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COMMUNICATION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL ON THE CONSULTATION ON THE GREEN PAPER ON MOBILE AND PERSONAL COMMUNICATIONS

**Proposal
for a Council Resolution
on the further development
mobile and personal communications
in the European Union**

(presented by the Commission)

EXECUTIVE SUMMARY

THE INFORMATION SOCIETY: A POLITICAL CONTEXT FOR MOBILE POLICY

The mobile and personal communications sector has been brought to the forefront of the debate on the Information Society. The report on "Europe and the global information society"¹ identified mobile communications as a necessary building block of the Information Society and advised on the strengthening of its potential.

That report has helped to catch the popular imagination, defining the debate on the changes which will revolutionise Europe's economy, business, industry and the lives of every citizen. This revolution is not limited to one continent, but is global in scope and presents common challenges which have attracted political attention at the highest level throughout the World. Access to information, markets and customers anywhere in the World as well as the ability to stay in touch, will be central to commercial success and will also offer many benefits to Europe's citizens in their every day lives.

The Bangemann Group Report builds on the direction given by the Commission's White Paper on Growth, Competitiveness and Employment (COM(93) 700 final). The White Paper highlighted the importance of moving forward towards the Information Society as one of the essential elements to help Europe to enjoy continued growth, whilst remaining competitive on global markets and continue to expand employment.

At the same time, progress in this area cannot be at the expense of the more vulnerable in society. The emerging policies must strengthen cohesion in the Union and take full account of the impact on society as a whole and, in particular, the impact on employment, training, education and health care. They must exploit the possibilities which mobile technologies now offer to develop universal and affordable access to new services throughout the Union.

MOBILE AND PERSONAL COMMUNICATIONS IN THE INFORMATION SOCIETY

Mobile communications is currently the fastest growing area within the telecommunications sector. Over the last few years it has experienced unprecedented growth in subscriber numbers, especially in cellular mobile telephony. Europe has now more than 11 million cellular mobile telephony users, 3 million more than at the time of compilation of the Mobile Green Paper. There are also more than 8 million users of other mobile communications services, in particular, paging and so-called private mobile radio systems. It is forecast that by the year 2000, there could be nearly 40 million users in the European Union, and with the growing expansion into personal communications services (PCS), up to 80 million users by the year 2010.

The market is being driven by rapid advances in technology, by commercial opportunities and by falling prices. Subscriber growth rates during the last few years in Member States with high growth cellular telephony markets (car telephones and hand-held portables) have varied from 30 to 40%. Recent analysis shows that this trend is withstanding the current economic recession.

¹ Europe and the global information society, Recommendations to the European Council, 26 May 1994

The mobility offered by these new technologies and new services will be central to the development of Information Society. It will make the benefits of that society more easily accessible to every citizen and every business throughout the Union.

The need for communications 'on the move' is becoming a normal part of business life with users ranging from the multinational executive to the local plumber or builder. Over the next few years, as prices continue to fall, and as the latest technologies become well established, mobile communications are expected to make significant inroads into the mass consumer market.

As recognised in the Mobile Green Paper, mobility has a particular significance in the broader context of the European Union. On the one hand, mobility is at the very heart of the objective of the Union for the free movement of goods, people, services, and capital. On the other hand, the prospect of European-wide advanced mobile communications networks and services will help to turn the Information Society from vision to reality. In parallel with the integration of voice, data and pictures within new multi-media and on-line services, a personal communications environment is emerging in which traditional distinctions between fixed and mobile networks and services will disappear. Mobile technologies will help traditional operators to deliver communications services more cheaply into every home, whilst today's mobile operators will evolve alongside the traditional telecoms companies to provide nation-wide and Europe-wide networks and services.

THE ECONOMIC POTENTIAL OF THE MOBILE AND PERSONAL COMMUNICATIONS SECTOR

The creation now of the right framework for mobile communications will strengthen the contribution to growth and employment which mobile communications is already making in the Union. The Bangemann Group cited, for example, the case of Germany where 30,000 new jobs have been created in the mobile sector, and forecast the creation of 100,000 jobs within the Union if similar approaches are followed.

The growth of mobile communications will have a significant impact on the whole of the telecommunications industry. Mobile services themselves will continue to experience rapid growth, both in terms of subscriber numbers and corresponding traffic. This growth will in turn stimulate traffic over the fixed networks, with mobile networks continuing to deliver much of their traffic volumes to the fixed network, thereby increasing the overall use of telecommunications.

With the pan-European digital mobile system, GSM, the European Union has established a world-leading technology in this key area of the future global communications market. The Union must now build on this success.

Additionally, the market potential for personal communications services is huge. While the maximum density for fixed wireline telephones is not expected to exceed substantially an average penetration of some 50% of the population, (i.e. approximately one connection per household, plus business use), personal communications penetration has the ultimate potential to reach near 80% of the population (i.e. up to one connection per adult).

Mobile communications also has an important role to play in stimulating massive private and public investment into telecommunications networks and services, and in contributing to maintaining and developing service in the less developed or peripheral regions of the Union.

THE GLOBAL AIMS OF THE GREEN PAPER

The global aims the Green Paper were :

- to permit the development of a Union-wide market for mobile services, equipment, and terminals ;
- to identify common principles where required, for achieving this objective, in relation to the provision of mobile infrastructure, the development of mobile networks and services, and the supply and operation of mobile terminals ;
- to promote the evolution of the mobile communications market into mass personal communications services, with particular emphasis on pan-European services ;
- to facilitate and promote the emergence of trans-European networks and services in the sector, and to ensure that the sector's development is achieved in a manner consistent with the public interest.

The Green Paper represented a major step within the global phased approach to the telecommunications sector set by the Council Resolution of 22nd July 1993 for the future balanced relationship of fixed and mobile networks and services in the Union and for the maintenance and furthering of universal service in the sector for the European citizen.

In relation to universal service, the Green Paper recognised that regulatory and market conditions currently mean that mobile communications services are today aimed a niche, premium-priced market and so do not yet play a significant role in the provision of universal service or act as a substitute for the fixed phone in every home. At the same time, the Green Paper recognised that "mobile communications also has an important role in stimulating massive private and public investment into telecommunications networks and services, and in contributing to maintaining and developing service in less developed or peripheral regions of the Union".

THE MAIN ISSUES ADDRESSED IN THE GREEN PAPER

The Green Paper raised questions fundamental to the future development of the sector concerning:

- How competitive should mobile markets be and how should mobile networks and services be licensed (award procedures / licence conditions)?
- What role will service providers play and what should be the rules for interconnection between different networks and between networks and service providers?
- Should mobile networks be able to build their own or use third party fixed infrastructure within their networks?, and
- What steps are needed help the transition from niche market mobile communications today to mass market personal communications tomorrow?

At the same time, comments were invited in a range of areas linked to on-going policy actions which are important to the overall development of the sector. These included access to third country markets, data protection and privacy, health and safety issues, the environment, standardisation, and consumer protection.

THE CONSULTATION ON THE GREEN PAPER AND SUMMARY OF THE RESULTS

The public consultation period was initiated with the adoption of the Green Paper on 27 April 1994 and continued through to the middle of September. The Commission received more than 70 written comments from European and national organisations, companies and individuals active in the communications field, both inside and outside the European Union. In addition a series of consultation meetings resulted in a substantial contribution being made to the work of the Commission. This included meetings involving fixed network and mobile operators; the service provider industry, users, equipment manufacturers, consumer groups and with representatives of the trade unions in the communications industry. More than 250 organisations participated either orally or in writing.

The results of the consultation are summarised below to show the areas of consensus and those areas where, whilst divergent views were expressed, general trends could be identified.

