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REGULATORY FRAMEWORK AND DEVELOPMENT OF
ELECTRONIC COMMUNICATIONS IN EUROPE

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1. Introduction

Any reflection on the regulatory environment which can best contribute to the development of electronic communications in Europe must take into consideration the recently approved “new EU regulatory framework”. The new directives represent a significant move in the right direction for at least three reasons. The new framework aims to adapt the regulatory system to the changes taking place in markets as a result of technological progress and the response of companies and consumers to the liberalization process. The new regulations also reaffirm the determination to reduce the amount of regulation in the industry, starting a process of transition towards a free market legal system similar to that of other industries and based on competition policy as the guarantee of a competitive environment. Finally, the new framework attempts to increase harmonization of the competitive conditions in all Member States, in a complex balance between the imposition of regulations which guarantee the Single Market and respect for the principle of subsidiarity, as established in the European Treaties.

The aim of this document is to contribute to an open debate in Europe about the pace and nature of the process of liberalization of the telecommunications industry and to analyse which courses of action in the liberalization process could most usefully contribute to a rapid and harmonious development of electronic communications in the European Union. This reflection is necessary for two reasons.

Firstly, because the “new regulatory framework” which has just been established at the EU level is only a general legal framework. Its impact on the development of European electronic communications will largely depend on the philosophy of legislative translation of the approved regulations in the Member States and on the practical application of the coordination mechanisms contemplated by the new legislation. These mechanisms allow a significant margin of discretion in the regulation approved by Member States.

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Secondly, because in an industry as dynamic and complex as telecommunications and other related industries, it is important for the regulatory framework to be flexible, so that it can be rapidly adapted to changes in the environment and help to eliminate rigidities and regulations which hinder technological progress and business initiative. In this respect, this document analyses those aspects of the regulations which tackle the development of the industry and which have only been partially dealt with in the recent legislative changes.

The document is structured as follows. Following this introduction, the analysis is carried out on the basis of a fundamental distinction between the conventional segments of the industry (for example, voice telephony and narrow band Internet) and those, such as mobiles or broadband, which constitute businesses still in the phase of expansion. There is a very simple explanation for this distinction. The economic nature of these types of businesses is radically different and it is therefore unlikely that the appropriate policies of regulation and competition should be the same. For each segment there is a brief description of the impact of the regulatory framework so far and, bearing in mind the economic foundations of each segment, a general consideration of the criteria a future regulation aimed at developing the industry should follow. This development should respond to the general objective of ensuring a supply of communication services in a competitive environment, with quality services, investment in new networks, innovation in supply and financial balance of the companies. Another section of the document focuses on the process of Europeanization of the industry by analysing the aspects of the regulatory environment hindering the construction of an integrated European market, even taking into account the instruments of coordination approved in the latest legislative package. Areas in which an active policy at the EU level would be desirable are also discussed. The conclusion summarizes the main messages of the document.

2. Regulation of the conventional fixed telephony business

The process of liberalization of the conventional fixed telephony businesses (1) in the EU Member States has largely been based on a model of access to the existing public networks and the establishment of an asymmetrical regulation, which has tried to encourage the entry of new competitors. The European regulatory framework, however, has not established a single pattern in the opening process, allowing the use of deregulation strategies with different profiles. In some countries, more favourable conditions of access to the public network were associated with obligations to deploy new networks, whereas in others the regulation simply tried to promote the rapid entry of new suppliers and providers, in order to enable them to erode the market share of the incumbents and, by gaining customers, make the decision of investing in their own networks.

This regulatory approach was based on the economic foundations of the conventional telephony service. On the one hand, the development of competition required interconnection of networks, so that those entering the market would immediately be able to compete with the incumbent operators, eliminating the insuperable disadvantage of the lack of connectivity of the new networks. Measures such as portability and carrier pre-selection were also implemented with similar goals in mind. On the other hand, the conventional telephony business is subject to very significant economies of scale on the supply side, with

(1) This industry would basically encompass local residential, long-distance and international communications, voice and data business communications, and access to narrow band Internet.

heavy investments in systems and networks whose profitability depends on achieving high levels of traffic and, in short, significant market penetration.

