

# **Mediterranean Ports and Information Society before the New Millennium<sup>1</sup>**

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The Mediterranean promises to be an exciting area as we enter the new millenium. Emerging economies in three continents (Europe, Africa and Asia), such as the Black Sea, the Middle East, the Balkans, and Northern Africa will use the Med as their main partner in commerce. Developments in ship technology, cargo handling, and in the computer and telecommunications technologies will increase the cost effectiveness of maritime and intermodal transport. As a result, trade to and from areas adjacent to the Med is expected to grow strongly in the years ahead. Mediterranean ports cannot be absent from such developments, and in fact the ports themselves are expected to shape, to a great extent, these developments.

The trend in the last few years gives a flavor of what one may expect in the future. With the economies of scale realized by large container vessels deployed on trunk routes worldwide, it is not cost effective for these vessels to make direct calls in many ports. For this reason, lines develop hub and spoke systems, in which feeder vessels distribute containers to and from smaller ports, whereas larger mainline vessels connect only to larger ports (“hub ports”).

Container lines use ports such as Algeciras, Gioia Tauro, Malta, Piraeus, or Damietta as hub ports. The story of the Medcenter Container Terminal in Gioia Tauro is indicative, as this port was not even on the map in 1995, but via an aggressive expansion and pricing policy became the top Med container port two years later.

What are the essential elements of possible port development strategies in the Mediterranean as we are about to enter the next century? I will attempt to answer this question by examining some of the main determinants of such strategies, and by focusing on the role of information as an essential tool for the implementation of these strategies.

Intermodality is the name of the game in port competitiveness. It will be even more so in the future. No port will be able to acknowledge complete satisfaction from its customers if its intermodal interfaces cannot function in a seamless fashion.

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Connectivity to major rail and road networks will be a plus to those ports that have it and a minus to those that do not. This is true not only for freight (especially unitized cargoes), but also for passenger and car traffic. A container terminal will benefit if it is linked to the rail network because by doing so its effective hinterland gets larger. Similarly, a port that handles huge numbers of passengers will be handicapped if its function is not integrated within a good urban or suburban transport network.

The establishment of Trans-European Networks (TENs) is expected to play a key role in the development of ports that are components of the TEN structure. For Med ports, this could also increase the share of traffic that has one of its ultimate endpoints (origin or destination) in a Central European location, traffic that would otherwise pass through a Northern European port. In that respect, Gioia Tauro would compete with Rotterdam or Hamburg for cargoes from the Far East to countries such as Austria and vice versa. As currently many cargoes completely bypass the Mediterranean, it is expected that the development of intermodal connections in Med ports might help reverse this trend.

Similar considerations apply for ports on the Southern and Eastern rims of the Med. Good intermodal connections are expected to boost throughput and trade in the ports in which such connections are established.

It is clear that no intermodal connection can guarantee a smooth flow of goods if the flow of information used by the parties involved in the intermodal chain is not smooth as well. Already most of the partners in Med ports use Electronic Data Processing systems for invoicing. Other software applications for improving activities such as berth allocation, yard management, export and import clearance, dangerous goods management, cargo tracking and tracing, are used to a varying degree by all port authorities.

Unfortunately, barriers still exist with respect to acceptance and implementation of more advanced information systems, especially in small Med ports. These barriers are often due to a lack of awareness or appreciation of how integrated information systems might support the management in the port. These hurdles for a long time have prevented efficient data exchange between different companies.

However, times are changing. Ports (including those in the Med) are increasingly investing in advanced information technologies, including the use of the internet, for all kinds of transactions. Many container terminals already use sophisticated software systems, and this has had a dramatic impact on their competitiveness. Ports are also increasingly participating in innovative R&D projects in the areas of transport, telematics, and communication and information technologies, such as those funded by the European Commission. Such collaborative R&D projects (thus far mainly in the 4<sup>th</sup> Framework Programme, and from now on also in the 5<sup>th</sup> FP) will form the basis of long-term development in the area of information exchange between ports and their partners and will enhance intermodal integration in the future.