SUMMARY OF THE AREAS OF CONSENSUS

- the need for the abolition of exclusive and special rights²;
- the approach to national licensing procedures and licence conditions;
- the importance of service providers as a new way of providing telecoms services.
- the need for effective procedures to make frequencies and numbers available in time particularly in relation to new digital services, where lack of agreement could threaten their development;
- the need for number allocation on fair, transparent and non-discriminatory grounds;
- the evolution strategy towards the personal communications environment

SUMMARY OF KEY AREAS WHERE DIVERGENT VIEWS WERE EXPRESSED

- *The future regulation of service provision.*

In particular, (i) should there be an implied obligation on network operators to deal with all service providers in order to promote the emergence of pan-European services, and (ii) whether a Code of Conduct for service providers should be voluntary or mandatory?

The views expressed reflected national approaches to regulation and experience of independent service provision.

- *Infrastructure.*

Should mobile network operators have the right to use of own or third party infrastructure (including using microwave links)? Should they be able to directly connect to other mobile or fixed networks nationally or in other Member States?

There was broad support for early action on liberalisation and direct interconnection, with the exception of a majority of existing fixed network operators. The approach should, however, be integrated into the global approach to be set out in Green Paper on infrastructure liberalisation³.

- *Interconnection.*

Different views were expressed about the future role of the Open Network Provision (ONP) as the basis for the regulatory framework in the sector, and, in particular, the extent to which regulatory intervention should take precedence over commercial negotiations.

² In practice, mobile services are increasingly provided on a competitive basis with, for example, users having a choice between at least two digital mobile telephony systems in almost every Member State, with firm plans underway for a second network in the few Member States where this is not yet the case.

³ See, Green Paper on the liberalisation of telecommunications infrastructure and cable television networks: part 1 Principle and Timetable, COM(94) 440, 25.10.94.

Even where there was no consensus, the general trends suggest that positions are possible.

In relation to service provision, the development of that layer of the market should be kept under review, in particular, to see whether legislative measures prove themselves necessary.

As regards infrastructure and direct interconnection, the Commission agrees that the use of alternative infrastructure by mobile networks must be treated in the context of the Green Paper on Infrastructure (COM(94) 440) and this communication contributes to the general debate on that issue⁴, without prejudging its outcome.

Finally, in relation to the future pattern for interconnection, the issues are closely linked to the proposed adaptation of the ONP framework to a competitive environment. Once again, this Communication makes a useful contribution to that debate.

Despite the absence of a complete consensus on all issues, the Commission believes it is possible to put forward a comprehensive set of proposals for the sector. These are summarised below.

ACTION REQUIRED FOR THE FUTURE REGULATORY ENVIRONMENT

On the basis of the consultation, a comprehensive programme of action can now be proposed.

Some proposals are specific to the mobile sector. Others such as those for infrastructure, interconnection and the future role of ONP are integrally linked to on-going work preparing the telecoms regulatory environment for the full liberalisation of voice telephony services. All of these actions must at the same time be viewed in the context of the Information Society and the Commission's Action Plan on Europe's Way to the Information Society.

PRIORITY AREAS FOR SECTOR SPECIFIC ACTION

- Introduction of competition. *All remaining special and exclusive rights should be abolished by 1 January 1996 and the competition rules should be fully applicable to the sector.*
- Development of a Code of Conduct for Service Providers.
- Ensuring service provider access to the market.
- Promoting the availability of frequency needed for new digital services and for operators to combine different technologies within one network and one service package for users; as well as targeted programmes to support market entry of emerging mobile technologies.
- Allowing after 1 January 1998, mobile network operators to provide public voice services via the fixed network and allowing fixed network operators to use radio-based technologies.
- Establish European level licensing of satellite PCS services.

⁴ The Green Paper proposes the "immediate removal of restrictions on the use of own or third party infrastructure authorised in Member States to provide links, including microwave links, within the mobile network for the provision of mobile communications services".

PRIORITY ACTION LINKED TO GENERAL REFORM OF TELECOMMUNICATIONS IN 1998

- Removal of restrictions on the use of alternative infrastructure within mobile networks, in line with policy agreed within the context of the Green Paper on Infrastructure.
- Regulation of interconnection through ONP and the Treaty competition rules, within the context of an Interconnection Directive and the proposals for the future adaptation of ONP to be tabled by 1 January 1998.
- Establishment/amendment of rules for the mutual recognition of equipment, licenses and data protection and privacy, within the framework of current proposals.

ADDITIONAL ACTION REQUIRED IN DEVELOPING THE OVERALL REGULATORY AND TECHNOLOGICAL ENVIRONMENT

- Establishing schedules for standardisation, numbering and frequencies, as well as timetables for binding decisions on implementation by the Member States.
- Addressing the international agenda, in particular, in relation to access to third country markets and the development of new technologies within the overall context of the global debate on "information highways".
- Developing a comprehensive approach towards health and safety; the environmental impact of mobile communications and towards employment trends and retraining.
- Actively supporting through Community research programmes and other actions the development of advanced mobile communications systems, and in particular, the evolution towards universal mobile telecommunications system⁵ (UMTS).

CONCLUSION

The broad consultation on the Green Paper on Mobile and Personal Communications has provided an opportunity for all interested parties to assist in shaping the emerging regulatory framework. This Communication sets out the results of that consultation process in detail and proposes concrete action to implement the conclusions drawn.

⁵ Confusion should be avoided between UMTS, which is a generic name of an emerging family of technologies and the political goal of universal service.

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I INTRODUCTION

Mobile communications has developed over recent years into a key area of growth in the Union. Europe has now more than 11 million cellular mobile telephony users, 3 million more than at the time of compilation of the Mobile Green Paper. There are also more than 8 million users of other mobile communications services, in particular paging and private mobile radio systems. It is forecast that by the year 2000, there could be as many as 40 million users in the European Union, and, with the growing expansion into personal communications services (PCS), up to 80 million users by the year 2010.

In the light of the potential mass market for personal communications, a coherent policy framework for the sector, and for the development of trans-European networks, must be promoted in the context of the Union's global strategy on growth, competitiveness and employment.

It is against this background that the Commission adopted on the 27 April 1994 its Green Paper on Mobile and Personal Communications⁶, referred to hereinafter as "the Green Paper".

In the meantime, the mobile and personal communications sector has been also brought to the forefront of the debate on the information society. The report on "Europe and the global information society"⁷ identified mobile communications as a necessary building block of the information society and advised on the strengthening of its potential. Both the Commission's response to the Report, the so-called Action Plan, and the reaction of the European Council to it, emphasised the importance of mobile communications in the development of networks and services and announced that it would present a report on the results of the consultation phase on the Green Paper by the end of 1994.

This Communication constitutes that report. It should be read against the background of the Green Paper which sets forth a coherent set of proposed positions and provides substantial detail on the technical, market and regulatory aspects of the sector⁸.

A brief outline of the Green Paper is shown in Annex 1 for ease of reference.

⁶ Towards the Personal Communications Environment : Green Paper on a common approach in the field of mobile and personal communications in the European Union (COM(94)145 final, 27.04.1994).

⁷ Europe and the global information society, Recommendations to the European Council, 26 May 1994

⁸ The Green Paper also includes a detailed Glossary of terms used in the sector and referred to in this Communication

II THE CONSULTATION PROCESS

The aim of the consultation was to obtain the views of all interested players on the future regulatory framework in the area of mobile and personal communications.

The public consultation period was initiated with the adoption of the Green Paper on 27 April 1994 and continued through to the middle of September. The Commission received more than 70 written comments from European and national organisations, companies and individuals active in the communications field. These included contributions from many of the Telecommunications Organisations (TOs) and mobile operators in Europe, as well as from the European Telecommunications Network Operators association; from individual service providers and national representative associations; from large and medium-sized users of telecommunications services and from user associations; as well as from manufacturing associations and individual equipment suppliers. Written contributions were also received from the CEPT's European Radiocommunications Committee (ERC) and its European Committee for Telecommunications Regulatory Affairs (ECTRA); from the trade unions, and from the European Data Protection Commissioners. In addition comments were received from the GSM⁹ and ERMES¹⁰ Memoranda of Understanding. Further comments were received from organisations and companies based in other European countries, including the members of the European Economic Area, and from North America.