Regulation tried to encourage entry by establishing conditions that would enable new operators to rapidly build up a customer portfolio that would allow them to support the development of their own infrastructures. Tariff policy and access conditions to public networks have been a key part of this strategy, particularly the cost-oriented interconnection prices and the policy of unbundling the local loop.

Generally speaking, the liberalization policy of fixed telephony has been a success, as free entry to the industry has brought new competitors and new services, with significant price reductions resulting from both the increase in competition (reduction of monopoly margins) and the improved efficiency of the incumbent operators.

However, this judgement of overall success needs to be qualified for two reasons. Firstly, the implemented liberalization model has not given rise to a genuine development of competition among access infrastructures. This is because access tariffs to public networks have not provided strong incentives to operators to invest in new networks (2): neither to new operators, because it was economically much more attractive for them to use the existing infrastructures, nor to the incumbents, because the low remuneration of access did not encourage them to carry on improving the network. Pressure from new entrants has forced incumbents to reduce prices rapidly and, given the prior existence of wide margins and high levels of operational inefficiency, the most dynamic incumbents have been able to lead this process of costs and price reduction, while defending a pre-eminent market position. Therefore, achieving a stable position in the market has been very difficult for new operators (with the exception of some more specialized or niche operators). This suggests that perhaps the economies of scale of this type of business have been somewhat underestimated.

Secondly, the liberalization process has taken place without rapidly removing certain important distortions inherited from the past. The difficult and irregular transition from a regulated monopoly system to a competitive environment has negatively affected the market development. Issues such as tariff imbalance and the definition and financing of the universal service have hindered liberalization and, as we will see in section 5, have also been faced by Member States in very different ways. These distortions have interfered with free competition between new and incumbent operators, occasionally leading to opportunist behaviour on the part of the operators.

Overall, therefore, the regulatory model for conventional telephony has generated enormous improvements in efficiency that have benefited the consumer. However, now that we are several years into the liberalization process, certain doubts are being raised about the suitability of this approach for the future. Firstly, it is not clear whether there is much room left for its development, given that the efficiencies achieved by the incumbents are already very significant, and new operators are finding it difficult to make a profit with the market share they are currently able to achieve. Moreover, although this model may be appropriate for optimising the use of existing networks, it is probably not so suitable in those segments of the industry requiring higher investment, since this model does not provide incentives for investment in new infrastructures. Finally, the use of this model, the possibility of offering

(2) In some countries cable access networks have been deployed. In this case, and although the circumstances are not the same in all the countries, conditions imposed by the regulation may also have had a negative effect on the development and utilization of new networks.

broadband services through the existing telephone network by investing in ADSL technology and the regulatory lack of definition regarding the conditions of broadband supply have had a negative effect on investment in new networks oriented to offer these new services.

A specific example of this problem is provided by the debate about unbundling of the local loop. Access prices to the unbundled local loop have been oriented to long run incremental costs by EU regulation. Nevertheless, some of us share the view that access to the local loop should be allowed at low prices for the supply of conventional services, but this policy should not have been extended to the access to the local loop adapted to the supply of broadband services. If the obligation to allow access to this type of asset is imposed, the remuneration and the conditions of access to the unbundled local loop should have taken into account both the variable costs of providing the access and the fixed costs related to investment, considering its expected profitability and its risk. In my opinion, this approach would have encouraged higher investment in these accesses, as well as the supply of broadband networks with alternative technologies.

Finally, conventional telephony markets are markets in which “ex ante” regulation makes sense. In general, they are characterized by the presence of incumbents with a pre-eminent position and by a comparatively low rate of technological change. In this type of services it is possible to define markets and use conventional market power measures to establish obligations for operators. As we will see later on, the situation is not the same in the expanding businesses.

