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### GREEN PAPER ON THE LIBERALISATION OF TELECOMMUNICATIONS INFRASTRUCTURE AND CABLE TELEVISION NETWORKS:

#### *PART ONE*

#### *PRINCIPLE AND TIMETABLE*

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## PREFACE

### **INFRASTRUCTURE: THE BACKBONE OF THE INFORMATION SOCIETY**

The information society is on its way. Digital technology is transforming the telecommunications, computer, information and audio-visual industries. In fact, it is converging them all into one. It is also beginning to have a profound effect on society and the economy, changing the way we work, live and play, the way we do business, the way we organise ourselves, the way we interact. These changes are happening all over the world, everyone is busy preparing for and adapting to the challenges of the new information age. That includes Europe. It also includes the USA, Canada, and Japan - Europe's principal economic competitors. The nature of that economic competition itself is also changing. To compete effectively today, one must have the means to access, to process, manipulate, stock and produce information quickly and effectively. One must also have good access to markets and to customers all around the globe. It is therefore vital that Europe places itself at the forefront of this inevitable drive towards a global information society.

Telecommunications infrastructures will form the fundamental platform upon which Europe's society and economy will depend in the decades to come. These infrastructures, which will enable vast quantities of information to flow freely and rapidly around Europe, when combined with the new services and applications which can be tailor-made to users' needs, will be the backbone to Europe's information society.

### **NO STRENGTH IN WEAKNESS: KEEPING EUROPE COMPETITIVE**

In a world economy that is increasingly globalised, European firms must be able to compete effectively with their counterparts in other regional economic groupings. By reinforcing their competitiveness European companies will not only be able to retain their position in existing markets, but help ensure that they are well-placed to take advantage of new opportunities and win new markets.

To remain competitive, European industry must benefit from the widespread diffusion and integration into production processes of new technology. Information and communication technologies can make a significant contribution to helping improve productivity, which is essential to the creation of wealth and to competitiveness. By stimulating economic growth, competitiveness contributes to job creation.

Information and communication technologies can help enterprises adapt to change by introducing new methods of organisation. As we move towards an economy

based on immaterial production driven by information, it is necessary that Europe is in a strong position to implement the essential technological, economic and social transformations that will ensure its smooth passage to the information age.

Providing open access to the network is absolutely fundamental to the successful development of the information society. All users, whether they be small or medium enterprises, entire industries, governments, public administrations, citizens or consumers, must have easy access to network-based services. It is essential that this basic principle is upheld, for Europe's continued competitiveness will depend on it.

Just as the provision of infrastructure for service providers should be open, unrestricted and at cost-related prices, all users, irrespective of their location, should have equal access to the network at affordable prices. Within the new environment of the information society therefore, the principle of a universal service must be reinforced and adapted if necessary to incorporate the new range of basic services now becoming available.

#### **INDUSTRIAL AND ECONOMIC EFFECTS OF INFRASTRUCTURE LIBERALISATION**

Three positive economic effects can generally be noted in countries which have proceeded with liberalisation of telecoms infrastructure (UK, Sweden, USA, Japan, Australia and New Zealand): a pressure to lower tariffs, greater choice of services and improved quality of offerings.

Information technology and communications products and services have penetrated all major sectors and industries in the member states. Given that the cost of handling a unit of information has divided by ten in the last 10-15 years, the price of transmitting a unit of information can also, if the incentive provided by competition is introduced, be reduced in such proportions.

Technological progress and innovation brings with it the opportunity to offer users an increasing choice of services and applications, of superior performance and better suited to their particular demands. For business the realisation of such an opportunity translates into substantial competitive advantage. For domestic users it means the possibility of direct access on demand of new services and entertainment.

For providers of services and applications, the consolidation of their competitive position depends largely upon the improvement of the quality of their offerings.

Other positive effects of infrastructure liberalisation are also recognised: the growth of the telecoms market, of new opportunities for job creation in new services and support for innovation in telecoms equipment industries.

One of the major preoccupations for public authorities concerning a liberalisation policy of this type, concerns the need to avoid a deterioration of the financial viability of their operators and to guarantee sufficient funding of universal service. The countries which have liberalised telecoms infrastructure are generally known to have higher rates of growth in their telecoms services markets.

Free access to infrastructure has many effects on employment: apart from the direct effects of potential jobs concerned with establishing and running new networks, indirect employment effects are generally observed in the growth of jobs in the service industries which depend upon economic access to and use of infrastructure, in order to improve their competitiveness.

The pressure of competition between network operators forces them to be more receptive to the increasing demands of users and results in faster progress in IT in the manufacture of equipment and software.

#### **THE WHITE PAPER ON GROWTH, COMPETITIVENESS, EMPLOYMENT**

These are some of the key arguments elaborated in the European Commission's White Paper on Growth, Competitiveness, Employment (COM (93) 700 final), presented by President Delors to the European Council in Brussels in December 1993. The White Paper highlights the importance of moving forward towards the information society as one of the essential elements to help Europe reach those three goals. It also points out that the majority of funds to finance the development of trans-European information networks should come from the private sector.

#### **THE BANGEMANN REPORT**

A High Level Group, under the chairmanship of Commissioner Bangemann, was instructed by the Member States to present a report to the European Council in Corfu in June 1994, which recommends a certain number of specific measures to be taken into consideration by the Community and the Member States in the sphere of information infrastructures.

The underlying message behind the Bangemann Report is that the best environment for the development of new markets is an open and competitive one. Public administrations can no longer afford to maintain the high levels of investment necessary to ensure that their national telecommunications industry remains competitive on the world stage, unless it is at the expense of social measures. A liberalised market for services and infrastructures will help unlock revenues vital to support the huge private investments necessary for the development of the

information society. It can thus free governments of enormous political and economic constraints, generating new revenues, which can be used to invest in health, education and culture.

#### TOWARDS A COMPETITIVE ENVIRONMENT

An open market environment for the development of services - a principle already adopted by Member States - cannot be properly implemented without parallel action at the level of infrastructures. New actors would find it difficult to offer their own new services if their access to the network continues to be restricted and with dominant players able to price them out of the market. Service providers must be able to benefit from open access to other services and to other networks at cost-related prices, as well as being able to build and operate their own networks.

A liberalised market is also a flexible one. Telecommunications is a domain that is characterised by constant change and rapid technological progress. It is only in a free and open environment, driven by market forces, that enterprises can achieve the degree of flexibility necessary if they are to react quickly to new developments and adapt to them. This requires them to maintain high levels of investment in research and development and to be able to integrate new technologies into their organisational and production processes as rapidly as possible.

At this stage, it is difficult to discern which technologies and which markets will ultimately prove to be the successful ones. The flexibility achieved in an open market environment is therefore all the more essential in the context of the information society because companies must be allowed the freedom to try out alternative routes towards new applications and markets, and test out a variety of different technologies.

#### A CLEAR AND STABLE REGULATORY FRAMEWORK

It has been made clear that the private sector is expected to make by far the greatest investment contributions for the implementation of the information society. However, this investment will not be forthcoming unless a clear and stable regulatory framework is promptly established, identifying the general principles and giving a clear timetable. This point was recently emphasised by the "Jumbo" Council on 28 September 1994:

"The Council (...) stresses the importance and urgency with respect to rapidly evolving market conditions of setting up a clear and stable regulatory and legal framework allowing market operators to engage in business activities, to invest and to take initiatives to bring about the information society."<sup>1</sup>

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<sup>1</sup> Conclusions of the 1787th Council meeting 9561/94 (Press 197), 28.IX.94

Otherwise, investment will be slow and badly directed, whilst in other regions of the world, industry takes off. It is essential that Europe learns from its mistakes made back in the early days of the computer industry.

Therefore, the Commission's Action Plan (COM (94) 347 final, 19.07.94) stressed the need for a clear and stable regulatory environment. It also set out a policy framework for the development of the information society covering various other areas: networks, basic services, applications, and content; and social, societal and cultural aspects.

## **THE SOCIAL CHALLENGES**

### **The impact on employment**

The information society is rapidly developing; new investment opportunities are being created everywhere and the application of information and communication technologies are affecting all industries and services in our society. These technologies will have a strong impact on the whole economic system, growth, competitiveness and employment.

The application of these technologies can help to strengthen cohesion in the society, to develop a more efficient organisation in a number of fields and also to contribute to the development of Europe's regions. A number of aspects of the society are changing because of these technologies. Work is changing. The education and training systems are changing to provide in particular young people with the necessary qualifications to become citizens in the information society and we are only beginning to exploit the potential these technologies offer for Europe's citizens to benefit from their cultural and linguistic richness.

However, people are concerned about the effects these technologies can have on employment. The concern arises from the belief that a rapid application of these technologies could lead to only few new jobs and to even higher levels of structural unemployment (now more than half of the unemployed in the Union are long-term, structurally unemployed and they account for about 6 % of the active population).

