COMMISSION OF THE EUROPEAN COMMUNITIES

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INDUSTRIAL DEVELOPMENT AND INNOVATION

(Communication from the Commission to the European Council
Luxembourg, 1 and 2 December 1980)

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Communication to the European Council

Industrial Development and Innovation

I. The issue

Industry in the Community is in trouble. There are serious problems in many sectors. Unemployment is high and rising. By several measures, our industrial performance is declining compared with competitors. In our trade in manufactured products, our deficit with Japan is growing alarmingly and we no longer have a surplus with the United States.

In 1965 we exported 40 % more electronics-based products than we imported. In 1976 we only just broke even, whereas by 1976 the Japanese exported nearly 9 times as much electronics products as they imported. In 1965 we exported 3.7 times as much machinery and transport equipment as we imported. By 1978 this was down to 2.4 times, whereas Japan was exporting nearly 10 times as much as she was importing. The long term implications of these trends for employment in industry do not need to be emphasized.

Innovation has been a historical motor of industrial development in Europe. Ever since the industrial revolution, the application of new discoveries has resulted in economic growth, increased employment, domestic prosperity and exports abroad. This process, initially based on relatively simple technologies, took on a second lease of life in the early part of this century in industries such as chemicals, automobiles and electrical appliances, and is now entering a new phase through the application of electronic technologies to many areas of economic activity. Future developments in areas such as biotechnology and marine development can already be discerned on the horizon.

Innovation in industry is essentially a market-oriented process. The principal responsibilities thus lie with enterprises and individuals as well as with those in both the public and private sectors who are responsible for the organisation of work, investment decisions and public purchasing. Thus, the message has to be addressed to people who are living and working throughout the economy. It is their decisions and their actions which will determine the extent to which European society continues its economic and social progress, through innovation.

II. Factors of change (1)

1. We are entering a historic turning point where the basic technological capacity to develop and manufacture, to sell and trade is rapidly diffusing throughout a large part of the world economy. Notwithstanding the poverty and underdevelopment which prevails in much of the third world, there are already several newly industrialised countries which are effectively competing with European manufacturing industry in many sectors. In the future, there will be more of them.

   Furthermore, to differing degrees and in different ways, the United States and Japan - the two other major industrialised poles in the free trading world economy - are managing to maintain their economic pre-eminence.

   Consequently, the international pressure for industrial renovation in Europe is getting stronger and the need for successful innovation is far more pressing: the pace is no longer of our own choosing.

2. But innovation encounters domestic obstacles. First, new investment is a necessary vehicle for it and the present low level of profitability in many firms, leading to too few investments, must be holding back many innovations which otherwise would be within our grasp.

   Second, and more fundamentally, resistance to change is reinforced by the current economic, social and cultural climate. Moreover, the recession and the contraction of industrial employment which are taking place throughout the European economy are generating social attitudes

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(1) See also Report on certain structural aspects of growth, COM(78) 255 final, 22 June 1978

which are often inimical to change. These arise from the fact that after thirty years of rapid economic growth, high standards of living and full employment are taken for granted and from rigidities, even inadequacies, in education and training.

At the same time, the technological characteristics of new discoveries are increasingly advanced. In the future, much innovation will demand an unprecedented degree of managerial and technological sophistication both from the innovator and his working people. There is, however, little doubt that the education and training systems within our economies have, with few exceptions, failed during the past generation to engender the flexibility and attitudes which would allow the European economy to develop in the way which present international and technological factors require. Rigidity and time-lags in the educational system and individual and social obstacles to retraining in middle life act as a serious brake on the scope for innovation in our economies.

3. Furthermore, innovating firms in the United States and Japan benefit from a large domestic market as well as from additional support from a new well-targeted range of government measures. In Europe only the Community-wide market offers a comparable potential, but it remains fragmented for many purposes.

III. The objectives and scope of innovation

Innovation policies must address themselves to the obstacles which we encounter today because the European economy's dependence on external natural resources and energy imposes a development strategy based on maximum use of our abundant human and technological resources. We cannot afford, for the remainder of this century, to allow this comparative advantage we have to deteriorate further, for we have no other.

Innovation policies can favour social and economic progress throughout European society, facilitate adjustment of industrial structures to changes in energy price and availability, technology and international trade patterns, and can support recovery in competitiveness of critical economic activities.

The option for change has been altered by the comprehensive nature of innovation in modern society and the way in which new processes potentially affect many activities. Granted, the initiative to apply new possibilities rests with the firm and the individual, both in the public and private sectors. However, the option to do so is increasingly predetermined by the social and eco-

nomic environment and by the results of the research, financial, education and training systems. These, by contrast, are ovewhelmingly influenced by the public authorities. This is why it is imperative to address the problem of innovation in Europe at the level of public authorities and at the level of the European Community.