Formal opinions on the Green Paper have also been adopted or are in the process of being adopted by the European Parliament; the Economic and Social Committee and the Committee of the Regions, as well as by the Joint Committee of Telecommunications which brings together management and unions in the Telecommunications Organisations (TOs) within the Union.

In addition to these written comments, a series of consultation meetings resulted in a substantial contribution being made to the work of the Commission. These meetings started with a general gathering held in June for all participants in the sector (fixed and mobile network operators, service providers, equipment manufacturers, consumer organisations and European bodies active in the fields of numbering, licensing, frequencies and data protection) which was attended by more than 130 organisations, companies and associations. Subsequently separate meetings were held for the TOs and mobile operators; for the service provider industry and for representatives of the trade unions in the communications industry. In addition to these consultation meetings, the Commission received presentations from the GSM MoU and from consumer organisations. More than 250 organisations participated either orally or in writing.

Consultations at a European level were complemented by those held at a national level within a number of Member States.

The Commission also worked closely with the High Level Committee of National Regulatory Authorities, in accordance with Council Resolution 93/C 213/01¹¹.

A list of the hearings and of the written comments received is set out in Annex 2.

⁹ Global System for Mobile communications; see Green Paper.

¹⁰ European Radio Messaging System (paging); see Green Paper

¹¹ Council Resolution of 22nd July 1993 on the review of the situation in the telecommunications sector and the need for further development in that market, 93/C 213/01; OJ C213/1, 6 August 1993.

III COMMENTS RECEIVED ON THE MAIN POSITIONS PROPOSED IN THE GREEN PAPER

In the following paragraphs of this section, the main comments received during the consultation process are summarised according to the positions set out in the Green Paper. For those wishing further details, reference should be made to the full comments which are available on request.

III.1 LICENSING CONDITIONS FOR MOBILE NETWORK OPERATORS

III.1.1 *Abolition of special and exclusive rights*

There was widespread support for the abolition of exclusive and special rights in the mobile communications sector. Remaining exclusive and special rights were seen by many contributors as holding back the development of the sector, in particular, by limiting competition, keeping prices higher and restricting the range of mobile service available.

There was general acceptance that, subject to market demand, a minimum of two licences should be granted for each mobile technology. Additionally, strong support was expressed for the recommendation that at least one licence for DCS 1800¹² systems should be granted in each Member State and that access to DECT¹³ be made available.

III.1.2 *Future licensing procedures and licence conditions*

In relation to the future licensing procedures and the framework for licensing conditions, there was strong support for open, non-discriminatory and transparent licensing procedures.

In order to ensure a fair competitive environment, it was seen as essential that both incumbent operators (particularly, where they were also operating a fixed network or were affiliated to the fixed network operator) and new entrants be subject to equivalent licensing conditions, though where appropriate, a new entrant's licence could be adapted to redress any specific advantages gained by the incumbent resulting from earlier entry into the market. This extended to the need for equality in the duration of licence terms granted.

These comments on equality included calls for clear time limits to be set for the completion of the assessment of bids by national regulatory authorities; a requirement that, where possible, competing mobile systems should commence operation at the same time and that no operators should automatically qualify for a new licence.

¹² Standard for micro cellular communications systems developed by ETSI, building on the GSM standard : see Green Paper.

¹³ Digital European Cordless Telecommunications ; new digital cordless standard developed by ETSI ; see Green Paper.

In relation to the method of awarding licenses, there was overwhelming support from all sections of the industry for the use of comparative bidding. The use of lotteries found virtually no support, whilst auctioning was criticised as providing little guarantee of eventual service quality as well as leading to higher prices for equipment and services for the user. Nevertheless, a number of Member States still put forward the view that, given the scarcity of the frequency resource, it was appropriate to place a commercial value on the use of that resource.

Divergent views were expressed with regard to the grounds on which licences might be refused. Most mobile operators, service providers and users emphasised the need for competition and so favoured only a limited number of non-economic grounds on which licences might be restricted, although a number of comments stressed the statement in the Green Paper that these could include an assessment of viability of particular networks and the quality of service.¹⁴

III.1.3 Duration of licences

A particular point of concern raised by many existing mobile and fixed network operators was the need for licence duration periods to be of sufficient length, not only to allow operators to recoup investment costs, but also to stimulate continuing network investment during the term of the licence, including the adaptation of existing networks to new technologies. Some comments even suggested that as a general principle licences should be of unlimited duration, subject to appropriate safeguards allowing termination in the case of misconduct. On the other hand, some mobile operators and service providers with experience of competitive markets urged the Commission to take stronger action, especially where current licences have been granted under monopoly or duopoly conditions, to assess whether effective competition was being established and, if this was not the case, to act appropriately.

There was general agreement that the length of both operating licences and frequency licences should be the same.

¹⁴ In the Green Paper, these limited conditions were identified as essential requirements and public service specifications in the form of trade regulations. Essential requirements to be taken into account concern in particular the effective use of the radiofrequency spectrum and electromagnetic compatibility requirements, as well as security of network operation, maintenance of network integrity, interoperability of services in justified cases, data protection in justified cases, and user safety and safety of employees. Public service requirements concern conditions of permanence, availability and quality of the service. The safeguarding of permanence, availability and quality of the service may imply fulfilling conditions relating to the technical competence and financial resources of the licensee.

III.1.4 Reduced license conditions for Private Mobile Radio Systems

Contributors emphasised the need for implementation of the Green Paper proposals to take full account of the future role of private mobile radio (PMR) services. In particular, contributors with experience of North American markets and equipment industry emphasised the importance of PMR¹⁵. The flexible regulatory and licensing approach proposed in the Green Paper was generally welcomed.

III.1.5 The application of mutual recognition to equipment and licences

There was support for the further practical application of the principle of mutual recognition for mobile terminal equipment. A specific point raised was that in relation to equipment, the principle of mutual recognition should not be confined to radio equipment used for roaming (GSM, DECT), but should also extend to equipment which can be used in common collective frequencies (such as DSRR¹⁶ equipment). It was urged that procedures applying to the preparation of relevant TBRs and CTRs¹⁷ should be accelerated.

There was also general agreement with the statement in the Green Paper that the principle of mutual recognition would be of only limited application in the field of mobile services, (Mobile satellite communications, PMR systems, local systems in border areas) because of the physical limitations imposed by frequency spectrum.

III.2 SERVICE PROVISION

III.2.1 Independent service provision alongside direct service provision

A large number of contributions recognised the value of both independent and integrated service provision as parallel means of developing the mobile market and extending customer choice as regards services and tariffs.

¹⁵ Private radiocommunications systems usually operate on a local or regional basis from a single base station and using a single or small number of radio channels. Communication is generally limited to a single (closed user) group.

One commentator compared the situation in Europe with the USA. In Europe in 1993, there were 5.5 million PMR users compared with 17 million in the USA.

¹⁶ Digital Short Range Radio, new digital standard developed by ETSI in the Private Mobile Radio communications field; see Green Paper.

¹⁷ Common Technical Regulations for type approval of terminal equipment according to the procedures of Directive 91/263/EEC. TBRs provide the technical basis for CTRs, on the basis of ETSI standards (ETS).