Although there are a number of risks associated with the advantages of the information society, its creation is crucial to ensure sustainable growth and employment and to further develop the European model. Consequently, as set out below, it is imperative to evaluate the effects of applying the new technologies and define the accompanying measures to maximise the economic, social and cultural advantages and at the same time minimise the risks.

## Reaching Societal Goals

Moreover, new distance monitoring services linked to a global network will help Europe, as well as the rest of the world, to meet global challenges such as the protection of our environment (for instance a sound management of natural resources, the reduction of pollution, the prevention of industrial disasters, etc.), and enable better quality healthcare provision for all (efficiency of information handling will reduce the cost of healthcare systems), and help reduce pollution and the social cost of traffic congestion through improved transport management systems.

## Avoiding a Two-Tier Information Society

The information society also presents the Union with the major social challenge of preventing the creation of a two-tier society of haves and have-nots, in which only part of the population has access to the new technology, is comfortable using it and can fully enjoy its benefits. In the chapter on social, societal and cultural aspects, the above-mentioned Action Plan explores these issues as well as the information society's contribution to the promotion of Europe's cultural and linguistic diversity.

Provided policies are appropriately directed and applied the information society can make a significant contribution to the attainment of a certain number of fundamental social goals: improving the quality of life of Europe's citizens, raising the efficiency of our social and economic organisation, and reinforcing cohesion. Europe's economic prowess not only depends on the success of its industry in the global arena, but also on the effectiveness and quality of its social organisation.

## INFRASTRUCTURE LIBERALISATION

Opening up telecommunications infrastructure to competition is the key issue which now requires a political decision. The High Level Group acknowledged this in its first recommendation requesting the Member States to

*"accelerate the on-going process of liberalisation of the telecoms sector by: opening up to competition infrastructures and services still in the monopoly area; removing non-commercial political burdens and budgetary constraints on telecommunications operators; and setting clear timetables and deadlines for the implementation of practical measures to achieve these goals"* (emphasis added).

In line with these conclusions, the Commission's Action Plan identifies infrastructure liberalisation as one of the main initiatives to be taken in order to open the way for the development of the network and applications on which the information society relies.

The joint industry/telecom Council of 28 September 1994 welcomed the submission of the Commission's Action Plan and agreed on the urgent need to stabilise the basis

for market operators' decisions as soon as possible by providing a clear and stable framework, and to provide a more secure basis for planning for all parties involved. The Council confirmed its readiness to examine and, if possible, to decide on the principles of liberalisation of infrastructure and to set a clear timetable.

#### THE APPROACH CHOSEN

In conclusion, in line with the Council discussions of 28 September 1994, the Commission therefore considers that the debate on the future approach to infrastructure can and should be structured in two parts :

the basic **Principle and Timetable**. Developing the basis for agreement on the basic principle and on a timetable is the purpose of **Part I** of the Green Paper.

Agreeing a basic principle and timetable now will enable the sector to plan investments and will provide investors with the necessary investment certainty in order to open the way for private funds to be forthcoming. That will also put the Union in a position to fully participate in the international debate which is opening in the context of the World Trade Organisation and the G7 Ministerial Meeting.

The Union would also be able to undertake the measures required to lift the most immediate obstacles to the full use of existing network resources and of cable TV networks and provide a boost for the take-off of mobile and multimedia services, as well as the development of corporate communications.

- **Part II** of the Green Paper should prepare an **in-depth discussion of the major issues** involved in future network regulation once the full liberalisation of public voice telephony service allows provision of such services.

The Commission recognises that, in order to address these issues, a wide debate on future regulation of network infrastructure is needed, and that a global, balanced and integrated approach must be developed. This should include the issue of the future financing of universal service and other public service tasks, as well as taking full account of the industrial, economic and social dimension and the international context.

The broad public consultation will involve the Council of the European Union and the European Parliament; the Economic and Social Committee and the Committee of Regions; consumers and business users; present and potential network operators and service providers; equipment manufacturers and technology providers; together with the trade unions and other organisations representing the social interests in the sector.

## SUMMARY

A clear timetable was set at a Community level by Council Resolution 93/C213/01 of 22 July 1993 for the development of telecommunications in the European Union. This timetable confirmed the date of 1 January 1998 for the liberalisation of voice telephony services for the general public, subject to transitional arrangements for certain Member States.

With a clear timetable set for services liberalisation, the primary regulatory task must now be to provide the sector with a clear picture of how and when liberalisation of infrastructure will proceed. The Green Paper proposes that a coherent approach, integrated into the framework provided by Council Resolution 93/C213/01, is now required: infrastructure liberalisation should be linked to the timetable for the full liberalisation of telecommunications services, including both services which are currently open to competition and those to be opened to competition by 1 January 1998, i.e. voice telephony services for the general public.

In order to define such a coherent approach, the Green paper would propose a general principle: provided that the necessary safeguards are in place, the providers of telecommunications services which are open to competition should have a free choice of the underlying infrastructure for the delivery of such services.

This Paper therefore puts forward the position that, on the basis of this principle, action is necessary and desirable to remove immediately restrictions on the use of own or third party infrastructure in the following areas :

1. for the delivery of satellite communications services,
2. for the provision of all terrestrial telecommunications services already liberalised (including the use of cable television infrastructure for this purpose),

This concerns voice and data services for corporate networks and closed user groups, as well as all other telecommunications services, other than the provision of voice telephony services to the general public,

3. to provide links, including microwave links, within the mobile network for the provision of mobile communications services, and
4. within the timetable for the full liberalisation of voice telephony and subject to the necessary safeguards, for the provision of voice telephony services for the general public.

Immediate action in the first three areas could remove substantial barriers which currently exist to the provision of services already open to competition, thereby making the liberalisation measures undertaken by the Union fully effective. At the same time the studies carried out suggest that action in these areas will not undermine the provision of universal service in the Member States.

This approach ties in with earlier calls by European Parliament to take full advantage, as soon as possible, of the existing infrastructure of cable networks and to obtain optimum utilisation of cross-border utilities networks.

As regards point 4, the full liberalisation of infrastructure for voice telephony services for the general public after they are opened to competition on 1 January 1998 (subject to additional transitional periods for a number of Member States), additional safeguards will be required. These can only be defined on the basis of broad public consultation initiated by the second part of this Green Paper on infrastructure which is to be published in accordance with Council Resolution 93/C213/01.

The continuation of current constraints would fail to meet the requirements in the Report on *Europe and the global information society* for the creation of conditions in which public and private capital can be mobilised to invest in the new technologies, which are vital for growth, competitiveness and employment.

With these considerations in mind, the Commission submits the first part of this Green Paper to the Council and European Parliament and the European public.

## I INTRODUCTION

On 22 July 1993 the Council adopted Resolution 93/C213/01<sup>2</sup> which endorsed the general conclusions of the Commission's Communication on the consultation on the review of the situation in the telecommunications services sector<sup>3</sup> (the so-called "1992 Review"). Council Resolution 93/C213/01 set out a timetable for the development of telecommunications and confirmed the date of 1 January 1998 for the liberalisation of voice telephony services<sup>4</sup> for the general public. It also called for the development of future Community policy in the field of mobile and personal communications and in the field of telecommunications infrastructure and cable TV networks.

Whilst, in accordance with Directive 90/388, the focus of the 1992 Review was whether exclusive or special rights over the provision of basic voice telephony services for the general public<sup>5</sup> should continue, the effectiveness of the measures liberalising the telecommunications sector (in particular, the liberalisation of data communications, valued added services and the provision of data and voice services to corporate users and closed user groups), was questioned by many service providers and users of such services.

In particular, high tariffs for and lack of availability of the basic infrastructure over which such liberalised services are operated or provided to third parties have delayed the widespread development of high speed corporate networks in Europe, remote accessing of databases by both business and residential users and the deployment of innovative services (such as telebanking, distance learning, etc.). Additionally, the regulatory restrictions in many Member States prevent the use of alternative infrastructure operated by third parties (such as the cable TV networks and networks owned by energy companies, railways, or motorways to meet their internal communications needs). Many large companies, employers groups and user associations stressed that European business is less competitive, that innovative services are more slowly deployed and that the creation and development of pan-European networks and services is being delayed as a result.

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<sup>2</sup> Council Resolution 93/C213/01 of 22 July on the Review of the situation in the telecommunications sector and the need for further development in that market, OJ C213/1, 06.08.93

<sup>3</sup> Communication to the Council and the European Parliament on the consultation on the review of the situation in the telecommunications sector, COM(93)159, 28 April 1993.

<sup>4</sup> Possible derogations of up to 5 years were provided for Greece, Ireland, Portugal and Spain. Spain has announced in the meantime that it also plans to move to full liberalisation by 1 January 1998. Furthermore the very small Luxembourg network can, where justified, be granted a transition period of up to two years.

<sup>5</sup> Commission Directive 90/388/EEC of 28th June 1990 on competition in the markets for telecommunications services defines voice telephony as 'the commercial provision for the public of the direct transport and switching of speech in real-time between public switched network termination points'.