3. The regulatory framework for expanding businesses: broadband

The economic foundations of the business of broadband Internet access provision are radically different from those of conventional telephony. The broadband Internet access service can be provided from various technological platforms with different economic characteristics and technical performances. These technologies include cable, fixed wireless access, fiber (principally in the business segment), satellite, ADSL on copper networks and, perhaps in the future, access through power lines. In broadband, competitors are obliged to build up new infrastructures in order to offer their supplies, and at present there are no networks able to provide immediate access to service suppliers not having their own network, although the copper local loop and the non interactive existing cable infrastructure can be used, with an additional investment, to provide broadband.

This competitive environment has nothing in common with the traditional telephony one. In broadband competitors have to make significant investments in infrastructures in order to serve a future market whose characteristics and profitability are very uncertain (3). At present there is very little information available about which services and products users will demand from these networks and how much customers will be willing to pay. This is, obviously, a usual investment decision context for many businesses. However, if investment is to be made and if the market is to soar in this industry, it is essential that potential new operators do not perceive an excessive risk of regulatory intervention. The existence of various technological platforms and the need to make costly investments in broadband make it necessary to devise a regulatory model which guarantees

(3) Broadband services include a wide range of digital interactive services which can be supplied, to a greater or lesser extent, from different existing technological platforms.

to investors the future use of these networks in a free competition environment based on the rivalry among alternative proprietary networks. The network access model which can be justified as a means of promoting competition in the conventional telephony market makes no sense in the emerging electronic communication sectors, in which the only way to boost private investment is by guaranteeing that the business generated by the new infrastructures can be profitable for the investors, thereby providing a return on the invested capital.

This fundamental principle of competition between alternative broadband networks, often based on different technologies on which the regulator cannot impose access obligations, needs to be explained in more detail.

Firstly, this principle means there is no point in regulating access prices in general terms, even if it is justified for the access to the local loop of the copper network. In this respect, and as we have already mentioned, it is clear that the price of access can be cost-oriented in the case of narrow band (4), but this should not be the case for broadband. Instead, the price should take into account the network development costs and the investment return in a highly uncertain environment. We are therefore talking about a significantly higher price, which in this way does not have a negative effect on investment in alternative networks.

Secondly, the general principle of proprietary networks must be compatible with the development of a framework of openness and interoperability in the market for services and contents to be supplied on these networks. The existence of a wide range of services is essential for increasing demand and expanding the market and is, in short, a key factor for being able to generate the traffic which will allow the new networks to be made profitable. Therefore, although it is necessary not to oblige the access suppliers to open up their networks (as well as the elements or functionalities which differentiate their supply), it is necessary to ensure that this vertical integration is not complete, making access to various multimedia products and services possible from various networks.

Finally, the absence of “ex ante” regulation, except for that which derives from the use of scarce resources such as the public channel or radioelectric spectrum, should be a general regulation principle in these expanding segments. In other words, for these types of activities it does not make sense (and is simply not feasible in many cases) to try to delimit “ex ante” the markets and their structure. It is much more reasonable to use an “ex post” regulation, based on the general principles of competition, which prevents competitors from dominating the market and exploiting this dominance to obstruct innovations of their rivals which improve consumers’ welfare.

4. The regulatory framework for expanding businesses: mobiles

Mobile telephony is clearly an expanding segment in the industry. This business is currently going through a period of transition from a set of voice services now reaching levels of maturity towards data services, in a process of migration towards the 2.5G and 3G technologies.

(4) For access to an existing network, prices may be based on the variable costs and on the opportunity cost of the available capacity. This price is low if the network is underutilized. In practice, however, prices have been low due to the fact that they have been calculated on the basis of long-term incremental (marginal) costs, with the best technology and an optimum network deployment.

