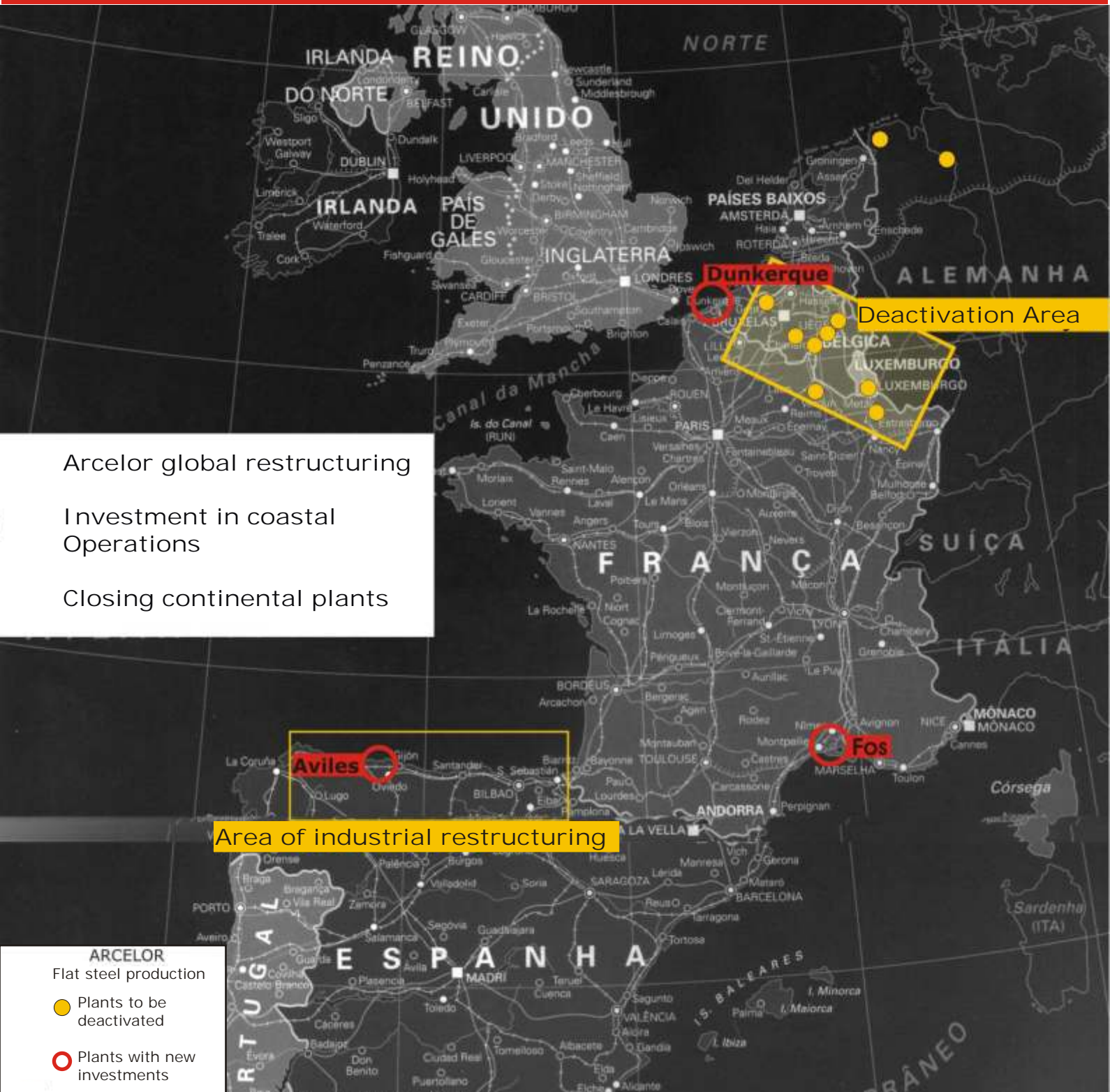


# THE STEEL TERRITORIALITY IN EUROPE



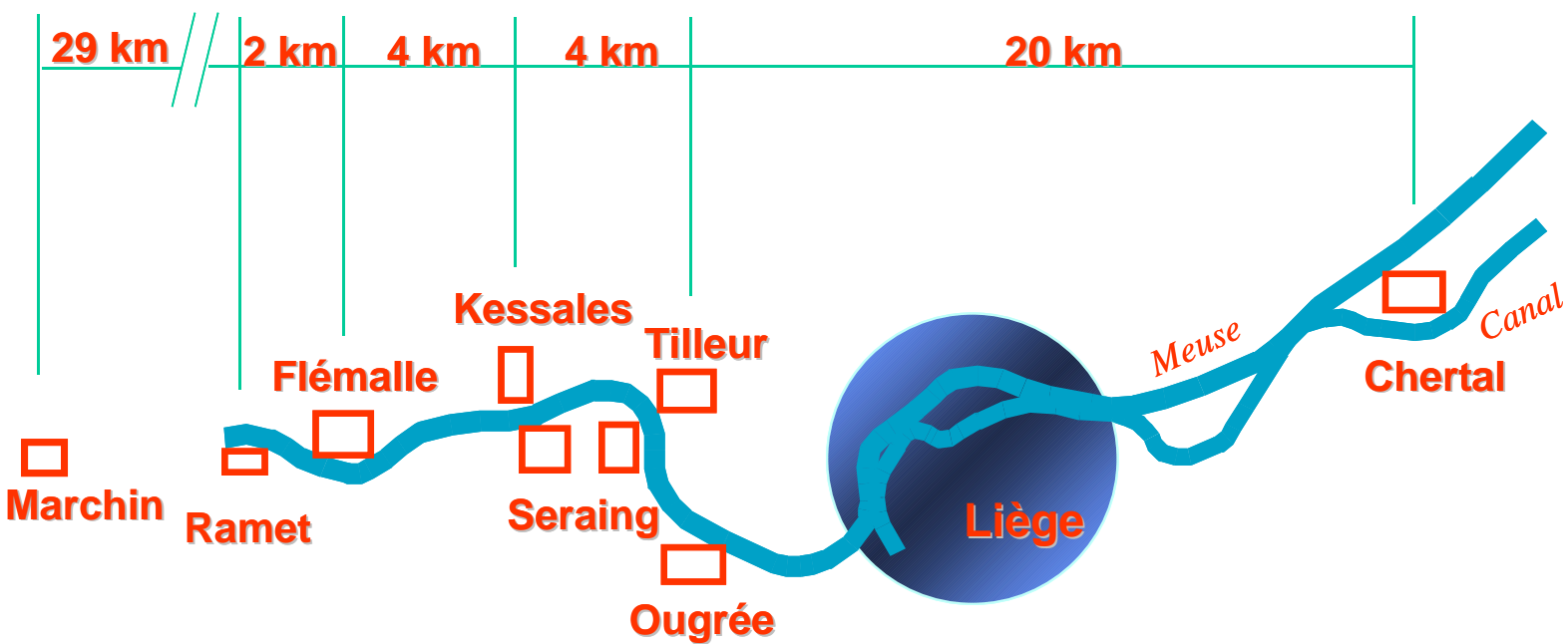
The process of productive and territorial restructuring of mining and steel production in Europe is essential for the MG/ES region evolution. The areas that had historically concentrated these activities, in France, Germany and Spain, have gone in the last decades through an intense process of deactivation of the basic sectors, substituted by high added value production, research and logistic platforms. The productive and territorial reorganization of the affected regions configures a model that integrates complementarily the MGES region.

