very auspicious for dominant specializations. Lower Normandy, and in particular the Cherbourg employment area, is going to have to face redeployment following a drop in demand in the armaments industry.

In Brittany, the rubber and plastics industry also increased labour by 500 persons between 1987 and 1990, whereas the textiles industry continued to lose jobs in the same period (- 578).

Integrating research into the local economy is particularly difficult. In Lannion, in Brittany, the electronics sector, which has 1 400 research workers, has only generated about 600 new jobs in small high-tech companies. In Caen, one research opening has got well ahead, that of nuclear and globular physics, but it is not integrated into any of the industrial branches in the region.

These two examples show that high-tech businesses have difficulty in developing because the markets are very narrow and there is little diversification in the various activities. This shows the

interest of creating centres of excellence. But the problem of the narrowness of the local market remains. In fact the basic problem is the considerable lag between this state-of-the-art micro-environment and the general economic environment. What is needed is the development of an industrial framework based on 'middle-tech' industries which could use these promising techniques. But overall the framework is weak, with the exception of some sectors such as food processing.

The research potential of these three regions of western France is insufficient. The number of teachers/research workers is low: Lower Normandy has 1.7% of the national total, Brittany, 4.2% and the Loire Region, 3.5%.

In spite of being well spread over the region, research tends to work by poles rather than by networks. So as to make the university potential more competitive and more high performance, attempts towards specialization of universities are under way so as to try to create centres of competence.

The coupling of research and high-tech firms is beginning to have some effects but these are modest in terms of employment, the opposite of what can be observed in Scotland. The development of RMS technology and optic fibre cable are giving rise to new hopes in this field. The research infrastructure linked to the food-processing industry is also becoming significant (INRA, Ifremer, Cemagref).

In these regions, tourism is directly linked to the quality of the environment. With the exception of the Vendée coast (mass tourism seaside resort) and the Mont-Saint-Michel site, tourism has long been considered a secondary activity here. There are, therefore, a multitude of old, very small-scale and not very dynamic structures due to a lack of investment and qualified personnel.

However, given the rise in demand, the accommodation facilities are being improved (and geared to

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the middle-range market), products are being diversified (golf-courses, river boats, tourism for health and for business) and are no longer concentrated only on the coast: rural tourism is also on the increase, accommodation facilities are being modernized and new products are being offered.

By its growing attractiveness for foreigners and the increase in short-term stay, rural tourism has a strong potential for development. In these regions endowed with a high-quality natural environment, traditional mass tourism has given way to new or modernized structures with facilities for sports and relaxation (golf-courses, thalassotherapy, marinas) or with holiday homes offering various types of services (health, relaxation). The growing appetite of estate agents in these coastal regions is contributing to the density of these already fragile areas and multiplying the risk of environmental damage, in particular of water resources. A number of activities or their consequences (industrial and farm waste) are being focused on the coast leading to conflict over use which could lead to the expansion of a number of activities being limited (aquaculture, tourist resort).

Intensification of tourism, as with intensification of agriculture, has a destabilizing effect on the natural environment and can even lead to damage (pollution of bathing waters and rivers).

These regions in western France were the first to benefit from the CAP and they have made considerable progress in their farming methods but the effects of intensification are only now being measured. In addition, the system of intensive farming enabling maximum employment to be maintained in spite of the tight structures is quite destabilized by the extent of demographic and economic trends.

Between 1979 and 1988, in Brittany alone, the number of livestock farmers dropped by 40%, much greater than the general drop in the number of farms (-22%), which was the result of stoppages of work by smallholders producing milk.

The imposition of milk quotas means that new directions will have to be taken at a time when markets for the other products of the region have known successive difficulties (pig farming, chicken farming, vegetables) and this means that diversification and adaptation is even more difficult.

The trend in employment in the tertiary sector is indicative of an economy in which structural change is not yet complete although the sector has increased over the past few years.

Employment in the business services sector in the Loire Region increased from 38 105 jobs in 1987 to 47 777 in 1990, i.e. +25%, and in Brittany the increase was from 30 640 to 34 881, i.e. +13.8%. In Lower Normandy salaried employment in tertiary retail services rose between 1987 and 1990 from 157 881 to 169 406 jobs. The increase was highest in retail services to business: from 16 730 in 1987 to 20 955 in 1990. The hotel and catering sector also saw an increase in jobs between 1987 and 1989 (8 664 in 1987 and 10 071 in 1989). In Brittany the number of salaried jobs in the business services sector rose from 30 640 in 1987 to 34 881 in 1990 and services to private individuals rose from 91 627 to 96 079 in the same period.

#### **4.4.2. Prospects**

##### *4.4.2.1. Trend-based scenario*

The increase in the labour force in the Loire Region by the year 2000 will be considerable (between 88 150 and 181 730) whereas the increase in jobs will be slight given the number of industries having to redeploy and the modest dynamism of the tertiary sector. Under these conditions the unemployment rate will continue to rise.

Brittany will also have to absorb a considerable increase in the labour force by the year 2000 (75 000 to 150 000 people). The 10 year trend in the development of jobs is quite good and there is low risk of an increased unemployment rate.

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In Lower Normandy the trends forecast that the working population will decrease after a period of strong increase, and, therefore, the unemployment rate should stabilize. The process of economic change, already under way, should continue especially in favour of services, trade and a number of industrial sectors such as food processing, and electrical and electronic construction.

However, some labour catchment areas such as Cherbourg risk seeing a rise in an unemployment rate which is already high (12% of the working population).

Over the next 10 years about 800 000 ha of usable agricultural land area will change hands, of which 500 000 ha in uncertain conditions, and the number of people engaged in agriculture in Brittany in a trend-based scenario will reach 99 408 by the year 2000, with an average holding of 15.2 ha in comparison with 10.1 ha at present.

The number of people engaged in agriculture in the Loire Region will reach 102 716 by the year 2000, with an average holding of 24.6 ha, whereas in 1988 the number was 154 000.

These Atlantic coastal regions in the west of France will be well connected when the interestuary roads are finished. Access to numerous ports and coastal towns will improve (Roscoff-Morlaix; Sables d'Olonne-La Roche-sur-Yon; La Rochelle-Sainte-Hermine; Royan-Saintes-Rochefort).

A certain isolation of inland areas will remain but will be attenuated when the inland Chateaulin-Montauban road is completed, the Nantes-Poitiers-Limoges road becomes dual carriageway and the Central Europe-Atlantic corridor is opened. The sharp increase in traffic between south-west England and Lower Normandy due to the increase in shipping links will progressively produce a new integrating corridor in Europe. The lack of road infrastructure in Lower Normandy to carry this traffic to the main corridors will pose increasingly serious problems.

The main intra and interregional rail lines will be improved (electrification of the Rennes-St Malo-Caen-Le Mans-Tours line, the development of the Nantes-Rennes-Caen-Rennes line, electrification of the Nantes-Bordeaux and Paris-Cherbourg lines) while the high-speed TGV Atlantique line will continue to thrive to the detriment of the connection of a number of medium-sized towns in Lower Normandy.

Measures to reduce isolation in Brittany, the Loire Region and Lower Normandy will have to include the development of ferry services from Roscoff, St Malo, Cherbourg, Caen and Ouistreham to south-west England and interregional air links between Brest, Lorient, Rennes and Nantes in particular.

These regions of western France will be counting heavily on the transit flows due to their central position between northern and southern Europe and are planning to invest in intermodal hubs. But investment will have to be broken down between the numerous medium-sized ports which, in addition, are neither specialized nor connected to the major land infrastructures.

The Loire Region, being better integrated than the other regions of western France, will benefit from its financial centre, even if it has lost some of its prerogatives, and from its notable potential in the research and training sectors (training centres for production engineers). These advantages will enable it to reinforce its industrial base, strongly orienting it to mechanical and electronic construction, and the use of the latest materials.

Brittany, in contrast, will have greater difficulty in accelerating overall change but will remain an important food-processing centre. Becoming increasingly a victim of international competition, there will be an increase in mergers towards large conglomerates, added-value will be given to processing products from both land and sea which will offset the difficulties in other sectors based on the Ford model, insufficiently developed or depen-

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dent on decisions made outside the region. As to Lower Normandy, it will suffer from the different necessities of research and production which often do not correspond and this will limit innovative industrial activity requiring a highly skilled labour force.

#### 4.2.2.2. *Intervention-based scenario*

The continued improvement over the past few years of land infrastructures has contributed to bringing the main urban centres closer to Paris, Rennes, Brest, St Brieuc, Le Mans, Angers and Nantes in particular. In addition to the improvement of rail services between Caen and Cherbourg, more efforts will have to be made to improve connections to the medium-sized towns and rural areas which remain inaccessible, such as central Brittany and the 'bocage' (mixed farmland and woodland) in Normandy. Continuing on from the high-speed train (TGV), and so as to improve connection to all regions, not just to the large cities, the establishment of a new generation of regional train travelling at an average speed of 150 to 200 km/h might be a possibility to consider.

All towns in western France, not just the largest and those closest to Paris, should be able to benefit from, and improve on, growth in Paris. To avoid them becoming mere satellites, the towns of western France should be networked (a network of large towns and a network of medium-sized towns) enabling them to realize their own potential and ensuring better complementarity between them in the upper functions (research) and top-ranking business services (financial, audit, etc.).

So as not to depend exclusively on flows from the megalopolis of Paris and central European areas, there will be two priorities: the development of intermodal hubs and combined transport systems, and a strengthening of interregional air and sea links.

The maritime outlet of these regions is an essential advantage and is not used enough to penetrate other markets, whether they be North American or African. The modernizing of port infrastructures (containerization, intermodal hubs) must be accelerated along with the interconnection of ports (Nantes, St Nazaire, Lorient, Brest, Roscoff, St Malo, Cherbourg, Caen and Ouistreham). Because of traffic congestion in the North Sea, the ports of Nantes-St Nazaire, Brest and Cherbourg should be given the means of becoming off-loading ports.

The improvement in frequency of sea links with south-west England and with Ireland will continue especially from Roscoff, St Malo, Cherbourg and Ouistreham. This will contribute to growth not only in trade and tourism but also in land and property investment on the part of the British.

As to sea links between the ports of southern Brittany and those of the Iberian peninsula, they should be promoted and developed, but investment here should be associated with efforts to reduce the isolation of port hinterlands if it is to be as profitable as possible.

Air links should also be diversified and improved. Interregional air links from Nantes as well as from the numerous other smaller regional airports with limited capacity should be developed, especially with Great Britain and the Iberian peninsula. There should be some complementarity between them as to frequency and geographical connections.

Because of the probable saturation of Nantes airport in the long term, a large west France airport could be a useful structuring element. A wide range of regular links between the Atlantic and continental parts of Europe would give western France a new international outlook which is lacking at present. In addition, an investment of this sort would reduce saturation at Paris airports. However, such an airport, in order to develop to the full, would need to be well connected to existing high-speed land infrastructures (TGV, motorways).

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To accelerate the internationalization of the regional economies of western France, still very much inward-looking and highly dependent on agriculture, and in addition to improving inter-regional transport services, it will be necessary to encourage the introduction and dissemination of technology, in particular to small and medium-sized businesses.

In this scenario it will be necessary to reinforce the transfer of structures and activities (CRITT, technology parks) and gear them more to the existing industrial basin hence the advantage of better promotion and dissemination for the middle-tech sector, better adapted to the needs of a majority of industrialists. The high-tech sector would be geared exclusively to leading advanced businesses often dependent on external decision-making. However, so as not to exclude the best performing companies in highly sophisticated, advanced technology fields (such as biotechnology, biological engineering in medicine, telecommunications, and electronics) and to facilitate the creation of well-integrated high-tech companies, financial services will have to be developed to offer new means for venture capital.

To ensure better vertical integration of key sectors such as food processing, links should be strengthened between universities and research bodies working in the same area.

In addition, there are synergies and complementarities with centres and poles in south-west England and Wales in the fields of mechanics and agronomy; and with centres in Scotland and Ireland in the field of electronics. Technology transfer in industrial processes could be carried out with Portugal. Industries working with new advanced materials are multiplying (the Loire Region and Brittany) but to ensure more efficient development they should form networks so as to benefit from scientific and technological research.

Better dissemination of technology, middle tech-

nology in particular, would enable increased added-value for industrial products and competitiveness for those businesses suffering from international competition. It would also help retain a young, highly qualified and skilled workforce (technicians and management staff in particular). The capacity of centres of higher education and professional training must be increased and the range of type of training more diversified both in subject matter and qualifications.

Raising the level of training for professionals in the tourist industry is particularly necessary. Because of the boom in foreign tourists and the increase in added-value of this sector, improved foreign language skills are essential for local professionals if reception is to be improved, and improved management skills are essential to improve profitability of the large investments required if local firms are not to be supplanted by foreign operators.

From the exchange of know-how and experience with other tourist regions such as Devon, Cornwall and Ireland, new products to meet the demand could be proposed such as tours around a theme (history, architecture, traditional activities, regional cuisine), sporting holidays, cultural holidays, adventure holidays in attractive sites (renowned seaside resorts, islands, forests, marshlands, nature parks, rivers and canals) cultural or artistic activities organized on historic sites. This would also ensure better promotion of diversified and better quality structures in rural areas (châteaux, manor houses, guesthouses).

The enhancement of tourism, especially high-quality rural tourism, cannot be separated from protection of the environment, and hence the necessity of inciting a reduction in agricultural pollution by making milk producers, livestock farmers and industrialists more aware of the problems.

In this same perspective of protecting the environment and balanced management of rural areas,



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extensification of livestock and crop farming is to be encouraged. It could be accompanied by measures to improve products, their marketing and promotion (quality label for beef and vegetables). Lastly, because of the limitations on dairy products and the drop in price of cereals and meat, and to maintain a minimum number of farmers on the land, and their incomes, diversification of production and better processing, enhancing and marketing methods will be necessary. Farmers must be made more aware of this, especially the younger ones.

Faced with the restructuring of the fishing sector and the considerable loss of jobs that will follow, particularly in Brittany, fishermen are going to have to be adaptable. It will be essential to improve skills and diversify to sectors with more promise (fish farming, shellfish, seaweed).

## **4.5. Poitou-Charentes–Aquitaine**

### **4.5.1. Current situation**

Because of their geographical position as transit areas, these regions are crucial to the integration of a large part of the Iberian peninsula into the rest of Europe.

The Bordeaux-San Sebastian road is a main highway, even if the N10 through the Landes does not have motorway status.

Aquitaine is well served by rapid means of communication and is attractive as a region because of the quality of its environment, its university research centre, diversified economic base and its proximity to the Iberian peninsula. It can look forward to durable economic expansion. Over the past few years, there has been a considerable excess in migratory flow but this has been towards the urban centres, medium-sized towns in particu-

lar, and depopulation is growing in the Pyrenean valleys and on the moors of the Landes region.

The urban structure is hierarchized and polarized. Bordeaux and its urban area has a population of 650 000 inhabitants; Pau and its urban area, a population of 130 000; and the Bayonne-Anglet-Biarritz urban area, a population of 130 000. All these areas have seen distinct demographic growth between 1982 and 1990.

In contrast, the urban structure of Poitou-Charentes has four main poles which are of a similar, but only modest, size (Niort: population 61 000, Angoulême: population 101 000, La Rochelle: population 100 000, Poitiers: population 105 000). Bordeaux has a strong influence over the south of the Poitou-Charentes area, Charente-Maritime in particular (population 513 000).

The absence of a large city means that top-level services are limited although the expansion of retail business services has been considerable over the past few years, providing 15 903 salaried jobs in 1987 and 19 677 in 1990. The lack of high-level technical institutions is also significant. To answer the growing needs in training, consultancy and management 60% of Poitou-Charentes' businesses currently resort to using services from outside the region, located in Nantes, Bordeaux or even Paris, particularly since the opening of the high-speed (TGV) railway line.

The tertiary sector of the region is limited to induced or proximity services with one exception: the presence of the main French mutual insurance companies in Niort, established a long time ago. To lessen the effect of these inadequacies, the setting-up of a network to create a quadripartite regional metropolis between Nantes and Bordeaux (Poitiers-Niort-La Rochelle-Angoulême) is envisaged.

With its dominant rural culture, the Poitou-Charentes region does not have a very developed

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industrial framework. It is based on numerous and widely diverse small and medium-sized businesses but interconnection between them is poor and the level of technology low. Regional industry is structured around two types of activity: low growth activities such as consumer goods (clothing, food processing, timber) and activities with a high growth potential (industrial machines and equipment, electrical equipment). But because of an insufficient number of subcontractors, the driving effect they might have on the economic environment is limited. In addition, the region does not seem to have much attraction for foreign investors (it ranks 21st out of the 23 French regions for the portion of regional businesses with foreign participation).

Over the 1980–87 period, the drop in industrial employment has mostly affected the footwear, wood, clothing, land transport equipment sectors, with a drop of 4% or more annually in the number of jobs, whereas the number of jobs in the aeronautical and metalworking sectors has stabilized.

The food sector is relatively weak because it deals mostly with the primary transformation of farm products. These industries risk being confronted with a saturation of national and international markets because they are not well positioned on promising new markets where products are further processed and have high added value. Over the past few years the number of jobs in the food sector has dropped slightly (670 between 1987 and 1990).

The main assets of the region in industrial terms are the businesses producing cognac, which is mostly exported, and leading advanced businesses like Alsthom Atlantique, Aérospatiale (Rocheport), Leroy-Sommer (Angoulême), SAT (Poitiers) and, on the coast, shipbuilding companies producing pleasure craft using a high percentage of new materials.

However, there is not one industrial branch in the region which has reached a sufficient size, or modernized, innovated or taken on new technology at a sufficient pace, to reach the point of emerging as a pole of excellence. This is probably because businesses are concentrated in traditional areas and levels of research and skill are unsatisfactory.

With 0.7% of national potential, industrial research in Poitou-Charentes is not well developed. The region has 1.9% of national potential in teacher-researchers with a strong bias towards engineering sciences (3% of the national potential). Most research is done in Poitiers but La Rochelle is emerging with tertiary level training centres: an IUT (Institut universitaire de technologie), a school of commerce, a school for engineers, and a first-cycle university level in law and science. It also has a number of research centres (CRED, a subsidiary of Ifremer, a National Centre for the Study of Maritime Transport), a composite centre (Polymer, between La Rochelle and Rocheport) and an aquaculture centre on the Charente coast, structured around the CRAIN (research centre for nautical industries) in particular. The CRITT (plastic and composite materials) complements the CRAIN and the M. Dassault Technical College in Rocheport completes the picture to which must be added the Violet Engineering School in La Rochelle. The main centres of scientific research are specialized in the flow behaviour of fluids (120 people), combustion (80 people) and organic chemistry (140 people).

The Futuroscope in Poitiers, initially a leisure park, has now turned to new technological discoveries in a very appealing architectural setting. It wants to become a technological park centred around communication, in particular the use of the teleport. It is also here that a school of engineering is to be established in the near future. The technology park in La Rochelle is centred around the technoforum. The object of the Francophone park is to encourage international economic and cultural exchanges.

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Another advantage is the existence of numerous transfer centres in the main towns, be it in foods, chemicals, imaging, or materials.

Whereas the Poitou-Charentes region, in spite of its new technological ambitions, is still predominantly rural, the regional economy of Aquitaine is predominantly tertiary (60% of jobs). The total number of salaried jobs increased from 798 000 in 1988 to 824 000 in 1990, an annual increase of 1.07%. The drive comes essentially from the growth in employment in the tertiary sector where the number of jobs rose from 316 000 to 335 000 over the same period, i.e. an annual increase of 2% which, for the most part, was concentrated in retail services. The recent growth in employment in retail services to businesses (37 382 jobs in 1987, 43 918 in 1990) and to private individuals (86 027 jobs in 1987, 91 258 in 1990) is very high, whereas the traditional activities in trade and transport have stagnated.

Bordeaux appears to be at the best national level after the capital, both in terms of concentration of services in relation to the rest of the region and in terms of the level of services in relation to the various cities in the region. There are four fields of specialization: design production, training and information, insurance finance, and wholesale trade and intermediate trade services. Commercial activity is based on port activity, the wine trade, the international freight centre and the recent creation of a World Trade Centre.

Gross added-value by sector reveals an industrial sector which is average with strong specificity in the fields of energy, aeronautical construction, leather goods and footwear, and timber. Business demography is quite dynamic: 6.6% of new industrial companies on the national level in 1987, i.e. 31% of all new businesses in the French Atlantic regions.

These prevailing sectors show signs of fragility: the aeronautical industry and energy are very de-

pendent on decision-making from outside the region, footwear is a sector in decline, pulp and paper is destined to grow slowly, and furniture production is in recession.

The production of natural gas declined by 50% between 1974 and 1986, thermal power stations are disappearing and nuclear electricity production accounts for 10% of total French production. The traditional consumer goods industries have decreased by more than 20% in terms of manpower since 1967 and this decline accelerated in 1974, while the parachemical, electronic, aerospace, and precision-engineering industries have increased by 40% in terms of manpower over the same period. Food processing has retained an important place.

Among the prime movers of the industrial sector, Aérospatiale, Dassault, Sogerma, Sextant-Avionique and the SNPE should be mentioned. The aeronautics industry which is essentially linked to defence accounts directly for some 27 000 jobs, including 11 000 around the Bordeaux area and 14 000 in subcontracting. This sector is very much at risk due to the general reduction in defence spending. Research is also very much dictated by the needs of the defence industry.

However, the existence of several poles of technology means that a continued flow of innovation from basic research through applied research to an industrial finality can be envisaged. There are six poles of technology: one around the several large companies in the aeronautical sector, one around IBM, Thomson, France Telecom, Lectra Système, one around the natural sciences, one around the middle-tech concept in construction and public works, mechanical engineering, shipbuilding and food processing. The last is a centre gathering financial management and international trade. All six poles belong to the Bordeaux Science Parks and Bordeaux High-Tech Federations. Bordeaux seems to be a city which about 10 years ago discovered the importance of this synergy in research and the specific engineering it requires. This is expressed in the science park.

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In order to widen the range of these technological poles to include middle-tech applications, efforts to reinforce training structures must be pursued. The same goes for the framework of intermediate technology small and medium-sized businesses. One of the weak points of this region is the insufficient number of advanced schools of engineering.

Industrial research is concentrated around the aeronautical sector, agriculture, food processing, energy production and chemicals. Aquitaine has 4.8% of the national potential of teacher-researchers and acceptable conditions exist for supporting the sciences in Bordeaux. There is a dedication to the space sciences and a weakness in the engineering sciences. The CNRS has 2.9% of its national potential here with a strong representation in chemicals (6.3% of the national potential).

Maintaining the level of employment in industry as well as the level of activity depends on the growth of activities of a highly technical nature. The continuing growth of leading advanced industries introduced since 1960 will not be sufficient because they will have a tendency to slow down in the future. Expansion will have to be phased in through the introduction of a second generation of high-tech industries which is why the research centres, science parks and transfer structures are so important. The weight of the primary sector in these two regions is equally notable even if employment in this sector is currently in strong decline.