In this context, the importance of effective and affordable infrastructure is increasingly recognised in political debate within the Member States themselves<sup>6</sup>. Parliament also called on the Commission to adopt as soon as possible the necessary measures to take full advantage of the potential of existing infrastructure of cable networks for telecommunications services and to abolish without delay the existing restrictions in the Member States on the use of cable networks for non-reserved services, and to adopt measures to obtain optimum utilisation of the cross-border telecommunications networks of railway operators and electricity producers<sup>7</sup>.

The continued bottleneck situation in the provision of infrastructure was also identified as a key obstacle to the development of the European Information Infrastructure in the Report on *Europe and the global information society* prepared by the group of prominent persons, under the chairmanship of Commissioner Bangemann. The report calls for urgent action to adjust tariffs, recognising that "*a reduction in international, long distance and leased line tariffs will trigger expansion in the usage of infrastructures, generating additional revenues, and simultaneously giving a major boost to generic services and innovative applications*".

The report sets an agenda, using the Council Resolution 93/C213/01 as a reference point, for moving towards a multi-media communications environment. In its cover statement, the report urges the European Union to put its faith in market mechanisms as the motive power to carry the Union into the Information Age.

In consequence, the report's first recommendation is to request the Member States to "*accelerate the on-going process of liberalisation of the telecoms sector by opening up to competition infrastructures and services still in the monopoly area; removing non-commercial political burdens and budgetary constraints on telecommunications operators; and setting clear timetables and deadlines for the implementation of practical measures to achieve these goals*". (Emphasis added)

In their conclusions on the report, the Heads of State and Government at the European Council in Corfu considered "*that the current unprecedented*

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<sup>6</sup> See in particular :

- *Consultation Publique organisée par Bruno Lasserre à la demande de Gérard Longuet : Quelle réglementation pour les télécommunication françaises?*, Direction Générale des Postes et Télécommunications, April 1994,

- *Study of the International Competitiveness of the UK Telecommunications Infrastructure*, DTI, February 1994

- Report by McKinsey for the Ministerie van Verkeer en Waterstaat, *Telecommunicatie in Nederland : op weg naar wereldklasse*, June 1993

<sup>7</sup> Resolution of European Parliament of 20 April 1993 (A3-0113/93)

*technological revolution in the area of information opens up vast possibilities for economic progress, employment and the quality of life, whilst simultaneously representing a major challenge". It further called for the necessary regulatory framework to be established at a Community level as soon as possible<sup>8</sup>.*

Taking up the conclusions of the Corfu summit, the Commission in its Action Plan on Europe's Way to the Information Society<sup>9</sup> seeks to obtain agreement on the principle of infrastructure liberalisation in the telecommunications sector, together with clear dates for its implementation. The Commission also considers that some immediate steps must be taken to improve the supply of infrastructure in order to facilitate the introduction of advanced applications, which can be taken without jeopardising the operation of or financial position of current public network providers. This will be of particular importance in the context of the evolving information society.

The political agreement in Council Resolution 93/C213/01 on the date of 1 January 1998 for the full liberalisation of telecommunications services allows the completion of the liberalising measures already introduced at a Union level, in line with the obligations in the EC treaty, to establish an internal market for telecommunications. In particular, these measures have concerned the removal of regulatory barriers or restrictions to the free movement of telecommunications equipment and services, and the creation of a fair competitive environment, as well as the development of a common regulatory framework based on the principle of open access.

With a clear timetable set for services liberalisation, the primary regulatory task must now be to provide the sector with a clear picture of how the Treaty rules apply to the provision of infrastructure, and, in particular, how and when liberalisation of infrastructure will proceed.

At the request of a number of Member States, the Commission has completed studies<sup>10</sup> concerning the use of cable TV networks and alternative infrastructures<sup>11</sup>

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<sup>8</sup> Conclusions of the European Council, Corfu, 24-25 June 1994

<sup>9</sup> Europe's Way to the Information Society: an Action Plan, Communication of the Commission of 19 July 1994, COM(94) 347 final.

<sup>10</sup> The studies carried out were the following:

- *"The Impact of Liberalisation of Alternative Terrestrial Infrastructure for Non-Reserved Services"* by Coopers and Lybrand, 1994;

- *"The Effects of Liberalisation of Satellite Infrastructure on the Corporate and Closed User Group Market"* by Analysys, 1993; and

- *"L'impact de l'autorisation de la fourniture de services de télécommunications libéralisés par les câblo-opérateurs"* by IDATE, 1994.

for the delivery of those telecommunications services which have already been opened to competition under Community law. This concerns both voice and data services for private corporate networks and for closed user groups, as well as the provision of all non-voice services to the general public.

The basic findings of the studies undertaken emphasise the potential role for cable TV networks and alternative infrastructure networks in meeting the concerns raised about the slower pace of innovation and delayed roll-out of liberalised services in the European Union. Opening such networks would help to overcome the problems of high pricing levels and lack of suitable capacity, which result at least in part from current exclusive provision of infrastructure in most Member States.

The studies confirm that prices for 2 Mbit lines in the European Union are on average ten times more expensive than in North America. Such high tariff levels in Europe are a barrier to the take off of innovative advanced services, such as the range of building block applications identified in the Report on *Europe and the global information society*. They also limit the ability of small and medium-sized enterprises to benefit from such services as they emerge.

The studies indicate that the growth of liberalised services would be promoted by widening the supply of infrastructure. Furthermore, it would be possible to allow the use of both alternative infrastructure and cable TV networks for the delivery of liberalised services, without having a major impact on the TO's finances and the provision of universal service.<sup>12</sup>

As regards mobile communications, in the Green Paper on Mobile and Personal Communications<sup>13</sup> issued in response to Council Resolution 93/C213/01, the Commission has set out its conviction that restrictions on mobile network operators using their own or third party infrastructure for the provision of mobile communications services should be lifted, in order to allow such networks to operate efficiently and to ensure the sound development of the sector.

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<sup>11</sup> Alternative infrastructure is network infrastructure owned by entities other than the telecommunications organisations, and includes cable TV networks. Often such infrastructure concerns networks constructed originally to meet the internal communication needs of national or regional utilities (for example, gas, electricity and water companies, the railways and the motorway concessionaires).

<sup>12</sup> The studies indicate that opening up alternative infrastructure for the provision of liberalised telecommunications services would only have a very limited and gradual effect on telecoms markets.

<sup>13</sup> Green Paper on a common approach to mobile and personal communications in the European Union, COM(94) 145 final, 27 April 1994. The Commission will shortly submit its report on the outcome of the consultations.

As regards satellite communications networks, Council Resolution 92/C 8/01<sup>14</sup> called for the application of the principles of telecommunications policy, in particular liberalisation and harmonisation, to the satellite sector.

The Commission considers that the time has now come to establish a general and coherent approach to infrastructure. This is the objective of this Green Paper. In parallel, the Commission will continue its work in this area.

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<sup>14</sup> Council Resolution of 19 December 1991 on the development of the common market for satellite communications services and equipment (92/C 8/01; OJ C81, 14.01.92)

## II THE CURRENT REGULATORY SITUATION CONCERNING THE PROVISION AND OPERATION OF INFRASTRUCTURE

According to the studies carried out, all Member States currently allow to varying degrees the alternative provision of infrastructure capable of carrying telecommunications services, alongside the national networks operated by the Telecommunications Organisations (TO's). However, the use of this alternative infrastructure is usually limited to specific purposes. Four general categories of authorisations can be identified: alternative network licenses for specific telecommunications services; networks licensed for cable TV distribution; networks licensed for the provision of mobile communication services; and satellite communications networks.

### (I) ALTERNATIVE NETWORK INFRASTRUCTURES

An overview with regard to current alternative network infrastructure licensed in the Member States for defined telecommunications purposes is given in **Table I**.

In six Member States (Belgium, Germany, Greece, Spain, Italy and Portugal) the possibility exists for the self-provision of infrastructure by utilities for their own internal communication needs, such as the railways, motorways, energy and water companies.

In four Member States (Belgium, Spain, Ireland and the Netherlands) wider rights exist for licensing, on a discretionary basis, the self-provision of infrastructure by non-utility corporate or closed user groups. However, the use of that infrastructure is limited to the internal communications needs of the organisations concerned. In two Member States (Germany and France) in addition to the discretionary licensing of corporate/closed user group networks for internal communications<sup>15</sup>, such alternative infrastructure can be used by third parties, subject to specified conditions<sup>16</sup>.

Finally, in Denmark there is a general possibility to self-provide infrastructure; in the United Kingdom full infrastructure competition is permitted, either on the basis of

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<sup>15</sup> This includes those networks belonging to the utilities in the case of France. France has established a system for authorising independent networks ("réseaux indépendants") for such purposes.

<sup>16</sup> For example, in *Germany*, certain entities, (primarily public utilities) can set up their own infrastructure for internal communications, whilst private networks can be set up only within a 25 km area, or beyond that only if conforming with certain technical configurations. For further detail see Coopers & Lybrand, 1994.

specific individual licences, or through the grant of class licences for certain types of infrastructure provision.