In these European regions, the old territorial structure, given by the articulated localization of coal reserves and steel plants, is dissolved. And the instauration of a new spatial logic, of global character, determined by the transoceanic access to the input, occurs. The same principle \_ articulation with the international market \_ that commanded the implantation of CST at the coast. But inverted: in Brazil the steel plants receive iron ore from inland and export through the ports, while in the Europe the input (ore and plates) is imported through the ports and the products are sent inland.

Arcelor global reorganization and its impacts in the territory formed mostly by its operations in Europe are essential to understand the insertion of Brazil in the steel international market and the processes occurring in the MG/ES region. The conglomerate affirms, in its 2006-2010 plan of action, that the global market trend for the sector is the concentration of high aggregate value production and research and development in the European Union and the displacement of the low added value steel production to more competitive countries in this sector.

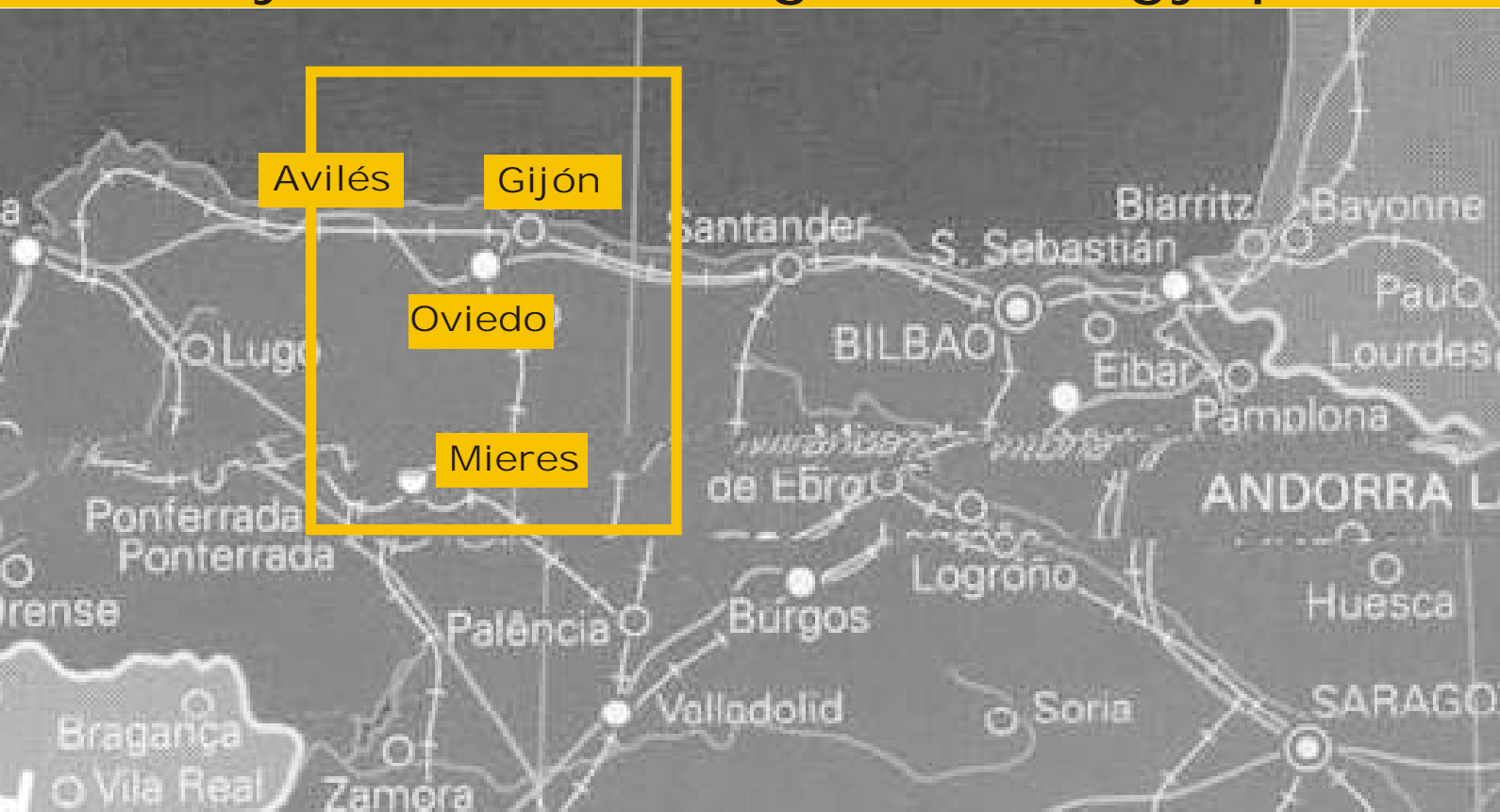
Arcelor had announced reorganization plans in its European plants, with a 10% production reduction of plain steel, implying the closing of half the plants in Europe up to 2010. The group will manufacture plain steel only in Dunkirk, Avilés and Fos-sur-Mer. The other plants, situated in France, Germany and Belgium, will be deactivated.