The Poitou-Charentes region is the main French region for aquaculture (50% of what is marketed nationally) and the geographic potential is considerable: 12 000 ha of coastal marshland and 7 000 businesses. The multiplicity of small businesses is posing problems to collective management, which is all the more difficult since conditions of health and nutrition need to be improved if the region is to remain ahead of other producers. The future depends on efforts in training and research, and the preservation of the marine environment is paramount.

Agriculture in the Poitou-Charentes area is marked by livestock farming and the number of small, family holdings which are having difficulty surviving the current structural changes in the European market and the CAP. The sector is thus suffering from a latent economic crisis, one effect of which is rural depopulation.

In view of the extent of the rural depopulation, local rural services are in strong decline (closure of shops and primary schools).

Agricultural employment is also important in Aquitaine but is declining rapidly: 56% of farmers disappeared between 1962 and 1982, and 28% between 1970 and 1982, mainly due to the ageing of the farming population, the low rate of renewal and increased productivity.

Large crop farming is developing and viticulture is improving and growing (one third of production is now 'appellation d'origine contrôlée'). Forestry production has increased 1% annually over the last 15 years and this increase is even stonger for maritime pine.

Traditional market gardening and fruit production are declining while new productions are appearing (sweetcorn, kiwi fruit). Livestock farming is restructuring: beef cattle farming is stagnating, but between 1970 and 1986 specialist livestock farming (goats, pigs and poultry) rose faster than the national average.

The fishing/aquaculture sector is stagnating but French tonnage increased by 5% between 1965 and 1985 (tonnage stabilized during this period in Arcachon but dropped in Bayonne).

Finally, the last important economic sector and one with a strong potential for both regions, is tourism. In Poitou-Charentes tourism accounts for 14 000 direct jobs, or 10% of employment in the region, and 79 000 indirect jobs.

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Insufficient capacity in hotels which might draw foreign tourists in off-season periods is a major obstacle to tourist development and to its diversification. The family clientele in the middle-income bracket is dominant. It is drawn, and will continue to be drawn, by the diversity of the open air activities on offer (boating, etc.). Parallel to this dominant sector which will remain, and even increase, the demand for short stay holidays spread out from April to October and accommodation with a good quality/price ratio is increasing. But current facilities do not always enable a more upmarket, wealthier clientele to be attracted, which would increase financial returns and lengthen the tourist season.

The number of tourists in Aquitaine increased considerably in the period to 1986 (+ 30% in hotel overnight stays between 1975 and 1986), but since then the global tourist industry is in stagnation because of the decline in mass tourism at seaside resorts. Nevertheless, the number of salaried jobs in hotels, restaurants and cafés has increased over the past few years (18 332 in 1987, 20 817 in 1990).

Given that overall prospects for development in the tourist sector are favourable, especially due to the probable increase in the number of European tourists, Aquitaine and Poitou-Charentes have a lot of insufficiently exploited potential. Some renowned resorts are modernizing and adapting to the change in demand (golf-courses, thalassotherapy institutes, festivals). But most of the tourist structures on the coast, especially attractive to Europeans, remain traditional, insufficiently equipped and offer few services (organized holidays). In the rural areas, tourism products should be diversified more (tours with a theme, sports activities, cultural activities, gastronomy).

As far as infrastructure and transport services are concerned, the newly operating high-speed rail link (TGV Atlantique) was a considerable improvement, even if the high-speed line does not yet extend to the south of Tours.

The north-south land infrastructures are much better developed than the east-west links, but do have their bottlenecks. To the low performance of the Nantes-Bordeaux railway line should be added the incompleteness of the 'route des estuaires' and the tendency to saturation of the north-south (Poitiers-Bayonne) motorway system (summer holidays, crossing Bordeaux). The bottlenecks in the east-west links are notorious, both for road and rail. The Nantes-Poitiers section is a good illustration.

Interregional air and sea links with the Atlantic regions of other countries are practically non-existent, with a few rare exceptions (the Bordeaux-Opporto air link, for example).

## **4.5.2. Prospects**

### *4.5.2.1. Trend-based scenario*

The trend in the workforce in Poitou-Charentes will change little between now and the year 2000 (between 20 000 and 50 000) but the trend in employment will be of concern because of the decline in the 1980s. Total employment declined by 1.1% (or 6 000 jobs) between 1982 and 1989, whereas it was stable in the rest of the country.

In view of this sort of trend, the rate of unemployment, already high in 1992 (11.3%), is likely to increase sharply and emigration towards other regions will rise again, since the region continues to suffer from existing structural handicaps, such as the population exodus in some areas, the absence of really strong, structured industrial framework, and the absence of a metropolis offering high-level services (certainly compensated for in part by the projected network between towns). The professional system is turned largely to production, the tertiary sector playing only an accompanying role. In a trend-based scenario, it is probable that the passage from an industrial system, based on often fragile small and medium-sized businesses, to a more sophisticated system, where new technology

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plays a large part, will be quite slow and numerous traditional small and medium-sized businesses will bear the full brunt of competition.

In Aquitaine, the increase in the workforce between now and the year 2000 will be much more significant (between 60 000 and 120 000) due to increased growth and a larger population. Faced with this, prospects for employment appear to be quite good because of the drive of the tertiary sector, which does not mean that there will not be crises in given sectors. The unemployment rate (currently 10.6%) should drop sharply; at worst it will stabilize.

The industrial base will continue its transformation towards strong added-value sectors such as chemicals/pharmaceuticals, new materials and electronic equipment.

In this context, the town of La Rochelle is an example: its development is founded on activities requiring specific know-how and a highly skilled labour force, and on the successful dissemination of new technologies, particularly composite materials. The industrial sectors which will shed employment will be, on the one hand, the traditional regional industries (furniture, energy, etc.) and, on the other hand, industries linked to defence (military aeronautics).

The traditional tertiary activities (trade, transport) have seen a reduction in employment which will continue apace. But the tertiarization of the productive system should nevertheless increase, and new activities in the quaternary sector should develop alongside traditional services. This revolution of the tertiary sector will create gains in productivity and will mean a rise in the level of qualification.

The exodus from rural areas with no dense urban structure will continue. The city of Bordeaux will increase its domination over other large towns in

the region and considerably inhibit their development.

The drop in farm employment will continue. In the year 2000 there will probably only be about 50 000 to 60 000 farms left, compared with 90 000 at present. Restructuring of farms by increasing their average size will then follow. This trend could be considered as a stabilizing of the regional agricultural position as efforts towards modernization continue and the livestock population is renewed. Cultivated areas of traditional produce should remain stable and the more competitive crops should increase.

Whereas farm employment in Poitou-Charentes currently occupies 78 000 people (or 13.4% of regional employment), it should decline sharply, given the high number of older farmers (45% of farm owners are above 55 years of age and few have a successor), and the impact of current restructuring due to the CAP and the way it is evolving.

In a trend-based scenario, the working population engaged in agriculture will be around 60 000 with an average of 30 ha per person working, compared with 25 at present.

A number of additional pressures weigh greatly on these two strong farming regions. One is the probable drop in income generated by the CAP reforms. Another is the climatic and environmental pressure due in part to the present acute drought which has lasted for a number of years and in part to the intensive cultivation of some types of crops (maize, for example), which require both large quantities of water and chemical fertilizers.

The tourist sector, which still bears the strong stamp of its seasonal and seaside nature, will continue to contract because of changing trends in demand and the weak propensity for offering products with added-value. A number of large and modern projects along the coast or nearby will

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attract wealthier customers and extend the tourist season somewhat. Rural tourism will continue to grow, but not enough to gain maximum benefit from the rich natural and cultural resources of the hinterland, nor to offer substantial possibilities for economic diversification for rural areas in decline.

The environmental quality, generally good in these two regions, will see the continuation or the emergence of a number of localized problems, such as the quality of water for aquaculture and shellfish, pollution of groundwaters because of intensification in the production of some farm crops, pollution linked to the timber industry, deterioration of wetlands and marshland, and traffic congestion, especially in Bordeaux.

In the field of transport infrastructure, a number of improvements should be made on the basis of projects already commenced. In the road system, for example, the dual carriageways: Nantes-Poitiers-Limoges; Bayonne-Boucau-Tarnos-Ondres; Bordeaux-Mont-de-Marsan; Pau-Oloron; Bayonne-Mont-de-Marsan. The trans-European highway (Bordeaux-Clermont Ferrand) will be opened and the Toulouse-Bayonne motorway finished. The completion of the east-west links will reinforce the position of both Bordeaux and Bayonne as crossroads. In the railway system, the high-speed link will be continued to Bordeaux, improving travel times considerably but reinforcing the attraction of Paris on the connected towns. The electrification of the Poitiers-La Rochelle line will enable the TGV to reach La Rochelle. A number of links and services are still outdated in comparison with the technology available (Bordeaux-Périgueux-Clermont Ferrand, for example). Intermodal services and infrastructures will be insufficient, in particular in the ports.

The fast developing hubs will often be monomodal and with little coordination between them. No rail link to Bordeaux airport has been planned, for example. Air and sea links with the Atlantic regions of other countries will not experience a great boom in this trend-based scenario.

Rail links with the Iberian peninsula will continue to pose numerous problems (unloading and reloading operations at the border because of the different track gauges; outdated state of the Spanish rail network). This will hamper the development of combined road-rail transport in the direction of Spain and Portugal and reinforce road congestion in the main corridors.

#### *4.5.2.2. Intervention-based scenario*

With the prospect of accelerated European integration of the Iberian peninsula, and to improve the overall influence in Europe of these south-western regions, it will be necessary for them to improve their crucial pivotal position. The continuous corridor running down through the whole of the south-west of France is a gateway and a hub for flows to or from the Iberian peninsula.

Aquitaine (and therefore Bordeaux, Bayonne and Poitiers) is at the crossroads of both northern and southern Europe and eastern and western Europe and this position should be enhanced by encouraging the development of interconnections between French and Spanish rail links for a start (the completion of the Basque triangle plan), along with combined road-rail transport links and intermodal land-sea transport links. The modernizing of the intermodal hubs in the ports of Bayonne and Bordeaux should be accelerated in line with nearby facilities. The Bayonne hub should not be dedicated to road transport only; greater efforts should be made to further develop the potential of maritime transport.

The influence of this zone means that its urban structure and its industrial and tertiary framework should be reinforced. This could be based on the improvement of the high-level functions carried out by Bordeaux, and the decentralization of services, particularly retail business services, towards medium-sized towns.

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The modernizing of the transport systems serving medium-sized towns, especially those not linked to the rapid land transport transit systems (motorways, TGV), is essential in order to avoid the whole of the south-west of France being sucked into the growing sphere of influence of the Paris region. With this at stake, the development of the transversal road and rail links and services should be actively encouraged.

Strengthening the position of Bordeaux means improving its access, and its international and decision-making functions. With this in mind, a motorway by-pass to facilitate the flow of transit traffic is perfectly justified, and the airport should be promoted so as to develop regular links with the principal European cities, North America and other Atlantic towns and cities. Bordeaux airport, whose capacity will reach nearly four million passengers a year, i.e. double its present capacity, should be linked to the main rail network so as to attract flows from Bayonne, Tarbes, Agen, Périgueux, Limoges, Angoulême, Poitiers and La Rochelle. Extending rail links to Bordeaux airport would ensure that the TGV will not draw international traffic away from the region and towards the airports in Paris. This is vital because otherwise congestion in the Paris region will continue to grow and the south-west of France will see its vitality ebb.

To avoid the same tendency to polarization, but this time inside the region itself, it will also be necessary to develop and diversify air services from the Biarritz and Pau airports and increase their capacity to about one million passengers annually, i.e. double their current capacity.

It will be necessary to find the means to benefit fully from the repercussions that new growth based on advanced technology will have by enhancing, firstly, the technological potential of Bordeaux and, secondly, La Rochelle and Poitiers so that their influence spreads over the whole of these two regions. The constitution of technological pockets,

applying very advanced technology in the fields of natural sciences, telecommunications, new materials, and chemicals in the middle of an industrial and technological desert, should be avoided at all costs. To do this, there will have to be an increase in the development of mechanisms for transferring such technology to small and medium-sized businesses in medium-sized towns. Enhancing the teleport of the Futuroscope in Poitiers by encouraging the development of a teletext network with other centres in the region and in Aquitaine would be one such example.

In view of the technological changes and the trend in both the private and public sectors, the utmost must be done to profit from the know-how of those employed in the specialized defence industries, in particular the aeronautical industry, to promote the development of these same industries but in the private sector. Reinforcing support systems for new business creation will also be necessary, as well as improving and adapting professional training (especially apprenticeships and skilled craftsmanship) to new needs.

Access to capital for recently created small and medium-sized businesses, or for newly created ones, should be facilitated by the creation of improved and appropriate financial products. There will be a tendency for the large groups to subcontract out their research, dedicating themselves to what they best master; hence the interest in helping a multitude of small research businesses to blossom. They would have a greater autonomy than, say, a large publicly owned laboratory, and be closer to the concerns of the principals who will, nevertheless, remain the driving force.

The spontaneous card of developing close ties with the neighbouring Spanish Basque Country both in the fields of research and industry should be played, enabling the technological and scientific potential of south-west France to be enhanced, since it is already in an excellent position in the science of new materials, production system technology, biol-



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ogy, electronics and chemicals. This becomes even more important, since Aquitaine could be a driving force in scientific and technical training.

Encouraging more cooperation, or even creating common structures, would lead to the creation of a pole which could play a leading role and offer services at a high technological level to these regions at the crossroads of northern and southern Europe.

Reinforcing the power of attraction would also depend on the valorization of the tourist potential of both natural and cultural heritage, a source of wealth which is largely underexploited in the hinterland. The setting-up of tour circuits (Romanesque architecture, the Pilgrims' Road to Santiago de Compostela), the promotion of old villages and the improvement of rural tourist structures should all be encouraged as should sport, health (spas) and gastronomic tourism.

The environment of these regions, threatened by the extension of urbanization along the coast, and in the valleys due to intensification of agriculture, as well as the sharp increase in road traffic, should be better protected, especially in sensitive areas like wetlands, coastal areas and forests.

Lastly, the modernization of agriculture will come about as much through the efforts which need to be made by farmers, investing in equipment and productivity, as by the development of extensive crop farming and of quality products with a high added-value content, to replace more traditional products which are experiencing difficulties.

If the boom in more profitable crops is slowed down, the present 150 000 farmers will be able to maintain their level of activity with difficulty. As a result there is a need to train farmers to enhance their products and to diversify them.

## **4.6. The Cantabrian coast (the Basque Country, Cantabria and Asturias)**

### **4.6.1. Current situation**

The three regions making up the Cantabrian coast (the Basque Country, Cantabria and Asturias), once the most powerful Spanish industrial centre, have been going through a process of decline and redeployment of the traditional industrial activities (coalmining, steelmaking, shipbuilding, rolling stock, transformation of metalware, chemicals, pulp and paper) over the past 15 years. Decline first hit the basic industries in the Basque Country (loss of 35% of industrial jobs between 1975 and 1986) and Asturias (30 000 jobs lost in the same period), and then went on to hit the transformation industries of the two regions and of Cantabria. The process of industrial decline has not been without consequences on the level of external trade of the three regions, nor on port trade. From centres attracting labour, the Cantabrian regions have become centres of emigration.

The process of decline in traditional activities is not yet over and it is believed that it will continue throughout this decade, graduating from east to west. The Basque Country appears to have progressed the furthest in the process of redeployment and industrial change, whereas in Asturias a loss of 20 000 mining and industrial jobs (direct and indirect) is expected in the next three or four years.

The coalmines should lose about 6 000 jobs and the other mining activities about 1 300 jobs in the short term. In the industrial sector, a loss of 3 600 jobs in the public company Ensidea is forecast, along with 400 jobs in the defence industry, 400 in the Spanish railway company FEVE and 20% of jobs in shipbuilding.

The economic situation in Asturias has been made worse because of the important role of the public sector. A large proportion of the 40 000 jobs in this

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sector are concentrated in two State companies: Ensidesa (steel industry) and Hunosa (mines). It has not been helped by the extreme weakness of the framework of small and medium-sized businesses (coal-producing areas have practically no other type of business to ensure diversification) and by the great difficulty encountered in the re-training of the labour force. Asturias has seven research laboratories, both public and private, and only one technology transfer business. This is a modest basis indeed from which to launch technological change and the creation of new businesses. By contrast, the Basque Country has made considerable efforts in technology. In the 1970s companies carried out practically no research at all whereas in 1989 about 26% of companies were carrying out some form of R&D, a consequence of the policy of the regional government. There are already 10 technology centres with about 200 research workers (robotics, new materials, electronics, environment, chemicals). In 1987 these centres carried out 135 R&D projects. The Zamudio technology park is aiming at the development of high-tech businesses (22 businesses are already established and five new technology centres are to be created there) and could also become a growth centre for intermediate technology. The necessity for technological support is justified by the large number of small and medium-sized businesses (3 000 in the mechanical production sector) whose economies of scale are insufficient for an autonomous technological development. In addition to mechanical production, the food-processing industries are also dynamic in the Basque Country.

In Cantabria, it is the plastics industry, cork and manufactured goods which best have resisted the economic downturn in the past decade. In this region there is a framework of small and medium-sized businesses which could be the basis for an economic revival. One of the particularities of the Cantabrian coast region is that local private investors are important. Whereas in the Basque Country they invest in the creation and expansion of com-

panies, in the other two regions investment is low and investors try to invest elsewhere.

In general, foreign investment is not very strong in the Cantabrian coast region, the one notable exception being chemicals in Asturias (Du Pont) with a few recent examples in the Basque Country.

The farming sector in the Cantabrian region is characterized by family 'minifundia' mostly involved in stockfarming and dairy production, two sectors where Community restrictions are being progressively felt, in spite of the transition period which has not yet been completed. Agriculture has already shed a lot of labour. In Asturias, farmers and farm workers are often over 50 which means a natural reduction of about 10 000 jobs in the medium term. The farming sector is often a refuge in times of industrial crisis. The lack of training of many farmers makes diversification of production very difficult. The changes in farming that are taking place (extensification, abandonment, etc.) will no doubt have an impact on the food-processing industries.

The fishing sector, a traditional activity on the Cantabrian coast, is also in decline. The reduction in jobs concerns both deep-sea fishing and inshore fishing. The induced impact on the packaging and transformation industries (canneries, etc.) is more important than the direct loss of jobs. The continued Community restrictions in this sector will further increase the tendency to decline which has already set in.

The tourist sector is very significant in Cantabria where, between 1988 and 1989, there was substantial growth, but it was also affected by the downturn in the sector in general in 1990. It only accounts for 4% of regional gross added-value (GAV) but development potential is strong because of the natural, cultural and artistic heritage and the monuments. The hotels are mostly to be found in enclaves, especially along the coast, but there is also the mountain resort of Barna-Viejo. Tourist apartments and camp-sites are insufficient.

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In Asturias more than 10 000 jobs were created in the hotel industry between 1980 and 1989, in particular in Oviedo and Gijón, and in rural and mountain areas, as well as in the central (Gijón) and eastern (Llana) coastal areas. There are also large natural parks in which a rich fauna and flora abound in the inland areas to the south.

In the Basque Country there are two main tourist areas: the coast, which has excellent possibilities of being converted into an attractive area for tourism with a high cultural content; and the inland areas for rural and cultural tourism. There are several factors handicapping tourist development in the Cantabrian coastal regions: the poor environmental quality (atmospheric pollution and pollution of coastal waters, countryside damaged by industrialization and urbanization), the poor accessibility to the regions, especially inland areas, the low level of training in the industry and the poor level of the information network.

With the exception of the Basque Country which has a well-developed road and motorway structure, access to the other two regions is very poor.

As for roads, there are three types of bottleneck: the coastal corridor, the links between the coast and the Meseta and, finally, the somewhat archaic access to the inland areas. There are no medium-term plans for a motorway link from one end of the coast to the other; the eastern part is the most poorly equipped, despite of a number of improvements (dual carriageway on the Oviedo-Aviles-Ribadeo section). Projects to improve the radial roads have also got under way (dual carriageway on the Santander-Osorno-Valladolid section). The Cantabrian coast regions would like to see a reliable link with the Ebro valley so as to have access to the Mediterranean.

Rail services face a number of special problems with the presence of two networks with two different technical specifications and no interconnection. The coastal link with its narrow track, managed by

the FEVE, is very poor, in difficult terrain and with varying speed. While passenger traffic is declining, freight movements are growing. The radial routes, however, have tracks which are of the standard Spanish gauge and are managed by the RENFE. The Santander-Valladolid section should be upgraded. The links between Asturias and Madrid are difficult around the Col de Pajares (old tunnels and steep slopes). Improvements are envisaged but the line really needs doubling.

In the Basque Country, the main project (the Y plan or 'Basque triangle') is to build a high-speed link to a European standard running from Irún to Bilbao and Vitoria which would link up with the French TGV network in the north and then run south to Madrid.

The Cantabrian coastal regions feel that it is a handicap not to have a direct rail link to the Ebro valley (because of the different rail gauges).

The large trading ports are State run. Bilbao is the largest port in Spain (29 million tonnes in 1988). It is one of the rare ports in the world where ships of more than 500 000 grt are able to berth and it has 230 regular shipping links with more than 500 ports in the world. It is the object of a large conversion and modernization project: port surface area increased threefold, new embankments, refrigerated storage, facilities for businesses, improved land access (rail link to Vitoria). New hubs will enable the storage of containers and other products (vehicles, machines) whose flows are growing with demand. Improvements have also been made at the port of Pasajes (creation of a distribution centre for fresh fish in Oiartzun).

Channel limits to the port of Santander prevent access to high-tonnage ships. In addition to this factor, the development of the port is limited by competition from the two large neighbouring ports (Bilbao and Gijón) as well as by the volume produced by the region. The widening of the port

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(Raos zone) began in 1985 so as to solve the operating and storage capacity problems.

The development of port activities depends on the development of land transport systems: an improvement in intermodality is envisaged as an improvement in the ferry services.

In Asturias, the two large ports are State run (Gijón and Aviles) and both have seen a decrease in trade due to the downturn in primary industry (ores, bulk traffic, etc.). A cereal terminal was built in Gijón. A revival of the shipping trade will only be obtained through improved access to the ports. A freight distribution centre for road haulage is being developed in Gijón.

The three airports in the Basque Country need to be improved (passenger terminals, length and quality of runways). Bilbao airport has good international services on a European level. In Cantabria, the airport in Parayas (Camargo) was opened in 1977. There is a regular service to Madrid and to Pamplona-Barcelona. The airport capacity is greater than the present amount of traffic. During the 1980s it decreased, the number of services being insufficient. The Asturias airport is satisfactorily equipped and has regular services to London, Madrid, Barcelona, Santiago and Bilbao. Flight frequencies, however, are insufficient and there is a lack of international flights (a flight to Frankfurt is desirable). Transport difficulties with the hinterland of the region reduce the amount of air traffic.

As for advanced telecommunications, the Basque Country is ahead of the other two regions. A teleport is planned in Zamudio and a long-distance link between the Basque University and the three main cities (Bilbao, Vitoria and San Sebastian). This link would be relayed by a wide band network to the main technical and urban centres.

