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## QUESTIONS

prepared for the EIRMA CONFERENCE :

### **TECHNOLOGICAL CHALLENGES TO EUROPEAN INDUSTRY TODAY**

#### **A) *The changing role of R & D within company functions.***

1. In time of extended crisis the relation between R & D and the other company functions becomes more difficult. There is a need to better understand, both inside and outside the R & D functions, R & D role for company survival and development.

In fact in difficult period, companies tend to focus on:

- increasing efficiency (reducing cost lacking the opportunity to increase the markets);
- putting innovation to work within short delays;
- restructuring the business activities (concentrating to core business, increasing dimension of scale by co-operation and joint-ventures with other companies. Etc..).

These lines of actions tend to be the principal responsibilities of others than R & D company functions:

- Does R & D risk to be seen mainly as a cost to be trimmed or as a pool of resources to be used for "fire-fighting"?

2. R & D reaction to such situation (especially after a long period of relative freedom to expand and to choose medium and longer term objectives) could be that of a passive response, reluctantly shifting resources and reducing costs, lamenting the inability of the company to understand the real value of R & D.

The other alternative is a more aggressive response readjusting the **R & D plan** - anticipating the new constraints - with a new balanced distribution of resources among **shorter and longer term objectives**. With such an approach, the time of crisis could be seen as having the very beneficial effects of re-establishing closer ties among R & D and the other company functions.

- What are the effective possibilities (supposing such an aggressive approach of R & D management) to reorient the R & D plans within short delays, for the company to appreciate its effects?

## **B) R & D efficiency and effectiveness.**

3. The creativity of European research is not second to that of U.S. or Japan. The problem is not to increase the efficiency of R & D expenditures (measured in terms of new ideas per unit of money spent) but to increase the R & D effectiveness (targeting R & D to higher value objectives, closer to company ability to use R & D results) and the ability to transfer R & D results to product and process innovation.

- How can R & D shift its creativity ability from the research end to the development end of its activity?
- To assure an increased effectiveness, should R & D invade other company functions territory with overlapping capabilities, to perform : strategic market analysis, value analysis, product and process engineering, etc...?

4. When comparing Europe R & D with U.S. and Japan, one should take into consideration the peculiarity of our social system, such as the cultural differences, which reflects among others on the very low degree of personnel mobility, both across borders and across institutions. The overall efficiency and effectiveness of European R & D is very much affected by this.

The European Commission has launched an experimental **programme to help researchers to communicate and cooperate.**

- Are the company R & D organizations willing to participate in such a programme?
- How, more in general, could the mobility of R & D personnel be increased?

### **C) R & D and public funding.**

5. The impact of any actions aimed at increasing the mobility of personnel will be visible only on the long term. Meanwhile, company R & D policy has to face as a matter of fact the high rigidity of personnel. Any attempt, therefore, to reduce R & D dimension due to budget constraints risks to make a permanent damage to the ability of the company to perform research when better times come again, by too much costs cutting and resources shifting.
  - To save the core of such R & D ability, should the management look for external funds to support longer-term objectives, with the effect to reduce the possibility for the company to use more of the existing limited human resources for "fire-fighting" activities?
6. In the case that the company accepts to maintain a larger size of longer-term objectives:
  - Are external funds increasingly available?
  - How do public authorities react in time of crisis: increasing their share of financing for strategic investments?

The case of France and of the European Community seems to confirm that such a trend exists.

7. If the company agrees on such a policy, then all the company functions, and not only R & D, should make it well-known that there is a public responsibility to provide means to maintain a higher share of company resources on longer term and strategic issues than that permitted by the shrunken company financial resources.
  - Is that - asking for public funding - not in contrast with a prevailing attitude of some industrial enterprises to call for a minimum public intervention as possible?
  - How does R & D debate such an issue within the company to develop a proper external relation policy?

#### **D) The European dimension industrial policy and R & D.**

8. Europe, with less willingness and ability to set up protectionist defences than in the U.S.A., is more subject to the attack of the Japanese export effort. There is a high risk that entire sectors of the national based European industry disappear during the crisis. This will result in a permanent damage, to avoid which short term national and European policy should be developed.

Such actions should be oriented not only to defend existing industries but. taking advantage of the strong impacts of the crisis on company attitudes and strategies, to play the "**europaean card**" as fully as possible with the aim to emerge after the crisis with a renovated industry restructured on a true European dimension.

- Is there a particular role for R & D to be played to this effect?
- What are the "portfolio of ideas" of R & D (in term of new products, new process technologies, "horizontal" technologies and materials to exploit which might require revisiting the possibility of co-operation with other companies, setting up joint-ventures, etc.?)
- Is R & D prepared to play a specific role in the related process of changing company strategy?
- What is the attitude, in this respect, of the other company functions and top management?

9. In the new E.C. research policy, special emphasis is given to set up networks of **pre-competitive research** among companies in advanced areas such as information technology.

- What is the role played by the company R & D functions in launching such initiatives?
- Could similar initiatives be developed in more conventional industrial sectors?
- Are the R & D functions of different companies starting, on their own, lines of R & D co-operation on which to build up potential future industrial co-operation?

10. The possibilities to develop at the level of the European Commission european R & D policies are limited by the bounds of the Treaties, which do not foresee R & D as a matter of common interest (with the exception of coal and steel, nuclear energy and agriculture). This notwithstanding, the **European Community** has succeeded in launching several **R & D projects**. Using the provisions set forth by Art. 235 of the Common Market Treaty, which requires a unanimity deliberation of the European Council of Ministers. Because of the different national industrial policies, it is very difficult to reach such consensus on very important matters.
- Do companies in different sectors feel the need for increased intervention of European Commission with European R & D projects?
11. To avoid the potential infringement of free competition, the European **Commission** tends to pursue **R & D programmes** which are at the so-called **pre-competitive level**.
- Is that not a too large limitation to help, through a European policy, European industries to play, whenever of interest, the European card with real co-operation and joint ventures with other companies?
  - Could not instruments be developed by the European Commission (such as the "Groupement Européen de Coopératibn) to foster co-operation across the borders?
  - How will companies take advantage of such instruments to set up joint R & D ventures?