The success of the mobile telephony industry in Europe, in absolute terms and in relation to other major world economic areas, is due to a complex set of causes. Two of them are of particular relevance. The first one is the process of standardizing the voice transmission protocols, that is, GSM, which has allowed technological interoperability between networks and the development of an important handset industry.

The second element is that the industry has been based on a model of competition among operators that offer services on their own networks. Furthermore, and partly due to spectrum limitations, the number of operators has been limited. This has given rise to a competitive environment in which companies developing networks have raised sufficient margins for making investment profitable, while prices have gradually fallen, with a rapid market expansion and the progressive appearance of new services. Moreover, this has taken place within a regulatory environment fundamentally based on the administration of radioelectric spectrum, a scarce resource.

The procedure used for allocating 3G licences, with no coordination at the EU level and with an auction system which in many countries has led to high costs to obtain a licence, together with the close interrelationship between the current 2G business and the incipient 2.5G and 3G segments, are factors which mean that the regulatory framework of the new generations of mobile services should be closely linked to the 2G regulatory framework, despite the fact that this segment is already a relatively consolidated market.

The development of the mobile segment and the complex launch of the data services therefore require broadly maintaining the current regulatory environment, which is fundamentally based on the principles of competition among network operators, the right of operators to allow access to networks under free commercial agreements and the absence of "ex ante" regulation. Problems of lack of competition which arise in the field of second generation mobile telephony, which until now have been related to fixed-mobile calls and international "roaming", should, in principle, be dealt with by the general competition legislation. "Ex ante" regulations might only be used as a last resort, and in any case they should not be very intrusive and should be based on price cap schemes rather than on complex cost-oriented formulas. Although this type of regulation also has serious drawbacks, it at least gives operators more incentives to reduce costs and improve efficiency.

The satisfactory implementation of the emerging chain of value of third generation mobile telephony, with new networks, new handsets and new services geared towards consumers' demand, will increase the complexity of the relations between new operators and incumbents and will therefore require a stable regulatory environment for the current 2G business, as well as a clear and predictable framework for the development of the new services. Both aspects are important given the high cost of new technologies and the high level of uncertainty associated with their practical development.

The regulatory framework of the emerging 2.5 and 3G segments should largely be based on the same regulation principles already considered for broadband. The first one is the principle of developing competition among networks, making sure for investors that networks can be used by their owners without the imposition of access obligations that could later on reduce the profitability of the investment. In a highly uncertain technological environment it is essential to have a stable legal framework that reduces the regulatory risk. As we have already pointed out regarding broadband, the fundamental principle must be free negotiation for granting access to networks, and letting general competition laws produce their “ex post” effect on markets in order to control possible abuses of dominant positions which prevent innovation and the supply of new services to consumers.

However, the development of networks with proprietary technology must not be incompatible with the establishment of a legal framework which facilitates interoperability between networks, in such a way that the development of a wide range of multimedia contents and services, accessible from various network operators, is encouraged.

Together with both general principles, which as we have said are in the same line as those applicable to other emerging electronic communication businesses, the European mobile telephony business has certain peculiar characteristics which require complementary regulatory action, to be developed mainly at the EU level.

A first sphere of action focuses on the need to avoid a battle of standards in 3G that would hinder the development of the industry and thereby prevent a repetition of the success achieved in the second generation mobile services. Within the field of mobile operating systems, navigation systems and formats of presenting the information to users, it is important to deepen coordination among agents (operators, handset manufacturers and software suppliers), given that the multiplicity of standards could fragment the market and prevent the generation of network externalities and the feedback effects which expand demand. Although it is true that, broadly speaking, competition in the development and implementation of standards can promote technological innovation and the adoption of more advanced and efficient standards, there is no guarantee that this will always be the result. Choosing standards is an area in which potential negative effects of competitive struggle can clearly outweigh its beneficial effects. Therefore, public policy should encourage agreements at the EU level among the industry’s main players in order to proceed to undertake standardization of the key aspects of the new chain of value, the aspects whose fragmentation could even prevent the appearance of the new market.