In the Cantabrian coastal regions, urban centres are mostly to be found on the coast. Bilbao (population 443 000) and its nine satellite towns have

most of the high-level services of the region. But even these, in comparison with their European counterparts, are still relatively undeveloped. The towns in Cantabria and Asturias have relatively modest business services, even though they have been developing over recent years. In Cantabria, for example, tourist services are dominant. There is no fluidity in the services of the region because of the poor access to the urban centres and a largely insufficient communications network.

Environmental problems deserve special attention throughout the whole region. They are one of the main handicaps to the development of the Cantabrian coast.

Heavy industry and urbanization have caused enormous damage, especially in the Basque Country and in the central area of Asturias, not underestimating the problems in Cantabria. Sewage plants are almost non-existent and there are many problems with industrial waste and illegal rubbish dumps. In Asturias, it is in the central areas that the damage to the environment has been the greatest: countryside damaged, high pollution industries and activities (thermal power stations, iron and steel furnaces, metallurgical industries, chemicals, cement works, etc.). The most polluted areas are those of Aviles and Langres. Water quality is very unsatisfactory: coal cleaning has caused high levels of pollution in the Nalon river. The coastal area, particularly around Gijón and Aviles, is also highly polluted. In the Basque Country both lack of space and environmental problems need to be addressed in the areas of traditional activity such as the left bank of the Nervion, Vitoria-Gasteiz, and San Sebastian. The most polluted areas are to be found in greater Bilbao and Pasajes Bay. Water pollution is very high because there is no sewage treatment plant: high pollution in the Nervion and Ibaizabal rivers, at the mouth of the Urumea and in the estuaries of Pasajes Bay and Bilbao. The quality of the beaches is quite poor.

In a number of different areas on the Cantabrian coast there are plans for an integrated waste and

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effluent disposal package, but they appear to be insufficient to make the region cleaner, healthier and more attractive in the medium term.

## **4.6.2. Prospects**

### *4.6.2.1. Trend-based scenario*

A continuation of the trends contains in itself the germ of the next phases of decline in traditional activities (coalmining, iron and steel, shipbuilding, etc.) which appear to be inescapable in the current international context. In addition, industries using intensive labour (textiles) will find themselves increasingly in competition with newly industrialized countries and the countries of Eastern Europe. The defence industries, in which the Cantabrian regions play a large part in Spain, will continue to decline.

The CAP reforms and Community fishing policies will continue to contribute to the shedding of labour which will in part be absorbed by retirement, but the decline in production in these two sectors will seriously affect the transformation and food-processing industries.

Tourism will continue with modest growth in Cantabria, but insignificant growth in the other two regions, especially because of environmental problems, insufficient transport services and the low level of investment in tourist products or in new forms of tourism for which demand is emerging.

It is the differential between the three regions in their capacity to renew their productive substance which will inevitably lead to the breaking-up of the Cantabrian corridor and the emergence of a heavily depressed zone, progressively excluded from the flow of exchange in its western section.

The Basque Country has already begun its industrial change-over. It has endowed itself with production and technology transfer structures whose

influence on the development and creation of businesses will be increasingly felt. The new jobs created will compensate for the losses in the traditional industries. The position of the region in the middle of the north-south corridor (Paris-Bordeaux-Madrid-Seville) will enable it to benefit from the advantages of European integration and the single market.

The effects of the high-speed north-south link will no doubt not be felt until after the year 2000 but the prospect of its construction will have a significant impact on the locating of businesses and services before that date. The possibilities of communication with the valley of the Ebro and the Mediterranean corridor will open new prospects.

Existing air links, in particular international (London, Paris, Frankfurt, etc.), will anchor the region more firmly to Europe. The gradual expansion of high-level services in Bilbao will support entrepreneurial initiatives.

Business tourism will develop progressively in the large centres (Bilbao, San Sebastian and Vitoria). Economic and technological cooperation with the neighbouring French regions will also develop progressively and integration through proximity will take place, influencing Navarre and the South-West (Burgos and Valladolid)

It will be quite different in the two other regions, in Asturias in particular. Whereas Cantabria could benefit from its proximity to the Basque Country (Bilbao airport is an hour away from Santander), and from its own tourist potential, the decline of traditional industries will only be partly compensated by the development of small and medium-sized businesses which will not have sufficient economies of scale nor adequate technological promotion, nor high-level services nearby. These small and medium-sized businesses will be open to ever-growing competition in the single market. The level of investment will remain low and the renewal of productive structures very modest.

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The situation in Asturias will be far worse with an almost general collapse in traditional activities and no significant capacity to create a new productive framework because of the lack of entrepreneurs, the weakness of the framework of the small and medium-sized businesses, the extreme inaccessibility of the region, the difficulty in redeploying labour and the continued outward flow of investment.

The depressing climate, the lack of appropriate transport links and the poor environmental quality will continue to keep foreign investors away. The economic base of the region will implode.

In terms of the labour market, the labour force between now and the year 2000 will remain more or less stable in number because of the ageing population structure. It will not rise much above 35 000 people in the Basque Country, 15 000 in Cantabria and 17 000 in Asturias, a total of 67 000 people.

The capacity of the productive forces to compensate for these new people coming into the labour market will be insufficient and regionally very contrasted. If the Basque Country continues to benefit from the same drive in the next 10 years as it is showing at present, unemployment should not rise and may even drop a little in comparison with its current level.

In Cantabria, where there was a sharp fall in employment in the 1980s, the foreseeable unemployment rate in this scenario by the year 2000 will be considerably higher than the 1990 level (17%). In Asturias the potential shedding of 30 000 jobs in the medium term, with no alternative development of new activity, will inevitably lead to a sharp rise in unemployment (which reached 17.5% in 1990) and thus to continued emigration towards other regions.

The Cantabrian corridor will progressively disintegrate and any attempt to try to revive it from the

year 2000 onwards, in particular by a rational transport policy, will fail since the economic substance which might make any new transport systems viable will mostly have long since gone.

#### *4.6.2.2. Intervention-based scenario*

The three factors which might induce a deep change in the productive structures of the Cantabrian coastal regions are technological progress, measures to reduce the physical and logistic isolation and improvement of the environment.

It would appear that such a strategy, developed in each of the regions separately, would have little chance of solving the problem, at least as far as Cantabria and Asturias are concerned.

Stimuli for development must come from the most buoyant centres towards the least buoyant. The only important pole in the Cantabrian region is Bilbao, and in the absence of similar poles in the surrounding regions, that means systematically organizing a westward push of the higher functions carried out by Bilbao at present, in particular in the field of technological research and transfer structures as well as in business services (finance, consultancy, etc.). This spread will be all the more likely to succeed if the Basque Country itself gains ground as a north-south, east-west pivot and develops a leading commitment in European integration. With this in mind the Basque Country should reinforce its technological and commercial cooperation with other regions in Europe.

A prerequisite in the westward push would be the improvement in transport, communications and telecommunications infrastructure along the Cantabrian corridor. The road structure is progressing but should become dual carriageway into central Asturias.

The rail link of the FEVE (narrow gauge track) will have to be significantly modernized both in

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infrastructure and in rolling stock so as to become attractive to passengers and to answer the growing demand for the transport of goods. It is important that there is a junction with the Basque Y, built to the European standard, itself integrated into the high-speed network. As far as telecommunications are concerned, a major corridor should be developed along the Cantabrian coast (fibre optic or similar) connected to the teleport in Zamudio and to the main Basque technological centres. The widespread use of the Numeris network in the region should be actively promoted.

Measures to reduce isolation should be taken not only along the corridor but also in the direction of Meseta and out from the ports and airports. The putting into service of new links will no doubt necessitate financial assistance to the companies in question during the first years. The creation of new sea links (Gijón-Plymouth) should be envisaged and will necessitate both serious initial studies and the continued opening-up of the port hinterlands (intermodal equipment and ground infrastructure). The failure of the Lorient-Gijón line should be analysed. Air links should also be improved, with better frequency and the opening of international destinations.

Rural and cultural tourism should be systematically promoted so as to get the most from this important endogenous resource. This would also stabilize the population in rural and mountain areas but would imply the improving of accommodation facilities, information services and inland access, etc. Tourist tours should be organized.

Provision for effluent and waste disposal in the Cantabrian coastal regions should be accelerated which means considerable investment from the public sector. But it is a basic condition so that the region can become attractive to investors and tourists again.

Considerable efforts will also have to be made in education and professional training for the age-

groups coming onto the job market. At present about half of them have only been educated to primary school level.

All these intervention-based elements are liable to create the conditions necessary for a regeneration of the Cantabrian corridor, but it is clear that this will be a very long task requiring considerable resources and that it will not be finished by the year 2000. However, by then processes which will thwart the spiral of decline will have got under way and their beneficial effects will eventually be felt.

In terms of the labour market, the unemployment rate in the Basque Country could drop by half by the year 2000 in comparison with the 1990 levels. A similar trend, but not as sharp, could take place in Cantabria. However, in Asturias, and even on the best assumption, it would appear most unlikely that unemployment will drop much below its present level and that emigration will come to a complete halt. At most, it will be possible to avoid making the situation worse.

## **4.7. Northern Portugal – Galicia**

### **4.7.1. Current situation**

Grouping these two regions together is not fortuitous when considering their prospects. If only in purely geographical terms, Galicia appears to be much more a prolongation towards the north of Portugal than a prolongation towards the west of the Cantabrian coast. The same dichotomy can be found here between a well-developed north-south coastal area with the main urban centres and a much poorer, mountainous, inland area. If one adds infrastructure currently being developed and the economic and political solidarity which is emerging between Galicia and northern Portugal, grouping these two regions together is fully justified in terms of their prospects.

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#### 4.7.1.1. Coastal zones

The area of Portugal between Setubal and Braga contains 85% of the total Portuguese population and accounts for most of Portugal's economic activity (the main cities, most of the industries and all the activities linked to the tertiary sector). Population density is very high, especially in the north of Portugal: the four small coastal districts of Viana, Braga, Oporto and Aviero contain one third of the Portuguese population in a very small area which is in part mountainous and which has a population density comparable with Belgium.

There is a strong contrast in the industrial structure between the north and the south of Portugal. Northern Portugal is the primary industrial region of the country. Apart from some large industrial units (chemicals, paper pulp, rolling stock), the area around Oporto is the most dynamic in Portugal today with the footwear (São João de Madeira), textiles and clothing (Ave Valley), and furniture industries. The development of the textiles and clothing sector is very spectacular (it employs one third of Portuguese labour in 2 000 factories, concentrated for the most part in the Ave Valley and in the region of Castelo Branco, to the east). The flexibility, adaptability and competitiveness of the numerous industrial businesses in the region are based on the nature of their relationship with rural society. Most of the farmers in the region gain most of their income from non-farming activities, and salaries from the various industries play an important part in this income. This industrial culture also stretches to the region of Aveiro.

The industrial basis of the Lisbon region is quite different. Along the banks of the Tagus and in Setubal, heavy industry dominates. The northern bank houses the shipbuilding yards of Rocha, the refineries of Vavo Ruivo and Santa Iria, and the Alhandra cement works. The southern bank houses chemicals in Barreiro, iron and steel in Seixal, and shipbuilding yards in Lasnave. The Setubal area (cement factory, paper, car assembly, shipbuilding

in Sétenave), after experiencing the fastest urban growth in Portugal between 1960 and 1980, is dealing with the difficult process of industrial redeployment. A number of high-tech industrial activities are nevertheless beginning to develop in the greater Lisbon area.

In Galicia, to the north of Portugal, the industrial base is diversified but not very productive. It still bears the mark of external intervention, especially in heavy industry (shipbuilding, metallurgy, rolling stock). These traditional industries have been in decline for a number of years. For example, the number of people employed in producing rolling stock dropped by nearly 30% between 1983 and 1987. In shipbuilding, serious problems are coming to light, in spite of the specialization in off-shore material at the Astano site. The specialization in defence at the Bazan site is no longer an advantage today. However, in the area around Vigo, after a long phase of redeployment and investment, small and medium-sized yards are beginning to reappear. Subcontracting businesses (metallurgy, mechanical engineering, electronics) are suffering from the slowdown in the large companies. But Galicia is beginning to adapt to a type of industrialization which is less dependent on investment from the public sector, this adaptation being based essentially on small firms (92% have less than 20 salaried workers). In spite of the dominance of farming, the food-processing industry is weak and local capacity for transforming the numerous local farm products is insufficient (it accounts for about 20% of industrial jobs but only 16% of gross added-value of industries in the region). Promising modern sectors such as electronics and chemicals are beginning to develop.

Tertiary services are still naturally linked to cities and towns. In this respect, the region shows a number of important contrasts. It is dominated by services in Lisbon where all the top-level services are to be found (financial services in particular), investment for research (80% of total expenditure in this field, State R&D laboratories are to be



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found in Lisbon). However, Oporto has seen a strengthening of investment in tertiary services, due to a stimulus from private investment in particular. Other towns in the area (Coimbra, Vigo, Santiago and La Coruña) are endowed with a much lower level of professional services.

The polarizing effects of Lisbon and Oporto are very different. Whereas the area of influence of Lisbon, with a population of more than two million, is growing constantly, especially in the direction of Alentejo and the centre of Portugal, (small neighbouring towns becoming satellites, drawing in population from the surrounding areas), Oporto (population 1.2 million) is surrounded by several, dynamic, medium-sized towns (Braga, Vila Real, Viseu and Aveiro) which have a counterbalancing effect and prevent population from being drawn into the metropolis.

The most acute and persistent problem in northern Portugal that needs to be solved is the setting-up of an independent strategy of internationalization for Lisbon.

Important poles of innovation and transfer are being developed in Lisbon and Oporto along with a certain amount of diversification (chemicals, electronics). So far in Portugal, innovation has penetrated more into products than into the production process. This is obvious in the traditional labour-intensive activities. The import flow of equipment and material from the industrialized regions of the Community is on the increase. This dependence will tend to increase Portugal's trade deficit in the short term but in the long term will contribute to improving the competitiveness of the productive machinery.

In Galicia, research potential is limited to the university structures which can be found in the main cities (Santiago, La Coruña, Vigo and Jugo). Teaching and research technology are not very developed, except in Vigo, where there is a higher technical college of engineering and telecommunication.

In this region, the farming sector is particularly well represented in Galicia and in northern Portugal and there is considerable similarity in farm structure.

In Galicia, 39% of the active population works in the primary sector. The predominance of small farms (2.3 ha of usable agricultural land area per active worker) and their low productivity explain the considerable difference between the contribution to regional product and the level of employment in this sector (7 and 39% respectively). Demographic and economic changes in the farming sector have led to a decrease in numbers working on the land, modest for the time being, but tending to speed up. Underemployment in the farming sector is therefore tending to diminish, but is still high.

Portugal imports 50% of its food requirements. Northern Portugal remains the most important agricultural region in the country, but it has very small farms and the future of more than 50% of them is under threat in the short term. There has been some modernization in dairy production, where the cooperatives have played a pioneering role (milk collection, mechanized milking sheds, techniques for ensilage and for better selection of cattle, economic information, etc.). The cooperatives have managed to make sufficient profits to be able to plough them back into efforts for local development.

The region is not a typical mass tourist area. There are two types of tourism to be found: scattered tourism on the coast and in the hinterland (Alto Minho is a typical example) and tourism centred on the towns, whether it be tourism for business purposes, which is developing fast (Lisbon and Oporto), or tourism with a cultural or religious theme (Santiago).

Foreign investment in Portugal deserves a special mention. Over the past few years it has increased sharply, going from ESC 24.5 billion in 1986 to

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ESC 509 billion in 1990. Foreign investment in 1990 alone was one-and-a-half times higher than for the previous nine years. It is the service sector which is benefiting most from this investment (banks, insurance companies, financial institutions, real estate operations, business services).

Investment has been primarily in Lisbon with Oporto coming in second place. Only about 25% of total foreign investment has been in the transformation industries and that has been either in labour-intensive activities (especially feminine), traditional activities (clothing, footwear), modern activities (electronics, automobile), or to develop activities upstream of existing production. The most significant example of industrial investment is the Ford-Volkswagen factory project in Setubal, an investment of USD 3 billion to produce 180 000 vehicles annually. The main investors are English, French and Spanish, but Brazilian and Japanese investment is growing.

There is very little foreign investment in Galicia, however, because of its position at the north-western tip of the Iberian peninsula and its topography which makes communication difficult.

During the past few years, the region has seen a sharp progression in transport infrastructures and, since 1986, it has been one of the priority areas for Community assistance. Structure is given by the Setubal-Braga corridor (the Lisbon-Oporto motorway has been completed). Extending it to western Galicia is envisaged. The Lisbon-Oporto rail link is to be refitted, if possible with high-speed technology. The transversal roads have also been improved. The joining of Portugal to Spain and to the rest of the Community by land transport remains problematic. Railways are archaic and the motorway networks are not progressing adequately on the Spanish side.

Measures to reduce the isolation of Galicia have increased with the building of two dual carriageways to attach the region to the La Reseta-

Valladolid corridor. Links with northern Portugal, on the one hand, and with Asturias, on the other hand, are, however, inadequate.

The region has three international airports (Lisbon, Oporto and Santiago). There are flights to the large European cities but few connections with other Atlantic regions. The same goes for sea links: there are few links with other Atlantic regions.

Numerous problems need to be solved as far as the environment is concerned, in particular effluent treatment, and domestic and industrial waste. Infrastructure is particularly inadequate. There are also serious problems in the control of urban sprawl (burgeoning of residences in rural areas, unchecked traffic congestion in the large cities, inadequacy of public transport).

#### *4.7.1.2. Inland areas*

The mountainous and particularly inaccessible inland areas are threatened by rural exodus and even desertification where emigration and the resultant ageing of the population has persisted for years.

Most of the inland districts of Portugal have seen a decrease in their population over the past few years: between 1981 and 1986 the district of Tamega (northern Portugal) along with the districts of Beira (north interior) and Sul (Central Portugal) suffered a 3.1% population loss. But it is also interesting to note that in the district of the Douro (north interior) population increased sharply between 1981 and 1986: + 15.6%, proof that industrial impetus has been maintained there.

The inland regions have also been marked by the expansion of the forest but forestry remains underdeveloped. The hardwoods which used to be very predominant north of the Tagus, oak and chestnut in particular, have receded in the face of maritime pine. To the south, green oak and especially cork oak, protected by its constant economic value, have resisted much better, but it is the eucalyptus

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which has won dominance comprising three quarters of the plantings. Private forests are as much a patchwork as farms since there are more than 300 000 forest owners and an even higher number of scattered parcels of forest.

Forest maintenance is declining as the systematic use of undergrowth as a complement to farming activity declines. All this means that the status of forests is multiple and varied and that it is difficult to protect them, to manage them or indeed to give them any direction. A coherent forestry policy comes up against a multiplicity of obstacles: ownership, ground law, economic and financial obstacles and the overlapping of all these only multiplies the difficulties whether in the selection of species, methods, rate of cutting and fire fighting. The large pulp and paper corporations have found an environment propitious for the development of eucalyptus plantations here.

Rural and mountain tourism has great potential but is not shown to its advantage. Integrated management of the Minho basin and extending actions to enhance the potential of the Peneda-Genes Natural Park into Galicia have shown what could be obtained by reinforcing the comparative advantages of the level of tourist products of the two regions.

Until the beginning of the 1980s, national and foreign investment in inland Portugal was rare and oriented towards the use of raw materials, available locally at low cost. From the middle of the 1980s, investment, from the public sector in particular, started to grow, especially in road infrastructure. These new transversal roads enabled better links between the coastal urban centres, on the one hand (Leixoes, Aveiro, Figueira da Foz, Lisbon, Setubal), and the inland regions, on the other hand (medium-sized towns), and with Spain. Inland Galicia has also seen improvements in its roads, for example the La Coruña-Lugo-Ponferrada road and the Vigo-Oureuse-Ponferrada dual carriageway.

Inland towns, now better connected, are medium in size. Lugo has a population of 74 000 and Orense 96 000. In Portugal inland towns are much smaller (Evora has a population of 35 000, Vila Real 12 000 and Bragança 13 000) but they have shown a considerable impetus in recent years. These urban centres are often the last bulwark against rural desertification and are showing themselves to be privileged in terms of improvement in quality of life, level of training. This in turn translates into new demands from consumers and thus a potential for tertiary development.

The inland regions are benefiting from a tendency to industrial relocation from coastal regions, especially in the Aveiro-Oporto-Braga area.

This is due to the simultaneous emergence of national economic groups intervening in a multi-regional and multiproduct perspective together with the saturation of different segments in the labour market, even the low skilled, in the industrial areas on the coast and also the existence of financial and tax incentives. But this new capacity of inland areas to attract investment remains limited. The economy of the small towns in the piedmont areas is essentially based on labour-intensive industries which are not very competitive. This is the case in Castelo Branco, Evora, Oporto Alegre and Guarda.

In these rural and mountainous peripheral regions where tertiary activity has a strictly local dimension, cross-border relations can often enable a certain amount of economic and social momentum (Chaves-Verin, for example). The border between Portugal and Spain is still relatively impervious, apart from a number of specific crossing points used by traffic in transit.

#### **4.7.2. Prospects**

##### *4.7.2.1. Trend-based scenario*

By the year 2000 the increase in the workforce for the whole coastal region will be between 205 440

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and 391 552. This sharp increase in a potential working population will mostly be in northern Portugal. Here the increase should be between 175 000 and 250 000. In the region of Lisbon and the Tagus Valley it will be between 83 000 and 170 000. If the momentum of job creation of the 1980s continues, current unemployment, which is low (between 2 and 5.8%) should not increase.

The dynamism of the Portuguese economy over the past 10 years (the annual rate of growth in employment between 1985 and 1990 in the northern Portugal region was 3%) leads to the conclusion that in a trend-based scenario unemployment will remain low and the workforce will continue to be drawn from other areas (hinterland and Alentejo). However, a slump is also possible, even probable in labour-intensive industries, very heavily implanted in the centre and north of Portugal and this could have very negative consequences on the level of employment.

Because of this, the trend-based scenario is not necessarily the most pertinent. There could be negative changes, which should be anticipated. The textiles sector, essential to the Portuguese economy, is preparing for painful redeployment. It uses two thirds of Portuguese labour in 2 000 factories. According to current estimates, one third of these companies are competitive, one third require modernizing and one third should be closed down. Some even say that 50 to 60% of companies in the textiles sector will disappear in the coming years because they will not have adapted to the new conditions of the market.

The footwear sector, another traditional pillar of the economy and the export market, is also affected, in particular by the drop in exports to the USA. These labour-intensive industries will have a lot of competition in the next decade from newly industrialized countries and from Eastern Europe.

The probable decline in the traditional export sectors of the manufacturing industry (textiles, cloth-

ing, footwear, furniture, cork), well represented in northern Portugal (concentration of this type of industry in the Ave Valley), and the heavy industry sector (iron and steel production, shipbuilding), concentrated in the Setubal region, will pose serious employment problems in the short term. Projects to modernize and develop the timber, pulp and paper industry in the region of Setubal, for example, have therefore been devised to compensate for job losses in these sectors.