A number of TOs and mobile operators stressed the importance of service provision directly integrated into their network activities. Concerns were raised that any approach to service provision should not favour one particular distribution channel over another. The role of direct retail sales of mobile services in achieving high penetration levels in Scandinavian countries was stressed. On the other hand, independent service providers suggested that they were placed at a serious competitive disadvantage vis-à-vis integrated service provision by mobile operators, stressing the importance of achieving a fair competitive environment to overcome this disadvantage.

III.2.2 The need for a fair competitive environment

To overcome the general concerns about fair competition, many mobile operators, service providers and users stressed the need for sufficient transparency in relation to operators having an integrated service provision arm, in particular, to avoid the risk of cross-subsidies. A number of independent service providers went further and suggested that a truly competitive environment could only result from full structural separation of network operation from service provision. A specific competition issue raised by a number of contributors was the current pattern of substantially subsidising customer acquisition through cheap equipment prices.

It was also suggested that full equality should extend to the relationship between a TO and its service provision arm, alongside any requirements for mobile operators to ensure arm's length dealings with integrated service providers.

III.2.3 The removal of restrictions on innovative service combinations

In relation to the Green Paper's proposal to remove restrictions on the combination of different services by a single service provider, this was generally supported and recognised as an important driver of innovative service provision.

III.2.4 Code of Conduct for service providers

There was strong support for mobile service providers not to be subject to a licensing requirement.

The development of a Code of Conduct at a European level, setting out the rights and duties of service providers with regard to both the operator and the end user was strongly supported. It was felt that such a Code should be drawn up by all interested parties in the sector.

Comments focused on whether the Code of Conduct should be mandatory or voluntary. Many fixed and mobile network operators were concerned about the value of a voluntary Code of Conduct. At the same time, many other comments emphasised the need for a flexible approach to service provision tailored to differing national regulatory traditions. This would prevent a disproportionate regulatory burden being placed on the service provision industry.

A particular concern was raised by Europe's Data Protection Commissioner who suggested that any voluntary Code of Conduct should not undermine binding national legal provisions in the field of data protection. Furthermore, obligations in Community legislation relating to the essential requirement of data protection and privacy must cover both network operation and service provision, given the volume of data they process.

III.2.5 Obligation to meet reasonable requests to deal

A major focus of discussion was on the proposal in the Green Paper that in order to promote pan-European services and the innovative combination of different mobile (and eventually fixed) services, network operators should be required to meet reasonable requests to sell their services, with the reasonableness of any refusal being subject to appeal before the relevant national regulatory authority.

Some contributors, including some service providers, TOs and mobile operators, expressed support for such an obligation. Nevertheless, many who commented on this issue placed priority on the commercial autonomy of network operators in choosing how their mobile services should be distributed. They emphasised the need for flexibility and saw any obligation as being placed firmly within the limits of competition law and normal commercial practice. Once again, the successful penetration of mobile services through retail outlets in Northern Europe was highlighted.

III.2.6 The role of Roaming in the future environment

There was general agreement amongst operators, service providers and users for the need to support roaming as a means of ensuring pan-European service provision, and that roaming should be encouraged in a way which promotes user choice.

A number of comments emphasised the need, in line with the call in the Green Paper for full recognition of roaming arrangements, to ensure the acknowledgement of the commercial implications of any agreement through which a mobile operator distributed its system's SIM cards through a service provider in one Member State, i.e. that the service provider would then be entitled to sell those cards anywhere in the Union, subject to the normal rules of competition law.

III.3 INTERCONNECTION

III.3.1 ONP as the basic framework for interconnection, with priority given to commercial agreement between the parties

There was broad support for the use of the ONP framework as a regulatory mechanism, providing it was modified in line with Council Resolution 93/C213/01¹⁸, to take account of an increasingly competitive environment. In any event the position in the Green Paper which gave priority to commercial agreement within the framework provided by those general principles was welcomed. The involvement of NRAs would be confined to situations where such agreements could not be reached.

However, at least one operator, with experience of North American markets, suggested that giving priority to commercial agreements would be an insufficient mechanism to expand the mobile market, in view of the fixed network or dominant mobile operator's stronger bargaining position.

III.3.2 Ensuring fair competition within interconnection arrangements

Many contributors stressed the importance of the principle of non-discrimination and the need for sufficient transparency in the relationship between TOs and their mobile subsidiaries, and between mobile operators and their service provision arms.

A particular concern raised by certain mobile operators and independent service providers was the need to obtain fair access to the TO's data processing capability and its IN functions. However, many TO's believed that interconnection obligations should not go beyond those already envisaged in current Community legislation.

A number of fixed network operators indicated their view that interconnection for mobile services must ensure, where appropriate, that new market entrants make a fair contribution to the provision of universal service.

III.3.3 Transparency for interconnection terms

In order to allow regulatory supervision, support was expressed by a number of operators and service providers on the need for interconnection agreements to be available at least to the NRA, and that greater transparency might be desirable.

III.3.4 Interconnection charges

In relation to interconnection charges, it was argued that these must lead to efficient allocation of resources, be sustainable, promote efficient entry and operation and allow efficient pricing decisions.

¹⁸ Council Resolution of 22 July 1993 on the review of the situation in the telecommunications sector and the need for the further development in that market, OJ C213/01, 6.8.93.

III.3.5 Standards for interconnection

In relation to the standards for interconnection interfaces, there was general support for the positions in the Green Paper and, in particular, the emphasis on voluntary standards in the future environment.

III.3.6 Interconnection for private mobile radio systems

There was substantial support for a less restrictive approach to the interconnection of PMR systems both with each other and with the public network.

III.4 INFRASTRUCTURE

The issue of infrastructure was a central element in the discussions on the Green Paper.

III.4.1 The right to self-provide or use third-party infrastructure and the right of direct interconnection

There was considerable support drawn from throughout the sector for the twin principles of immediate liberalisation of mobile communications infrastructure and for the removal of restrictions on direct interconnection. This was seen as a key means in overcoming current bottlenecks in leased-line supply and in allowing mobile operators control over their cost structures, promoting lower prices and more rapid innovation. It was perceived to be likely to lead to lower prices for users.

It was emphasised by some that action in this area must go hand-in-hand with the development of an effective interconnection regime and that the proliferation of own infrastructure should not lead to inefficient operation, particularly with regard to the use of the radio spectrum.

At the same time, a number of comments made by the existing fixed network operators indicated their opposition to the discussion of infrastructure issues in the mobile area, outside the context of general discussions on infrastructure regulation. The prime concern of these TOs was that such moves on infrastructure and interconnection may undermine TOs' ability to fund current investment in their networks and to maintain universal service. Other TOs, particularly those with experience of markets where infrastructure had been liberalised, did not share this concern.

III.4.2 Sharing infrastructure

The issue was generally recognised as extremely important, for both technical and environmental reasons. Some TOs believed that infrastructure sharing should be a matter for commercial agreement alone, and must ensure no deterioration of the services concerned, whilst many others in the industry accepted the principle of mandatory site sharing based on the overriding grounds of environmental policy or public safety.

III.5 RADIO-FREQUENCIES

III.5.1 *The importance of frequencies in the new environment*

The availability of adequate frequency spectrum on a pan-European basis was seen as fundamental to the expansion of mobile and personal communications. A clear and predictable environment for frequencies was a necessary prerequisite against which investment strategies could be planned. Such an environment must take account of both existing technologies and new systems, balancing frequency allocation with market demand.

III.5.2 *Support for the basic Union approach involving the ERC*

There was general support for the approach to frequencies set out in the Green Paper, placing reliance on the expertise of the ERC/ERO¹⁹. Nevertheless, concerns remained about the ability of the current procedures to keep pace with the market and to produce binding, implemented decisions within the Union. Some support was expressed for a single regulatory authority to deal with common resource management on a Europe-wide basis.

There was support for the application of ONP principles to the process of frequency allocation, including the requirement for charges for frequencies to be cost-oriented. The question of the financing of the removal of existing users was also raised.