Many innovations in the form of new products further permit changes in the processes whereby existing products and services are supplied. As a result, innovation in telecommunications, micro-electronics and materials science, in particular, affects wide ranges of industry and services to the point where it represents a common factor of change throughout our society and economy.

Although the need to apply advanced technologies is relatively well understood and the international stakes are clear(2), the scope and need for innovation throughout the whole economy is not always fully appreciated.

For example, promotion of innovation in both supply and use of energy is vital. It would provide new opportunities for industry and have a positive effect on employment. Furthermore, many of the new technologies and new skills in the energy field will be exportable. It is important, for all these reasons, that policies to encourage innovation should give particular attention to energy.

Many everyday applications can make use of the most advanced technologies and materials. Our shortage of resources should also be tackled by employing alternative local resources of substitutable and more plentiful materials, by developing a recycling economy and by different ways of designing and producing goods so as to lengthen their life and allow for easy replacement and repair.

Comprehensive innovation strategies thus imply the application of many appropriate technologies, building up a complex and articulated system of production. This would improve further opportunities for entrepreneurship throughout the economy and develop the basis for exports of technologies suitable for a wider range of requirements throughout the world economy.

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(2) See also European Society faced with the challenge of new information technologies: a Community response (COM(79) 650 final), 26 November 1979

Innovation does not need to run counter to social values in Europe; it can help us reach our goals if it is addressed not only to the application of technology in production, but also to problems of social and economic organization.

IV. Role of public authorities

Public authorities have a major role to play in the area of innovation, in order to create the conditions for successful development in the future:

- first, in leading public opinion to an understanding of our situation and prospects as well as by their determining influence over the educational and training systems;

- second, as significant economic agents themselves responsible for the organization of many manufacturing and service activities, substantial public procurement, a large part of research and development expenditure, and the ability to decide whether or not to maximize the advantages of coordinated action at different levels of administration, local, national and European;

- third, and most important, through their influence over economic policies which affect the response of of individual people and firms.

Innovation in industrial and service activities is determined largely by the market. However, if this takes place in the context of defensive and static attitudes and social structures, it may well turn out to be too late to take advantage of market opportunities. Thus, public policy for innovation should address itself to several different levels of the problem:

(a) creating an environment of attitudes and opinion which is receptive to change. This involves explaining the real economic options which confront us at home and abroad so as to forestall purely irrational factors in the political process.

It means encouraging social, vocational and geographical mobility needed for innovative change, when necessary reinforcing social security. It will also mean influencing the characteristics and pace of innovation so as to reassure working people that the change will be progressive and not brutal and that help towards alternative opportunities will be provided.

It is also essential to build into education and training systems the necessary level and flexibility both in terms of numbers and quality.

(b) Then there is scope for a broader reappraisal of the the links between a wide range of public policies and public sector activities and the innovation process. In this respect, assessing and even emulating the more successful aspects of policy in other countries may well prove to be a fruitful approach.

Among the many opportunities for innovation are those which arise from public policy in areas such as environment, pollution control, health and working conditions. The relationship between public-sponsored research and development also needs to be considered in order, at one extreme, to provide the basic, long-range, technological research that companies have difficulty in carrying out for themselves but that our competitors' public authorities are supplying; at the other, to bring research and development closer to practical economic applications. To do so would no doubt involve promoting smaller firms' possibilities to apply research and development results or to engage in collective research and development themselves.

(c) Finally, there is a crucial area of public policy which influences the incentive to invest and innovate. There is much more that the public authorities could do to improve the environment for innovation by reducing the tax burdens on innovation, on energy saving and on employment. The incentive effect of tax relief compared with aid systems should be carefully examined, and the authorities should be alert to the importance that their policies, regulations and practices for risk capital and public procurement have for incentives to innovate and invest, particularly in the smaller firm. We should profit from the American experience.

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The Community and the Member States can reinforce public consciousness of the obstacles to innovation and the overwhelming need to overturn the existing unsatisfactory trend. Member Governments would do well to speak clearly in unison since the message will often be unwelcome. The message is not only addressed to the individual, to the manager and to public opinion at large, but also to many agencies of

the Governments themselves which determine the scope and pace of change, and which influence the environment for change in the long run. The Community must see that both established Community policies and new proposals - where they can be relevant - promote and do not hinder innovation; and the Commission will act accordingly.

A sound innovation strategy should act as a bridge between industrial strategies, on the one hand, and scientific and technological policies on the other. We must ensure that further integration of the domestic market within the Community continues to provide the incentive to firms to innovate and invest. Here, public authorities have a crucial role to play. We should more actively exchange information within the Community, and between the Community and the rest of the world, about successful innovation policies. For its part, the Commission will examine the reasons for the present inadequate results of innovation in the Community, particularly in comparison with those achieved in the United States and Japan.

The European Council is invited to endorse this analysis and general approach towards one of the most important problems facing European industry.