The rapid growth in eucalyptus production is continuing. This particularly fast growing tree is spreading further in the south, centre and north in the form of large single block plantations mixed with, or taking the place of, maritime pine. As a primary product it is very much sought after. This industrial branch is very dynamic, in particular along the northern coast (Viana do Castelo, Aveiro, Figueira da Foz).

The industrial investment stimulus in eucalyptus always wins out against the more balanced forms of tree planting preferred by the authorities and the planting of a more environmentally-friendly type.

The sectors with positive growth by the year 2000 will be the building sector, the hotel and catering trade and retail services. Portugal will not be able to sustain growth if it continues to use a poorly skilled workforce. In the case of change, it will have to look to a different type of growth, requiring much more capital, while at the same time being obliged to suffer higher unemployment rates. With sustained investment efforts and training, coastal Portugal will attain standards of living similar to those of other Community countries.

In western Galicia, the increase in the workforce will be lower (between 30 000 and 95 000 people), but in this trend-based scenario the trend in employment will not change much.

In Galicia, this modest growth in the workforce will be combined with an ageing of the population.

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By 2015, 20 to 22% of the population will be over 65 in comparison with 13% in 1985.

At best, unemployment will probably remain stable until the year 2000 in comparison with the current level, but in a more unfavourable context (negative impact of the CAP reforms and Community fishing policies, increased competition in traditional industries) it could rise sharply.

Job prospects in Galicia are good in the building and services sector but poor in industry. The number of industrial jobs will increase from 157 000 in 1989 to 172 000 in 1993 and to 198 250 by the year 2000 with an annual growth of 3 750 jobs. The number of jobs in the construction industry will increase from 92 000 in 1989 to 102 000 in 1993 with an annual growth of 2 625 jobs. But this growth will not be maintained for long because of increased productivity. Farm jobs will drop from 390 000 in 1983 to 321 000 in 1993, an annual loss of 17 000 jobs.

Galicia runs the risk of feeling the full brunt of the effect of structural change in activity in the form of a sharp fall in the working population engaged in agriculture while the secondary sector will not be able to take up the slack due to restructuring of the primary sector. This situation could generate a brutal transformation in the next decade with the consequent risk of social crisis if industry, itself suffering from a slump, especially in the shipbuilding sector, is not able to make the transition.

Farming not only remains traditional and performs poorly (productivity in the primary sector was less than 50% of the national average) but farm produce is not valorized enough in the region, which could mean disturbing prospects.

The Galician fishing fleet, which is very largely obsolete and archaic, risks being the victim of the reduction in fishing capacity imposed by the Community.

However, aquaculture offers a lot of potential, particularly in Galicia, as does the agromarine-

industrial vertical line sector provided that damage to the environment is controlled and that industrial and urban effluent are treated. The loss of jobs in the primary sector is considerable: 390 000 in 1989, 321 000 in 1993, and, on a trend-based assumption, 267 000 by the year 2000.

In a trend-based assumption, a 33% drop in the number of farms between 1989 and the year 2000 would translate into a necessity to create – for an equal unemployment rate – a minimum of 120 000 jobs and probably even more since women will be tempted to enter the job market. The arrival of 200 000 new job-seekers can thus be predicted, in addition to the 60 000 (average trend-based assumption) by natural growth.

But the industrial structures will not be able to absorb the overflow and the tertiary sector probably not either, as this sector is induced and not a leading one.

Galicia is trying to reduce its inaccessibility by the completion of transversal roads serving medium-sized inland towns such as the La Coruña-Lugo-Ponferrada and the Vigo-Ourense-Ponferrada dual carriageways.

Upgrading of the Aveiro-Viseu-Guarda road is scheduled for 1993. Internal links make travel through to Spain and France possible: the Aveiro-Viseu-Vilar-Formoso-Salamanca-Valladolid-Burgos road has seen a considerable growth in traffic in the last few years. Delays in upgrading the Spanish section will hinder growth.

Speeding up improvements to the Figueira da Voz-Viseu road and beyond will reinforce links between this important port and the inland regions of central and northern Portugal. European links from the north (Bragança or Chaves) will, in the medium term, become more important than those through Viseu, Vilar and Formoso.

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#### 4.7.2.2. *Intervention based scenario*

Economic development strategy will be articulated around the means to reduce the fragility of the industrial base in Portugal and in Galicia which is divided into two types:

- labour-intensive industries requiring little or no skills;
- heavy industry in decline and undergoing redeployment.

The necessary qualitative leap forward in industry will only happen through considerable combined efforts:

- in professional training (massive arrival of young people on the job market with obvious shortcomings in technical training);
- in dissemination of technology to businesses (even more so since the intensity of technology transfer is in direct correlation with the amount of foreign investment).

These efforts could be effective if they are associated with the setting-up of financial structures enabling better access to capital and investment. This should enable diversification of the industrial framework towards more promising sectors, such as electronics and chemicals, rather than textiles, furniture or footwear, as is currently the case.

The food-processing sector needs to be looked at carefully and cooperation between the north of Portugal and Galicia could be very effective here, both in research and in enhancement of farm and fishery products.

Cooperation between Portuguese technology centres and those of the west and south-west of France could prove beneficial in the fields of agrobiological, electronics and new materials, and also in the mastery of new industrial processes and farm technology. This would speed up change which is still too slow.

The existence of a large market for agri-foodstuffs is in itself a sufficient reason to enhance local farm products (dairy products, meat, vegetables, etc.) and to slow decline in the farming sector. The more robust farms in northern Portugal and Galicia could find a new opportunity in just such a change.

Efforts in research and training, in sectors linked to agriculture in particular, are vital if the region is not to find itself in a situation of downward adaptation for too long with continuing deindustrialization which has hit the shipbuilding and automobile industries in Galicia, and the textiles industry in Portugal. It is in fact a pre-condition if 'emigrés' from agriculture are to be taken care of.

Due to the rise in international competition, especially in traditional Portuguese export products, it will be essential to improve business productivity, speed up modernization in technology and also create effective distribution networks and penetrate new markets thus obtaining greater diversification.

The development and diversification of high-level services in Oporto (financial and consultancy) would have an influence on the medium-sized towns in northern Portugal and Galicia.

The development of the Lisbon region will mainly come about through tertiarization and foreign investment which, along with services, will also benefit from redeployment in heavy industry. But endogenous industries will also develop, with a high technology content, due to the new technology parks. In infrastructure and transport services, numerous improvements will be carried out.

From Lisbon to Oporto, Portugal will be equipped with a fast modern rail link. A fast rail connection will link the western towns of Galicia to Oporto. Road links between Galicia and northern Portugal will also be improved with the opening of at least one dual carriageway.

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The anchoring of Portugal to Spain and to the rest of the Community by land transport will be greatly improved, on the Spanish side too, due to bilateral negotiations and to efforts in cross-border cooperation. The Viseu-Vilar-Formoso-Valladolid-Burgos-San Sebastian corridor will become an essential road link. A new fast modern railway line will be built alongside, which will also carry goods. This will be an intermodal corridor of interest to the whole of Europe. The railway link is justified in itself by the fact that northern Portugal, Galicia and the north of central Portugal together contain a population of over six million people, and that these are the most industrialized regions of Portugal.

Road and rail infrastructure will also be modernized between Lisbon and Madrid. This route will focus more on passengers than freight if quality is offered.

Lisbon will become a much more functional city with its new facilities (new airport, new port on the Tagus).

Interregional transport services from the airports of Santiago, Oporto and Lisbon to the other Atlantic regions will be developed.

Urban expansion in Oporto, and more especially in Lisbon, will be checked. Priority will be given to urban public transport so as to reduce the effects of traffic congestion.

Considerable investment should be made in environmental protection (sewage plants and urban and industrial waste disposal units, improving slum areas).

Rural tourism should be promoted in mountainous regions so as to ensure additional income to farmers, to maintain the rural population on the land and to avoid desertification.

## **4.8. Alentejo – The Algarve – Western Andalusia**

### **4.8.1. Current situation**

The demographic trend in these three southern regions over the past few years is positive with the exception of part of Alentejo.

The population of western Andalusia increased by 4.41% between 1981 and 1986, the Algarve by 4.48%, and coastal Alentejo by 9.02%, while the inland part of southern Alentejo suffered a population loss of 3.94%.

The working population engaged in agriculture in Andalusia accounted for 19% of total employment, or 195 000 people, but the increase in productivity due to continued mechanization in the latifundia sector, where cereal and oilseed crops prevail, has contributed to the increase in this underemployed labour force. The farming sector is undergoing change, not to the profit of secondary industry but to the services (tourism in particular, which contributes to structural fragility through underindustrialization). Agriculture and fishing together account for 12.7% of gross added-value with 19.1% of the workforce, whereas industry accounts for 19.1% of gross added-value with 14% of the workforce. The food-processing industry accounts for 27.6% of industrial gross added-value.

This region therefore largely revolves around agriculture and its derived industries.

In the Algarve, the agricultural workforce carries less weight (12.9% of the working population). The type of agriculture here is Mediterranean in nature and is driven more and more by foreign investment. The fruit and vegetable sector is growing fast.

In Alentejo, the rate of unemployment was 9.7% in 1990, which was a very high rate in comparison with the national Portuguese average (4.1%). The

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same goes for the literacy rate (29%). These two indicators show the acuteness of the economic and social problems in this deeply rural area.

In terms of added-value and employment, agriculture predominates. But its weak performance, especially in adapting to the new economic requirements of the latifundia system, is leading to a drop in employment. Continued emigration of the vital forces leads to both demographic ageing and evermore menacing desertification.

In Alentejo, there is a predominance of latifundia, characterized by low productivity. Forestry is little developed in spite of intensified planting with rapid growth species like eucalyptus. These are developed for speculative purposes by industrial groups wishing to develop a pulp and paper industry on this basis. This type of industry presents two risks: it exhausts the soil and brings with it the pollution linked to the production of cellulose.

The drop in the growth rate for Andalusia in 1990 was higher than the national average and a drop in growth in employment followed and is likely to continue. The sectors most affected by the slump are those of industry and services. Part of the heavy industry sector, especially metallurgy and chemicals which have weakened and shed labour, and the large units producing consumer goods and equipment requiring a high volume of unskilled labour (textiles, shipbuilding) are looking very vulnerable. In the western part of Andalusia only Seville is able to play a leading role in providing top-level services. The Universal Exhibition will play the role of catalyser here. The medium-sized towns of Huelva, Jerez and Cadiz do not have much impetus, have few top-level services and are not currently able to provide the stimulation required.

In the Algarve too, urban centres are weak because of the absence of a major town providing high-level services and because of a structured urban network. Small urban centres (Faro: population

28 622; Portimao: population 26 172) are based mostly on a single activity, tourism, which is indeed growing rapidly.

The main towns of Andalusia are endowed with large universities, which are particularly strong in biology, health and medicine, continuing a tradition which has lasted more than a millenium:

- the University of Seville with its six faculties of biology, chemistry, medicine, pharmacy, physics, a school of engineering and an institute of agrobiology;
- the University of Cadiz with a faculty of medicine, a science faculty and a marine observatory.

The 1992 Universal Exhibition and the Cartuja 93 project, which are aiming to set up a scientific and technology complex oriented to international cooperation and technology transfer, are a real instrument for the development of technology, particularly in the agri-foodstuffs sector, tourism and renewable energy and are leading national and multinational high-tech companies like IBM, Fujiti, Siemens and Telefonica to establish businesses here.

Potential for industrial and technological development therefore exists here, whereas in the Algarve and in Alentejo the industrial framework is essentially made up of agri-foodstuff industries and is weak and not very sensitive to technological innovation.

In the Algarve, the economy is based on tourism, a sector which is continuing to grow. Income from tourism in Portugal in 1990 contributed 6% to GDP and covered 41% of the trade deficit (the Algarve being, along with Madeira, the main tourist region in Portugal, most of these results can be attributed to it).

In Andalusia, the tourist sector is currently undergoing change.



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Employment in the hotel and catering sector is contracting. This sector had an active labour force of 34 630 in 1981 and only 31 003 in 1987, a drop of 10.2%. However, the gross added-value of this sector increased considerably in absolute terms (PTA 42 752 million in 1981 compared with PTA 94 403 million in 1987), and appreciably in relative terms (4.3% of gross added-value in 1981, 4.5% in 1987).

Restructuring in this dynamic sector is currently under way. However, the sharp drop in the number of tourists in the past few years has also had a negative effect on income.

Cross-border tourist tours (Route of Discoveries) are planned whereas in Andalusia, tourist numbers have dropped over the past few years. However, the tourist pressure is proving more and more detrimental to the environment. The strong urban trend and concentration in coastal areas is producing problems in the quality and quantity of drinking water (hydrous imbalance of the Doñana reserve) and only accentuates coastal pollution.

To pressure from tourism must be added pressure from agriculture and industry which are not only detrimental to the environment but are also depleting water resources, already inadequate when faced with summer requirements. The intensification of farming, with growing recourse to fertilizers high in nitrogenous substances which produce nitrates, has also caused growing damage to rivers over the past few years: the rate of nitrates in mg/l of the Guadalquivir (Seville) in 1982 was 7.2 and in 1986, 13.6. Erosion of soil in farming areas is also increasing, and in areas where fast growing species of trees are introduced (inland western Andalusia), the soil is being depleted.

As for industrial pollution, this is concentrated in the region of Huelva (high atmospheric pollution) and the Cadiz Bay (high water pollution), i.e. where the pockets of heavy industry are to be found.

These regions, Andalusia in particular, also have numerous natural parks and there are new potentials in some of the mountain areas (Aracena, Sierra Norte).

## **4.8.2. Prospects**

### *4.8.2.1. Trend-based scenario*

These relatively inaccessible southern regions, remote from the central areas of the Community, have benefited from a number of projects to develop infrastructure aimed at improving internal connections (upgrading of the Cadiz-Algeciras and Algeciras-Entepora roads, and of the Setubal-Faro road into a motorway, and the opening of the international bridge over the Guadiana enabling a link between the Algarve and Andalusia) and at speeding up their integration into Europe (enlarging Faro airport to take about three million passengers annually, completion of the TGV high-speed Madrid-Seville link with European standard track gauge, the teleport in Seville, a projected new airport in Seville).

Commercial flows, particularly in agricultural produce and food products towards northern and central Europe, especially towards France, are progressing, as are cross-border flows between the Algarve and Andalusia due to the improvement in infrastructure and commercial enhancement of complementarities (services, tourist tours).

The increase in population in the coastal regions will continue but probably at a somewhat slower rate and a slight ageing of the population is also projected, whereas the ageing of the population will be pronounced in rural areas, victim of rural depopulation. As to migration balance, it should remain positive (index of 100 to 105 projected) for western Andalusia and the Algarve, especially the coastal regions, whereas it will continue to fall in Alentejo (index of 85 projected).

Western Andalusia will have the highest growth in the labour force by the year 2000 (between 141 000

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and 200 000 people) whereas in the Algarve the increase will be more modest (between 5 000 and 8 500 people). This will result from the surge of young people coming onto the job market and from the foreseeable increase of women in the workforce in Spain.

In these two regions, the growth trend for jobs is positive, but the state of the job market (balance of supply and demand) is very different. In Andalusia the rate of unemployment is high (26% in 1990) and will probably remain so because of the projected surge in the labour force on the job market, whereas in the Algarve the rate of unemployment is low (3.8%) and could fall even further than trend-based assumptions. However, Alentejo seems to be undergoing a process of cumulative decline.

On a favourable assumption, Andalusia will see its rate of unemployment fall considerably to reach 20% by the year 2000, but any slowdown in growth (reduction of investment, both public and private, in industry, weak stimulus given by the Universal Exhibition, drop in the number of tourists) will make it go up slightly.

The recent expansion phase (1985-89) has uncovered some weaknesses which are disturbing for the future: expansion depended strongly on the construction and public works sector due to the building of a large public infrastructure for the 1992 Universal Exhibition in Seville, enduring inability to cope with the continual increase in young job-seekers and, lastly, a sharp increase in short-term employment.

The industrial development of the Bay of Cadiz is still mostly based on the shipbuilding yards which are undergoing a technological revival. This industrial area is therefore tending to specialize in electronics.

By the year 2000, on trend-based assumptions, the number of workers actively engaged in agriculture will be 130 000, the duality of the farming system

(small holdings alongside latifundia) will remain and planned reforestation will have accelerated.

The high degree of specialization in agriculture in the region, which is creating little added value, could be the origin of a difficult social situation if the effects of technological change and the reorganization of the production process lead to massive job cuts.

Will the other sectors have a sufficient momentum to compensate for the effects of change, which will result from the transition to a modern and competitive agriculture, while the industrial basis is still weak?

Will the intensification of agriculture not be detrimental to the environment given the lack and precariousness of water resources?

#### *4.8.2.2. Intervention based scenario*

The continued opening up of these southern peripheral regions is based on the modernization of land infrastructures and the development of regular air links.

A good spatial distribution of the benefits of the high-speed Madrid-Seville rail link must be ensured between the medium-sized towns of western Andalusia (Huelva, Jerez and Cadiz) and this will only be done by radically modernizing the regional rail services.

Modernization of the rail corridor along the Algarve coast still remains to be achieved, as well as the establishment of a high performance cross-border rail link between Faro and Huelva. As to regular air links from Seville and Faro, they need to be diversified both toward European cities and toward Atlantic towns. Capacity at Faro airport should reach three million passengers annually in comparison with the current level of 700 000 passengers.

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Finally, the potential impact of the international port on the Guadiana and a fixed link across the Straits of Gibraltar need to be evaluated so as to be better exploited, which is important since the transit flows in these areas are sharply increasing.

Moreover, the growth in these transit flows makes the development of an intermodal road-rail transit system even more necessary. The improvement in land infrastructures, and their interconnection in particular, is essential to accelerate the modernization of the economy of these southern regions of Western Europe.

To facilitate diversification of the industrial basis, still based to a large extent on the transformation of raw materials and therefore structurally fragile, the development of new sites must be facilitated for national and European businesses in the secondary poles (Huelva, Jerez and Cadiz). To be more effective, this needs to be combined with a deconcentration of services to the secondary poles, an improvement in liaison infrastructures and an improvement in the environment.

Agriculture has indeed partially undergone its transition, but this has profited the tertiary sector more than secondary industrial sector. There is therefore a need to encourage more farming activities to go in for transformation with a higher added-value. Cooperation with other European regions, especially with the Mediterranean regions of France would enable sophisticated know-how to be acquired and speed up technological modernization. The effectiveness of these exchanges would be increased if efforts in professional training were made at the same time.

Exchanges with the more advanced southern regions concerning the latest findings on the limits of intensive farming and the damage it inflicts on the environment (water pollution) should also be promoted, as should alternative methods of crop growing in order to produce high-quality products

(biological methods of farming) based on better management of water resources.

Farm products such as honey, wax, mushrooms and herbs should be better valorized and marketed, as should goats milk, which is the subject of an exchange of know-how between the Poitou-Charentes region in France and Andalusia.

As regards afforestation, which is developing rapidly in areas undergoing desertification, a greater diversity of species must be encouraged for there is too great a proportion of rapid growth species. Tourism should also be diversified. A move towards tourism of a higher quality should be encouraged offering more sophisticated products in the coastal areas. Environmental upgrading (particularly of bathing waters) is also essential.

Because of the high tourist concentration in space (the coastal areas) and in time (summer), accommodation facilities in inland areas need to be increased, and tourist and ecological tours in the natural parks need to be promoted.

## **4.9. The islands**

### **4.9.1. Ultraperipheral islands (Madeira, the Azores, the Canary Islands, the West Indies and French Guiana)**

#### *4.9.1.1. Trend-based scenario*

These regions will see great difficulties between now and the year 2000, not only because they lag behind in existing economic and social infrastructures but more particularly because of permanent handicaps due to their insularity, their extreme distance and the diverse limitations that a finite space imposes (in resources, manpower, markets, etc.). French Guiana which can be put in the 'neo-insular' category, is, of course, a special case.

The most urgent problem is that of the 180 000 farmers of the region who mostly live on very small farms.

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The single market will mean that these smallholders will have to face competition either from the European agri-foodstuffs industry or, even more (through the GATT agreements), from non-member countries who, because of the low cost of labour, will be using 'social dumping' on identical products (bananas, exotic flowers and fruits).

The unimpeded penetration of bananas from the 'dollar zone' into the Community market could, for example, cost some 66 000 jobs directly or indirectly in the West Indies, Madeira and the Canaries.

In regions where unemployment, when not hidden by underemployment or emigration (Madeira and the Azores), is already at levels of 20 or 30%, such a situation will provoke serious social unrest in the years to come and/or new waves of emigration towards Europe or America.

The present alternatives will scarcely counterbalance this situation.

Fishing (French Guiana, the Azores, and the Canaries in particular) may perhaps see some developments, but there needs to be careful management of the sector to avoid the extremes seen elsewhere when resources are depleted. Tourism offers some prospects, but these too are limited. Either local features (climatic or other) only permit modest development in numbers (French Guiana and the Azores), or tourist development must be self-limiting for fear that unbearable pressure will be put on the environment and lifestyle.

#### *4.9.1.2. Intervention-based scenario*

The situation of the ultraperipheral regions in the Community will be forceably influenced by the emergence by the year 2000 of a common European foreign policy and a common defence policy.

The importance of investments, the efforts made and derogations to Community regulations con-

sent to with regard to these regions are already part of the obligations the Community laid down in the 1957 Treaty (reduction of economic and social disparities between the regions).

But their position must also be appreciated in taking into consideration their geo-strategic role (protection of air and sea approaches to Europe in the Atlantic, monitoring of its principal supply and export routes, the space industry in French Guiana, etc.), or their diplomatic role (direct proximity of the Community with African States and with the Americas).

The geo-strategic imperative means that the Community cannot risk these regions, which are its extreme borders, being turned into hotbeds of instability.

This means that consolidation of the rural population must be a priority. It will require customs arrangements concerning products from non-member countries so as to ensure that the farmers of these regions have access to the Community markets at a fair level of remuneration. It will also require policies of modernization, diversification and adaptation of their products, as well as compensatory measures which will take into account the effects of distance from markets, and limitations of scale which also have their production costs.

As to external relations, the Community should profit from the ultraperipheral nature of these regions to develop exchanges either with third countries who are direct neighbours (Suriname, Brazil, Caribbean islands and West African States), or with countries where a large diaspora of these communities exists (Venezuela, South Africa and Angola).

It should be possible to create jobs there by using geographical proximity and/or cultural or climatic similitudes to develop services (health and sanitation, education, commercial or professional) which

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these third countries need. The tax administration or customs regulations of the regions in question could be adapted to encourage such activities.

Likewise, customs agreements with ACP countries should be adapted to ensure that the transformation industries of these regions have better access to the markets in neighbouring countries.

#### **4.9.2. The Scottish archipelagoes**

##### *4.9.2.1. Trend-based scenario*

Although expressed with less intensity and in a very different economic and geographical context, the problems of the Scottish islands, as with numerous other islands off the coast of the United Kingdom, Ireland and France which could deserve particular attention, have fundamentally the same roots as those of the peripheral islands: maritime isolation, spatial and human limitations.