III.5.3 *Balance of spectrum between telecommunications, broadcasting and defence use*

A specific widely-expressed concern was the need for a fair balance in spectrum management policies between the competing interests of communications, broadcasting and defence. The GSM MoU called for gains achieved through greater spectrum efficiency from broadcasters (through emerging digital technologies) to be applied for mobile use²⁰.

III.5.4 *Priority areas for frequency policy*

Whilst there was general agreement on the priorities identified for frequencies in the Green Paper, the main views put forward reflected the particular interests of the contributors concerned.

¹⁹ A new approach to the coordination of radiofrequencies in the Community, Communication from the Commission concerning a proposal for a Council Decision on the implementation by Member States of measures concerning radiofrequencies (COM(93)382, 10.9.1993).

²⁰ Attention was drawn to substantial frequency efficiency gains possible in e.g. the broadcasting field. The example was cited of current national broadcasting channels using traditional analogue techniques which require between 50-70 MHz in contrast to digital technologies which would require just 8 MHz to deliver 4 channels

The GSM MoU, for example, called for the release of GSM extension bands by January 1996, and for the common designation of DCS 1800 bands after completion of current ERC work. Further, there was strong support for increasing PMR services current allocation which was seen as inadequate to meet the potential of such services²¹. The basic requirement for PMR was seen to be 100 MHz in the band below 1 GHz.

III.6 NUMBERING

III.6.1 *The importance of numbering in the new environment*

In common with the comments on frequencies, there was general agreement on the central role of numbering in the creation of a competitive mobile market, and the need for co-ordination at a European level to provide a stable and predictable environment. A number of contributors raised the issue of the cost of numbering changes as a major factor in determining the degree of change to be implemented at a European level.

III.6.2 *Support for the basic Union approach to numbering*

The basic approach to numbering proposed in the Green Paper, using the expertise of ETO/ENF via Community mandates, was generally supported.

Given the impact of numbering on the competitive environment, there was very strong support from mobile operators, service providers and users for the application of the principles of non-discrimination, transparency and proportionality in numbering allocation through independent authorities.

Numbering policy must also take full account of the data protection issues raised by mobile numbers in view of the fact that they may constitute a personal identifier.

III.6.3 *Priority areas for numbering policy*

Whilst there was general support for harmonisation of directory and emergency service numbers, there was less certainty concerning the need to harmonise numbering for value added services, Intelligent Network services or for basic mobile network access codes.

Support was expressed both by mobile operators and service providers for work to advance the development of number portability. This was seen, particularly by independent service providers, as central to rebalancing the market power enjoyed by mobile network operators.

Comments from a number of mobile operators and service providers supported the call for a European Telephony Numbering Space in order to speed new service deployment, whilst other contributors stressed the cost involved in any re-organisation.

²¹ The example was cited of an average 50 MHz allocation in Europe compared with 100 MHz in the USA, in addition to a wide variety of frequency bands and channel separations which prevented efficient operation in Europe or economies of scale.

III.7 THE EVOLUTION TOWARDS PERSONAL COMMUNICATIONS SERVICES

III.7.1 *The concept of Personal Communications*

The vision of personal communications based on the full integration of fixed and mobile technologies and services put forth in the Green Paper was broadly supported. Contributors stressed that the current development of network intelligence and the increasing cost-effectiveness of mobile communications outside urban areas show that the market is already moving in this direction.

With regard to UMTS²², several comments both from operators and the manufacturing industry stressed their vision of such services as the combination of mobile and fixed network communications, via different technologies, delivered through single terminals and heavily reliant on full interconnection and interoperability of the different delivery systems concerned. The regulatory focus must be on establishing the right conditions for such new technologies to emerge, rather than on attempting to pick a winning technology. Other comments saw UMTS as a more unified technology concept which required a long term vision and common development efforts.

III.7.2 *The role of service providers in the personal communications environment*

The role of service providers in developing Personal Communications Services was widely accepted. Though many integrated and independent service providers continue to maintain a national focus, others saw this type of innovation as central to the development of pan-European services

III.7.3 *The combination of technologies in the personal communications environment*

The promotion of cordless PBXs, CT2 and DECT technologies were seen as important elements in the new PCS environment. In particular, the restrictions on the combination of DECT and GSM and on the combination of DCS 1800 and GSM should be rapidly removed to stimulate personal communications services, and in particular, to allow full in-house and out-house mobility.

²² Universal Mobile Telecommunications System, a technology and standard for third generation mobile digital systems, currently under development with ETSI and by the RACE programme. UMTS should support full personal communications services, delivered over a combination of fixed and mobile networks.

Work in the framework of the International Telecommunications Union (ITU) in this field is carried out under Future Public Land Mobile Telecommunications System (FPLMTS).

III.7.4 Entry of mobile operators into the fixed network and the use of wireless technology by fixed network operators.

Many mobile operators and some TOs expressed support for the proposal that after 1998 entry for mobile operators into the fixed market should be possible. At the same time, TOs were supportive of the possibility of the use of radio-based technology in their networks, subject to frequency availability, notably as a means of extending universal service. Nevertheless certain mobile operators were reluctant to see fixed network use of mobile extensions at too early a stage if it resulted in an unfair distortion of competition.

III.7.5 Licensing in the personal communications environment

In relation to the licensing of future systems, including third-generation technologies, support generally focused on co-ordinated national licensing for introduction on a pan-European basis of satellite-based services or third-generation technologies. A specific concern was that any pan-European approach to licensing should not reduce the overall number of players in the market and so limit competition. Some contributors supported an experimental approach to licensing, particularly, in relation to satellite PCS systems which were regional by nature. It was also suggested that the specific needs of the aviation sector require a pan-European rather than national approach to licensing.

IV POSITIONS TAKEN ON THE MEASURES REQUIRED FOR IMPLEMENTATION AND THE ACTION LINES FOR THE DEVELOPMENT OF A FAVOURABLE ENVIRONMENT

The main action lines and flanking measures proposed in the Green Paper were generally endorsed in the consultation, subject to the various comments set out above. The emphasis in the Action Lines on health and safety and environmental issues were widely supported. However, a range of specific issues arose from the general discussions of both the Action Lines and the flanking measures, aimed at maintaining the public interest as a more competitive environment emerges.

IV.1 DATA PROTECTION AND PRIVACY

A number of comments, notably those from the European Data Protection Commissioners, stressed that without effective data protection and safeguards guaranteeing privacy, public acceptance of Union-wide mobile and personal communications networks and services cannot be secured. Action in this area, and, in particular, the rapid adoption of pending Commission proposals in this area²³ were seen as urgent priorities.

²³ Amended proposal for a Council Directive on the protection of individuals with regard to the processing of personal data and on the free movement of such data, COM(92)422, 15 December 1992 ("the general data protection directive").

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 Networks (ISDN) and digital mobile networks, COM(94)128 final, OJ 288, 13.06.1994.

Two specific issues were also raised, namely, the strengthening of data protection's status as an essential requirement, and secondly, the need for adequate safeguards to be put in place to prevent unauthorised interception of satellite communications (particularly of uplinks) in the context of the new low earth orbiting systems. Finally, the European Data Protection Commissioners stressed their view that emerging standards for third-generation systems must allow the cost-free option of communicating without being obliged to identify oneself.

IV.2 HEALTH AND SAFETY

Comments addressed the fundamental need to ensure that mobile systems and equipment should be operated safely by both employees and users. The proposal by the Commission to establish a comprehensive action programme to accelerate necessary safety standards, and to monitor the issue of possible health hazards through electromagnetic exposure was welcomed.

Support was also expressed for continuing work in relation to limiting the effects of electromagnetic exposure.

