

“Matching demand for R&D with supply of R&D in maritime transport”

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Let me say first of all that I had no intention to present a paper at this workshop, let alone the first one. When this idea started back in January, the idea was to invite representatives of the Greek shipping industry make a series of presentations to give a flavor of the issues that confront the industry as far as shortsea shipping is concerned. And indeed I think that in today’s program you will find several such papers.

The idea that I also present a paper first came in the process of drafting today’s agenda, and in fact the original idea from somebody from the industry. The idea was that I, in my capacity as General Manager of the Port of Piraeus, should present a paper on how the Port can contribute to the goal of shifting cargo from land to sea (for instance what the port can do to take traffic that comes to Greece onboard trucks, and divert it so that it can come to Greece via the sea).

I found this suggestion interesting, but I declined, because I thought that this would mean that I would have to say something specific about our tariff policy (to state one example). As we are in the process of a major revision in all of our tariffs, and in fact we will very soon announce major reductions in some of our rates and major increases in some other of our rates, I thought it would be premature to officially announce all this in today’s workshop. Of course, in the course of the discussion, I may be able to make some comments on this general issue, but not in the form of a paper.

Then the Commission suggested that I say something on maritime transport R&D or on SSS R&D. Given that the Commission is the sponsor of this concerted action, I thought it would not be nice to find a pretext and not deliver a paper, so I had to accept.

I decided to talk about supply and demand of maritime transport R&D for two reasons:

One, because today we have two main audiences: (1) On the one side, the shipping industry at large, a potential consumer of maritime R&D, and (2) on the other side, the research community at large, a producer of maritime R&D. In between, we have the national governments and the Commission, who sponsor R&D for a variety of reasons. The industry itself is also a sponsor of R&D.

The other reason for this topic is because I personally have the dubious distinction of being both a producer of R&D (wearing my University Professor hat) and a consumer of R&D (wearing my Port Manager hat). This is a role that sometimes is schizophrenic, but some other times I feel it can give some useful perspective.

The representatives of the European Commission will show you later on in this program that the Commission is putting a lot of resources behind maritime transport

and SSS R&D. R&D that is related to maritime transport is sponsored by at least the following Directorates within the Commission:

DGVII (Transport)

DGXII (Research)

DGXIII (Informatics and Telecommunications- Telematics)

DGIII (Industry) (also leads task force “maritime systems of the future”)

DGXVII (Energy)

The budget figures allocated to this area look impressive. In the previous programme called EURET (1991-1994), a program of the DGVII, the contribution of the Commission for maritime transport R&D was something like 8 MECU. In today’s programmes (the so-called 4th FP- 1994-1998), the funding is about one magnitude more. The DGVII alone monitors something like over 30 separate projects in this area. I do not have the figures for the various national programs, but it seems that these are also very high.

So from a “supply of R&D” point of view, the general picture seems very positive. It is still not clear what will happen in the 5th FP (1999-2003) but there is optimism that this trend will continue. So at least from a researcher’s standpoint, I can say that things look very good.

Let me try to address what I think are some key questions. I think there are three:

- 1) Do we have a clear picture of the “supply” side of the equation, ie of what has been produced or is being produced in maritime transport R&D?
- 2) What is the picture on the “demand” side of maritime transport R&D?
- 3) How can one match supply with demand?

First question:

1) Do we have a clear picture of the “supply” side of the equation, ie of what has been produced or is being produced in maritime transport R&D?

The answer is more difficult than one might think at first glance. At first glance one might think that since all these programs are well established, then the picture should be very clear.

Unfortunately, this is not necessarily the case. Indeed, all this information is available to somebody who will look for it, but since it is not available in one place, its use can be very limited. We have Commission projects (of various Directorates), national projects, in house R&D from the industry, and so on. Information on these programs is fragmented, non-homogeneous, and sometimes not readily available.

In the Concerted Action on SSS, we have tried to remedy this situation in our state of the art study. In it, we tried to collect information on projects, studies, papers, and anything related to SSS. We solicited this info from national governments, the

Commission, various conferences, and other sources. We standardized the format of this information so that it can be available for bibliographic searches. The effort was not easy, mainly because information was of non-uniform quality.

I think this is a useful database to look into, and we have a mechanism for updating it via the internet. However, an observation is that all this work is very fragmented, in the sense that work in one area that is close to work in another area is typically treated in isolation (eg cabotage in Greece, cabotage in Spain). The net effect of this fragmentation is that it is very difficult or impossible to use the results of this effort for industry or for policy use. Perhaps the fact that this info is now available in one place may facilitate this problem.