The second area in which coordinated action at the EU level is essential is the elimination of regulatory restrictions impeding or hindering the complete Europeanization of the industry. This task of removing barriers to the creation of a genuine European market can be justified for two reasons. Firstly, this action is advocated in the European Treaties, which establish as a Community goal the creation of a single market in the supply of services. But furthermore, achieving a genuine single mobile telecommunications market constitutes an essential step towards efficiently helping to solve the problems of growth and profitability currently affecting the industry in practically all Member States. The establishment of a European Single Market must allow operators to more deeply exploit economies of scale and, given that the market is increasing in size, achieve business consolidation without this leading to a drop in the level of rivalry.

Obstacles to Europeanization of the European mobile market are well known. Some of them are related to the specific regulation of the industry, and in particular to the conditions imposed on the allocation of the 3G licences. Obligations established in the

process of licence allocation hinder the appearance of a free radioelectric spectrum market at the European level, in which spectrum sale or hire allows the consolidation of the sector with a pan-European dimension, comparable with that happening in the United States and Asia. It is important for the European Union to promote the regulatory changes that would help to initiate this restructuring process, in such a way that companies would be able to freely develop their corporate strategies –whether through alliances, mergers or takeovers, or by leaving the sector–, the only restriction being that these operations respect general principles regarding competition policy.

Reorganization of the mobile industry on a European scale also involves general difficulties associated with the non-existence of a single corporate market in Europe, and therefore progress in this field (takeover bids Directive and accounting standards) would also be extremely useful for the progress of the industry.

Likewise, fragmentation of the national regulatory systems and the non harmonized treatment of the conditions in which the mobile telephony business is developed (for example, matters such as infrastructure sharing, the sale of parts of the network or investment commitments) tackle the process of restructuring the industry. However, these matters merely constitute a specific example of a more general problem afflicting the entire electronic communications sector. The process of creating an integrated European market, despite having made progress in recent years, is facing significant barriers and obstacles. These demand a specific analysis, we will now attempt to make.

5. Promoting the Europeanization of the market

The process of integrating telecommunications markets in Europe has been based on the harmonization of the legal systems of the Member States and on coordinated action aimed at opening up the sector. This model of integration differs from the one adopted in other service sectors (e.g. financial services), which have opted for mutual recognition of the national legislations on the basis of certain minimum playing rules. The audiovisual sector has also followed a model largely based on the single passport and mutual recognition. This fact, together with increasing technological convergence (the same networks providing audiovisual and communication services), suggests the need to move in the future towards an integrated regulatory framework encompassing not only electronic communications but also the supply of other services (audiovisual, information technology, etc.) through networks. Integrated regulation is increasingly necessary given the fact that companies in the sector are diversified enterprises that offer a wide variety of electronic services on different technological platforms.

In practice, the process of regulatory harmonization has constituted a mechanism of approaching national regulatory frameworks, with a comparatively low level of coordination of the regulatory action. This has been the result of applying the principle of subsidiarity that the Community's actions must respect, but also a consequence of the specific circumstances of the different European domestic markets, which have evolved historically in different ways. Furthermore, variability in the implementation of the Community's regulatory framework is due both to the wide discretion the EU directives concede to Member States in the specific application of the legislation, and to the scarce power of the Community authorities within the present legal system to impose further harmonization.

The phenomenon of regulatory diversity can be positive, as it allows Member States to experiment and emulate or learn from each other, and it can certainly constitute an adequate response to the diverse needs or preferences expressed by the local communities within the EU. It is also certain, however, that fragmentation of the regulation in practice can cause serious distortions in the European markets, allowing the playing field to become imbalanced in some countries where governments act in favour of their “national champions”, thereby distorting competition conditions within the pan-European environment. Regulatory fragmentation can also hinder the implementation of pan-European competitive strategies, prevent the full exploitation of the economies of scale associated with the communication businesses and bring an inefficient allocation of investments from the European point of view, given that significant differences among countries in the competitive environment and the profitability of the investment are artificially generated.