Arcelor will privilege its littoral operations, gradually abandoning the continental implantations, older and very distant from the ports. The steel produced in these inland plants is more expensive than the one produced in the plants located by the sea, through where the raw materials arrive. Investments in six European blast furnaces, specialized in flat steel, will be suspended. The more affected plants are located in Florange (France), Liège (Belgium), Bremen and Eisenhüttenstadt (Germany), with very important reduction of jobs.



# Asturias - Spain

## System of mining - siderurgy- port



For more than two centuries, Astúrias had contributed with 70% of the whole Spanish coal production. The Asturian coal constituted during the 850 -1970 period one of the basic sources of energy in Spain.

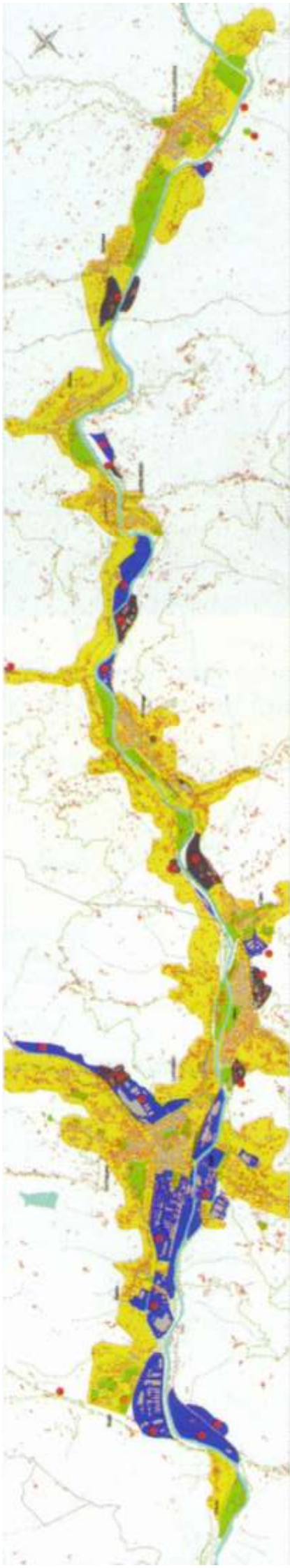
In the 70's, starts the crisis in the Asturian mining, with the nationalization of the companies due to great damages. It is created The Hulleras del Norte Sociedad Anónima (HUNOSA), with 80% of the regional coal production. But the losses had not been reduced. Moreover, East European and third-world countries, whose mines were more mechanized, started to compete in the market, dislocating countries as Germany, England, Belgium and France. Astúrias began closing the mines, with a program to reduce the weight of the mining in the region. This crisis in the 80's also coincides with the naval and steel sector crises.





This situation takes Astúrias to one of the last positions among the Spanish regions, in per capita income, with an unemployment tax superior to the national average. In 1991, France and Belgium had already closed their mines and Germany kept open only the most productive ones. In Spain, agreements reduced drastically job positions and closed the less productive mines. Still, in the beginning of the 90's, mining was employing 21% of the man power in Astúrias. Spain was receiving aid from EEC, which would cease in 2002, when all non productive mining explorations in the European Union would be closed down.



References:

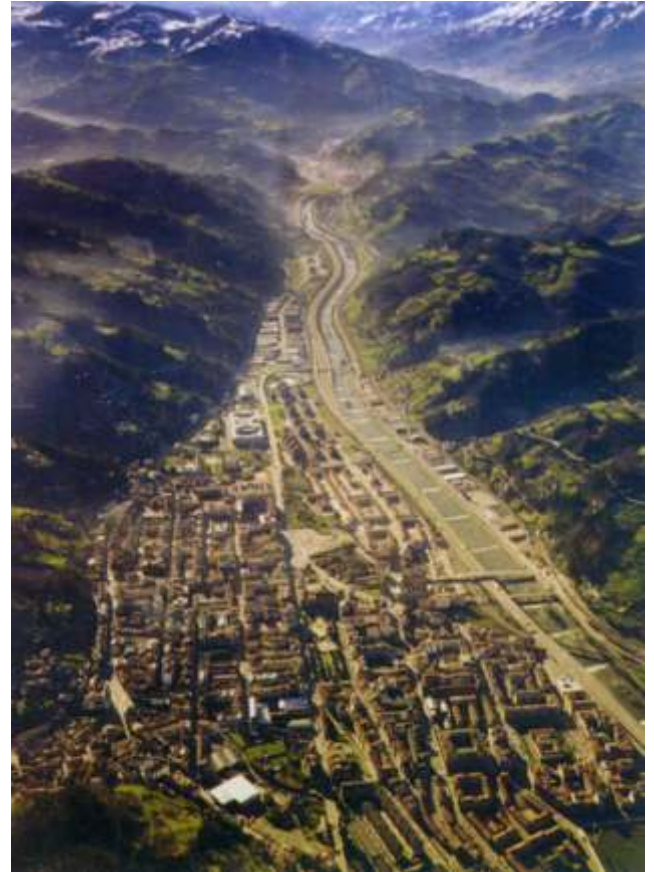
Key Portilla-Kawamura, *Displaced Topographies*, AA Diploma course, 2003.