Island farming is based above all on the extensive grazing of sheep (Hebrides and Shetlands) or cattle (Orkneys). With the current slump in prices there is a risk that numerous island farmers working with small flocks and faced with rising costs (fodder, etc.) will disappear.

This decline in livestock farming would weaken the general economy of the islands either by reducing the number of full-time farmers, or by depriving the population of additional income which has traditionally enabled them to resist unemployment and recessions better. This would speed up depopulation of rural areas and smaller islands.

Fishing is important in all the islands, but more particularly in the Shetlands and the Hebrides. It is currently facing serious difficulties due to the depletion of stocks because of the overcapacity of the Community fishing fleets (estimated to be 40%).

The disappearance of fish in the waters surrounding the islands would have particularly disastrous effects on the island fleets which cannot be redeployed because of their coastal nature, and on activities up and downstream.

Aquaculture has developed rapidly over the past few years, and is now reaching saturation point, both of the market and of the environment.

Oil played a considerable role in the economy of the Orkneys and Shetlands during the construction of infrastructures in the 1970s, but current jobs rely in particular on maintenance, operation of the terminals and port traffic.

Whether the offshore activity will continue beyond the beginning of the 21st century depends on the trends in oil prices, and therefore on those of technology and the international economic situation.

As for tourism, the climatic conditions mean that the season is short and prospects for the development of this sector are limited.

In general, the high cost of transport in relation to the distance covered (especially in the case of air travel) affects all the activities here and is a handicap for market access.

The Scottish islands, already underpopulated (between 10 and 30 inhabitants per km<sup>2</sup>), are in a perilous position. The stabilization of their population over the past few years is due in great part – in addition to oil for some – to the high rate of unemployment in the traditional areas of emigration, for example the Clyde valley.

Economic growth in these areas, which is concurrent with the development of the islands, would probably lead to continuing depopulation and a growing fragility of their environment.

The Inner Hebrides and the islands in the Clyde estuary have the advantage of being in closer prox-

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imity to mainland Scotland, but in general these small communities have few sophisticated services.

#### 4.9.2.2. *Intervention-based scenario*

The inhabitants of the Scottish archipelagoes have great experience in combining activities (fishing/livestock farming, livestock farming/weaving, etc.) with livestock farming constituting the foundation of their economy.

Stabilization of the population in these regions, therefore, means the maintenance of agricultural activities, even if their profitability is often marginal in comparison with criteria on the mainland.

This stabilization can be obtained by a threefold action:

- support for prices paid to farmers, taking into account extra costs linked to transport;
- promotion of high-quality products and products with a strong regional identity that experience has shown resist the handicaps of insularity (woollen goods, whisky);
- consideration of their role as 'managers of the environment'; these islands contain important natural reserves (birds, sea mammals).

The preservation of fishing activities means a radical new policy, justified by the fact that these islands, given the lack of industry and absence of hinterland, greatly depend on the stocks of fish in their coastal waters.

Such a policy would mean the granting of a right of priority access to local fishermen and delegating powers to local authorities to manage these waters, since they are by nature the most motivated by any policy of conservation.

The development of aquaculture requires measures to stabilize and protect existing markets (in particular against dumping from third countries), a policy of diversification of production, and, lastly, marketing assistance which would enable the producers of these isolated islands to find new markets. The nature of the local resources and the public image of these islands (maritime, freshness, quality of environment) mean that markets should be looked for not only in other Atlantic regions but also directly in the heart of the European continent and probably in the large urban consumer centres. Because of the finite nature of these islands, the not very profitable market for cattle, and the extreme fragility of the natural resources for fishing, it would appear that these activities will not be able to create many more jobs than those already existing.

It will therefore be necessary to create new sources of employment in these regions, taking into account their natural potential, maritime traditions, (relative) proximity to the European continent and the satisfactory level of schooling existing in Scotland.

The most favourable option would seem to be an intervention-based policy, aimed at concentrating research and experimental programmes touching on activities concerning the sea, in the islands with the help of funds from the public sector: exploiting new types of energy, offshore technology, advanced techniques in the fields of fishing and aquaculture, management of coastal areas, etc.

The use of videotex systems would compensate, in part at least, for the handicaps of insularity. In addition to the jobs directly created, the induced effects of these activities (shops, hotels, transport) should, given the small population, constitute a proportionately large economic contribution.



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## 5. Summary of the analysis of prospects

The Atlantic fringe of Europe has borne for a long time, and will continue to bear, the stigmas of dependence. An economic observer recently remarked: 'The Atlantic regions are handicapped by belonging to practically all the States which have had a multiseular trend towards centralism. Contrary to the Europe of the Rhine regions, these territories have not had sufficient trust in man.'

Indeed, the aftermath of dependence can be seen in many aspects:

- The colonial history of Europe, in which the Atlantic fringe was the interface, long favoured economies based on ports and the merchant trading of maritime cities, but it should not be forgotten that most of the profits from colonialism and the opportunities for reinvestment they provided went to the capital cities which provided, the impetus in the first place. For the maritime economies, the profit was often short-lived, with no real multiplier effect, even if some cities like Bristol owe their tobacco industry or trade in chocolate to it.
- Industrialization in the Atlantic regions was mainly exogenous, i.e. decided externally, especially in the national capitals. One only needs to remember the mining operations in Wales, the Basque Country, and Asturias, the metalworking and shipbuilding industries on the Clyde, in the Basque Country, Galicia and Northern Ireland, or the installation of a string of coastal refineries and petrochemical plants in the 1950s and 1960s, right up to the introduction of the coastal steel furnaces in Sines in Portugal in the 1970s. It cannot be disputed that for a long time the setting-up of these industries was beneficial to employment in the Atlantic regions. However, their entire justification, arising from their exogenous nature, gave rise to disastrous effects: a non-existent process

of accumulation of wealth, a poor ability to react to economic and technological change, a very low driving effect on local economies, often little recourse to local services, and environmental deterioration. This model is reproduced time and time again, even after the decentralization of large national research institutes. One only needs to remember the limited effect on the local economy of a body like the CNET in Lannion, Brittany (600 jobs created, a number of which were in subsidiaries of the CNET).

- The structure of transport networks and dominant services follows a radial pattern, whether it be land transport (road and rail) or air services which for generations have favoured links between the peripheral Atlantic regions and the capital cities to the detriment of transversal links, in particular those between the Atlantic regions themselves.

The deficiencies and the decay of land links along the Cantabrian coast from the Basque Country to Asturias and into Galicia are probably the most striking example of these policies, but they are unfortunately not unique. On the French Atlantic coast the estuary road is still not complete; as for the railway line, it is inefficient and has not yet been electrified. In the United Kingdom, in addition to the lack of transversal links and the bottlenecks in the hinterlands of the western Channel ports, deficiencies still exist in the main radial links between North and South Wales and between south-west England and the Channel Tunnel (problems of electrification of the lines, no direct access to the Tunnel).

This context of external dependence which has been perpetuated has had at least two long-term structural consequences: the weakness of the urban structure of the Atlantic regions which is a direct result of the absence of the cumulative process over a long period and the particularities of endogenous industries, mostly labour-intensive using un-



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skilled or semi-skilled personnel, reflecting the difficulties of access to investment, skilled labour and technology. The fact that the Atlantic regions have remained amongst the most rural in the Community is no reflection on the richness of their soil in agricultural terms, rather the contrary, since there are very few which do have good quality soils. The rurality of Atlantic societies is much more the expression of a lack of economic alternatives, a structural backwardness in relation to the evolution of European society.

The trend in the next 10 or 15 years will be even more deeply marked by the aftermath of dependence, even if today it has somewhat changed form. The creation of large transport networks is still largely determined by national authorities or national transport companies even if regional influence is growing. The economic decision-makers, i.e. the head offices of large companies, are mainly located outside the Atlantic regions. But the emergence of a European economy, in particular within the framework of the Community and, apart from the opportunity it represents, has given a new dimension to the concept of dependence. First, there is the relative position of the Atlantic regions in terms of economic and technological performance in comparison with the more central regions, which is not to the advantage of the former. Second, there is the distance from the principal markets. Economic union in Europe will tend to marginalize the more peripheral regions even more.

This new dimension has had different effects on different Atlantic regions: the Atlantic regions of France have been members of the Common Market since 1958, the regions of the United Kingdom and Ireland joined 15 years later in 1973, and the regions of the Iberian peninsula in 1986 only, at the time when the European Community, through the Single European Act, was increasingly easing restrictions and modifying its legal and institutional bases.

### **The beginnings of change in the Atlantic regions**

The past two decades have seen the sowing of the seeds of change in the Atlantic regions, unequally between the regions and the countries admittedly, and with more or less substance and more or less anteriority. The thrust of this change is sevenfold:

- The development of poles of technology, of varying size and performance, has become a reality in the Atlantic regions. The most significant are Edinburgh, Bristol-Bath, Rennes, Nantes and Bordeaux. But the potential of Dublin, Cardiff, Bilbao, Oporto, Lisbon and Seville should not be underestimated, and even more modest poles such as La Rochelle-Rochefort and Galway must be taken into account. The Atlantic regions are far from being a technological desert and their presence will make itself felt even more in the decade to come. There are, nevertheless, two factors of incertitude: the critical mass of these technology poles in relation to those in the more central regions of Europe, and their aptitude to induce modernization of regional industries, since numerous research centres belong to national structures which are little concerned with regional economic issues.
- The development of structures for transferring technology which, although closely linked to the existence of poles of technology and research bodies, constitute a specific area of activity, essential to modernization and to the creation of endogenous industries. These types of structure are multiplying in the Atlantic regions but at present they are mainly to be found in science and technology parks, or nearby, and they are having difficulty in penetrating the general industrial framework of the region.
- The development of transport networks and services. Traditionally isolated and relatively poorly linked to the large network structures of Europe, most of the Atlantic regions have benefited, and for the next 15 years will continue

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to benefit, from substantial programmes of investment in transport infrastructure from the public sector. When these programmes are completed, the level of access to the most isolated of the Atlantic regions will be considerably improved, as can be seen from the map of connections to the main transport networks which has been drawn up for 2010 on the basis of programmes already scheduled (see p. 133).

The only areas not well connected to this main network, and excluding the islands, will be the mountainous areas of the Iberian peninsula, western Ireland and northern Scotland. In spite of the improvements planned, most of these infrastructures will only help reinforce the radial systems, and not be able to break them up.

The deficiencies in the current projects, with the exception of a number of radial links, concern transversal links and intermodal hubs for transporting both goods and people.

- Industrial diversification. It is no longer the case that the industrial framework of the Atlantic regions is made up almost entirely of declining heavy industry or fragile labour-intensive industries. Alongside exogenous establishments, there are numerous examples of newly created endogenous industries with a high level of technology, specializing in products for which demand is growing, and employing a highly skilled labour force. But it must be observed that, on the one hand, these activities are in the minority in relation to low performance industrial structures and, on the other hand, that they are unequally spread in the Atlantic regions, the best being south-west England and the Atlantic regions of France. Wales and Scotland follow. A number of Spanish Atlantic regions have industries of this type (the Basque Country, northern Portugal, Lisbon and the Tagus Valley), but they are insufficient in number. The defence industries, strongly present in the Atlantic regions, are often centres of sophisti-

cated technology (aeronautics, telecommunications, electronics, new materials, etc.). The current downturn in this sector is due only to the reduction in defence spending but it could have important negative effects.

- The development of high-level services. The larger cities of the Atlantic regions (Edinburgh, Glasgow, Dublin, Bristol, Rennes, Nantes, Bordeaux, Bilbao, Oporto, Lisbon and Seville) have been developing high-level business services (financial services, consultancy, centres and services for conference and trade fairs, hotels, etc.) for several years now, even though the quantity remains lower than that available in numerous other European cities, as the GIP-Reclus classification shows. This is reducing the comparative disadvantage of the Atlantic regions in relation to a number of more central European regions. However, the spread of these services to medium-sized towns is still relatively slow which means that a large portion of the Atlantic arc area does not have any such services at its disposal. The increasingly strategic role of high-level services (business services in particular) is reinforcing the tendency to polarization.
- Enhancement of farm and fishing products. A number of Atlantic regions are able to give a high added-value to the primary products of their rural and marine economies. The highest performers are the Atlantic regions of France and, to a lesser extent, south-west England. Progress is being made in this direction in Ireland, northern Portugal and Andalusia. There are considerable differences in the know-how and therefore technological complementarity between the Atlantic regions, with the Spanish, Portuguese and Irish regions lagging somewhat behind.

The reforms currently under way in Community farming and fishing policies will have an even stronger negative impact on jobs. They will directly affect the transformation industries more than

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the farming or fishing sectors because of the older age structure of labour in the latter sectors and because of the numbers going into retirement in the next 10 years.

- Modernization and diversification of tourist products. Although the Atlantic regions are lagging far behind in the supply of tourist products in relation to the type of demand currently emerging, progress has been made in many regions (Ireland, Scotland, Wales, south-west England, the west of France, northern Portugal) with attempts to promote rural tourism in the hinterlands, and value-added products in coastal areas (tourism for health, thalassotherapy, golf-courses, cultural and art activities, etc.). The southern regions of this zone (Alentejo, Algarve and Andalusia) have not made much progress so far.

## **5.1. Trend-based projection of the handicaps and new challenges facing the Atlantic regions**

### **Increase in external dependence**

Forces currently shaping European societies and economies and their evolution are likely to increase the dependence of the Atlantic regions on the world outside. This is particularly the case of high-level services which are determining the structure of Europe more and more. The changes which have recently occurred in favour of a number of Atlantic cities mean that in the years to come they will increasingly have to confront the effects of the liberalization of services, especially financial, which will follow on from the Single European Act. It is not the number and type of services that will matter, but rather the progression of the multinationals (banks, insurance companies, consultancies, etc.) towards the peripheral Atlantic regions.

The effects of the Single European Act will also be felt in the industrial sector. Numerous Atlantic

regions are very sensitive to the opening-up of public procurement contracts because they are specialized in producing material and equipment for public companies (rail rolling stock, equipment for energy production, etc.). They will therefore be confronted with competition from companies in the more central regions with a higher technology factor and therefore higher competitiveness. Another example in the industrial sector is that for several years now the multinationals have been intensifying their efforts, in particular to ensure control of the vast networks of subcontractors or joint contractors.

Numerous small and medium-sized industrial businesses in the Atlantic regions have managed to break into national or European markets, only to find themselves forced to take up with a multinational for fear of otherwise finding themselves out on a limb. It is not necessarily their prosperity which would be affected, but the fact that the powers of decision-making have moved outside the region.

Likewise, there is the risk that the results of research done in the Atlantic regions will be developed industrially outside the region. Many Portuguese laboratories, for example, who have collaborated on R&D with a German or Dutch group, have seen the industrial implementation of the products or process taken away from them.

Reinforcing the radial dimensions of the large transport networks is liable to speed up the process of intensified external dependence, particularly in relation to national capitals.

### **Too slow spread of technological modernization through the industrial framework**

The appearance and spread of new technologies have become a widespread phenomenon which entirely governs the competitive position and com-

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petitiveness of businesses able to adopt these technologies. In spite of progress in recent years, most of the industries in the Atlantic regions, especially the endogenous small and medium-sized businesses, are not taking technology on board at a satisfactory rate. Products and production methods, and therefore cost price, will be overtaken by those of better performing companies in the more central regions of the Community. It has been noted, for example, that numerous endogenous Irish companies are still facing difficulties in penetrating foreign markets. A similar phenomenon can be seen in the Basque Country, Galicia, Portugal and even in the west of France.

An accumulation of factors is at work here: entrepreneurs are not sufficiently enough of the technology factor, businesses lack the resources to be able to make the necessary investment, and access to information about technology is made difficult because of the absence of, or distance from, centres of technology transfer.

Another handicap, which only goes to reinforce the above inadequacies, is the small size of research units, especially those in the private sector. The absence of real centres or networks of excellence, equivalent to those found in the more central regions of Europe, explains the limited impact on the industrial framework.

There is a real risk of seeing pockets of technology around technology parks and transfer centres surrounded by vast areas of obsolescence which in the end will become deindustrialized.

### **The partial collapse of rural society and continuing desertification**

A number of signs lead us to believe that the duality of rural areas in the Atlantic regions will become more pronounced. Next to areas of relatively intensive farming, where farm size is sufficient to sustain the shock of the new CAP restrictions and

where the proximity of a medium-sized town or large city is sufficiently attractive to support economic diversification, an increasing number of rural areas will go into decline. Already apparent in a limited number of regions (Alentejo, for example), this decline will be the result of the continued emigration of vital forces towards urban centres and coastal areas, the ageing of the population and retirement of many farmers, the insufficient size and degree of performance of the majority of farms and the level of indebtedness of farmers faced with the new CAP measures and ensuing loss of income. Undervaluing of land will follow, leading progressively to whole areas being abandoned. This is already the case in the mountainous and semi-mountainous regions of the Cantabrian coast, in Galicia, Portugal, Andalusia and in a number of areas in the west of France. Some of the peripheral rural areas of Scotland and Wales have already reached a very low level of population.

### **Collapse of the military industrial complex**

For geo-strategic reasons, the Atlantic regions have been favoured by national governments for the location of defence industries. During World War II, for example, the British Government relocated a number of these industries to Wales so as to be out of reach of German air raids. South-west England, Brittany, Aquitaine, the Basque Country and Galicia all have military arsenals, aircraft factories, experimental centres, etc.

The jobs offered in this sector are numerous and relatively highly skilled, sometimes even highly specialized. One study carried out for south-west England showed a foreseeable loss of 50 000 jobs in the years to come because of cuts in the defence budget.

It is feared that many specialists will leave the Atlantic regions if they cannot be redeployed in civilian industries.

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### **Transfer of foreign investment to the more central European regions**

Foreign investment, from inside and outside Europe, has contributed over the decades and in recent years to the prosperity of many Atlantic regions, especially the more peripheral ones (Ireland, Scotland, Wales, Portugal and Andalusia). For most of them, these investments were motivated by an abundant and cheap labour force and the penetration of new markets. Things have changed however. Even if foreign investment remains beneficial in sectors like oil, natural gas, petrochemicals, and the high-tech industries, a lot of foreign investment is currently being made in the tertiary sector (logistics systems and distribution networks, banks and insurance companies, consultancies, real estate, etc.). Among these investors are many who are drawn to central locations in Europe for organizational reasons concerning the single market. Even in industrial investment, the same phenomenon is beginning to occur. The idea of a 'European factory' being able to supply the whole of the European market is beginning to emerge, especially amongst American investors. In addition, the search for cheap labour will increasingly lose its significance for investors since a number of countries outside the Community and outside Europe are able to supply abundant labour at a very low cost. It is therefore probable that foreign investment in the peripheral Atlantic regions will be much less promising in the next decade.

### **Relocation of labour-intensive industries outside the Community**

The emergence of Central and Eastern Europe as powerful reservoirs of cheap labour accustomed to industrial work will prompt many Community industrialists to relocate some of their labour-intensive industries there. The southern shores of the Mediterranean basin are also attractive in this context. The Atlantic regions are rich in labour-intensive industries which, in their present form (low level of training, remuneration, and technol-

ogy) will become less and less competitive on a Community level.

The Atlantic regions could therefore be very much affected by moves to relocate which will make themselves felt in the next decade. Countries like Ireland or regions like northern and central Portugal, or even some areas of western France risk bearing the brunt of such trends.

### **Insufficient emphasis given to natural resources, natural heritage and the environment**

In general, the Atlantic regions dispose of large reserves of open space and an environment which is of a relatively good quality. This must, however, be tempered.

Being relatively poor, these regions have not invested resources in the protection of their environment and, in addition, they are usually dependent on outside assistance as far as environmental technology is concerned. In numerous cases, it has been shown that industrial development has not been adequately accompanied by sufficient protection measures. This is largely true in the areas of old heavy industry (Northern Ireland, the Basque Country, the Cantabrian coast, Galicia, the Tagus estuary and western Andalusia), although in a number of these regions (Strathclyde and Wales) the cleaning up of waste land started long ago. Such phenomena can, however, be found in regions with lighter and more recent industry (Ireland and Portugal).

The intensification of farming (Brittany, Aquitaine, Algarve and Andalusia) or forestry (Alentejo) has also brought significant pressure on the environment (groundwaters, coastal waters, leaching of soils, etc.). Poor upkeep of the forest is the origin of numerous forest fires in mountainous areas.

As to the urban environment, it is heavily deteriorated in the old industrial centres (Belfast and Bil-

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bao) and is sometimes deteriorating rapidly due to the effects of rapid urban growth and increased traffic on the roads in the absence of adequate public transport (Oporto, Lisbon, Dublin, Cork and Bordeaux). In Glasgow, measures to improve the urban environment were instigated as early as 1975, although numerous problems still remain to be solved.

The continuation of urban coastal development (the development of tourism, coastal concentration of the inland populations) poses serious threats to one of the most precious resources of the Atlantic regions.

These problems are certainly localized, but are often on the increase, the means implemented being inadequate in relation to the present situation or to ongoing mechanisms.

But they do reduce, sometimes significantly, the attractiveness of some of the Atlantic regions and will weigh increasingly heavier on the choice of location for businesses and for people, for whom the quality dimension is becoming uppermost.

### **The cumulative effects of these handicaps**

The handicaps are unequally spread between the Atlantic regions. In some of them, a number of the following handicaps are cumulated: current high rate of unemployment, low level of skill of the labour force, unfavourable ratio between supply and demand for jobs by the year 2000, special vulnerability to CAP reforms and to Community fishing policies, important industrial sectors in decline, environmental damage, peripheral nature, high degree of inaccessibility.

The regions cumulating all of these handicaps are fortunately few, but they do exist: the Cantabrian coastal regions and, in particular, Asturias where prospects for change appear gloomy. Northern Ireland has also cumulated a number of these handicaps.

Other regions cumulate fewer of the abovementioned handicaps, for example, low level of qualification of the labour force, high unemployment, few prospects for improvement in these areas, high rurality, a number of heavy industries in decline, and sometimes inaccessibility (Northern Ireland, Galicia and western Andalusia).

The islands have specific handicaps of their own, mostly to do with their peripheral nature, difficulties of access to markets and the weakness of their industrial base.

## **5.2. General trend-based picture for the year 2000**

In a global context, where the policy of the single market is pursued and the decisions of Maastricht are implemented, where continuing intercontinental competition will be keener because other large industrialized countries will have to cope with internal adjustments and will try to draw maximum profit from the European market, a number of changes will occur in the Atlantic regions if the intervention-based environment remains the same as it is today.

Population growth in the Atlantic regions will slow, but remain positive (+ 5.6% between 1985 and 2015), whereas it will be negative in the 12 European countries. The overall growth in the labour force will be high because numerous Atlantic regions today have a relatively young population. Certain factors being difficult to anticipate, especially the number of women entering the workforce by the year 2000, the increase in the workforce should be somewhere between 1.9 and 2.3 million people. The trend-based projection of the employment deficit shows a deficit of between 1.7 and 2.4 million jobs by the year 2000, i.e. about the same size as at present. In this context, it can therefore be concluded that the situation in employment will not improve significantly, whereas

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in the more central regions of the Community the shortage will often be in the working population, in particular in the population of qualified and skilled workers. From a trend-based point of view, therefore, the differential in the qualification of the workforce in the Atlantic regions and in the more central regions of the Community will continue to grow.