As a specific example of the partial harmonization that has dominated the industry over the last few years, we could highlight the practical incorporation of various Community regulations, particularly those relating to interconnection prices and to the treatment and financing of the universal service. Likewise, the Community’s regulatory environment has allowed the coexistence of regulatory systems which greatly vary from one country to another, with regulatory bodies which have different levels of independence and different powers. Furthermore, and increasing even more the risk of market distortion, the regulatory framework has been implemented with widely differing levels of sector privatisation.

Even without proceeding to create a European regulatory body, it seems necessary to increase the level of harmonization of the industry’s regulations, exploiting to the maximum the levels of coordination envisaged in the recently approved legislative package. It is essential that, in compliance with the European Union Treaties, the coordination and/or centralization process respect the principle of subsidiarity. Therefore, all those decisions for which it cannot be demonstrated that the benefits of centralization exceed its costs must be maintained at a national level. However, the principle of subsidiarity must not hinder the rigorous centralization or coordination of some of the industry’s regulations in which damages caused by decentralized action are evident and serious. Note that this close coordination can be carried out by means of cooperation between the national regulatory authorities and the Commission, without this necessarily implying the institutional centralization of the regulatory activity.

The process of tightly coordinating regulatory activity is possible without creating new central regulatory institutions, but in order for this to happen significant changes need to be made in the regulatory systems of the Member States and in the role that the Government plays in the industry.

The first change should consist in eliminating the currently existing differences among the European regulatory bodies. It is necessary to progress towards a system of regulatory bodies in which national institutions, even if they maintain their own personality and certain differentiating local characteristics, share certain minimum principles, including a similarly high level of independence with respect to Government and industry, endowments of human and financial resources capable of exerting a real influence on the sector and a high level of power, similar in all the countries of the EU.

The second change must take place in relation to the public sector’s participation in the industry. Despite the fact that it is not legally possible to impose total privatisation, steps should be taken towards reaching a political agreement involving such privatisation in order

to thereby favour the independence of the national regulatory actions and help to maintain an undistorted competitive playing field.

If a move is made towards setting up a committee of national regulatory bodies with comparable powers and statutes, in a privatised sector environment, the necessary conditions will exist for establishing the above-mentioned close coordination in collaboration with the Community authorities and, in those fields in which fragmentation could be most harmful, the centralization of some of the regulatory decisions. Without being exhaustive, it seems especially important to reinforce the mechanisms of centralization in matters such as spectrum management, authorizations and methods of calculating regulated prices and the cost of the universal service.

The adoption of measures at the EU level must go beyond rigorous harmonization and coordination of certain regulations, and offer a general framework supporting the industry's development in the light of the great challenges it currently faces. The development of new broadband infrastructures (fixed and mobile) presents enormous political, economic and social challenges, and European Union countries will be able to overcome them successfully if they set their actions in a common policy framework for the industry.

One of the major challenges has to do with technology. If the European Union wishes to reach a leading position in the emerging Information Society, as established at the European summit in Lisbon, it must make a concerted strategic effort in key industries such as electronic communications, as occurred in the second generation of mobilephones. The EU policy must help to coordinate agents' actions (equipment and handset suppliers, operators and service suppliers, Governments and consumers) so as to thereby convert the European Union into a pole of development and deployment of new technologies.

In Lisbon, the European Council proposed not only to achieve a leading position in the progress of the Information Society, but also to fulfil these objectives within the framework of maintaining and improving the levels of social cohesion of the Member States. The impact of the development of electronic communications on the European political communities and the economic and social fabric is enormous and complex. In the move towards an economy based on knowledge, access to new information technologies is crucial for improving a country's competitive position and the welfare of its citizens. Therefore, it is crucial to design policies that ensure that implementation of the Information Society will be harmoniously integrated into the territory and the social fabric, eliminating the possibility of what is known as a "digital divide" emerging. It is essential that criteria be established at the EU level so that this problem can be tackled at the Community level, and so that the policies adopted are comparable and do not unbalance the Single Market. In general terms, the cohesion policy in electronic communications should be financed by the public budgets. That is, without burdening the industry whose development we wish to boost. Likewise, it is important that mechanisms aimed at preventing a digital divide are introduced in such a way as not to cause distortions in the functioning of the electronic communications market.