*Table 1: Current regulation of alternative telecommunications transmission infrastructure*

	<b>General Alternative Provision</b>	<b>Class<sup>17</sup> Exemption For Utilities</b>	<b>Discretionary Licensing for Self-Provision</b>	<b>Discretionary Licensing for CUGs<sup>18</sup></b>	<b>Commercial Third Party Provision</b>
Belgium	No	Yes	No <sup>19</sup>	No	No
Denmark	No	Yes	Yes	Yes	No <sup>20</sup>
Germany	No	Yes	Yes	Yes	Yes <sup>21</sup>
Greece	No	Yes	No	No	No
Spain	No	Yes	No	No	No
France	No	No <sup>22</sup>	Yes	Yes	Yes
Ireland	No	No	Yes	No	No
Italy	No	Yes	No <sup>23</sup>	No	No
Luxembourg	No	No	Yes	No	No
Netherlands	No	No	Yes	No	No <sup>24</sup>
Portugal	No	Yes	No	No	No
UK	Yes	No	Yes	Yes	Yes

Source : "The Impact of Liberalisation of Alternative Terrestrial Infrastructure for Non-reserved Services", Coopers & Lybrand, 1994

<sup>17</sup> The exact categories of exempt organisations and nature of exemptions from the general obligation to use TO infrastructure vary according to the Member State concerned.

<sup>18</sup> Corporate networks / Closed User Groups

<sup>19</sup> Belgian regulation provides in principle for licensing of private transmission links, but only where Belgacom is not prepared to provide a technically equivalent link at a normal tariff and within a reasonable period.

<sup>20</sup> Shared use of internal networks is possible under certain circumstances.

<sup>21</sup> However limited to particular configurations and maximum distances.

<sup>22</sup> No specific exemption for utility companies - application must be made by them for an authorisation to operate an independent network ("réseau indépendant")

<sup>23</sup> The Italian Postal Code provides for the possible discretionary licensing of private telecommunications systems, but only if there is no or an inadequate public service between the points to be linked.

<sup>24</sup> Proposals are currently before the Dutch Parliament to introduce competitive infrastructure provision by the creation of a second national infrastructure provider.

## (2) CABLE TV INFRASTRUCTURES

Cable television networks currently exist in all Member States, except Greece and Italy, with very limited development of cable in Spain and Portugal. In the Member States, penetration rates for cable vary considerably from more than 90% in Belgium, The Netherlands and Luxembourg to around 5% in France and the United Kingdom. In terms of subscribers Germany represents the biggest national market with nearly 15 million subscribers and a penetration rate of around 45%<sup>25</sup>.

Current provisions concerning use of cable TV networks for the provision of telecommunications services are summarised in Table II. In many cases, the current legal situation is unclear (due to absence of express provisions in the national regulatory framework), resulting in uncertainty for potential service providers and a lack of commercial initiatives / investments in developing the use of cable TV networks for telecommunications purposes, (with the notable exception of the United Kingdom and a number of pilot experiments in The Netherlands)

This situation threatens to impede the development and distribution of multi-media products and services in Europe, particularly when compared to the buoyant development in this area in the United States.

Table 2. Use of CATV networks for the delivery of liberalised telecommunications services

Use of cable TV networks for liberalised services	
Belgium	No
Denmark	No
France	Non-voice services only
Germany	No
Greece	----- <sup>26</sup>
Ireland	No legal provision
Italy	----- <sup>27</sup>
Luxembourg	No legal provision
Netherlands	Limited use
Portugal	No
Spain	No
UK	Yes

Source: "L'impact de l'autorisation de la fourniture de services de télécommunications libéralisés par les câblo-opérateurs", IDATE, 1994, and additional analysis

<sup>25</sup> For further details, see IDATE, 1994.

<sup>26</sup> No cable TV networks available

<sup>27</sup> No cable TV networks available

### (3) MOBILE AND PERSONAL COMMUNICATIONS NETWORK INFRASTRUCTURES

In contrast to the position for fixed network telecommunications services, the use of own and, in some case, third party infrastructure for the internal links within digital mobile cellular telephony networks have been permitted in a number of Member States<sup>28</sup>, as well as in Finland and Sweden.

The Green Paper on Mobile and Personal Communications<sup>29</sup> published in accordance with Council Resolution 93/213/01 calls for full freedom for mobile network operators to use own or third party infrastructure for internal links within their networks.

### (4) SATELLITE COMMUNICATIONS NETWORKS

Liberalisation of the satellite sector has been called for by Council Resolution 92/C8/01<sup>30</sup>.

Studies carried out for the Commission<sup>31</sup> indicate that the removal of current restrictions on infrastructure within satellite networks could stimulate use of satellite communications in the EU within corporate networks and closed user groups, without having a serious impact on the financial position of the TOs.

The amendment of Directive 90/388/EEC<sup>32</sup>, in accordance with Council Resolution 92/C8/01, requires the lifting of current barriers to the delivery of liberalised services via satellite communications networks. In the meantime, four Member States (France, Germany, The Netherlands and United Kingdom) have opened up access for users and service providers to satellite communication networks in advance of Community legislation.

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<sup>28</sup> See Mobile Green Paper for details. Limited self-provision and, in some cases, third party provision of either fixed or microwave links within mobile networks is permitted in Germany, France and the United Kingdom and is envisaged within the second GSM licence in The Netherlands and Spain.

<sup>29</sup> Green Paper on a common approach in the field of mobile and personal communications in the European Union, COM(94)145, 27.04.1994. The Commission will shortly submit its report on the outcome of the consultations.

<sup>30</sup> Council Resolution of 19 December 1991 on the development of the common market for satellite communications services and equipment (92/C 8/01; OJ C8/1, 14.01.1994).

<sup>31</sup> "The effects of Liberalisation of Satellite Infrastructure on the Corporate and Closed User Group Market", Analysys, 1994.

<sup>32</sup> Commission Directive amending Directives 88/301/EEC (telecommunications terminal equipment) and 90/388/EEC (telecommunications services) in particular with regard to satellite communications - not yet published.

### III THE SPECIFIC CASE OF LEASED LINES IN EUROPE

The availability and pricing of leased line capacity within Europe has been identified by the *Report on Europe and the global information society* as a major stumbling block to the establishment of a European Information Infrastructure.

Current regulatory restrictions mean that in most cases liberalised telecommunications services can only be provided or operated over TO leased lines. These circuits typically form the backbone of networks used for a number of purposes: rapid transfer information within companies between Local Area Networks; for advanced production processes, notably computer aided marketing and computer aided design; high quality video conferencing; distance learning; medical imaging, "lean production" techniques and video entertainment services.

The studies carried out confirm that, even after the entry into force of the ONP Leased Lines Directive,<sup>33</sup> tariffs for high capacity infrastructure (2Mbit connections) in the Union are on average 10 times higher than equivalent capacity over equivalent distances in North America. (See Table 3).

At the same time innovation in European corporate networking and competitive service provision, as well as the implementation of applications proposed in the *Report on Europe and the global information society* to launch the information society, now depend critically on the availability of high-capacity digital leased circuits operating at 2 Mbit/s and above.

Leased line capacity is the main building block for supplying liberalised services. Currently, Directive 90/388 on competition in the markets for telecommunications services only addresses the lifting of constraints concerning access to and the manner in which leased line capacity is provided from a single source of supply, namely, the TO's.

In order to overcome rapidly the current bottlenecks in the delivery and development of liberalised telecommunications services, access to capacity from third party infrastructure and the provision of own infrastructure is indispensable to the achievement of the benefits set out in section IV below, in particular, in order to increase the overall number of high capacity lines in the European Union and to lower the prices currently paid for such connections.

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<sup>33</sup> Council Directive 92/44/EEC of 5 June 1992 on the application of open network provision to leased lines (OJ L165/27, 19.6.92). The directive mandates Member States to ensure the provision of a minimum set of two voice quality leased lines, together with 64 kbit and structured and unstructured 2 Mbit capacity. It also requires tariffs for all leased lines to be cost-oriented.

Table 3 : High Capacity Leased Circuit Prices in ECU (at 1.1.94)<sup>34</sup>

EU half circuits	Rental to nearest EU	Rental to furthest EU
B	21,793	29,380
DK	17,658	19,865
D	27,889	33,422
GR	26,115	33,174
E	30,192	30,821
F	24,185	31,815
IRL	4,027 <sup>35</sup>	30,312
I	27,685	33,769
L	16,739	27,170
NL	18,700	24,933
P	21,117	31,777
UK (BT)	10,041 <sup>36</sup>	40,778
UK (MCL)	8,817	23,958
<b>EU</b>	<b>20,461</b>	<b>29,901</b>

<b>EU total circuit price<sup>37</sup></b>	<b>40,922</b>	<b>59,802</b>
<b>US</b>	<b>4,601<sup>38</sup></b>	<b>6,236</b>

Source: Coopers & Lybrand, 1994

#### IV THE EXPECTED BENEFITS OF LIBERALISATION

Major benefits are expected to flow from action to open up the supply of infrastructure in the European Union:

- *Overcoming existing bottlenecks in the availability of high-capacity infrastructure and stimulating public and private investment ;*

Infrastructure liberalisation will reduce the current bottlenecks which European business faces, as well as acting as a vital stimulus to applications proposed in the

<sup>34</sup> Rental charges are in ecu for monthly rental of a 2 Mbit/s line on 1 -year contracts. Some TOs offer discounts for longer term contracts. High volume discount schemes offered by some TOs have not been taken into consideration.