Within the Atlantic arc area, the disparities in evolution will continue to grow. Depopulation in a number of rural areas or in industrial zones undergoing redeployment will continue, while the concentration of population in the cities and in coastal areas will be accelerated. This will be the case, for example, in the rural inland areas of Wales, northern and central Portugal, Galicia and Alentejo, as well in the industrial regions of the Basque Country and Asturias where emigration of vital forces will tend to accelerate. The same will apply for a number of islands, in particular those in the ultra-peripheral zones.

Demographic growth will continue in a number of regions or countries: Ireland, Northern Ireland, south-west England, the Atlantic regions of France, northern Portugal, Lisbon and the Tagus Valley and western Andalusia. A number of them will continue to generate emigration flows (Ireland, Northern Ireland and western Andalusia). But on the whole, and with perhaps the exception of Scotland, it will be the urban poles which will increase their population, due to a growing attractiveness for tertiary employment in particular.

The contrasts between the Atlantic regions will therefore tend to become more pronounced on a number of levels:

- on the one hand, between the regions cumulating a number of handicaps (Cantabrian coast, Northern Ireland, the islands, etc.) and those having large technological and tertiary poles (eastern Scotland, western south-west England, the west of France, northern Portugal, and Lisbon and the Tagus Valley), and

- on the other hand, and much more characteristically, between these large poles and their immediate environment and the rest of the Atlantic regions, whether rural areas or industrial areas in decline. Polarization will continue around the large cities (Dublin, Bristol, Rennes, Nantes, Bordeaux, Bilbao, Lisbon and Seville) to the detriment of both the peripheral rural areas and the isolated medium-sized towns. Coastal areas will also appear to be increasingly attractive.

Technological pockets will develop around the most significant technological and research establishments. High-tech industries which will easily break into international markets will prosper.

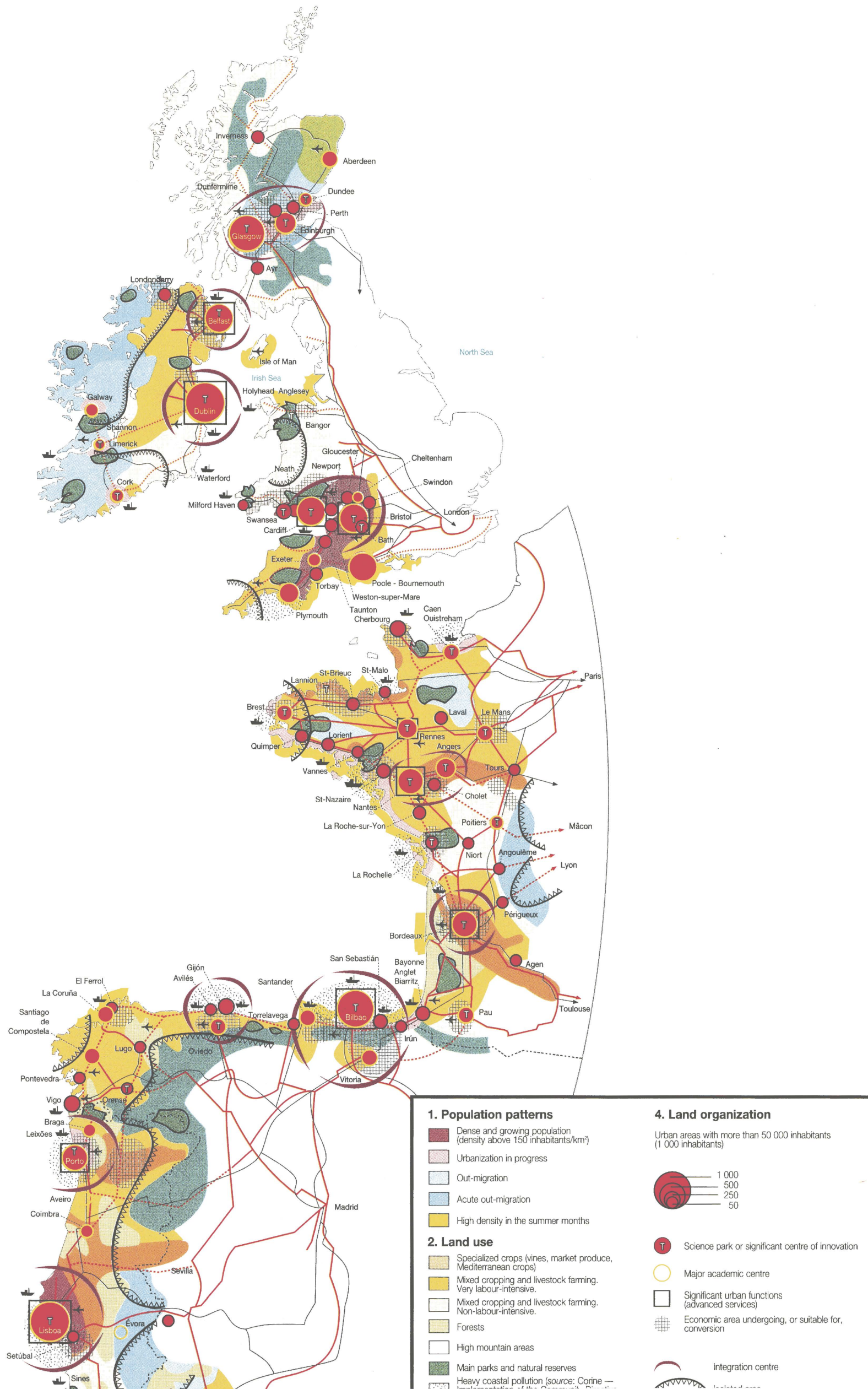
High-performing businesses will be looking for production sites which are able to adapt rapidly and which offer a maximum of transversal and mobilizable functions (research, technology transfer, telecommunications, various services). In addition to the cities mentioned above, there will also be the areas which are quickly catching up in Wales, Ireland and northern Portugal. However, the fact that the pockets of technology will remain isolated for the most part, the effect of their size and synergy, and therefore their competitive position in relation to the large technology poles of the centre of Europe, will necessarily be limited.

The reinforcement of the radial structures of land transport and the development of economies of scale in transport services (high-speed trains, jumbo jets) will reinforce a limited number of privileged corridors, by considerably increasing the advantages of their location, but it will also increase the influence of the large national capitals on them. Nevertheless, a number of radial corridors (from Wales and south-west England to the Channel Tunnel) will still have serious bottlenecks.

In contrast, the medium-sized towns away from the corridors or badly served by modern transport services will be less and less attractive as locations

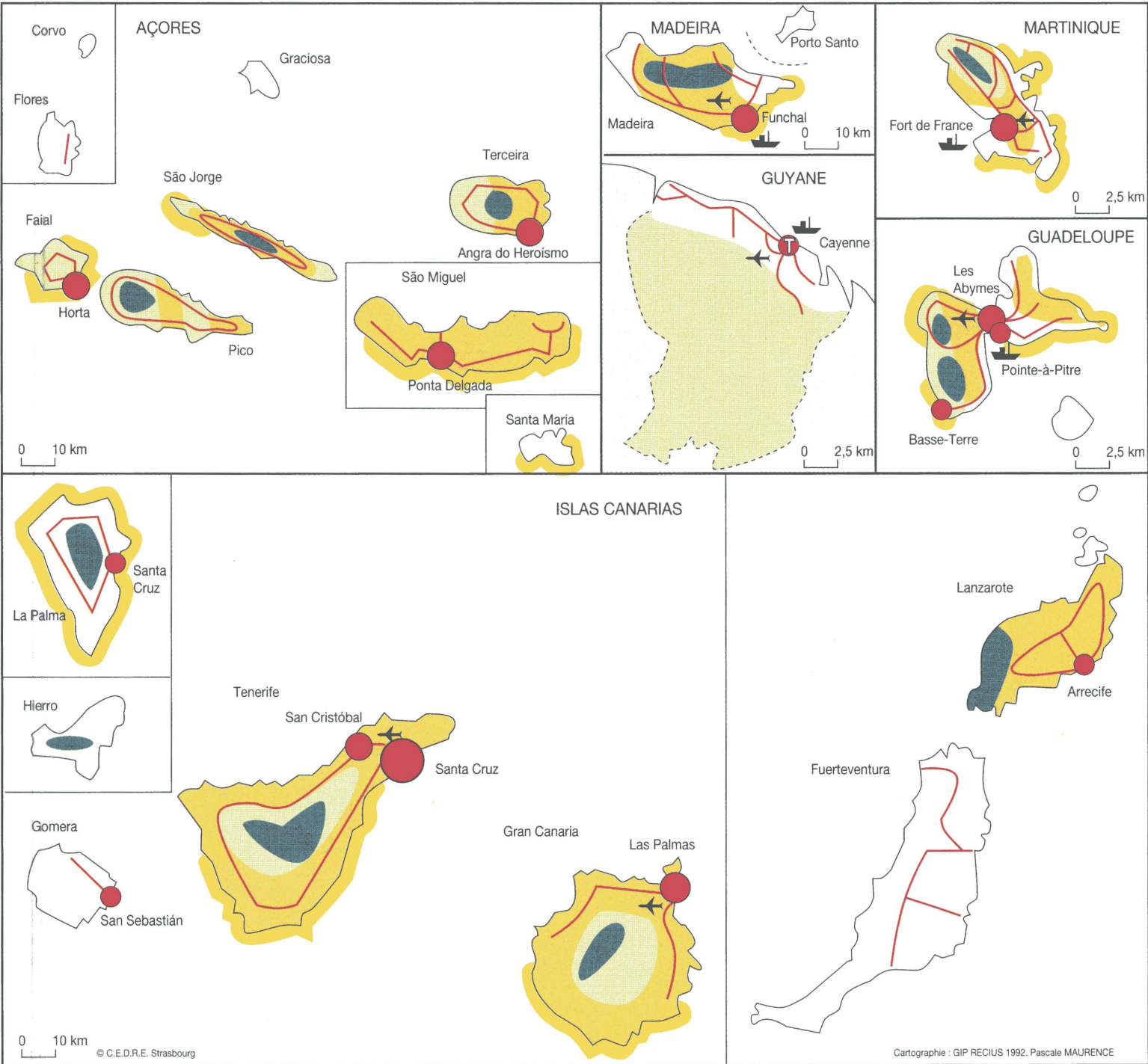
# Atlantic regions moving towards the year 2010

## Trends





# Atlantic islands moving towards the year 2010 Trends



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for businesses and for the development of high-level services. These medium-sized towns – and there are many of them in the Atlantic regions – will be less and less able to give life and support to the rural regions surrounding them, which will, in turn, speed up the inevitable decline of these regions. This is not just the case for the most peripheral zones but also for some which are relatively central, in western France, for instance.

The development of advanced telecommunications networks and services, very much linked to a market economy and therefore to the notion of immediate profitability, will proceed along the same lines, favouring the large cities in priority where investment can pay for itself rapidly, to the detriment of the medium-sized towns and rural areas, and therefore accentuating the disparities in the advantages of location.

Because of the relatively low technological level of their products, the most peripheral regions will have more and more difficulty in penetrating the markets of the central regions of the Community, which are already saturated with low-grade products and where demand is steadily rising for more sophisticated products.

A significant number of foreign and endogenous businesses using large quantities of unskilled labour will be transferred out of the Community (to Central and Eastern Europe, South-East Asia, North Africa, etc.).

Insufficient infrastructures and transport services will give rise to specific local problems. The lack of certain radial routes (like those in south-west England and Wales in the direction of the Channel Tunnel) will prevent those regions from taking full advantage of the markets of continental Europe. The lack of transversal links will stifle exchange and cooperation between the Atlantic regions, and the lack of appropriate road links in Lower Normandy, to carry the new road traffic generated by the growth in cross-Channel ferries, will inhibit

the performance of this new route for communication and integration and will give rise to problems of local congestion. The deficiency in land transport infrastructure along the Cantabrian coast will considerably reduce the chances of accelerated industrial redeployment in Asturias which could, amongst other things, benefit from the technological and tertiary impetus (finance, consultancy) of Bilbao.

The delays on the Spanish side in the building of the Viseu-Vilar-Formoso-Valladolid motorway will continue to handicap European integration for the most developed and industrialized regions of Portugal.

In the fishing industry, the emergence of a market for instruments of regulation in the years to come will lead to the constitution of more or less powerful fishing centres and therefore to a concentration of catches in ports with competitive infrastructures, well linked to the rest of the industry and therefore close to markets, with reliable, rapid and cheap communications networks.

Most of the ports answering these criteria are to be found outside the Atlantic arc. In the Atlantic zone, the ports which are the least badly positioned in this case are the ports of north-west Spain and in second position come some of the ports in Brittany.

Because of lack of equipment and intermodal services and interventionist measures to promote interregional maritime links, the economies of ports in the Atlantic regions will continue to decline to the benefit of ports in the North Sea. The general level of containerization will remain low; because of insufficient infrastructures, port hinterlands will remain limited in size. The strong increase in interregional trade will essentially profit road traffic.

It is by this means that most goods for intercontinental trade will be taken to Rotterdam or Antwerp, thereby increasing congestion on the roads.

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Progress in improving the environment will be slow since investment requirements are huge in relation to the means of local authorities and more especially in relation to the general pattern for development and the priorities given. Simply revitalizing the economic framework in the former industrial regions would not be sufficient to provide the resources necessary for improving the environment in any meaningful way (in particular in Northern Ireland, the Basque Country, Cantabria, Asturias and the Huelva province).

In the newly industrialized areas, the general pattern for development will not bear quality sufficiently in mind for effective solutions to be found to the problems of pollution generated by industry, to the treatment of industrial waste, to the recycling of products or for any control to be exercised on localization with regard to the sensitivity of the area chosen. Insufficient diversification of means of transport will lead to growing congestion on the main trunk roads, and therefore to a drop in the attractiveness of the Atlantic regions. The growing division between agricultural regions will result in the intensification of farming in the more profitable areas with growing recourse to chemicals and increased risk for groundwaters and the erosion of soils, on the one hand, and to the abandonment of the land and growing desertification in the most deprived areas, on the other hand, removing any last chance of diversification (through rural tourism, for instance), upkeep of the countryside and maintaining a minimal level of population on the land.

Because of insufficient progress in medium-sized towns, large cities will see the forces essential for development (population, investment, businesses, technologies, culture, advanced means of transport and communication) converge on them, which will only contribute to continued congestion, particularly traffic congestion, insufficient control of urban sprawl and finally a lowering of the quality of life and attractiveness.

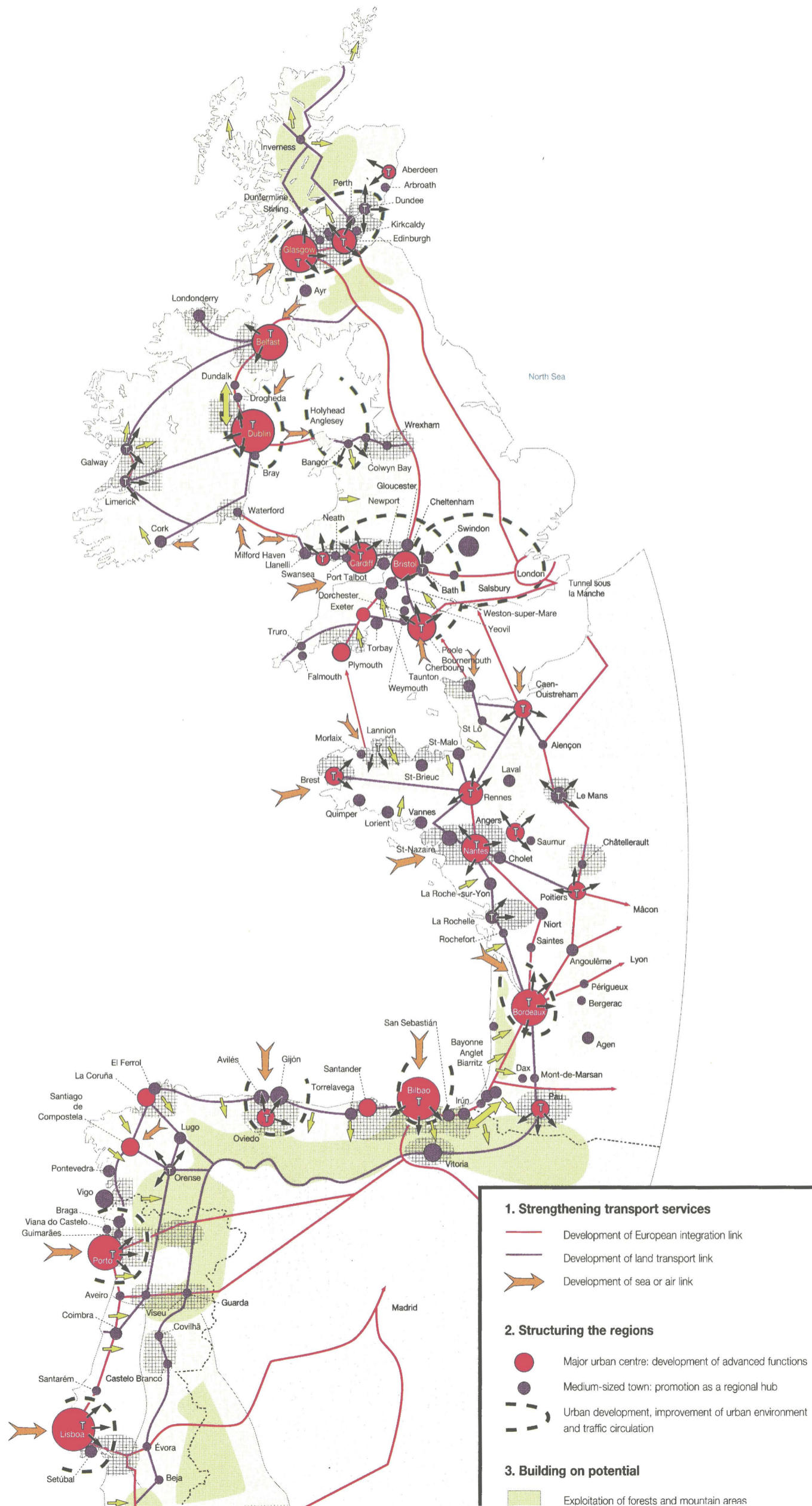
These trend-based prospects only succeed in reinforcing the divisions and contrasts between the various Atlantic regions. Some of them will see their prosperity continue without reaching extremely high levels. This prosperity will be very concentrated in spatial terms leaving surrounding areas unaffected. At the other end of the scale, numerous areas will suffer from progressive devitalization, whether in former industrialized areas or low production rural areas. When they exist, interregional solidarities will not go beyond close proximity or the level of declarations of intent. They will not be able to generate overall structural measures, synergetic effects and network economies of scale.

### **5.3. General intervention-based picture for the year 2000**

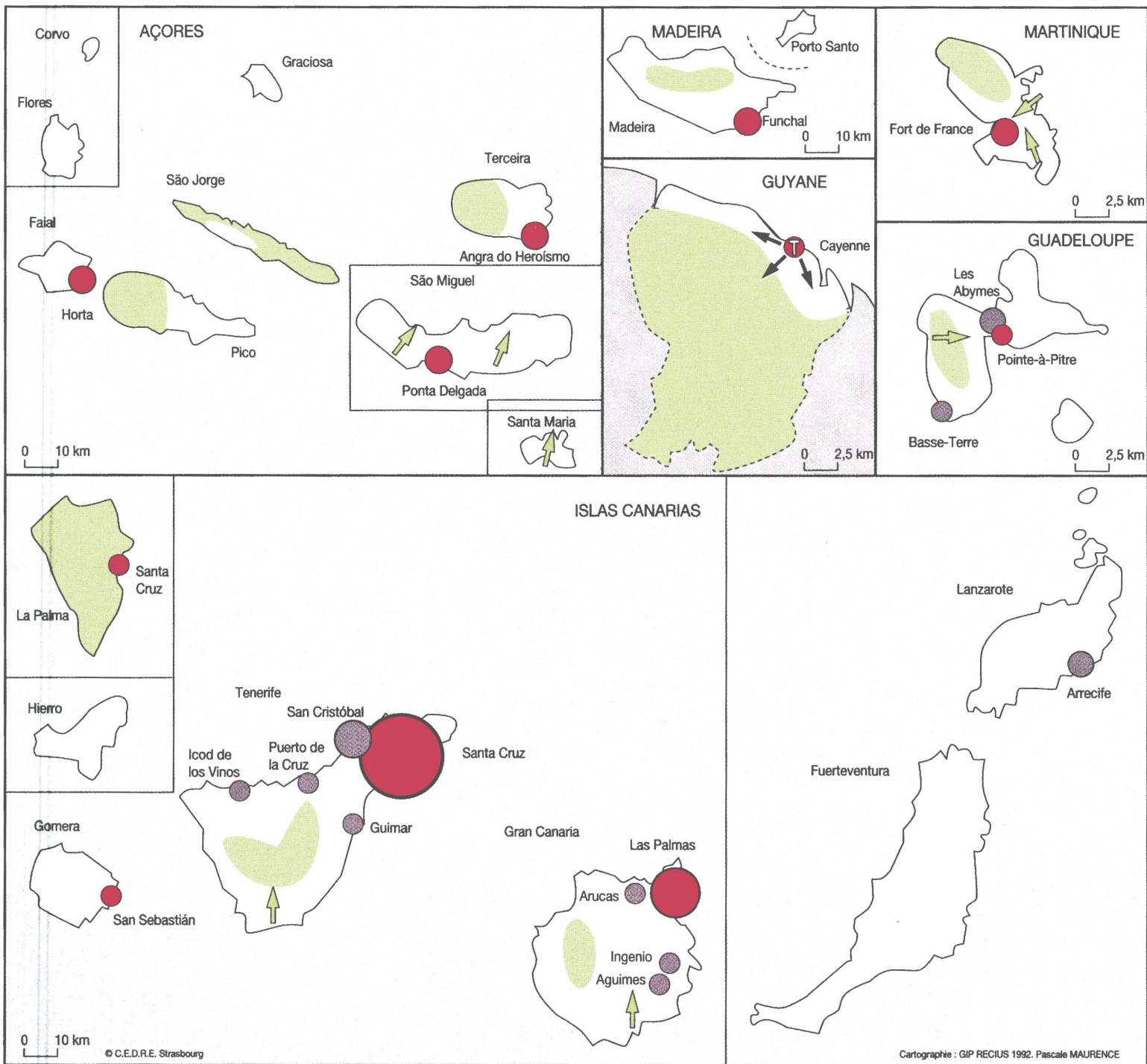
In this scenario, intervention not only applies to the action of the public decision-makers at various levels, from Community level to the local level, but equally to the vital forces of the economies and societies of the Atlantic regions. It is the expression of a progressive awakening which has already started at the grass-roots level as a reaction of solidarity to situations which have long been felt: dependence on external forces, lack of initiative, and lack of internal mastery of the development process. It is a scenario which is based on a collective rejection of fatality and marginalization. This is the only attitude which is capable of transforming in about 10 years, if not the ultimate destiny of the Atlantic regions, at least the nature of the process and the changes which are taking place. This scenario, if it aims at reinforcing economic links and cooperation between the Atlantic regions, does not aim exclusively at that. It takes into account the fact that links with the central regions and markets of Europe already exist and can therefore be improved, and also the fact that cooperation between the Atlantic regions would reinforce their relative weight and influence in order to confront successfully the dominant positions of their competitors in the centre of the Community.