IV.3 MONITORING THE IMPACT ON EMPLOYMENT OF THE DEVELOPING MOBILE MARKET

The trade unions in the telecommunications sector stressed the need for the Commission to study the actual and potential effects of the emerging mobile market on employment, in particular, the effects on employment amongst the TOs. Consideration should be given on the basis of such study to promoting re-deployment and retraining within the sector.

IV.4 STANDARDS

The further development of standardisation for mobile and personal communications services and equipment was fully supported. Action was urgently needed to continue the development of CTRs and interim-CTRs in order to support the mutual recognition of terminal equipment type approvals. Additionally, the extension of mutual recognition through bilateral agreements was identified by both mobile operators and the equipment industry as an important trade goal for the Union. Drawing on the experience of GSM, many contributions stressed the importance of adequate funding for testing equipment and procedures for GSM Phase II and other emerging technologies.

Two further concerns raised in the Consultation related to the need for a solution to the role of intellectual property rights in the context of the work of ETSI. Secondly, the GSM MoU stressed the problems encountered in selling GSM technology world-wide on the basis of different encryption standards. Both issues were seen as requiring a political solution.

Specific concerns relating to radio equipment were raised by the ERC and the GSM MoU in the context of Directive 91/263/EEC. These related in particular to the need for rapid change procedures for TBRs and procedures for type approval of accessories. Other issues raised concerned mutual recognition of type approval and certification procedures with third countries.

The standardisation process should also focus on new PMR standards, with one organisation of business users suggesting the elevation of CT2 from an interim ETS to a full ETS.

IV.5 TRANS-EUROPEAN NETWORKS AND SERVICES, AND SATELLITE-BASED PERSONAL COMMUNICATIONS

Several commentators stressed the potential role of mobile services in developing the Information Society and welcomed the acknowledgement in the Bangemann Group Report on Europe and the global information society of GSM as a successful implementation of the Trans-European Network concept.

The future satellite-based personal communications systems, including the so-called Low Earth Orbit Satellites (LEOs) systems drew special attention, as well as the need to secure a strong European role in these systems.

IV.6 ACCESS TO THIRD COUNTRY MARKETS

There was general support for the need to ensure open and comparable access to third country markets. There was considerable concern about regulations in other regions which prevented market access, particularly in North America. Given the global character of GSM services, fair competition at a European level would not be sufficient for its world-wide success, and priority had to be given to the on-going GATT/WTO negotiations.

Key tests of this policy would be the ability of the European industry to participate in the current US satellite-based PCS proposals and the possibility of European technology being used in the PCS services currently being licensed in the United States

Whilst many contributors felt that allowing the possibility of ownership restrictions in Europe were important in achieving a more open market, a number of comments, particularly but not exclusively from European mobile operators with substantial foreign ownership, believed that these trade objectives could be best achieved by avoiding the possibility of nationally-imposed ownership restrictions.

IV.7 THE ISSUE OF FRAUDULENT USE OF MOBILE NETWORKS

Many service providers and some operators raised concerns over the issue of bad debts, credit and fraudulent use of mobile networks and equipment. Whilst these issues were seen as being primarily of national concern, and by some as a matter for commercial safeguards in agreements between operators and service providers, they were also identified as having clear European implications in relation to interconnection, obligations to deal, and the proposed Service Provider Code of Conduct, as well as new data protection rules.

IV.8 THE ISSUE OF A SINGLE REGULATORY AUTHORITY

A number of contributors, picking up on the recommendations of the Bangemann Group Report, argued strongly for a single regulatory agency at a Union level which could manage common resources (such as frequency and numbering) and which could ensure a consistent approach in national implementation of the Union regulatory framework.

IV.9 PROCEDURES FOR CONSULTATION

Many comments stressed the need, in line with existing Union policy, for all actors in the sector to be involved in key future decisions, such as the drawing up of a Code of Conduct for service providers, and future frequency and numbering decisions. The equipment industry proposed the creation of a consultative forum, bringing together all those active in the sector to provide input into the regulatory process.

V EVALUATION BY THE COMMISSION

On the basis of the comments and its analysis of the submissions, the Commission considers that the main principles and objectives set forth in the Green Paper have found broad support. On this basis the Commission considered it possible at this stage to :

- identify areas of general consensus amongst all market participants;
- set out general positions on the future development of mobile and personal communications in the Community which are supported by a broad range of parties;
- identify priority actions required for the development of the future environment.

This is set out below.

V.1 AREAS OF GENERAL CONSENSUS

The Commission has found from the consultations that:

- there is widespread support for the abolition of exclusive and special rights in the mobile communications sector;
- there is strong support for open, transparent, and non-discriminatory licensing procedures ;
- the vision of the personal communications environment based on the full integration of fixed and mobile technologies and services was broadly supported, allowing licence holders to adapt to emerging technologies as the market demands;
- the role of service providers in developing personal communications services, particularly on a pan-European basis, was widely accepted;
- the timely availability of adequate frequency spectrum on a pan-European basis was seen as fundamental to the expansion of mobile and personal communications sector, to provide for a stable and predictable environment;
- there was general agreement on the central role of numbering in the creation of a competitive mobile and personal communications market and there was wide support for number allocation through independent authorities on the basis of transparent, non-discriminatory and proportionality-based principles;
- general support was received for co-ordinated licensing for the introduction on a pan-European basis of satellite based services and third generation systems.

V.2 GENERAL POSITIONS ON THE FUTURE DEVELOPMENT OF THE SECTOR

Based on the consultations, the Commission considers:

- There is strong recognition of the role of ONP in the regulation of the mobile communications sector and the need for the modification of the ONP framework, in line with Council Resolution 93/C213/01 to take account of the increasingly competitive environment, as the regulatory mechanism for interconnection to ensure fair competition with priority given to commercial agreement between parties;
- There is strong emphasis placed on the importance of non-discrimination and sufficient transparency in the relationship between the mobile operators and the fixed network operators and between the mobile operators and their service provision arms, and the requirement to strictly apply competition rules.
- The important role of the regulatory authorities in dispute resolution and the definition of guidelines to ensure a common approach throughout the European Union is broadly recognised;
- On the issue of service provision, there are a number of issues where broad support was voiced, while there were others on which consensus is currently not possible:
 - there was support for the definition of a harmonised set of the minimum requirements for a Code-of-Conduct for service providers, setting out the rights and duties of the service provider with regard to both the operator and the end user, by all interested parties in the sector;
 - the need to encourage roaming as a means of ensuring pan-European service provision and as a means that allows a rich variety of user choices and innovative services was emphasised by a large number of parties;
 - there was general importance placed on the removal of restrictions on the combination of different services by service providers as an important driver of innovative service provision, both national and Europe-wide;
 - as regards an obligation on mobile network operators to meet reasonable requests to deal with service providers, service providers themselves supported the importance of such an obligation, particularly to create the right conditions for pan-European services provision and the innovative combination of different mobile (and eventually fixed) services. Mobile operators placed priority on commercial autonomy in choosing how their services should be distributed. They emphasised that any agreement had to be placed within the limits of competition law and normal commercial practice.
- Finally, with regard to infrastructure:
 - there is strong recognition of the need for the establishment of a clear regime on the right to self-provision of infrastructure or use of third-party infrastructure and the right of direct interconnection for mobile operators ; However, there was disagreement in how far such a decision could be taken outside the general context of the discussions on liberalising infrastructure.
 - it is considered important to set out clear guidelines establishing the conditions and criteria under which infrastructure sharing is justified or should be mandatory from an environmental or technical point of view.

V.3 ACTION REQUIRED FOR THE FUTURE REGULATORY ENVIRONMENT

On the basis of the comments and the consensus achieved, the Commission finds that the priorities for the implementation of the Green Paper should be defined at a Union level along the following lines :

- actions specific to the mobile sector;
- actions in line with the general reform of the telecommunications sector;
- schedules for standardisation, numbering and frequencies, and for the adoption of binding decisions on implementation;
- the international agenda;
- safeguarding the public interest;
- Universal Mobile Telecommunications Services.