The social and political impact of new technologies goes beyond the differential access to them and covers matters of great importance to citizens' welfare, such as health and the environment. New local accesses and the deployment of 3G technology may generate reticent attitudes in society and its representative bodies (councils and other corporations), given that these are technologies which are sometimes perceived as being potentially harmful to territory, public health and the environment (controversial issues

include rights of way, the impact of antennas, location of base stations, etc.). It is therefore very important to devise a European policy aimed at providing information and raising awareness about these issues, so that society rightly understands and assimilates the introduction of broadband and that the whole process is carried out to the benefit both of the companies providing networks and services and of citizens and local communities. Although this matter could be dealt with at a Member State level, and even at lower government levels, Community action could prove to be highly beneficial for lending credibility to new technologies and guaranteeing comparable deployment conditions throughout the European Union.

6. Conclusions

In March 2000 in Lisbon, the European Union proposed ambitious objectives, aimed at converting the EU into a world leader in the implementation of the Information Society within a short period of time. In order to achieve this goal, it is necessary to make decisions now that will promote the deployment of new networks, the development of new applications and services and their use by individuals and companies. After the satisfactory approval of the new regulatory framework for electronic communications within the envisaged deadlines, it is essential for the Community policy, which supports the introduction of broadband and its availability throughout the European Union, to receive a continued boost. The huge technological dynamism of the sector and the uncertainties surrounding the companies' competitive position following the financial imbalances and the fall in demand in the last few months require the economic policy's response to be determined, firm and defined in a coordinated way for the EU as a whole.

These reflections have identified some courses of action that could help the European Union to achieve that objective of leadership in the development of the electronic communications sector as a crucial instrument for the implementation of the Information Society.

The first course of action consists in guaranteeing that the new regulatory environment for broadband is stable, predictable and, to the greatest possible extent, based on "ex post" public action, if possible based on general competition rules. It should be a legal environment promoting investment in new networks, while at the same time ensuring their future exploitation in competitive conditions.

Secondly, the European policy should decisively facilitate, as occurred with the second generation of mobiles, the adoption –within a framework of collaboration among the industry's agents– of the standardization measures necessary for developing a wide-ranging market for contents and applications. It is important, especially for the mobile segment, to find a balance between the development of networks and applications with proprietary technology and the necessary interoperability that will allow and stimulate market growth.

A third course of action involves deepening the harmonization of the Member States' regulations. The application of the new regulatory framework must not imply fragmentation of the European market, and with respect to certain regulations (spectrum, authorizations, universal service) it is essential to go beyond harmonization, with close coordination between the regulatory bodies and the Commission, and even with the adoption of Community legislation. This will facilitate the appearance of pan-European operators able to compete in the global market and it will guarantee similar competitive conditions in all the Member States.

A fourth course of action, which complements the previous one, requires working towards reaching a satisfactory level of independence for national regulatory authorities, with similar powers in all the countries and sufficient resources to be independent and technically solvent. In order to guarantee neutrality in the supervision of the industry, it is also important to eliminate the public sector's shareholdings in companies.

Finally, the Community policy should help to improve European society's current perception of the benefits that may be derived from the introduction of broadband technologies. The deployment of new infrastructures has a very direct impact on the territory and citizens' welfare (rights of way, installation of antennas and other equipment, etc.). From a Community point of view, it is very important to establish a communication policy and certain general rules regarding these matters, so that the adoption of new technologies benefits all social sectors and gains the support of the whole of society.