# Atlantic regions moving towards the year 2010

## Proactive approach



# Atlantic islands moving towards the year 2010 Proactive approach



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As much as a trend-based scenario is based on the weak interaction between local processes and mechanisms, an overall intervention-based scenario supposes strong interaction, synergies and knock-on effects. The presentation which follows should not give the impression of mechanisms isolated from one another, but, on the contrary, of their close overlapping. Without underestimating the significance of other subsets, it is in the two areas of innovation/industrialization and transport systems that changes will take place, which will have the greatest knock-on effect on the economies of the Atlantic regions.

The first area has two principal dimensions: the creation of networks between centres of technological excellence in the Atlantic regions and, in each region, the enlargement of structures for the dissemination of technology for industrial modernization.

Given that many of the Atlantic regions already cooperate with the more central regions in the area of technology, technological cooperation between the Atlantic regions is supposed to be non-exclusive, variable according to the centres of interest and opportunities and having different finalities (creating a wide range of competence or, on the contrary, specialized centres having sufficient critical size and credibility).

Under the leadership of south-west England, a centre of engineering sciences will be set up in collaboration with the Loire Region (Nantes), the Basque Country (Bilbao) and Lisbon. Its formation could help speed up industrial redeployment, not only in the regions taking part but also outside (Glasgow and Belfast).

A centre of biology and marine science will be led by Wales in collaboration with Brittany, the Loire Region, Galicia and Ireland.

The presence of a strong research potential in agronomic sciences, linked to the farming vocation

of many of the Atlantic regions, should be the basis for concerted and vigorous action in the field of applied technology for the transformation and enhancement of farm products (the west of France, Ireland, Galicia and Andalusia).

The potential for research and industrial application in electricity and electronics should be emphasized by intensifying relations between Scotland (Silicon Glenn), Wales, south-west England (Plymouth), Ireland and the Atlantic regions of France. The field of materials could be the subject of collaboration between the Atlantic regions of France and those of the United Kingdom.

Collaboration will also be carried out in the field of technology in the fight against pollution and for the protection of the environment (treatment of waste, recycling, protection of sensitive natural environments).

The coupling of technological research activities and those of industrial production should be organized much more systematically by setting up networks for spreading technology, which should be attractive and close to business. The experience in other European countries could be used when designing these networks (the Steinbeis Foundation in Baden-Württemberg, for example). The objective will be to avoid industrial modernization remaining in a few privileged pockets around technology parks. The medium-sized towns, in particular those with regional universities or higher centres of technical training, should be used as relays towards small and medium-sized businesses. Technical teaching staff should be mobilized because they could prove to be excellent agents for technology transfer.

The object of these operations in technology transfer will be to accelerate the process of industrial modernization and diversification in former industrial areas (Strathclyde, Northern Ireland, Wales, the Basque Country, Cantabria, Asturias, Huelva province, and Lisbon and the Tagus Valley), on the

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one hand, and raising the level of technology of endogenous industries (Ireland, Northern Ireland, Scotland, south-west England, the Atlantic regions of France, Galicia, and northern and central Portugal).

Technology transfer will gradually diminish the relative importance of the labour-intensive industries and will be accompanied by far-reaching measures in professional training. The medium-term indirect results will be to limit the risks of industrial relocation to cheaper countries outside Europe, and increase attractiveness to outside investors, for whom the availability of a skilled labour force is a great incentive.

This strategy, which aims to enhance the industrial framework through injections of technology, will be accompanied by similar efforts in financial engineering. Setting up new businesses and expanding existing ones require large injections of capital. The need will be most strongly felt in the regions where the defence industry is going through difficulties (especially south-west England and Aquitaine). At the outset, new civilian industries, capable of taking on board both the skilled workforce and the technological know-how of the defence industry, are sure to come up against the problem of capital.

Regarding transport, the first moves to be made will have to have an influence on the major networks so as to compensate for their radial orientation and encourage new routes that will assist integration. This will be necessary for land transport as well as combined transport. Thus, special attention will be given to links from Ireland and Northern Ireland to Great Britain, and their extensions towards the Channel Tunnel. Rail links from North and South Wales to London will be modernized and electrified. The same will apply for the rail route from Cornwall to the Channel Tunnel. Land routes between Belfast and Dublin will also be strengthened and developed, as will those between the medium-sized towns in the western belt of Ireland.

Sea links between south-west England and Normandy will increase, and the north-south road links from Normandy to the main axes will be improved to eliminate the congestion that is currently building up. Along the French Atlantic coast, land (particularly rail) routes will be improved. The Atlantic ports will have better connections to the primary network so as to extend their hinterlands.

Road transport corridors will be modernized from the French-Spanish border which will provide structure along an axis from Bayonne to Viseu in Portugal. This will be of great benefit to the regions along the Cantabrian coast, Galicia, and northern and central Portugal, assisting with integration into Europe. Delays in motorway building in Spain will be eliminated, but the greatest efforts will be made in improving the rail network. There will be a junction in the Basque Country with the Madrid-Seville structural axis.

In order to complete industrial redeployment as quickly as possible in Cantabria and especially in Asturias, the coastal route from Bilbao to Gijón will be modernized, with the road links being dealt with first, and then the rail links in the longer term.

The main north-south route in Portugal will be extended northwards from Oporto into Galicia, to connect the main towns of that area, make economic cooperation easier between Galicia and northern Portugal and develop the complementarity of the Santiago and Oporto airports.

In the south, the cross-border route from Andalusia to the Algarve will be improved even further. This road will be particularly useful for organizing and developing complementarities in advanced services (Seville) and tourism (cross-border tourist circuits). There will also be improved complementarity between the Seville and Faro airports.

It is hardly likely that all of these projects, which are in addition to those already approved or under way, could be implemented in the next decade.

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They will, however, be taken into consideration in planning, so as to provide guidance for private sector decisions regarding structure.

Particular attention will be paid to the development of transport hubs at the point of convergence of north-south/east-west axes, such as Nantes, Bayonne-Basque Country, Viseu, etc. These towns could have efficient intermodal and combined transport hubs which would help relieve congestion on the roads. Their good accessibility means that they are bound to develop new functions, especially in the services sector.

Intermodality will be developed for passenger as well as freight transport. This would mean better rail links for airports, as well as freight improvements such as better connections to primary networks, multimodal hubs and containerization.

The port and sea transport economies will be boosted in two complementary ways: the start of cooperational projects between ports and the promotion of interregional sea services. Cooperation between ports has already begun, taking the form of a telematics network for exchanging traffic data in real time. This should lead to one or two ports becoming pre-eminent, and they will be used for intercontinental services in order to counterbalance the influence of the North Sea ports. Feeder services will come into these ports from the smaller ones on the Atlantic.

Promoting interregional links will require public funding, and also an integrated vision of transport flows and hinterlands, so that these routes will be able to avoid a fate similar to that of the Lorient-Gijón service.

Access to and from the Atlantic regions will also be improved by new interregional air links, both between the regions and out towards the major European cities. The objective is to avoid the need to have to change planes systematically in increasingly saturated national hub airports (Madrid, Paris and London in particular).

The large cities and conurbations will try to remove transit flows from the urban zones (Dublin, Bordeaux, etc.) and also develop an efficient public transport system on a suitable scale (Oporto, Lisbon, Bilbao, Dublin, etc.). New interregional transport services could be developed fairly quickly, whereas heavier infrastructure will need much more time.

As the future of the rural world is closely tied up with that of the urban framework, special attention will be paid to promoting medium-sized towns. Transport provision will be improved so that the accessibility gap between these towns and the metropolitan centres does not widen further. Besides improvements to the road network, 'intermediate-speed' rail technologies will be introduced which will connect the smaller towns to the high-speed train network that operates between the major urban centres. Advanced telecommunications networks will also be brought to these smaller centres, which will enable them to develop high-level services, thus making them more attractive for business locations and tourism development.

The scale economies of medium-sized towns are often not strong enough to develop advanced services and facilities, so networks will be set up, which is already happening between some French Atlantic towns (promotion of university colleges, regional airports, international economic action, etc.). This works provided that the towns are not too far apart. Support from the regional authorities would help set up and coordinate operations of this type.

The rural economy will have to adapt to the CAP reforms and will move towards more intensive practices, but with added-value in terms of quality. They will thus be able to take advantage of new market segments (natural and organically grown produce), replacing mechanical or technical added-



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value by human added-value, arising from know-how.

Production destined for the quality food-processing industry will improve, and extensive crops for energy production will gradually be developed. Rural activities will be diversified, with income from rural tourism coming in to complement agricultural earnings. These changes will slow down job losses in the rural areas. It is estimated that 300 000 jobs could be saved in this way over the whole of the Atlantic area.

The constraints of the common fisheries policy will have to be counteracted by an increased flexibility in the supply of fish on the European markets. The demand for fishery products is growing fast, and so are imports, so the introduction of telematics systems at auctions should help distribute the Atlantic catch more effectively, to avoid slashed prices at small ports and reduce imports of fish. Aquaculture will develop through gradual improvements to coastal water quality and interregional technological cooperation (Brittany, Poitou-Charentes, Aquitaine, Galicia, etc.).

The supply of tourism products will develop in two directions, which will be interdependent. They will be adapted to suit the new demand and all the resources of the Atlantic regions will be brought into play, particularly those of the hinterlands.

Adaptation to the demand involves higher added-value in the products on offer, i.e. higher quality and greater variety (culture, gastronomy, tours, etc.). This also involves tourists being able to plan their programmes and itineraries themselves. There will thus be greater flexibility and a wider range of tailored services. Cooperation between the public and private sectors is therefore increasingly necessary. Semi-public companies will be set up to provide a basis for joint action. The new products that are brought out will then be marketed by modern computerized networks, and all the inconveniences of mass tourism will be avoided.

The Atlantic regions abound with nature, culture and good food. These 'products' will be included in the new products available in a flexible way. The Alto Minho area of Portugal is setting an example for all in the way tourism is being developed there. Professional training for the hotel and catering sector will also be considerably enhanced.

The quality of the Atlantic regions' landscapes and environments is the area's greatest asset. It will be protected and improved by transfers of know-how between the Atlantic regions and through technological cooperation.

Balance will be restored in the urban framework, which will limit congestion in the metropolitan centres and relieve pressure on the coastal areas, especially in the southern part of the Atlantic arc. Sensitive areas (wetlands, woodland, biotopes, etc.) will be given much more effective protection. The quality of the environment will then become a particularly important knock-on effect for the economy.

There will be special measures to help the island regions, particularly the highly peripheral ones, aiming initially at consolidating their rural population (special customs provision with regard to non-EC countries, modernization, diversification and adaptation of production, compensatory measures to take account of the distance from markets and extra production costs). The close proximity to non-EC countries will be put to good advantage by the Community by developing trade or assistance in health, education, and commercial and professional matters (Suriname, Brazil, the Caribbean, and west Africa). Similar activities could be developed in favour of countries with a large population of emigrants from these regions (Venezuela, Angola, etc.). In the Scottish islands, the population will be stabilized by maintaining agricultural activities, even if they have a low profit margin. The promotion of high-quality products (woollens, whisky) alongside compensatory measures (assistance with extra production costs, environmental

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management) could help stabilize these areas. As fishing resources are vital for the economies of these regions, priority access will be given to island fishermen. The islands could also benefit from high-level State-run activities (research and experimental programmes linked to marine activities) which would put the resources of the environment to good use.

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This intervention-based scenario, though ambitious, shows the extent of the danger of marginalization that exists for the Atlantic regions. It can be put into simple words: what is required is a general qualitative leap forward.



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## 6. Proposals and recommendations

To give the intervention-based scenario as great a chance of success as possible and to counteract the main negative lines of change identified in the trend-based scenario, a number of interventionist strategies and measures need to be implemented. They will require the involvement of all the decision-makers in the public and private sectors (European Community, national governments, regional and local authorities, economic and professional organizations, and education, training, research, technology transfer and transport bodies, etc.) and the active forces of the economic, social and cultural structures.

### Promote integration to end isolation

The objective is to achieve a better integration of the Atlantic economies both in Europe and internationally.

In the international context, this involves strengthening transatlantic economic relations, particularly with North America. Strong cultural and linguistic solidarity already exists (United Kingdom and Ireland). The arrival of the single market has encouraged many American firms to establish themselves in the Community, either through direct investment or through cooperation and joint ventures with European enterprises. Inversely, Atlantic European businesses are seeking to penetrate the American market.

As conditions for investment in labour-intensive industries are becoming less favourable, the Atlantic regions will have to make themselves attractive to American firms by developing their technological potential, their financial services (and the market for them), their transnational transport and telecommunications networks and logistics systems. Concerted efforts to develop these areas and end isolation – in national, regional and competitive

terms – should prove to the American economy that the European Atlantic arc is a huge interface between the major Western economic blocs. We would therefore recommend that, using the organizations already involved in promoting economic links with the American continent, and particularly with the USA, a specific structure and a specific network should be set up to promote economic and technological cooperation between the two sides of the Atlantic

In a purely EC context, the Atlantic economies are becoming more integrated with those of the more central regions. As the Irish example clearly shows, market penetration by Irish production in the continental part of the Community is growing year by year. The imperative for industrial strategy is for an increase in specialization and greater segmentation, that is, for continuing adaptation, raising the technological content and providing extra added-value. Integration is still often hampered by shortfalls in transport infrastructures, especially in links with the central regions of Europe (routes from the UK Atlantic regions to the Channel Tunnel, from Portugal and the Cantabrian coast to France and the Mediterranean, from the south-western regions of France to the Rhône valley and the east of France, etc.).

The integration of the Atlantic regions with one another is less advanced than that of the central regions, and suffers from even greater handicaps in interregional transport and telecommunications.

Better economic integration within the Atlantic area and with the rest of Europe will be achieved through heavy investment in infrastructure and the development of new sea and air transport services. Exactly how this can be done is examined later.

The final aspect of this problem involves the potential for cooperation and integration with Central and East European countries and how it can be achieved. This is a longer-term prospect, as the markets of those countries are not yet of great sig-

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nificance. However, the contacts and links established now will largely determine the economic and technological relationships that will prevail in East-West trade 10 years hence. To improve conditions in the East, we would therefore propose that a structure and a network be set up, similar to the transatlantic ones mentioned earlier, to promote relations and trade between the Atlantic regions and Central and East European countries, based, in the first instance, on the Atlantic organizations already actively involved in the sector. As well as promoting economic links, this interface would have the responsibility of organizing cooperation and assistance operations.

**Develop scale economies and synergies in technology and production; encourage business layouts**

There are large reserves of productivity in the Atlantic regions that could be mobilized by setting up networks of cooperation, which would allow sufficiently critical masses to be attained and create synergies between organizations and businesses involved in similar activities.

The most important of these areas is technological research (engineering sciences, biology and marine sciences, agronomic sciences, electrical and electronic engineering, new materials, anti-pollution and environmental protection technologies, etc.). The main centres of research in each of these fields have been identified. The development of cooperation does, however, touch upon sensitive areas (confidentiality, economic and commercial aspects, intellectual property, scientific cooperation already under way with other regions, etc.). A detailed analysis of existing research programmes is therefore required, as is an analysis of research managers' attitudes to this kind of project. Cooperation in research could be made more dynamic through closer interaction with the industrial sectors involved, who could jointly or individually finance research work at the pre-competitive or competitive stage. Community

technological programmes and the Eureka programme provide opportunities in this direction. A recent study showed that, until the end of 1990, around 1 800 research bodies and businesses in the Atlantic regions had been able to take advantage of the European Community's R&D programmes, with partners either from an Atlantic region or from another European region. However, this figure accounts for only 14% of all those who benefited from EC programmes during the same period. Half of the Atlantic beneficiaries were concentrated in Ireland, Scotland, and the west and south-west of England. Those in the south (particularly those involved in the Sud-Europe Atlantique Association) are currently developing cooperation initiatives in R&D (biotechnologies, production/robotics, new materials).

Brittany has taken the lead in setting up a network of centres of excellence in biotechnology, along with organizations from Cornwall, Devon, the Loire Region, Asturias, northern Portugal, the Algarve, Catalonia and Limousin.

Synergies like these can also be developed for technology transfer. There are several examples such as the interregional partnership in electronics between Exeter Enterprises Ltd (south-west England), Shannon Development (Ireland) and the Rennes Chamber of Commerce and Industry (Brittany), and technology transfer and innovation operations between the Regional Development Institute in Asturias, the Morbihan Chamber of Commerce and Industry and the Strathclyde Business Innovation Centre.

Given the high degree of cooperation of this type in the central regions, it is obvious that the potential in the Atlantic regions is still seriously under-exploited.

The economies of most of the Atlantic regions have benefited from business start-ups coming from other countries inside and outside Europe, and in some cases this has been a long-term phenomenon.

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Despite some recent negative tendencies, it is important that this type of investment be encouraged. Interregional cooperation could form a basis for such strategies. The Finatlantic programme, part of the Recite programme, aims to provide efficient, tailored assistance for companies with plans to locate in the Atlantic areas of Spain, France, the United Kingdom, Ireland and Portugal, wherever they are from. This operation was initiated by Aquitaine, Galicia, northern Portugal and Cornwall.

### **Increase development of internal resources**

The worrying employment situation in most of the Atlantic regions emphasizes the need for better development of internal resources.

Despite being major agricultural and fishing production areas, the Atlantic regions often fail to give their production sufficient added-value. CAP and CFP restrictions tend to reduce the volume of production and will therefore have a marked impact on ancillary and supporting sectors. Added-value from processing must increase in order to compensate for quantitative shortfalls. It is precisely in this sector that the Atlantic regions have an indisputable technological advantage over the more central zones of the Community, but it is underexploited and technological innovation does not manage to penetrate far into the processing sector. We would therefore propose that technology transfer networks be considerably strengthened, taking inspiration from some of the central regions, such as the Steinbeis Foundation in Baden-Württemberg. The objective must be to achieve greater capillarity in these networks and to bring transferors closer to small and medium-sized businesses. The Basque Country experience should serve to inspire other Atlantic regions, particularly those in the south.

Regarding wine-growing technology, mention should be made of the Aquitaine-based European

Conference of Wine-Producing Regions, which organizes cooperational projects with Alentejo, Andalusia, northern Portugal and the Basque Country, and with other regions outside the Atlantic arc (Baden-Württemberg, Burgundy, Catalonia, Champagne-Ardenne, Languedoc-Roussillon, Lombardy, Navarre and Rheinland-Pfalz).

A second sector in which endogenous resources could be developed is forestry in the southern part of the Atlantic arc (10 million ha). Every year, farmers abandon land that could be used to develop the forestry business.

Since the European Community has an annual deficit of 110 million m<sup>3</sup> of timber, the southern forests, if developed, would have an immediate market. Trade in this sector between the Atlantic regions is already strong. In 1991, Aquitaine's timber trade (imports and exports) amounted to nearly FF 170 million with Portugal and nearly FF 165 million with Spain. Large-scale initiatives have been taken to develop forestry in the Basque Country, Galicia, Alentejo and Andalusia. On the professional front, cooperative action and structures have been initiated by the Union of Sylviculturists of southern Europe within the Sud-Europe Atlantique Association, with EC support.

The 'Compostela-Forest' cooperation network aims to improve the conservation and protection of the forest, develop the resource, improve the professional structure of the industry and encourage co-operation.

A third area with great potential for expansion involves coastal marine resources (aquaculture, shellfish farming, oyster farming, etc.).

A large number of Atlantic regions have potential, but development is increasingly conditioned by technological factors. There are various research and experimentation centres in the Atlantic regions. Cooperation between them could be encouraged as part of the interregional projects initiated

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by the Association du grand littoral atlantique (AGLIA, whose members are Aquitaine, Poitou-Charentes and the Loire Region). AGLIA has carried out an inventory of shellfish farming activities to see how well they comply with future Community standards. Cooperation projects are planned with other regions (central Portugal, the Algarve, Devon, Galicia, Asturias and Brittany) which will aim to develop environmentally-friendly production techniques.

The fourth and final sector is tourism, which has many resources that could be mobilized. This would involve a renovation of coastal tourism products and the development of resources in the hinterlands, which often have rich natural and cultural heritages that are underexploited. Some regions have successfully made great efforts to develop their resources, such as Alto Minho in northern Portugal. Several mostly bilateral interregional cooperation projects to promote tourism are already under way. The Loire Region and Galicia are developing exchanges to help promote rural tourism through training programmes for the hotel and catering sector. Galicia is cooperating with northern Portugal in the same sector. Finistère and Cornwall are working to develop joint tourism products, as are the Algarve and Andalusia ('the Road to Discoveries'). Multilateral initiatives for promoting cultural tourism have been taken by Ectarc (Wales) along with Alentejo, the Algarve, Asturias and Galicia, as have activities for promoting tourism in general (Green arc programme).

### **Breathe life into the regions through a dynamic urban framework**

The balance and prosperity of the vast rural areas of the Atlantic regions are mainly conditioned by the dynamism of the small and medium-sized towns that make up their urban structure. It is vital that their attractiveness be maintained through a proper provision of infrastructure and facilities.

A number of examples in the Atlantic regions show that medium-sized towns can become more attractive in a short space of time. This has the effect of breathing new life into the surrounding areas. This is the case of Galway in Ireland, La Rochelle in Poitou-Charentes, Santiago de Compostela in Galicia, Brage, Guimaraes and Vila Real in northern Portugal and Faro in the Algarve. The prime moves for this development have been the creation or upgrading of universities and higher education establishments, research centres, cultural institutions and activities, and the improvement of transport infrastructure.

However, new challenges are emerging owing to the increase of scale economies in the transport and telecommunications systems. Technological innovations (high-speed trains, wide-bodied planes, service-integrated digital networks) have generated high minimum profitability thresholds that are not within the reach of all medium-sized towns, and even further out of the reach of smaller towns. One of the main tasks facing spatial-planning experts is to find appropriate solutions to these problems, either through subsidies (connection of medium-sized towns in France to the Numeris network, for instance) or by adopting modern technology that is less demanding in terms of profitability (e.g. new fast rail technology with speeds of between 150 and 220 kph). The 'town network' strategy, which consists of jointly developing facilities, infrastructure and services between several medium-sized towns, is one appropriate solution, if the towns are not too far apart and if competition between them is not too great.

The attractiveness of small and medium-sized towns could also be vastly improved by appropriate town-planning measures aimed at providing a better living environment than that available in the cities. Many ports and coastal towns are currently trying to reclaim their seafronts, and there are several examples of cooperation in this area.