Note : These tariffs are subject to change and therefore for further details refer to national regulatory authorities.

<sup>35</sup> Irish circuits to the UK are distance-dependent. The charge is made up of a fixed cross channel charge and a mainlink which is distance-dependent. A link from Dublin has been taken in this instance.

<sup>36</sup> BT's charges to Ireland are distance-dependent and the cost is for a link from London to Nefyn, the UK charging point, with an approximate distance of 340 km.

<sup>37</sup> Sum of two EU average circuit halves.

<sup>38</sup> Figures represent AT&T's charges for a 1.5 Mbit/s circuit (T1) from New York to Washington (320 km) and from New York to Chicago (1,100 km).

Report on *Europe and the global information society*, in areas such as distance learning, teleworking, road traffic management and healthcare.

Opening the provision of infrastructure for services already liberalised would mobilise significant private sector funding, particularly in deploying fibre-optic transmission capacity<sup>39</sup>, and at the same time would lead to an acceleration of investment by the TOs in response to the new market expansion and the additional traffic likely to be generated for their networks<sup>40</sup>.

- *Faster adjustment of pricing structures to bring tariffs into line with costs and lower leased line prices;*

A pricing structure, which under the pressures of competition is increasingly cost-based will have a significant effect in speeding penetration of innovative service applications, both within terrestrial and satellite-based networks. For mobile communications, lower prices will be a central element in speeding the transition from today's premium-pricing of mobile services to mass market pricing required for full personal communications.

- *Innovative provision of liberalised services, as well as transmission capacity;*

Increased liberalisation will encourage greater innovation and experimentation. It will also stimulate the provision of more advanced forms of infrastructure, such as rapid deployment of optical fibre, allowing users maximum flexibility, together with introduction of advanced network technologies<sup>41</sup>.

- *Stimulating the immediate use of existing alternative telecommunications networks and cable distribution networks for the delivery of multi-media and inter-active services to both business and residential users, and the future deployment of radio-based technologies;*

The roll out of cable distribution networks is likely to be accelerated in those countries where penetration is low and restrictions on their use for the delivery of telecommunications services currently exist. Infrastructure liberalisation will also stimulate the deployment of radio-based technologies, where this is more cost effective. The expansion of distribution possibilities for new services will allow

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<sup>39</sup> In North America, there has been considerable investment by alternative access providers in fibre-ring metropolitan area networks, serving key business centres.

<sup>40</sup> According to estimates, projected short term investment figures for additional advanced infrastructure in the Union are anticipated at more than 3 billion ECU.

<sup>41</sup> One example is Energis in the UK which is constructing a network based on Synchronous Digital Hierarchy technology, providing maximum flexibility in the delivery of high bandwidth capacity.

their provision at lower cost and assist the overall goal of developing universal service within the Union.

- *Creating growth opportunities in the European telecommunications sector;*

The early liberalisation of infrastructure will accelerate the development of service providers and equipment manufacturers who may benefit from increased investment in infrastructure - thereby creating significant employment potential - and help European industry to position itself in time for opportunities in third country markets.

- *Creating an environment for global partnerships and strategic alliances*

Finally, the lifting of restrictions on the use of own or alternative infrastructure will facilitate the setting up of pan-European and global alliances whilst still maintaining competitive conditions in the respective home markets. It will also strengthen Europe's position in negotiating world-wide deregulation of telecommunications markets within current international trade negotiations.

## **V. THE FREE CHOICE OF INFRASTRUCTURE FOR THE PROVISION OF LIBERALISED SERVICES AS A GENERAL PRINCIPLE**

Despite the global trend amongst TO's to co-operate in providing better quality, end to end, high capacity services for business users<sup>42</sup>, the significant commercial and regulatory obstacles which remain are discouraging investment in trans-European infrastructure and services and are keeping price levels high.

As recognised in the White Paper on Growth, Competitiveness and Employment<sup>43</sup>, European telecommunications transmission infrastructure has evolved as a series of national, geographical monopolies. For customers with pan-European telecommunications requirements or for potential providers of pan-European services, this has led to a patchwork of interconnected, but not fully interoperable transmission networks.

The current regulatory framework is therefore impeding the emergence of trans-European networks and services, and is holding back the completion of the internal market for telecommunications. Additionally, the current situation fails to ensure

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<sup>42</sup> See for example, recent TO led projects such as GEN and METRAN, and the advanced joint European ATM trial, as well as global alliances by major European TOs under development or discussion.

<sup>43</sup> Commission White Paper on Growth, Competitiveness and Employment, COM(93) 700

the use of advanced applications and services resulting from the Community's on-going research activities.

Earlier regulatory distinctions drawn between services and the underlying infrastructure for their delivery are becoming increasingly artificial in the preparation for a diverse and liberalised telecommunications environment. This is particularly true as more and more intelligence is located directly in the network<sup>44</sup>.

Within the area of liberalised services, the obligations in the EC Treaty relating, in particular, to the free movement of services, and fair competition set limits on the extent to which the competitive provision of infrastructure can be restricted<sup>45</sup>.

The exception to this concerns situations where the restrictions on the competitive provision of infrastructure were justified under one of the derogations under the Treaty. Such restrictions may be maintained, for example, if their absence would undermine universal service or some other task of general economic interest in the Union and no other more proportionate means of securing that objective existed<sup>46</sup>.

In the absence of such justifications, restrictions on the free choice of the underlying infrastructure for the delivery of liberalised services should be lifted in parallel with the progressive lifting of current restrictions on the competitive provision of the services themselves. This process would clearly require immediate action for services which are already open to competition and would tie the lifting of restrictions on the use of own or third party infrastructure to the timetable for the full liberalisation of telecommunications services by 1 January 1998 (subject to

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<sup>44</sup> In the case of mobile communications, the Green Paper on mobile communications highlights the increasing role of intelligent network (IN) functionalities in, for example, the GSM network and presents a picture after 1998 of the full integration of network technologies (fixed and mobile) to offer end users the services they require, rather than discrete network elements.

<sup>45</sup> For example, the particular effects of such restrictions could raise concerns under the Treaty, e.g. where limitations imposed by Member States on the provision of infrastructure prevent or restrict, (for example by making certain applications uneconomic), the provision of liberalised telecommunications services on a cross-border basis, such as, the provision of voice and data services within a multi-national's corporate network. Equally, concerns would arise where the result of such restrictions is to limit production, markets or technical progress to the prejudice of service providers and users; where the restrictions have the effect of extending a dominant position in one market, in which an operator enjoys special or exclusive rights (in casu, voice telephony services for the general public), to a neighbouring but liberalised market (liberalised telecommunications services); or where it obliges a service provider or user without objective justification to use TO infrastructure for services which directly compete with the services of the monopoly holder and where therefore the TO is placed in a situation where it faces a conflict of interest between its role as network provider and as competitive service provider.

<sup>46</sup> In the light of the evolution of regulatory experience at both a national and Union level and, in particular, in the light of Council Resolution 94/C48/01 of 7 February 1994 on universal service principles in the telecommunications sector, the emphasis in Directive 90/388/EEC of the tasks of particular interest assigned to the TOs as "the provision of a universal network" has shifted. The concern today is with the provision of universal service, independent of its means of delivery. As the domain of universal services has been defined with increasingly clarity, a parallel narrowing of the area of reserved infrastructure monopoly can also take place.

transitional periods for some Member States with less developed networks as set out in Council Resolution 93/C213/01).

The basic position set forth is therefore that it is now appropriate and necessary to seek political support for the principle of the free choice of underlying infrastructure and the integration of that principle into the overall framework of the 1998 date.

This should therefore provide a firm schedule for action in two stages. In a first stage immediate action can be taken in relation to satellite communications services, liberalised terrestrial and mobile communications services.

There would be substantial opportunities for the telecommunications sector flowing from early action, in line with the request by Parliament, to remove restrictions on the use of own or third party infrastructure without having an effect on the revenue base of the telecommunications organisations such as might undermine the provision of universal service in Member States.

At the same time, a second stage involves the liberalisation of infrastructure for voice telephony services for the general public from 1998 onwards. This will require substantial additional safeguards to guarantee, in a competitive environment, the provision of universal service, and fulfilment of public service tasks, non-discriminatory and cost-oriented access, the fair interconnection of networks, interoperability of services, and the attainment of the other essential public goals for the sector. This is set out in further detail below.