-  Industrial occupation
-  Mines
-  Services and equipments
-  Residencial ocupation

# Mining Valley of Nalón

Mieres



Figaredo



# Siderurgy Avilés



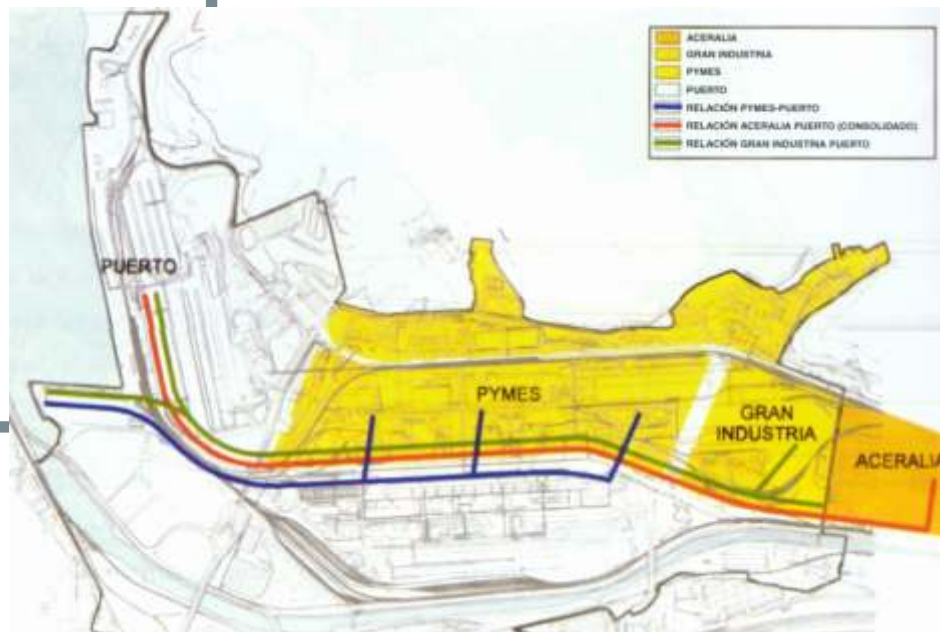
Ensidesa instalations before demolition, 1999.



Business park design for the old siderurgy site .



Port space and industrial space connected to siderurgy



Aceralia / Arcelor has two plants in Asturias, in Avilés and Gijón, linked by a 8 km railroad. The biggest and technologically more advanced steel plant in Europe, manufactures plain and plated products, employing 10,000 people.

Gijón is the biggest Spanish grain port, specialized in discharge of coal and ore for the steel industry situated in the area. It has shipyards, warehouses and logistic infrastructure.

Gijón Port



The port of Avilés, 25 km from Gijón, is the second port in the region, directed toward general load. It is near the airport of Astúrias.

Aviles Port



Brazil is one of the Arcelor strategic points of investments. Local production essentially will be turned to exportation (currently 40% of the production of the group in Brazil is exported to North America and Europe). The Brazilian companies are competitive because of the low cost ore offer, the port structure and the low cost of the man power, not to say the importance of the domestic market.

The holding Arcelor - Brazil, integrating Acesita, CST, Belgo-Mineira and Vega do Sul, is being constituted. Arcelor is planning the construction, with Baosteel and CVRD, of a plant for steel sheets production in Maranhão. Arcelor is the greater individual iron ore buyer from CVRD.