These priorities are set out below.

VI PRIORITIES FOR ACTION

VI.1 SECTOR-SPECIFIC ACTION

VI.1.1 *Introduction of competition*

The mobile and personal communications sector will be one of the most important areas of growth in the telecommunications scene over the next decade. For its prosperous development, the liberalisation of the sector is regarded as essential.

All remaining exclusive and special rights in the sector should be abolished as soon as possible through full application of Community competition rules, and with amendment of Directive 90/388/EEC²⁴ where required.

These measures should be completed before 1st January 1996.

VI.1.2 *Development of a Code of Conduct for Service Providers*

A set of minimum requirements, describing the rights and duties of service providers, needs to be defined, with participation of all interested parties in the sector. These minimum requirements should form the basis of a Code-of-Conduct for service providers, in line with the positions proposed in the Green Paper.

The Code of Conduct framework should be in place before 1st January 1996. It should be subject to bi-annual review, including an examination as to whether the protection of consumer interests can be sufficiently safeguarded by voluntary application of this code.

²⁴ Commission Directive of 28th June 1990 on competition on the markets for telecommunication services (90/388/EEC ; OJ L 192/10, 24.7.1990).

VI.1.3 Ensuring service provider access to the market

The vast majority of comments stressed the role of service providers for the further development of the mobile and personal communications sector.

In line with the positions of the Green Paper, service providers, whether independent or integrated into mobile network operations, should have full commercial freedom to offer a combination of services provided under different mobile licences as well as the ability to provide services in different Member States, subject only to the provisions of the Treaty competition rules.

On the issue of whether there should be an obligation for mobile network operators to deal with reasonable requests from service providers, the Commission continues to consider this to be an important principle for supporting service innovation and pan-European service provision. Nevertheless, in the light of the comments received during the consultation process, priority should be given at this stage to commercial agreement.

This position should be subject to the evolution of the market and be examined in the context of the periodic bi-annual reviews of the services market mentioned under -VI.1.2.

VI.1.4 DCS 1800 licences and access to GSM extension bands

In order to allow the development of a Union-wide market for DCS 1800, Member States should allocate at least one licence for operating mobile systems according to the DCS 1800 standard as soon as possible, at the latest after adoption of an ERC decision on the allocation of DCS 1800 frequencies and prior to 1st January 1998.

To allow the exploitation of the full potential of the GSM/DCS 1800 system family²⁵, existing restrictions on GSM licensees regarding access to DCS 1800 frequencies, or on DCS 1800 licensees concerning access to GSM extension bands, should be abolished at the latest by 1st January 1998. Allocation should be subject to frequency availability and strict scrutiny under the Treaty competition rules.

This is in line with the general Green Paper position proposing that mobile network operators should be allowed to combine different mobile services, provided under different licences and/or on the basis of different technologies/standards, that no restrictions should be introduced into new licences in this regard and that restrictions in existing licences should be lifted.

VI.1.5 Public access/Telepoint applications and DECT-based systems

Prior to 1st January 1996, Member States should allocate licences for public access /Telepoint applications, in particular for systems operating according to the DECT standard.

²⁵ According to the GSM MoU Comments, GSM should be seen as a system family comprising GSM phase 1, GSM phase 2, GSM phase 2+, DCS1800 and the DCS1900 concept.

In order to promote the rapid take up of personal communications services on a broad services platform, existing restrictions on combinations of DECT and other mobile technologies/systems under existing licences should be abolished before 1st January 1996.

In particular, GSM/DCS 1800 network operators should have the right to install and operate DECT systems and to connect them to their networks without additional operating or spectrum licences²⁶, subject only to scrutiny under competition rules.

VI.1.6 Allowing mobile network operators to provide public voice service via the fixed network

In line with the Green Paper positions, mobile network operators or independent service providers should be able to provide public voice services via the fixed network, once public voice provision via the fixed network is liberalised.

At the latest, this should be in accordance with the schedule for full liberalisation of public voice services established in Council Resolution 93/C213/01, namely 1st January 1998, with, where justified, additional transition periods of up to five years for Spain, Ireland, Greece, and Portugal, and two years for Luxembourg, subject to the conditions which may be agreed for such licences concerning universal service obligations or sharing in the financing of such obligations, and subject to the Treaty competition rules.

VI.1.7 Ending restrictions on fixed network operators

In parallel and in accordance with the Green Paper, any restrictions on public fixed network operators from entering wireless and mobile fields, other than those justified according to the Treaty competition rules, should be lifted in order to allow full combination of fixed and mobile services, and thus give full opportunity for the development of personal communications services.

This implies that such operators should not be prohibited *ab initio* from bidding directly or indirectly for licences for any mobile communications service. Existing prohibitions on such bids should be abolished at the latest by the deadline set for full liberalisation in Council Resolution 93/C213/01, namely, 1st January 1998, with additional transition periods for the Member States referred to above, subject to strict scrutiny of market impact under the Treaty competition rules.

VI.1.8 Targeted programmes to support market entry of emerging mobile technologies: TETS, ERMES, TETRA, DSRR.

Specific programmes should be initiated to support, where required, new mobile technologies currently being implemented in the marketplace. These programmes should include reviews examining the current state of market introduction and the level of support currently encountered, with a view to enhancing the world market potential of the systems and technologies in question, and proposing any measures required.

²⁶ According to comments by the GSM MoU, this will encourage the implementation of services according to the DECT/GSM interworking standard specified by ETSI SMG at present.

The Commission intends to award study contracts to investigate the status of TETS, ERMES, TETRA, and DSRR²⁷ mobile technologies. The studies will in particular report on the licenses awarded, the perceived market potential in Europe and the rest of the world, products developed or being developed, and the availability of frequency spectrum in the Member States of the Union.

It is considered that these actions will facilitate the planning of future measures aimed at accelerating market introduction of these emerging mobile technologies.

VI.1.9 Monitoring issues of fraud

The fraudulent use of mobile services and equipment has emerged as a major concern during the consultation.

The Commission intends to monitor closely this phenomenon and propose where required measures including a requirement on network operators to implement the Equipment Identification Register (EIR) for digital terminals and adding Physical Serial Numbers (PSN) to analogue terminals. Any measures taken in this area must not restrict the further development of roaming.

VI.1.10 European licensing of satellite PCS services

While the licensing of mobile systems was generally seen to best be carried out at a national level, and co-ordinated licensing was considered in many of the comments as a sufficient measure to ensure coherence for a future UMTS, there was wide recognition that satellite-based personal communications services should be seen as a special case, in view of their Europe-wide coverage.

Given that licences for satellite based personal communications systems, including the so-called Low Earth Orbit Satellites (LEOs) systems, are due to be allocated in the United States by Spring 1995, there exists an urgent requirement to establish a co-ordinated position with regard to licensing of such systems in the Union.

The Commission considers that in this case, there is a clear case for proceeding at the Union level, in order to avoid unco-ordinated action and to ensure a strong European role in these future global systems.

Full account should be taken of the global aspects of these systems, with licensing applications to be open to existing and future global systems, on a reciprocal basis.

²⁷ TETS : the new digital Terrestrial Flight Telephone System (in-flight telephone for passengers), developed by ETSI

ERMES : European Radio Messaging System, the new digital paging standard developed by ETSI

TETRA : Trans European Trunked Radio, the new digital standard developed by ETSI for applications for private use on a shared basis, such as by closed user groups and use e.g. by police forces (of particular importance also in the context of the implementation of the Schengen agreement).

DSRR : Digital Short Range Radio, new digital standard developed by ETSI in the private mobile radio field.

For details see Green Paper.