## **VI ISSUES RAISED IN CONSIDERING A TWO STAGE PROCESS**

### **(1) FIRST STAGE**

The first stage would therefore involve the immediate lifting of remaining restrictions on the use of own and third party infrastructure already authorised in the Member States, albeit to varying degrees, as set out in Chapter II.

The first stage would address the use of such infrastructure for the delivery of satellite and mobile communications and terrestrial telecommunications services already liberalised, including, in particular, the use of cable TV infrastructure for these purposes. Terrestrial communications services already liberalised include

carriage of all non-voice and data services for the general public, as well as voice and data services for corporate networks and closed user groups<sup>47</sup>.

It should be understood that this process would be limited to opening access to own or third party infrastructure already authorised in Member States for particular purposes, such as own use of infrastructure - including micro-waves - and use of third party infrastructure such as cable TV networks and utility networks.

Subject to the global safeguard during this first stage of excluding provision of public voice telephony via these networks, studies carried out indicate that any impact on the revenues of Telecommunications Organisations would be gradual and limited. It should be noted in this context that Directives already in force require the Telecommunications Organisations to orient provision of their infrastructures (in particular leased lines) towards costs and therefore re-inforce their position with regard to any price competition by alternative providers<sup>48</sup>.

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<sup>47</sup> Corporate networks are generally networks established by a single organisation encompassing distinct legal entities, such as a company and its subsidiaries or its branches in other Member States incorporated under the relevant domestic company law.

Closed User Groups (CUGs) refer to entities not necessarily bound by economic links, but which can be identified as being part of a group on the basis of a lasting professional relationship among themselves, or with another entity of the group, and whose internal communications needs result from the common interest underlying this lasting relationship. In general, the link between the members of the group is a common business activity. Examples of activities likely to fall into this category are fund transfers for the banking industry, reservation systems for airlines, information transfers between universities involved in a common research project, re-insurance for the insurance industry, inter-library activities, common design projects, and different institutions or services of intergovernmental or international organisations.

In the context of the Commission Directive 90/388/EEC of 28 June 1990 on competition in the markets for telecommunications services, individual cases and definitions used in Member States are subject to screening by the Commission. The Directive indeed refers to the public and not to CUG's. The Commission must therefore ascertain that the definitions of CUG by Member States does not exclude voice telephony between users who have existing common links between themselves, such that they could not reasonably be regarded as being members of the public (i.e. any random person, without distinction of belonging or membership).

<sup>48</sup> As regards satellite communications, the studies find very minor potential impact on the revenues of the Telecommunications Organisations. As the satellite market constitutes less than 0.3% of the total expenditure on corporate communications, this would indicate the limit of potential losses to the incumbent TOs.

As regards the use of own or third party transmission infrastructure for mobile communications (e.g. linkage of radio-base stations and switching centers) the effect on incumbent TOs' revenues is expected to be very limited, once cost-oriented agreements on provision of leased lines and interconnection are put in place between mobile network operators and the incumbent TOs, as required by the Mobile Green Paper and strongly supported in the broad consultation now being concluded. This is confirmed by the experience in all those Member States where the provision of own infrastructure has been authorised to date.

As regards corporate and closed user group networks, Directive 90/388/EEC on competition in the telecommunications markets and Directive 90/387/EEC on open network provision, already require that access to TO infrastructure should be cost-oriented. Directive 92/44/EEC requires in particular that leased lines must be offered on a cost-oriented basis. Given this obligation, and, given that Member States must comply with it, the opening of alternative supply is not expected to alter the market position of TOs in this area substantially.

(2) SECOND STAGE

The second stage involves licensing providers of new infrastructure for liberalised services and the full use of such new, and existing, infrastructure for the provision of public voice telephony service, once liberalised. This requires an in-depth debate, taking full account of the global regulatory, political, financial and social implications.

This concerns in particular :

- The general future regulatory regime governing establishment and operation of network infrastructure.

While the Commission recognises the right of Member States to control and plan the development of network infrastructure, the positions set forth in the Mobile Green Paper for the special case of radio infrastructure have shown that this right can be made compatible with the Union's objectives and with competition law<sup>49</sup>.

- Universal service and other public service tasks in the sector must be upheld in this sector as a basic value of the Union. This not only involves maintenance of current levels of universal and public service, but also its further positive development.

The vital principles of public service in this area are universality, i.e. access for all, at an affordable price; equality, i.e. access independent of geographical location; and continuity, i.e. continuous provision, at a defined quality. The essence of the principle of a universal service obligation is to make available a

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The potential direct revenue effect (i.e. on the revenues derived currently by TOs from leased line revenue) can be expected to be very limited given that the total share of leased line revenues as a percentage of total TO revenues in the Union is less than 6.5%. As regards indirect revenue effects on the TOs in the corporate communications and closed user group markets, while those markets are substantial, it is expected that only a small part of these markets would be exposed to competition, and therefore indirect revenue effects would be very limited, given that the TOs will maintain a very strong market position, as they adjust prices in these areas towards costs, in line with their existing legal obligations.

The effect would therefore be limited and gradual, as also confirmed by experiences in those Member States where alternative infrastructure provision is already taking place, as well as experiences in other parts of the world, such as in the United States, Canada and Australia. In the London City area, where one would expect the effect of competitive entry in the corporate networks market to be at its highest, one of the major new infrastructure providers has managed to claim, up to now, only 1 % of the business services market.

<sup>49</sup> The Green Paper on Mobile and Personal Communications has set forth criteria for licensing and licensing procedures to substantial detail, based on essential requirements such as network security and integrity, and public service requirements such as permanence, availability and quality of service, as well as conditions for limiting the number of licences.

defined minimum service of specified quality to all users at an affordable price. This principle is embodied in the Council Resolution on universal service in the telecommunications field adopted on 7 February 1994 and the associated Commission Declaration.

The balance and equilibrium of the financial system to support network development and universal service must be reviewed and safeguarded. While this task must be addressed in the context of liberalisation of public voice telephony which is the major source for financing network development, the Commission considers that full scale network liberalisation can only proceed after a satisfactory solution to this problem has been agreed upon.

The consumer must be ensured the full benefits of enhanced network offerings. Interconnection and interoperability will be vital to avoid the consumer being faced with a maze of non-interoperable networks.

Introducing competition into the telecommunications core market requires substantially more attention to be paid to the social aspects of the information society, including the impact of liberalisation of the sector on employment and the working environment, and to its cultural and linguistic aspects.

An intensified dialogue with the social partners and an innovative approach to training in the general context of the Information Society will be key to further development.

- As restrictions on access to alternative networks are lifted, it will be vital that existing restrictions on incumbent operators are reviewed and the application of competition rules is clarified. This concerns, in particular, the application of competition rules to cooperative arrangements and joint ventures, as well as to issues of service provision, service distribution and interconnection.
- Opening the European Union's network market cannot proceed without paying full attention to the international context.

While a forward oriented position on future network regulation will substantially upgrade the Union's position in the future international discussions on global information highways, achieving equivalent market access in third country markets will have to become a primary focus of attention.

More particularly, this requires that the second part of the Green Paper should address, inter alia:

## Licensing

Licensing will play a crucial role in setting out the framework for the development of infrastructure competition and ensure appropriate regulatory control. A general discussion on the overall regulatory framework for infrastructure must take place, as well as on general criteria for the future licensing of infrastructure, including limitations linked to the public interest, such as future access to rights of way, the application of town and country planning rules, environmental protection, and access to radio frequencies, which must also be subject to competition rules.

## Universal service

Maintenance of universal service is an essential part of the infrastructure liberalisation. This should not be viewed as problematic. Experience of countries with a liberalised telecommunications infrastructure has shown that universal service objectives are actually better attained and further developed in a more competitive environment<sup>50</sup>.

A basic definition of the approach to universal service in telecommunications in the union has been given by the Council in its Resolution of 7 February 1994 and the associated Commission statement. This definition will have to be further developed in line with the mandate given by Council to the Commission<sup>51</sup>.

Appropriate safeguards will have to be considered to ensure the funding of universal service obligations and other public service tasks (such as ensuring a balanced

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<sup>50</sup> Recent OECD studies demonstrate that in those countries allowing competitive provision of infrastructure, universal service has generally improved.

<sup>51</sup> Council Resolution 94/C48/01 requests the Commission "to study and consult, in particular with national regulatory authorities, on the issues raised by the definition of universal service and its means of financing, taking specific account of the need for adjustment in peripheral regions with less-developed networks". See Council Resolution of 7 February 1994 on universal service principles in the telecommunications sector (94/C48/01 ; OJ C 48/1, 16.02.1994)

The Commission statement associated with the Council Resolution defines universal service, at this stage of analysis, to comprise a number of basic elements, additional elements (enhanced features), leased lines and recommended offerings. Basic elements concern in particular: provision of the basic public telecommunications network and voice telephony service; quality of service; pricing policy; publication of information about the service; dispute resolution procedures for users; subscriber directories; operator assistance and directory enquiry services; public pay-telephones; access to emergency services; and specific conditions for disabled users and people with special needs. Additional elements concern advanced features such as itemized billing and DTMF tone dialling ("touch tone"). Recommended offerings concerning provision of Integrated Services Digital Networks offerings and advanced data services.