# Port of Gijón



Port area  
ampliation

Mineral and steel  
terminals

Siderurgy Terminal  
Arcelor

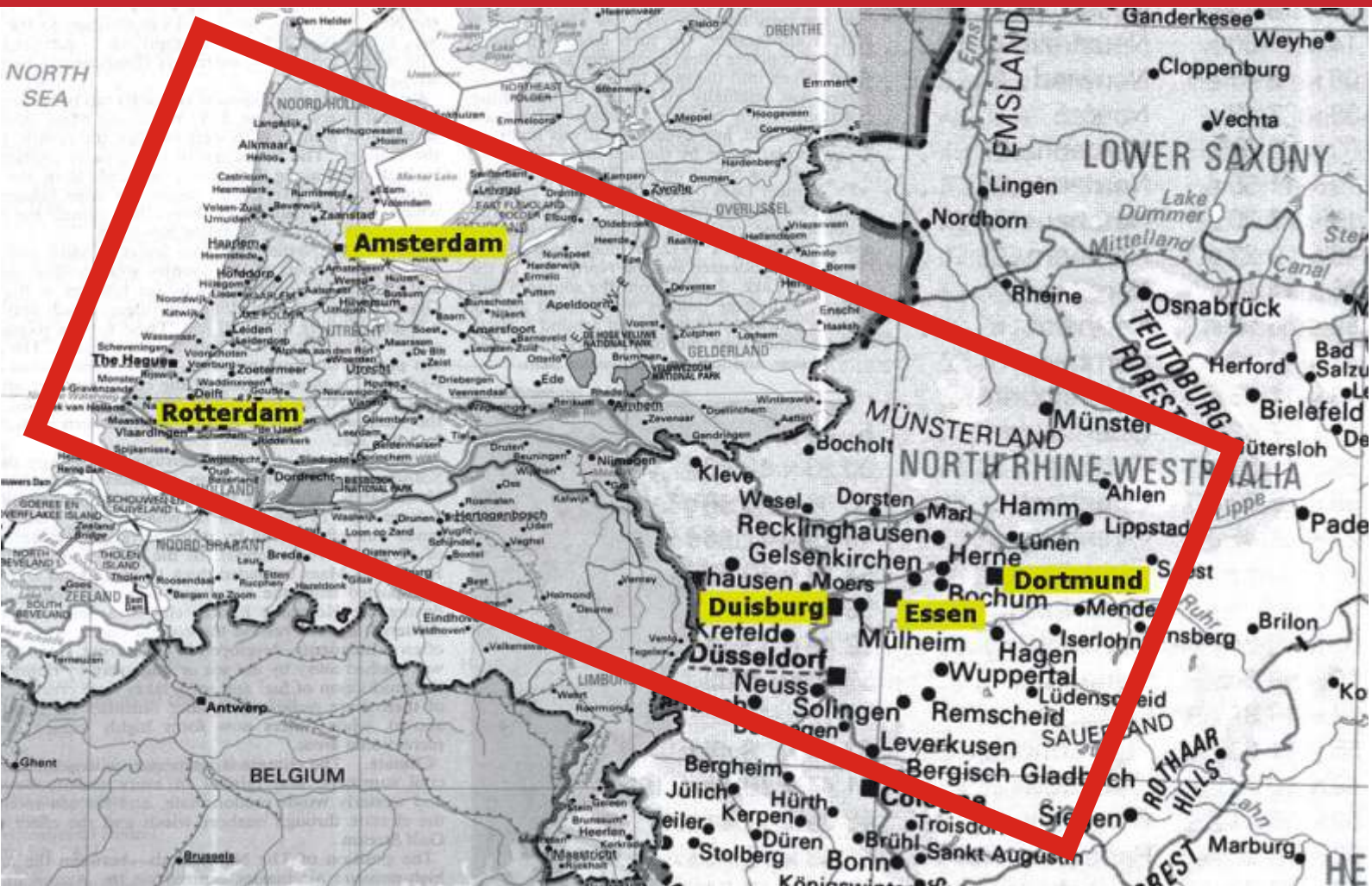
Terminals  
of chemical  
products

Mineral and steel  
terminals





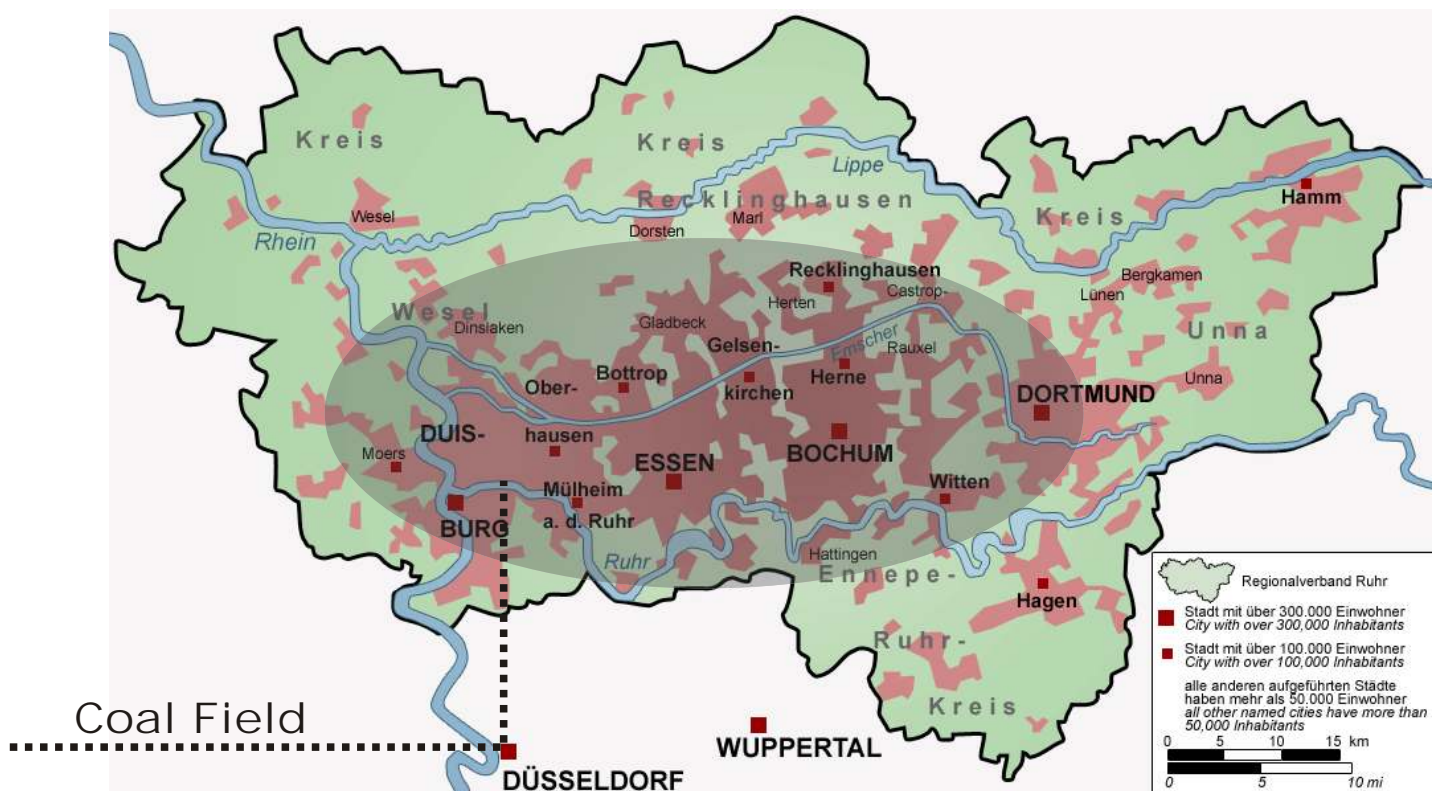
# The Rhein-Ruhr / Rotterdam System



Because of its mono-structural development, the Ruhr area has always been linked to the ascension and decline of the coal extraction and steel production. In the beginning of industrialization, the coal mines, located around the cities of Duisburg and Essen and later along the river Emscher, generated big mining and steel industrial groups, integrating the coal, coke, iron and steel productive chain. The Reno basin was the biggest carboniferous field in Europe.