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## **Adapt training to the new production imperatives**

Despite the great efforts made in recent years by most countries and regions, the average level of training is still a major handicap. There have been encouraging signs in the development and adaptation of initial and continuing training systems, with outposts of higher education establishments and universities opening up in many large towns. Much work has also been done at the regional or sub-regional level to evaluate and forecast requirements in initial and continuing professional training. Improvements of this kind will provide greater consistency in the training available; there are many training courses on offer, but they are uncoordinated and far removed from the needs of the labour market. Considerable efforts still need to be made in the next few years to bring training into line with the demand for skills and qualifications.

Numerous cooperation projects on training are being developed in the Atlantic regions. The Atlantica network aims to strengthen cooperation between 21 university and business associations. The French, Spanish and Portuguese Atlantic regions are involved in Comett-West. As part of the Atlantic arc projects, a specific shipping training scheme has been set up by the St Nazaire Chamber of Commerce and Industry; a maritime training school in Bilbao (Esenela) and the Polytechnic South-West (now the University of Plymouth). The Atlantic arc Commission is also giving support to a trilateral project between Finistère, Devon and Cornwall which aims to promote training and work-placement schemes.

The Atlantic Arc Commission is also developing student and teacher exchanges on the research topics of centres of excellence in Brittany, the Loire Region, the Basque Country, Cantabria, Asturias and Galicia.

A bilateral programme on training has been established by Brittany and Asturias. In order to de-

velop market-oriented technical and professional training, the Sud-Europe Atlantique Association has set up an interregional training monitoring unit. The Loire Region and Galicia are jointly developing exchanges in rural tourism training for the hotel and catering sector. Poitou-Charentes has also taken several initiatives in this area: besides a cooperation project involving the universities of Poitiers and Coimbra, teacher exchanges have been organized with Andalusia and a pilot training scheme for Community developers has been set up in collaboration with the Castilla y León region in Spain and the Centre region in France.

## **Enhance and integrate transport systems**

Transport within and from the Atlantic regions requires improvement at three different levels:

- transport infrastructure,
- transport services,
- integration of systems and modes of transport.

Transport infrastructure needs to be modernized on two fronts:

- Major transnational or transregional infrastructures designed to improve connections with the rest of Europe and facilitate exchanges between the Atlantic regions themselves. These infrastructures have been mentioned in the study. Gaps and insufficiencies in the motorway and rail systems must be eliminated, which will mostly involve heavy investment. The most striking example is the lack of an efficient land route along the Cantabrian coast.
- Intermediate-level infrastructures designed to improve access to isolated areas within regions and promote or maintain a balanced urban framework. The largest pockets of isolation are to be found in northern Scotland, the west of Ireland and Wales, the tip of Cornwall, the mountain areas of Spain and Portugal and some inland areas of western France. The infrastructures that will help maintain balance in the



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urban framework will mainly serve to bring the benefits of technological modernization to small and medium-sized towns along major transport corridors. Thus, the expansion of the cities, which is necessary for the future of the Atlantic regions, will not be detrimental to the secondary urban centres.

The development of transport services, along with infrastructure, is one of the imperatives for the development of the Atlantic regions, particularly interregional sea and air transport.

The improvement of interregional sea transport would tackle several problems simultaneously: provide the means for increasing trade between the Atlantic regions and to the other regions of Europe (Mediterranean, Baltic, North Sea), relieve congestion on the major roads, and boost the regional maritime economy, thus providing jobs. One interesting approach would be to develop feeder services, especially if this benefited one or two major Atlantic ports rather than those on the North Sea coasts. A prior condition to the development of feeder services is that the level of containerization must be increased, as it is still too low in most Atlantic ports. If coastal navigation is to be promoted, port facilities will have to be modernized in many cases, as will the infrastructures and logistics systems that serve the hinterlands. Modernization will have to be effected in close cooperation with the industries in the port hinterlands so that it corresponds to a real need and to avoid investment in low-profit facilities that would be in competition with others close by. An approach of this kind should encourage specialization and complementarity between ports. An upturn in short sea services will also depend on better integration with other transport systems.

It is also vital that interregional air services be developed, owing to the poor connections between the Atlantic regions and the ever-greater handicaps resulting from changing planes at increasingly saturated national hub airports. The main interatlantic

services at present operate between the United Kingdom and Ireland, Brittany and the United Kingdom and, lately, Portugal and Aquitaine. The main shortfall is from the Atlantic regions of the Iberian peninsula to the west of France (the Loire Region, Brittany and Lower Normandy) and the west and north of the United Kingdom (south-west England, Wales and Scotland). More air services from the Atlantic regions to other regional and national capitals in Europe are also required. It is important to remember that the development of air links is dependent on the development of airport facilities. As the principal limitation on the development of new routes is that of profitability, it could be worthwhile to promote scale economies and the function of some airports as hubs. This cannot be done without concerted action between the various operators using the airport in question, and also implies better integration of the different modes of passenger transport.

However, the commercial dimension of both air and sea transport should not be forgotten. Services are only viable within the context of a certain level of profitability. Public intervention should only be a complement to action by private enterprise (awareness campaigns, consultation, financial operating assistance in the initial stages, infrastructure). Therefore, the sea and air structure plans should not be treated as immovable, and efforts should concentrate on encouraging joint action by partners and the synergies that can arise.

The integration of transport systems is increasingly important as a way of bringing supply into line with demand, minimizing delays in transshipment, inducing effects of scale (profitability thresholds) and increasing the competitiveness of the Atlantic regions.

The development of combined (intermodal) freight transport is a necessity if road congestion is to be relieved. The most rapidly achievable form is sea/road transport. In some cases, development has been spontaneous, as between the south of Eng-

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land and Lower Normandy. The shortfall in road infrastructure in Lower Normandy therefore needs to be dealt with in order to cope with the new transport flows. In most cases, however, sea/road transport can only develop if the sea component is given special promotional attention and if transshipment facilities are provided in ports (ferry wharves, ro-ro wharves, container terminals, etc.). Sea/rail transport is a more complex question. This also requires appropriate port facilities and often, improvements to the rail network (electrification, double tracks, etc.), but the prime obstacle lies in the competitiveness of the rail freight service (cost and routeing time), which compares unfavourably with road haulage. This is why this mode is first developed in areas where the flows are captive, i.e. on islands, which provide the pressure for the modernization of rail systems. This is the case for the land/sea routes from Ireland to the Channel Tunnel, which have made it necessary to electrify the South Wales main lines.

Intermodal transport is also increasingly important for passengers. The integration of road, rail and air systems increases the competitiveness of the regions concerned. An appropriate road and rail system that takes passengers to an airport from where they can fly to their destination with a minimum number of changes of plane does much to extend the airport's range of influence.

Some regional airports still have large reserves of potential in this area. This would appear to be the case of Bordeaux, where the advantages of an improved rail service (since the introduction of the TGV) should, if included in a more coordinated and more interventionist policy, make it possible to attract more passengers to the airport. Flights to a larger number of destinations within Europe could be developed, which would avoid passengers from south-west France having to transit through the already saturated Paris airports. This type of strategy could also be extended to the airports in the west of the United Kingdom (Bristol, Cardiff and Plymouth).

Better integration of transport modes and systems should also make it possible to take more advantage of intersecting routes and traffic flows. For example, Bayonne, positioned at the point of intersection of north-south, east-west traffic flows, has much potential as a strategic hub.

Interregional cooperation in transport is fairly well advanced, particularly with respect to the definition of objectives – actually going ahead with projects involves finance that is often beyond the means of local authorities.

The Atlantic Arc Commission has already brought out a plan for the construction or improvement of road and rail links, and it is also designing a structural plan for interregional air and sea routes, in the latter case with support from the appropriate inter-regional group. The Sud-Europe Atlantique Association is also working on improving communications in the southern part of the Atlantic arc. Cross-border cooperation projects systematically include improvements to transport (Northern Ireland/Ireland, Aquitaine/the Basque Country, Galicia/northern Portugal, Algarve/Andalusia, etc.). The Arcantel pilot project, with support from the European Community, is working to establish a telematics network between Atlantic ports to enable real-time exchange of port traffic data, which will contribute to the development of short sea services.

### **Better management of the Atlantic environment**

The wealth of diversity of the environment of the Atlantic regions and their relatively low average population density are a considerable asset in terms of attractiveness, compared with the congestion, pollution and housing market difficulties found in many of the more central and richer areas of Europe.

There is, however, a great variety of situations and trends in the Atlantic regions, giving rise to a num-

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ber of preoccupations in spatial management and environmental protection. The main threats are posed by the following trends:

- the increasing urbanization in coastal zones and pressure on sensitive areas (wetlands, nature reserves, etc.),
- the lack of control of urban growth in a number of large conurbations;
- the limitation and deteriorating quality of the water supply owing to industrial and agricultural pollution;
- the desertification of some rural areas abandoned by agriculture and livestock breeding;
- the harmful effects of rapid, uncontrolled industrialization;
- the damage caused by the former heavy industries is being dealt with too slowly.

A number of general principles and strategies can be formulated which can then be adapted to individual contexts.

- Control of development on the coast should take inspiration from the principles of the European Coastal Charter, which involve concentrating building in the urban centres and back into the hinterland, and protecting the coastal fringes. A planning framework for land-use at the local authority or regional level could prove to be an effective tool in this context. Land purchase for protective purposes, as happens in United Kingdom with the National Trust and in France with the National Coastal Conservancy, are also recommended.
- Urban growth could be controlled by promoting medium-sized towns which could act as a counterbalance, and also by giving priority to public transport which could structure urban development by anticipation. Urban growth control and guidance strategies require structures covering all the municipal authorities in the conurbations and close consultation between all authority levels.

- The level of water quality can be maintained by extending non-polluting agricultural activities and by applying recent Community directives on the construction of treatment stations.
- A special effort needs to be made in many Atlantic regions regarding the treatment of industrial waste which, though not as concentrated as in the major industrial areas, is still a serious threat for soil contamination, which is particularly difficult to correct later on.
- The trend towards desertification in rural areas could, in some cases, be slowed down by applying new CAP measures to guarantee minimum incomes independent of the quantities produced. Extra income can also be obtained from rural tourism and the craft industries. Maintaining a minimum population threshold also depends on the vitality of small urban centres and the public and private services they provide for the rural population. Strategies aimed at developing a healthy economic base in these small towns and villages are essential. Interregional cooperation in spatial and environmental management is currently intensifying, both in dealing with problems of proximity and in exchanges of know-how. This dates back to the work done on the European Coastal Charter over 15 years ago and the pilot operations that received EC support.

The Atlantic Arc Commission is also involved in this latter area. It has set up a cooperation structure (the Green Arc programme) which will deal with water problems, spatial management, sensitive areas, waste treatment and rural tourism. In some cases, cooperation projects are limited in space. The 'Esturiales' programme, coordinated by the Loire Region is looking at ways of arriving at a comprehensive estuary management plan, and also involves Strathclyde, Wales, Avon, Devon and Lisbon and the Tagus Valley. A cooperation project initiated by County Wexford in Ireland is aimed at exchanging know-how on coastal management and planning. Also taking part are County Wicklow,

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County Waterford, the Orkneys and the Dutch and Greek regions. In the same field, a project initiated by northern Portugal, in conjunction with Galicia and Languedoc-Roussillon, is examining possibilities for scientific exchanges and training. Andalusia is involved in cooperation on the development of new environmental protection technologies with Wallonia and the Marche region of Italy.

Cross-border cooperation on the joint management of neighbouring areas is gradually leading to the production of cross-border structure plans. This is the case on the French-Spanish border, where the Bayonne-Anglet-Biarritz joint authority is involved in a project with the province of Guipuzcoa, for the cross-border conurbation with a population of 600 000 in 20 municipalities. A similar project is being developed by Galicia and northern Portugal.

### **The need for an increase and shift in Community support**

The intention here is not to examine and evaluate every example of Community intervention in the Atlantic regions, as it is consistent and very varied. It is rather a question of identifying the areas towards which more Community resources should be mobilized and of anticipating the possible effects of the current reforms in EC subsidies and financing. The desirable shifts in Community funding are not only quantitative. Some involve allocation procedures and methods.

The two areas in which Community intervention will be restrictive in comparison with earlier years are agriculture and fishing, though there are a few exceptions (Portugal, which is still in a transitory period with regard to the CAP, will receive increased EC support). The CAP reforms adopted in May 1992 introduced a drop of about 30% in guaranteed cereal prices and a drop of 15% in the intervention price of beef, both spread over a period of two years.

Compensation will be conditioned by a 15% set-aside of land used for cereal cultivation and the move towards extensive livestock farming practices. Among the complementary measures are incentives for reforestation and agri-environmental measures.

The implementation of the Community's rural development policy, based largely on the diversification of activities, should help mitigate some restrictive effects of the CAP and the GATT agreements. However, the Atlantic regions, which are much more dependent on agriculture than the rest of Europe, have a much smaller propensity to diversify their activities.

The common fisheries policy will impose even greater restrictions on catch sizes, and will have much impact on coastal fishing by owner-operated vessels and in areas with fish-processing industries. Objective 6 of the current Structural Fund reform plans could be very important for the diversification of activities in these areas. However, as such measures are still at the hypothetical stage and the criteria for application have not yet been determined, it is practically impossible to anticipate the potential effects. The main question is to know how it would be applied to the different types of fishing.

The information available on the current reforms to the Structural Funds reveals that a number of Atlantic regions, those in Objective 1, should see a substantial rise in the level of Community funding. This would be partly due to the effect of the increase in volume of the Structural Funds (up 66% for 1993-97), and partly to the creation of a Cohesion Fund which, in the Atlantic area, would benefit Ireland, Portugal and Spain. Through these two measures, the Community structural intervention budget should double in size for Objective 1 and highly peripheral regions. This will significantly mitigate present shortfalls in infrastructure provision and support private investment and training efforts. Nevertheless, we should not lose sight

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of the fact that the policy of economic convergence will mean strict austerity in public spending at all levels. This change is already being felt.

The Atlantic regions that are not currently part of Objective 1 (France, except the overseas departments, the United Kingdom except Northern Ireland, Cantabria and the Basque Country) but which are included in the other Objectives, should receive an increase of around 50% in structural funding. This increase may appear modest, in view of the deficiencies that exist in some regions, especially regarding infrastructure and the prospect of redeployment. The Cohesion Fund should, however, be able to help with trans-European transport infrastructure.

New destructuring factors in the Atlantic regions should also be taken into account in EC subsidies in the future, such as the sharp decline in activities in the defence industry and the shift of the European centre of gravity towards the East.

The question that must be asked is what role Structural Fund subsidies have to play in the planning, structuring and integration of such a vast area as the Atlantic arc or its subunits. The usual geographic basis for structural intervention is the Community support framework which is rather small-scale for an area of such size. It would therefore seem important for the next Community support frameworks to be coordinated to take account of larger-scale spatial objectives.

Border areas could have cross-border Community support frameworks. If the Cohesion Fund can be designed as a special tool for spatial planning at the European level for the provision of, amongst other things, European infrastructure development

plans, it is up to regional policy, through the Structural Funds, to implement strategies for the distribution of the profits and added-value created by the main transport corridors and the high-performance technology that uses them.

Community initiatives can also contribute to the structuring and integration of vast geographical units as well as to their development. There is a need for a shift of emphasis in the way some of these initiatives operate. There should be some programmes that have an Atlantic framework, as, for example, Medspa has for the Mediterranean. This would strengthen solidarities and synergies within one particular area. With the multitude of operations that are now being developed, Community funding for interregional cooperation needs to be considerably enhanced so that cooperation can be taken beyond its current experimental stage. The increase in size effect, the added-value created through synergies, the transfer of know-how, the mobilization of reserves of productivity and the development of new economic relationships, all of which can stem from cooperation, are worthy of much more substantial support. Beyond the credit allocated by the Structural Funds, interregional cooperation, in its widest sense, could also benefit from support from EC technology policy (R&D, technology transfers, university and industry cooperation, etc.). In practice, we can see that there is currently too little demand from the Atlantic regions for funding of this type in comparison with the more central regions of the Community.

The Maastricht Treaty provides Community funding for culture, and therefore programmes in that sector, radio and television for example, could benefit, which would also serve to strengthen solidarities in the Atlantic area.

**EUROPEAN COMMISSION**  
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**for Regional Policies**



**LIST OF PUBLICATIONS 1989-93**

Since 1989 the Commission of the European Communities has produced a number of publications intended to keep potential beneficiaries of the Community's regional policy better informed.

Now that the programming period 1989-93 has been completed, this list shows existing publications before those for the next period (1994-99) appear.

**INFO TECHNIQUE** files are specially designed for potential users of Community programmes and measures in the regional policy field. Generally four pages long, they provide essential information on how to make an application to the Commission.

SUBJECT	File No	Languages available
<i>Community Initiatives</i>		
Interreg	T-501.90	8 languages
Envireg	T-502.90	Fr, En, It, Gr, Es
Stride	T-503.90	Fr, En, De, Es
Rechar	T-504.90	Fr, En, De, Es
Prisma	T-505.91	Fr, En
Telematique	T-506.91	Fr, En
Retex	T-521.92	8 languages
Konver	T-539.93	9 languages
<i>Other</i>		
Exchanges of experience	T-508.90	9 languages
Global grants	T-512.91	9 languages
New German Länder	T-515.91	Fr, En, De
Recite	T-518.91	9 languages
Studies and Technical Assistance	T-522.92	Fr, En
Perifra	T-523.92	Fr, En

The **INFO TECHNIQUE** lists are annual compilations of all the regional development programmes adopted by the Commission.

1990 Programmes	Fr, En
1991 Programmes	Fr, En
Regional Development Programmes 1992	Fr, En
Regional Development Programmes 1992 (by country: Benelux, E, F, UK, P, I, D, Dk, Gr, Irl)	in the language of the country
Regional Development Programmes 1993	Fr, En
Regional Development Programmes 1993 (by country: Benelux, E, F, UK, P, I, D, Dk, Gr, Irl)	in the language of the country

# LIST OF PUBLICATIONS 1989-93



INFO BACKGROUND files, normally four pages long, set out for the general public the background to the Community's various regional policy measures, their aims and what has been achieved.		
THEME	File No	Languages available
<i>Community Initiatives</i>		
Interreg	B-501.90	Fr, En
Envireg	B-502.90	Fr, En
Stride	B-503.90	Fr, En
Rechar	B-504.90	Fr, En
Prisma	B-505.91	Fr, En
Telematique	B-506.91	Fr, En
Retex	B-521.92	8 languages
Interreg (Initial Assessment)	B-532.92	9 languages
Community Initiatives	B-542.93	9 languages
<i>Local Development</i>		
Europartenariat	B-511.91	9 languages
Global grants	B-512.91	Fr, En
Business and Innovation Centres	B-513.91	9 languages
Seed Capital Funds	B-514.91	9 languages
Local Development	B-540.93	9 languages
<i>Pilot Projects</i>		
London and Marseille	B-517.91	Fr, En
Urban Pilot Projects	B-525.92	9 languages
Recite (Initial Assessment)	B-531.92	9 languages
<i>Member States</i>		
Germany	B-533.93	Fr, En, De
Belgium	B-536.93	Fr, En, NI
Denmark	B-535.93	Fr, En, Da
Spain	B-524.92	Fr, En, Es
France	B-528.92	Fr, En
Greece	B-527.92	Fr, En, Gr
Ireland	B-519.91	Fr, En
Italy	B-530.92	Fr, En, It
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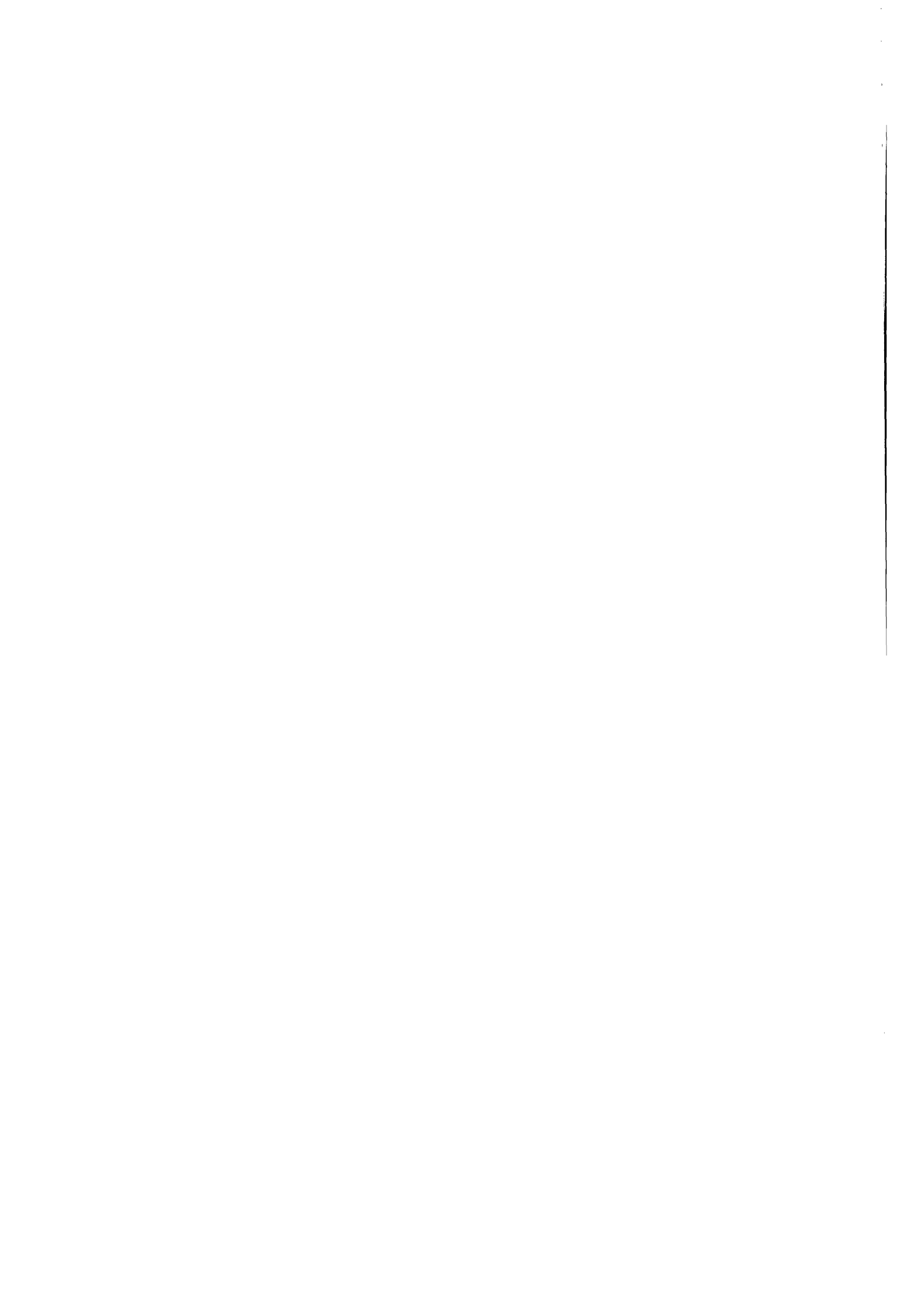
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