The Council Resolution calls for special attention to be paid in pursuing the objective of maintaining and developing universal service, to the specific circumstances of the peripheral regions with less developed networks and of very small networks and to develop the concept of universal service in pace with advances in technology, market development and changes in user demand.

geographical development throughout Member State territories) while respecting competition rules: such safeguards may be introduced in the framework of interconnection principles, in particular regarding the charges to be levied for the access to and use of the local loop network. Special attention will have to be paid to the requirements of the peripheral regions with less developed networks.

### **Interconnection**

Work in this area should reflect the new interconnection framework as envisaged through the full application of competition rules and the reform of Open Network Provision. The new interconnection framework should ensure: interconnection of networks and interoperability of services on non-discriminatory terms, cost-orientation of tariffs and the attainment of essential requirements, including the security of network operations and the maintenance of network integrity.

As set forth in the Council Resolution of 22 July 1993 on the review of the situation in the telecommunications sector, the review of the interconnection framework should be part of the general proposals to be submitted by 1 January 1996 in preparation for full liberalisation of public voice telephony.

### **Competitive safeguards**

Care has to be taken to ensure the emergence of a fair competitive environment for new services and networks while at the same time lifting existing constraints. In that context, full application of the competition rules will provide instruments to prevent unfair practices and abuse of dominant positions while giving more certainty in the field of co-operative ventures and provision and distribution of services. Appropriate safeguards will have to be developed to ensure transparency.

### **International dimension**

The relationship between internal liberalisation and access, for Community operators, to third country markets must be taken into account, in line with the Community's overall commercial policy, in order to ensure effective and comparable market access. A major focus of the Community's efforts in this area will be the continuing negotiations on so-called basic telecommunications in the World Trade Organisation.

### **Social and employment dimension**

It is vital to ensure that the opportunities offered by information and communication technologies to improve the quality of life of Europe's citizens, to develop new and better jobs, are exploited to the full and that negative effects are efficiently

addressed. In the context of the follow-up to the White Paper on Growth, Competitiveness and Employment the Commission is paying particular attention to these aspects and the necessary conditions to be defined to ensure the optimal exploitation of the new opportunities for employment growth linked to technological change. This will include guidelines designed to facilitate the process of economic and social adaptation.

Reference will also be made to a number of specific studies on the relationship between the information society and employment. A particular study will assess the impacts and benefits of the information society for regional, economic and social cohesion. The Commission also looks forward to the views of the High Level Group of Experts, which was announced in its Action Plan: Europe's Way to the Information Society, on the problems to be considered as a matter of priority and the appropriateness of the measures to be developed, as well as to the outcome of a major colloquium on the social and societal issues of the information society to be held in 1995.

### **Neighbouring fields**

Furthermore, the regulatory principles to be developed must also take full account of Union policies in neighbouring fields, such as in the audio-visual field<sup>52</sup> in relation to service content, in the field of data protection and privacy<sup>53</sup> and of intellectual property<sup>54</sup> as well as in relation to the protection of the economic interests of consumers. The principles must take into account the fact that regulatory issues such as content are already dealt with in a framework coherent with the overall approach. This should allow Union policy in relation to infrastructure liberalisation to provide the consistent response called for by the Commission's Action Plan on Europe's way to the information society.

In line with existing Union policy within the framework of the internal market, reference must be made to the implications of the convergence of

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52 Green Paper on Strategy Options to Strengthen the European Programme Industry in the Context of the Audiovisual Policy of the European Union; Council Directive 89/522/EEC on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the pursuit of television broadcasting activities, OJ L298, 17.10.89.

53 Proposal for a Council Directive concerning the protection of individuals in relation to the processing of personal data, COM(92) 422, OJ C311, 27.11.92 and Amended proposal for a European Parliament and Council Directive concerning the protection of personal data and privacy in the context of digital telecommunications networks, in particular the integrated services digital network (ISDN) and digital mobile networks, COM(94) 128 final, 13.6.94.

54 Proposal for a Council Directive on the legal protection of databases, COM(93) 464 final, SYN 393. The Commission Action plan on Europe's way to an Information Society has announced a Green Paper on IPRs in the information society for early in 1995.

telecommunications and media to the extent that these are relevant for infrastructure liberalisation. In that light vital issues to be dealt with are listed in the Commission's Communication on Europe's Way to the Information Society. These include, for example, the recently adopted Communication on pluralism and media concentration, the future Green Paper on IPR and, in the contents area, the follow-up to the Green Paper on audio-visual.

In addressing the development of the future regulatory framework, there should be an overall requirement to take special account of the specific circumstances of the peripheral regions with less developed networks or very small networks.

## VII THE PROPOSED FRAMEWORK FOR ACTION

The general principle proposed and the two stage process set out would translate into the following approach at the Union level.

Under the Directive 90/388 on competition in the markets for telecommunications services, the provision of all telecommunications services was opened to competition<sup>55</sup>, subject to four significant exceptions with regard to services<sup>56</sup>:

- Satellite services<sup>57</sup>
- Mobile telephony and paging services<sup>58</sup>

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<sup>55</sup> Directive 90/388/EEC required Member States to withdraw all special and exclusive rights for the supply of telecommunications services other than voice telephony (and those services specifically excluded from the scope of the directive) and to take the measures necessary to ensure that any operator is entitled to supply such services. The directive also defines which limitations, short of exclusive or special rights, may be imposed by the Member States, for example, in the form of licensing conditions on providers of liberalised services.

The Services Directive was part of a global agreement reached in December 1989 according to which the Commission carried out its obligation under the Treaty to define the application of the Treaty rules to the telecommunications sector via the Services Directive, in parallel with the adoption by the Council of Directive 90/387/EEC (the Open Network Provision framework directive).

The European Court of Justice has upheld the Directive 90/388/EEC and confirmed the use of Article 90 to spell out for the Member States the particular obligations flowing from the Treaty (Judgement of the Court of Justice of the European Communities of 17 November 1991, Joined Cases C-271, 281, 289/90).

<sup>56</sup> Also excepted was the telex service. However, in the meantime it is generally acknowledged that this service is being rapidly substituted by other services such as facsimile transmission.

<sup>57</sup> As regards satellite communications networks, Council Resolution 92/C/8/01 called for the application of the principles of telecommunications policy, in particular liberalisation and harmonisation, to the satellite sector. This policy is now being implemented through the adoption by the Commission, subsequent to its presentation to the Council and European Parliament, of an Article 90 directive modifying the Services Directive to include satellite communications services.

<sup>58</sup> As regards mobile communications, the Commission has raised the issue of exclusive provision of GSM services directly with the Member States concerned under the competition rules. The Green Paper on mobile and personal communications COM(94) 145 - final, 27.4.92 proposes amending the scope of the Services Directive

- Radio and television broadcasting services to the public<sup>59</sup>, and
- Voice telephony services to the general public<sup>60</sup>

Directive 90/388 in its current form does not address the use of alternative infrastructures and cable TV networks for the provision of liberalised services. Directive 90/388 currently only requires the removal of restrictions on the use of a single source of infrastructure, namely leased lines provided by the TOs, for the provision of liberalised services.

As the exclusions from liberalisation regarding services are progressively lifted in the run up to 1 January 1998 (with additional transition periods for certain Member States in accordance with Council Resolution 93/C213/01), the current restrictions concerning provision of infrastructure by a single supplier (i.e. the TOs) will now have to be addressed, in line with the two-stage process set forth.

The general principle which should apply is that of a free choice of underlying infrastructure for the delivery of services as they are opened to competition.

The application of this principle would link the process of infrastructure liberalisation to the timetable for the liberalisation of telecommunications services, including both those services which are currently open to competition (including satellite and mobile communications), as well as voice telephony services for the general public from 1 January 1998 onwards, subject, in the latter case, to the working out of necessary safeguards as set out in Chapter VI.

The two-stage process envisaged therefore would lead to the immediate removal of restrictions on the use of own or third party infrastructure authorised in Member States in the following areas :

- I. for the delivery of satellite communications services<sup>61</sup>;

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to include mobile communications services. The Commission has organised a broad consultation on the positions proposed in the Green Paper and will shortly report on the outcome of these consultations.

<sup>59</sup> As regards radio and television broadcasting to the public, these remain outside the scope of Directive 90/388.

<sup>60</sup> As regards voice telephony services for the general public, Council Resolution 93/C213/01 calls for the opening up of this service by 1 January 1998 and requires the Commission to table the necessary legislative measures to achieve this by 1 January 1996. Necessary amendments of Directive 90/388/EEC would be tabled at that time.