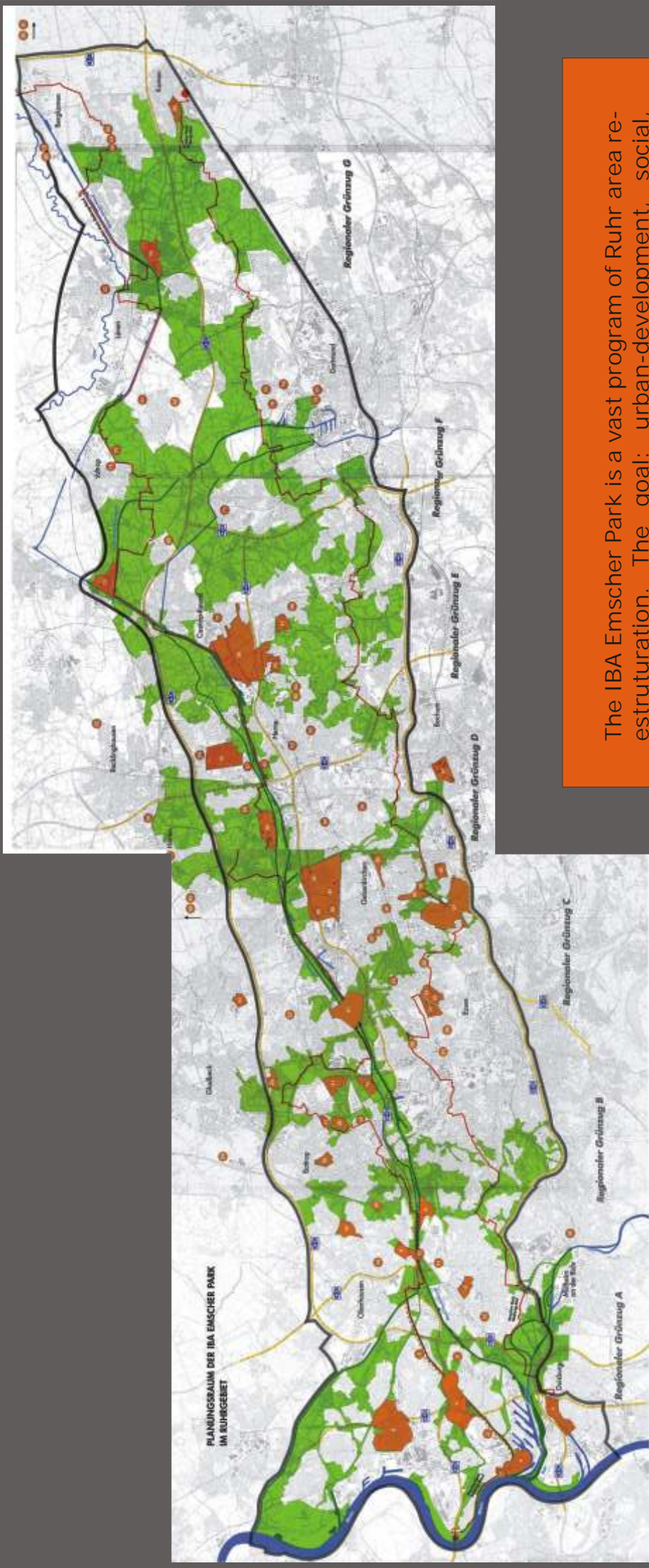
By the 60's, coal starts to lose importance as input and energy source. The mines are gradually closed down. The international economic crisis reduced the demand for coal. The German exportations of the product are not anymore competitive in the international market. The imports of coal and steel products from the third-world increase considerably.

In the years 70, steel production declines from 40 to 30 million tons, leading to the closing of plants and strong unemployment. Coal production is drastically reduced, with the closure of half of the mines in Germany. About 400.000 jobs are lost in the Ruhr in this period.



A great structural change then occurs in the Ruhr. Today only 9% of the workers are employed in the coal and steel industry. A governmental program reoriented the region economy to services, telecommunications and information technology, creating 200.000 new jobs in these sectors. Only 25% of the value created in the regional economy comes from manufacture, the remaining portion is produced by services and business. Old industrial plants are converted into shopping malls, cultural and technology centers. Among the projects of postindustrial reconversion in the region, the most important it is the IBA-EI Emscher Park, covering an area of 800 km<sup>2</sup>, with hundreds of mines and deactivated steel installations.

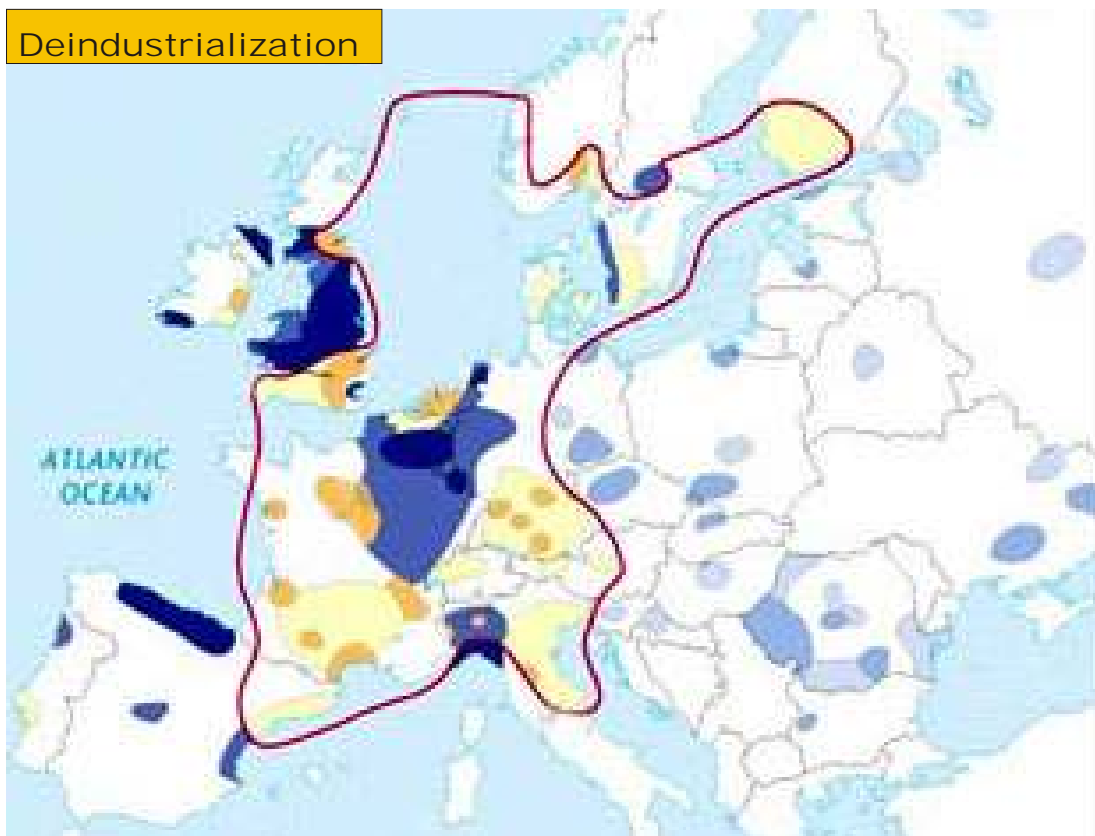
# IBA EMSCHER PARK



The IBA Emscher Park is a vast program of Ruhr area re-estruturation. The goal: urban-development, social, cultural and ecological measures. About 120 projects have been developed and realised in the region of 80Kkm extension.