Second question:

2) What about the demand side.

If info on the supply side has some problems, information on what is actually the demand for maritime transport R&D is even more difficult to obtain. The additional difficulty is that there is no good way of describing demand, at least directly. One can describe it indirectly, by saying for instance that all these R&D programs are a result of input from the demand side, particularly since the maritime industry participates in both the formulation of the terms of reference of these programs and in the projects themselves. Eg, the MIF has developed a very elaborate "R&D Master Plan", which includes maritime transport and SSS, and this may form the basis for the R&D that will be supplied.

However, my own personal impression (and this is my only my own impression) is that many of these projects are more supply driven than demand driven. By supply driven I mean that it is usually the universities, research centers (and, by extension, the consulting companies) that seem to be more interested (and are more active) in these programs than the actual end users, the shipping companies themselves.

Of course, the Commission correctly places a lot of emphasis on industry participation, actual demonstration of research results in the real world, and commercial exploitation of research results. In the area of SSS for instance, the DG VII is about to fund a number of so called "SSS pilot projects", whose aim is to test and validate new concepts on real world SSS platforms. If these concepts are successful and commercial potential is demonstrated, these projects could very well pave the way for innovative SSS systems in the future.

From the viewpoint of an actual end user of R&D, there are at least two kinds of difficulties (in my opinion) with the way R&D is performed at this point. I will demonstrate these difficulties by two examples, one from my experience as a researcher, and one from my experience as a potential consumer of R&D.

A few years ago, a group of colleagues of mine and I were preparing a proposal for the ESPRIT program. The proposal dealt with developing methods and technologies for optimized routing and scheduling of ships. Looking for industrial partners, we spent time talking to a very large container shipping company (one of the world

leaders), who would be the main end user of these results. Even though they were very interested at the beginning, at the end they told us they could not participate. The reason: They decided that they could not wait that long for the results of R&D to materialize. They wanted something quick, and they decided to do it in house.

So the first problem concerns the time horizon of these projects. A typical project may last 3 years. If you add the time of proposal preparation, proposal evaluation, and contract negotiation, you come up with 4 to 5 years, by which time you may only have a prototype that is not completely commercially available, and additional time (1 to 2 years?) may have to be spent developing it for full scale implementation. So you are talking 5 to 7 years full cycle. And although such a long time horizon is OK with the research community (actually the longer the better), many end users do not have such long time horizons in terms of solving their problems. They want something fast.

The second example comes from my experience as port manager: A few days ago we were confronted with a strike threat from one of our unions. The strike would actually commence this morning. It concerned a series of demands from the part of the union. If some of the demands were met, we would not have a strike, but we would have a series of other problems, eg some of the other unions would also make demands, etc. If on the other hand the demands were not met and we had a strike, we would suffer a lot of damages in terms of the reputation of the port.

Some people may laugh at this example, but I personally almost lost my sleep over it these past few days (considering also that the strike would commence, by a strange coincidence, today). I consider this problem a typical problem of the real world, one among many that confront us on a daily basis. However, if I look at the database of SSS R&D, there is nothing that can help me solve it. But it is a problem we have to solve all the same.

So here is a second difficulty: Some of the real problems the industry is facing are beyond the domain of R&D. The reason is perhaps that some of these problems are considered “mundane”, therefore not appropriate for R&D. We may have the opportunity to hear about several such problems in SSS later on today, from the perspective of the Greek shipping industry. We should take a critical look at these problems and see what we can do to solve them.

So now we come to the third question:

3) Matching supply with demand.

To the extent that there is a gap between supply and demand, the question is what to do to bridge it. Or, what to do to have a good match between supply and demand of maritime transport R&D.

I think the existing baseline of programs and projects is a good starting point. However, I think that several improvements can be made in the future, and I will list just three:

- 1) A better interaction between researchers and the shipping industry, so that each side learns more about what the other is up to. Fora such as this one may help in that direction, but I think more are needed.
- 2) Increased participation of the shipping industry in R&D programs, as well as in the processes for the formulation of these programs. It is already participating, but I think this can be improved.
- 3) Increased use of R&D for the formulation of maritime policy, either at the national, or at the Community level. We are fortunate to have both directorates of the DGVII here today, so maybe we can learn more about this point.

Perhaps additional suggestions can come up from you in the course of the day.

Thank you very much.