<sup>61</sup> As now required by Commission Directive amending Directives 88/301/EEC (telecommunications terminal equipment) and 90/388/EEC (telecommunications services) in particular with regard to satellite communications, adopted on 13 October 1994. Member States are given 9 months to communicate implementation measures taken. Additionally, Member States with less developed networks may ask for a derogation up to 1 January 1996.

2. for the provision of all terrestrial telecommunications services already liberalised (including use of cable television infrastructure for this purpose).

This concerns voice and data services for corporate networks and closed user groups, as well as all other telecommunications services, other than the provision of voice telephony services to the general public;

3. to provide links, including microwave links, within the mobile network for the provision of mobile communications services.

As set forth, action in these areas would remove substantial barriers to the provision of services open to competition and significantly extend availability of infrastructure for these purposes, thereby making the liberalisation measures already undertaken by the Union more effective.

There is no doubt that major economic benefits and efficiencies both for operators, service providers and users, and for the European economy as a whole, will flow from this action. Furthermore these benefits may be enjoyed without an impact on the financial base of the telecommunications operators such as to threaten undermining the provision of universal service or other public service tasks in the Member States. This action would accelerate the creation of a cost-oriented infrastructure environment for liberalised services, particularly in the field of leased lines essential for these purposes.

A number of steps have already been taken in each of these areas, allowing these actions to be consolidated within a global approach towards infrastructure liberalisation.

Council Resolution 92/C8/01 called on the Commission to propose the necessary measures for the development of a common market for satellite communications services and equipment. The recent Article 90 satellite directive extends the scope of the so-called Terminal Equipment and Services Directives (Directives 88/301 and 90/388/EEC) to cover satellite terminal equipment and services.

In the area of alternative infrastructure and cable television networks, the studies addressing liberalisation in these areas have now been completed. The studies suggest that liberalisation could be achieved without having a major financial impact on the provision of universal service. Again, we must take account of the fact that prices for the supplied infrastructure must anyway be brought in line with costs according to existing Union legislation, and telecommunications operators should therefore be fully competitive which would allow them to maintain a strong market position.

In relation to opening up the use of own or third party infrastructure within mobile communications networks, the Green Paper on Mobile and Personal Communications clearly indicates that this should be allowed in order to give mobile operators control over their cost structures.

Based on this approach it is considered that, in order to implement objectives 1 to 3 set out above, the necessary amendments to Directive 90/388 can be prepared now to lift existing restrictions.

As regards the liberalisation of infrastructure for the voice telephony service for the general public after 1 January 1998, additional safeguards relating to the availability and use of infrastructure as identified in Chapter VI will be required. They will be addressed in the second part of the Green Paper.

## VIII CONCLUSION

At the Corfu Summit the call for faster progress for the telecommunications market in the European Union was well received. This was seen as a key element in stimulating growth and the competitiveness of the European economy as a whole. In response, the European Council called for the definition of a clear and stable regulatory environment for the telecommunications sector. With a clear date already established for the liberalisation of the basic voice service and a coherent policy put forward on the future of mobile and personal communications, a Union position on the future of infrastructure provision is needed in order to advance the process already agreed. This must be a principal response to the challenge of the global information society.

According to the Bangemann Group report, the key constraint preventing broader commercial exploitation of advanced communications technologies and new innovative applications by commerce and industry is the lack of European high-capacity telecommunications transmission infrastructure at prices necessary to foster exploitation and innovation by leading users. The Commission's Action plan on Europe's Way to the Information Society therefore gives priority to action on infrastructure liberalisation.

It is considered that it is now appropriate and necessary to confirm the principle of linking infrastructure liberalisation to service liberalisation in order to give the sector the certainty it needs to plan investment and business strategies.

This implies, in a first stage, immediate action, as supported by the goals set by the European Parliament, on the use of own or third party infrastructure, including cable TV infrastructure, in relation to satellite communications

services, corporate networks and closed user groups and mobile communications. It also implies, in a second stage, full liberalisation of infrastructure by 1 January 1998, subject to the safeguards to be elaborated and the transition periods for certain Member States according to Council Resolution 93/C213/01.

This would result in the **Timetable** for the two stages, set out in annex.

All Member States already allow to varying extents the establishment and use of parallel communications infrastructures for specific purposes. Failing to seek the lifting of existing restrictions on the more general use of available infrastructures would not only ignore the legal obligations flowing from the Treaty, but would also lead to under-utilisation of existing infrastructures.

At the same time, without the action proposed, one of the central requirements of the report on *Europe and the global information society* will not be met, namely, the creation of conditions in which public and private capital can be mobilised to invest in the new technologies, which are vital for growth, competitiveness and employment.

The Commission therefore submits this first part of the Green paper on the liberalisation of telecommunications infrastructure and cable TV networks to the Council and European Parliament, concerning :

- the general principle that, where the provision of telecommunications services is open to competition, there should be a free choice of underlying infrastructure over which such services are provided, subject to the establishment of the safeguards mentioned below;
- establishment of a two-stage approach, with the lifting of restrictions on alternative infrastructures, including cable TV, at a European level in the fields of satellite communications, mobile communications and liberalised terrestrial services in a first stage, and the linkage of infrastructure liberalisation to the overall timetable for further development of the telecommunications sector, in particular the date of 1 January 1998 for the liberalisation of the provision of voice telephony services to the general public, subject to the additional transition periods set out in Council Resolution 93/C213/01 required by Member States with less developed networks to achieve the necessary structural adjustments;

The Commission intends to submit, by 1 January 1995, the second part of this Green Paper to address the additional safeguards required for the second stage, when the general principle of linking infrastructure liberalisation to the timetable

for the full liberalisation of the provision of voice telephony services to the general public should be applied.

The second part of the Green Paper will in particular cover :

- criteria for the future licensing of infrastructure, including grounds of public interest for limiting the number of such licences, subject to Community law and in particular the competition rules, as well as the future regulation of rights of way, and application of town and country planning rules,
- the maintenance and further development of universal service and other public service tasks as an essential value in the Union's telecoms sector, the financial impact of infrastructure liberalisation, and measures required to protect consumer interests,
- the interconnection regime applicable in a competitive environment and any safeguards required to ensure fair competition between networks,
- reviewing restrictions on incumbent operators and clarifying the application of the competition rules,
- the ensurance of comparable and effective access to third country markets,
- the social and employment dimension, which must be a central issue,
- the issue of convergence, in particular, between telecommunications and broadcasting, which is essential to the emergence of multi-media services and the maintenance and development of competition in the telecommunications and media sectors.

Special attention will have to be paid to taking into account more general public interest goals such as protection of the environment, as well as consideration of the specific circumstances of the peripheral regions with less developed or very small networks.

The Commission is anticipating a broad debate on the Green Paper. At the same time, given the urgency of eliminating existing bottlenecks in the provision of alternative network infrastructure, it will undertake steps necessary to allow early implementation of the first stage. This concerns in particular satellite communications, liberalised terrestrial telecommunications services, including use of cable TV networks, and mobile communications.

**Schedule for telecommunication services and infrastructure liberalisation**

	Services	Infrastructures	
	Services open to competition	Proposed date for lifting constraints on the use of existing alternative infrastructure <sup>1</sup> (incl. cable TV networks)	Full liberalisation of new telecommunication infrastructure (incl. licensing new infrastructure operators) <sup>2</sup>
Data and other non-voice communications	Since 1990 <sup>3</sup>	1995	1998
Voice telephony for corporate communications and "closed user" groups	Since 1990 <sup>4</sup>	1995	1998
Satellite communications	Since 1994 <sup>5</sup>	1.7.95 1.1.96	1998
Mobile communications	Under way <sup>6</sup>	1995	1998
Public voice telephony	1 January 1998 <sup>2</sup>		1998

- <sup>1</sup> Any infrastructure authorised in Member States and operated by others than the incumbent telecommunication operator.
- <sup>2</sup> Council resolution 93/C213/01 of 22 July 1993 allows for a derogation in favour of Member States with less developed networks (i.e. Spain, Ireland, Greece, Portugal) up to 1 January 2003, and in favour of Luxemburg until 1 January 2000. Spain, in the meantime, has indicated that it does not intend to prevail itself of this derogation.
- <sup>3</sup> Commission directive 90/388/EEC liberalised all terrestrial telecommunication services other than public voice telephony. Simple resale of packet and switched data services authorised since 1 January 1993.
- <sup>4</sup> Commission directive 90/388/EEC liberalised all terrestrial telecommunication services other than public voice telephony.
- <sup>5</sup> Commission directive 94/46/EEC (adopted 13 October 1994) liberalised satellite communications. Member States must communicate implementation measures no later than 8 August 1995. Derogations possible until 1 January 1996 for Member States with less developed networks.
- <sup>6</sup> Member States have removed, or are removing, monopolies on mobile communications. The Commission is preparing a communication to the European Parliament and the Council on the consultations on the Green paper on mobile and personal communications (to be submitted shortly) which is intended to lead to full liberalisation of mobile communications.