On the other hand, the only chance of survival of the German steel industry on international market is to produce and refine high-grade steel. The Thyssen-Krupp plant in Duisburg is one of most technologically advanced, dedicated to high quality segments, particularly carbonic steel for the car industry.

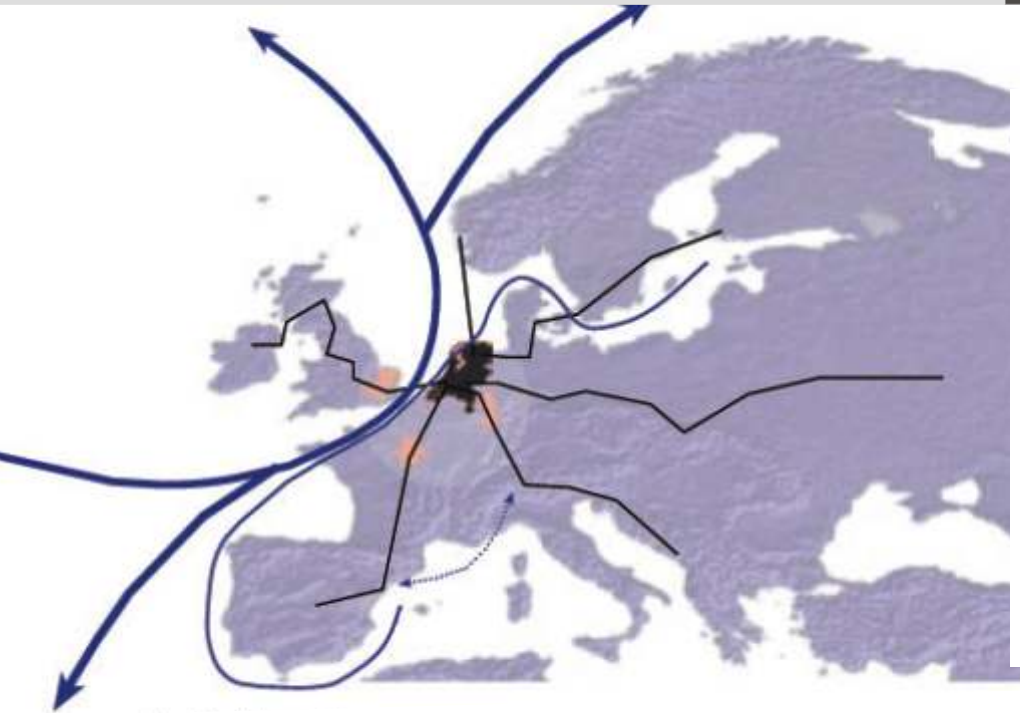
The city, located in the confluence of the rivers Reno and Ruhr, has the biggest fluvial port of Europe, connected by river barges to the maritime ports of Rotterdam and Antwerp. Duisburg is a center for steel production: all the blast furnaces in the Ruhr area are located there, producing 35% of all the steel that is manufactured in Germany.



- MOST SEVERE DECLINE 1965-1990
- MAJOR DECLINE 1965-1990
- MOST SEVERE DECLINE 1990-1995
- MAJOR DECLINE 1990-1995
- BORDER OF THE PROSPEROUS INDUSTRIAL CORE OF EUROPE
- TECHNOPOLIS. HIGH TECH MANUFACTURING AND SERVICE INDUSTRIES FOR INFORMATION
- HIGH QUALITY AND LUXURY GOODS MANUFACTURING

Reference:  
MVRDV, *RheinRuhr City, The Regionmaker*, NRW, 2002.