Another area in which the role of information is critical is port pricing. In and of itself, pricing is one of the most important tools for port competitiveness. The European Commission's "Green Paper on Ports and Maritime Infrastructures", presented and discussed in Barcelona in May of 1998, has issued some principles to be adhered to as far as port pricing is concerned. One of these is the "user pays" principle, meaning that prices that are charged to port users should reasonably reflect the full costs of the services rendered. A related principle is that of

“transparency” in port charges, meaning that a port charge should be clear as to what it entails and how it is calculated. Elimination of state aids, or other forms of subsidy, is considered a related desirable goal.

Such principles may be reasonable and easy to state, but more difficult to implement than it would seem at first glance, and a debate on this matter is ongoing within European port industry circles. For instance, it would be unfair to apply the user pays principle to a port in isolation, while this principle is not applied to other components of the intermodal chain which the port in question, or other competitor ports, are part of. It would be equally unfair to apply this principle only to the port sector, and not to other modes of transport linked to ports. That would distort competition.

This difficulty is also due to other reasons, which are information-related. It is clear that achieving the goals stated above necessitates access to reliable access to data both inside and outside the port. Inside the port, costs, and specifically how these are allocated as functions of resources employed in the port (such as labor, infrastructure and equipment), are critical to obtain. Doing so calls for advanced Management Information Systems that can collect, classify, and process such information in an efficient manner. It is assumed that a port can have access to such internal information, because if the opposite were the case this would constitute a serious handicap in any attempt to rationalize a port’s pricing policy.

Outside the port, the spectrum of information required is much wider, and, as such, more difficult to obtain. Assuming that information on the costs of the competition is impossible or very difficult to obtain, one would assume that a port would at least have a reasonably clear picture of the flows of cargoes associated with the port, its hinterland, and the wider region connected to it.

However, and although the availability of such information may seem obvious at first glance, this is not often the case. In Piraeus for example, although we know precisely how many containers are coming each year from Gioia Tauro, we have a less precise idea how many of these containers have ultimate origins in Italy, in France, in Spain, or even in the United States. But it is precisely this kind of information that we need to develop a rational pricing policy.

In fact, it turns out that the statistical situation with respect to land, sea and land/sea transport flows in Europe is absolutely insufficient, and this is even more true in the Med. Existing statistics only partly cover the information required. There is an urgent need for valid and reliable data concerning freight flows information along the whole transport chain including mixed/combined land/sea movements. This also includes the wide variety of ferry and ro/ro traffic. Several attempts have been undertaken to create consistent data on this topic. In most cases, individual trading areas have been analyzed. A full – scale consistent approach, however, does not yet exist. For several reasons the use of this data causes substantial methodological problems.

Even the quality of overall foreign trade data among European countries and also between these and countries overseas reveals remarkable inconsistencies. This is particularly true for land/sea trade flows. Adequate shipping statistics are lacking. Therefore, seaborne foreign trade and its separation from land transport must predominantly be elaborated from foreign trade statistics.

There is no doubt that the only way to set up an acceptable data base of foreign trade data among the European countries and especially among them and others is to balance out discrepancies by assessment of algorithms based upon functional relationships and matrix operations. Respective results have then to be cross-checked against other data source of national and regional information.

Such an effort is currently under way in the context of the “Concerted Action on Shortsea Shipping”, a European Commission program coordinated by the National Technical University of Athens. The results of this effort will be reported at the end of this year. They are expected to be useful in the identification of cargo flows that can be shifted from land to sea and in the promotion of shortsea shipping in Europe.

It was not my intent to be encyclopedic in my address. Rather, I have attempted to describe a set of factors that will likely be important determinants of the strategies that will be used by Mediterranean ports in the years ahead. I have also tried to present the critical role of information in the successful implementation of these strategies.

Technologies, methods, practices and policies that can be used to efficiently collect, process, and analyze such information will be in great demand in the years ahead. Those ports that manage to understand the importance of these factors will be better placed within the global port competitiveness game.