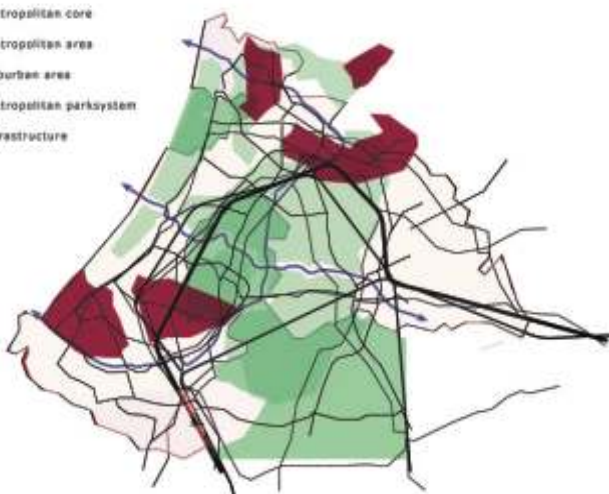
# Delta port of Netherland



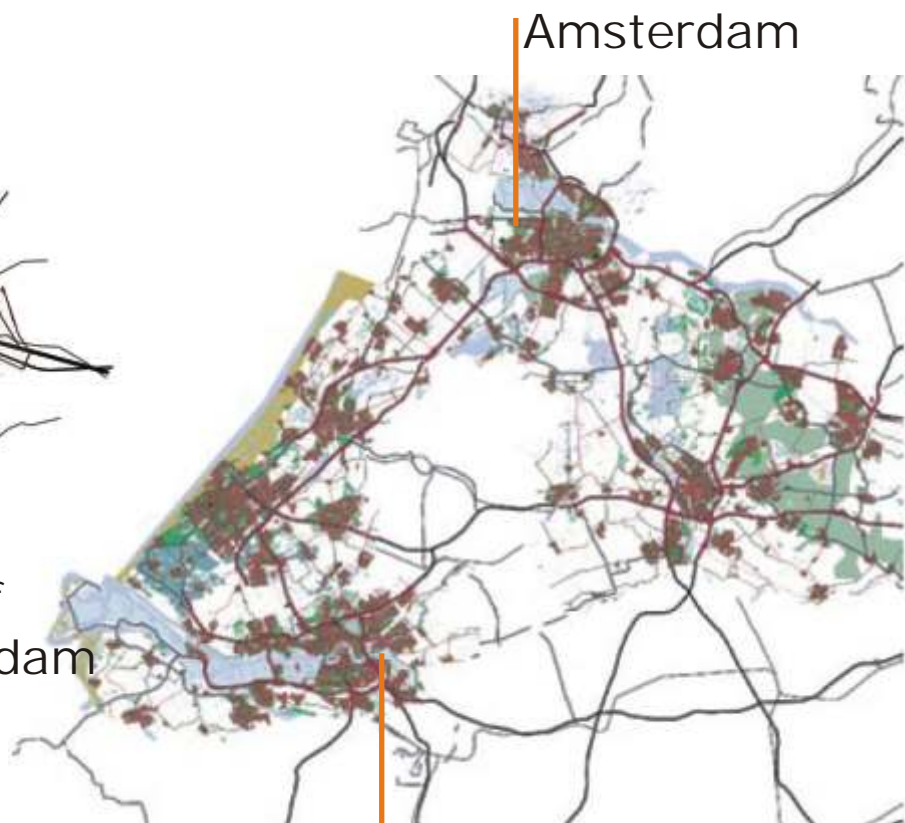
The Northwest European Delta as the "spider" in the Continental Web. Note the possible Rhine-Rhone connection as strategic European intervention.

## Economic Estrategy Delta port of Netherland

- metropolitan core
- metropolitan area
- suburban area
- metropolitan parksystem
- infrastructure



Port of  
Rotterdam



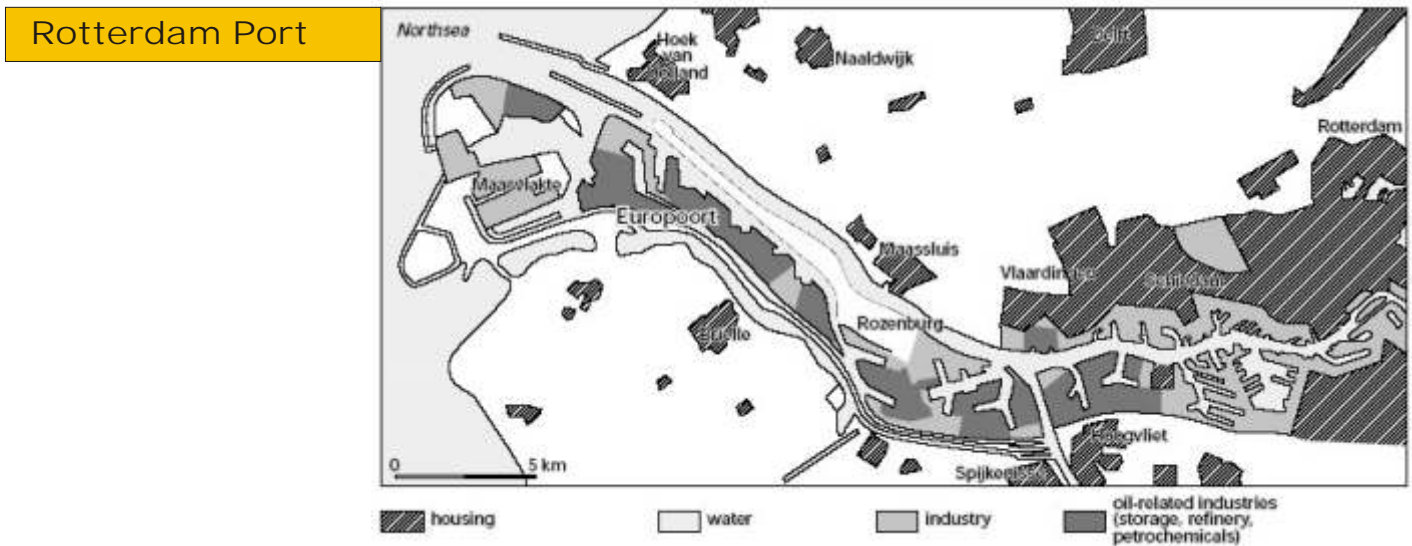
Rotterdam

Rotterdam has one of the largest ports in the world. It functions as an important transit point for goods transported between the European continent and other parts of the world: by ship, river barge, train and road.

The port is connected, by a canal, to the river Rhine. The harbor territory has been enlarged by the construction of the Europoort complex, along the canal, where also oil refineries and the Maasvlakte are placed, in reclaimed lands, to cope with larger ships. The construction of a second area of large terminals is being programmed.

The port of Rotterdam is, together with Amsterdam, well located to serve \_ through the rivers Reno and Maas system, to the steel industry and power plants of the Ruhr region. Coal is the main commodity mattered by the port of Amsterdam, until the terminals of coal of the interior port of Duisburg. The Rotterdam-Europoort, warehouse dedicated to the movement of containers and storage of coal and ore (imported from Brazil), uses the Reno to reach Germany and Switzerland. An express cargo railroad, the Betuwe Line, is under construction, to connect Rotterdam to the German railway network.

The creation of Maasvlakte 2 has been object of intense debate in the city. The new device would expand even more the port, to the Rijnmond region, transforming it into a network harbor, a logistics centre in a deconcentrated region. A radical spatial reconfiguration of the port system layout, reducing the presence of the port, converted into a leisure space and tourist attraction, in the city of Rotterdam.



# Port of Rotterdam

industrial terminals and urban areas