Procedures should therefore be developed for licensing satellite-based personal communications systems on a common basis at the Union level, with the opening of the licensing process by 1st January 1996 at the latest.

VI.1.11 Consultation procedures

Many comments emphasised the importance of strengthening consultation procedures in the sector. Included in some of the comments were proposals for the creation of a permanent consultative forum, bringing together all those active in the sector.

Such proposals are entirely consistent with the call for strengthening partnership-building in the telecommunications sector contained in the Commission's Communication of 19 July 1994 in response to the report on Europe and the global information society.²⁸ The Commission would therefore support the creation of such a European Mobile and Personal Communications Services Forum.

VI.2 ACTIONS LINKED TO GENERAL REFORM OF TELECOMMUNICATIONS (REQUIRED BY 1 JANUARY 1996)

A number of required actions are linked to the general reform of telecommunications regulations required by 1st January 1996 in accordance with Council Resolution 93/C213/01²⁹. These concern general issues, such as the future structure of regulatory coordination between Member States, and the issue of a future Single Regulatory Authority raised in a number of comments, as well as a number of specific measures.

The measures concerned are considered below.

²⁸ "Europe's way to the information society. An action plan. Communication from the Commission, COM(94)347, 19 July 1994.

²⁹ Council Resolution of 22nd July 1993 on the review of the situation in the telecommunications sector and the need for further development in that market (93/C 213/01 ; OJ 213/1, 6 August 1993).

VI.2.1 *Removal of restrictions on the use of alternative infrastructure within mobile networks*

The issue of free choice of infrastructure required for mobile network operators was one of the core issues raised during the consultation.

The Commission continues to consider the freedom for mobile network operators to operate and develop their network for the purpose of the activities allowed in their licence or authorisations, including a free choice of facilities used to support such activities, as essential for ensuring an appropriate economic base for such operations.

In response to the report on Europe and the global information society, and as announced in its Communication of 19th July 1994, the Commission produced the first part of the Green Paper on infrastructure³⁰, proposing, *inter alia*, the full liberalisation of infrastructure used for mobile communications.

VI.2.2 *Regulation of interconnection arrangements within the framework of Open Network Provision and Treaty competition rules*

The Commission has put forward a Communication on the future adjustment of Open Network Provision to a fully competitive environment³¹. The Communication proposes a new Open Network Provision Interconnection Directive in parallel with the implementation of the competition rules, to set out in further detail the principles and the framework for promoting interconnection.

Key orientations would be :

- commercial negotiation to be the basis for interconnection agreements;
- the National Regulatory Authorities to play a role in laying down principles for negotiation;
- common principles to be applied for interconnection charges.

Two comprehensive studies are currently being carried out for the Commission on accounting and interconnection³². The studies will be submitted to a broad public consultation following their publication in October 1994, such consultation to be completed in December 1994.

Proposals for an interconnection Directive will be tabled by the Commission before 1st January 1996.

³⁰ Green Paper on liberalisation of telecommunications infrastructure and cable TV networks (part I).

³¹ Present status and future approach for open access to telecommunications networks and services (Open Network Provision), Communication from the Commission to the European Parliament and the Council (to be published).

³² "Cost allocation and the general accounting principles to be used in the establishment of access charges in the context of telephone liberalisation in the EC", Arthur Andersen & Co, Turin, Italy.
"Interconnection in the context of Open Network Provision", Wissenschaftliches Institut für Kommunikationsdienste GmbH, Bad Honnef, Germany

Also anticipated is the amendment of Directive 90/387/EEC³³, in particular adjustment of its scope, in order to ensure the general application of the principles of equality of access, transparency, non-discrimination and proportionality, which are particularly relevant in relation to licence award procedures.

In parallel, the Commission intends to intensify its scrutiny of interconnection agreements under the Treaty competition rules

VI.2.3 Amendment of Directive 91/263/EEC on mutual recognition for terminal equipment

Directive 91/263/EEC³⁴ should be amended before 1st January 1996 to cover mobile terminal equipment not capable of connection to the public network, which is currently outside its scope. Accelerated application must include more rapid adoption of Common Technical Regulations (CTRs) in particular for terminal equipment using new digital mobile technologies. Accelerated applications of Directives 91/263/EEC and 93/C97/EEC³⁵ should also allow for mutual recognition of terminal equipment on the basis of fulfilment of the essential requirements for those types of equipment for which CTRs have still not been adopted.

Based on the comments received, particular issues to be addressed include rapid change procedures for TBRs and type approval for accessories.

VI.2.4 Adoption of proposals pending in the field of mutual recognition of licensing.

The proposed Satellite Licensing Directive³⁶ which also covers satellite-based mobile communications, is currently under discussion in the Council. It is expected that the Council will adopt a common position before the end of 1994.

The amended proposal for a general Directive on telecommunications licences³⁷ excludes the field of mobile communications. The Commission notes the reservations in the consultation concerning the application of the full mutual recognition principle to certain mobile communications fields, owing in particular to issues of frequency allocation and coordination.

³³ Council Directive of 28th June 1990 on the establishment of the Internal Market for Telecommunications services through implementation of Open Network Provision (90/387/EEC ; OJ L 192/1, 24.7.1990).

³⁴ Council Directive of 29 April 1991 on the approximation of the laws of the Member States concerning telecommunications terminal equipment, including the mutual recognition of their conformity (91/263/EEC; OJ L 128/1, 23.05.1991).

³⁵ Council Directive of 29 October 1993 supplementing Directive 91/263/EEC in respect of satellite earth station equipment (93/C 97/EEC ; OJ L 290/1, 24.11.1993).

³⁶ Proposal for a European Parliament and Council Directive on a policy for the mutual recognition of licences and other national authorisations for the provision of satellite network services and / or satellite communications services, COM(93)652 final - OJ 482, 4.01.1994.

³⁷ Amended proposal for a European Parliament and Council Directive on the mutual recognition of licences and other national authorisations for telecommunications services, COM(94)41 final - OJ 438, 22.03.1994

VI.3 SCHEDULES FOR STANDARDISATION, NUMBERING AND FREQUENCIES, AND THE SCHEDULE FOR ADOPTION OF BINDING DECISIONS ON IMPLEMENTATION

Standards development and the development of TBRs in the mobile communications field follows agreed procedures, established in particular according to Directive 91/263/EEC.

As regards frequency and numbering co-ordination, the frameworks proposed in the Green Paper have in the meantime been established with the ERC / ERO and ECTRA/ETO respectively.³⁸ An MoU and Framework Contract have been signed between the Commission and the ERC / ERO, as well as between the Commission and ECTRA / ETO, according to which the Commission entrusts work on frequency and numbering co-ordination to these organisations³⁹.

VI.3.1 *Standardisation*

For the mobile and personal communications sector, a number of standards have been adopted for GSM (TBR5 Phase 1 and TBR9 Phase 1), ERMES (TBR7) and DECT (TBR6, TBR10 and TBR11). A majority of these standards have been included in mandatory pan-European type-approval specifications, Common Technical Regulations (CTRs).

Further standards have been requested by the Commission for GSM Phase 2, GSM Phase 2+, GSM half rate codec, DCS 1800, LEO earth stations, TETS and TETRA. It is expected that these standards will be adopted during 1995 and 1996.

VI.3.2 *Frequencies*

In order to secure the development of new mobile technologies binding ERC Decisions⁴⁰ on the allocation of frequency spectrum by the European Radiocommunications Committee are required for :

- before 1st January 1996 :

- TETRA,

- DCS 1800

³⁸ ERC and ECTRA have been created as two of the three committees under the new CEPT, see Green Paper. ERC : European RadioCommunications Committee. The ERC has established the European Radio Communications Office (ERO), Copenhagen.
ECTRA : European Committee for Telecommunications Regulatory Affairs. ECTRA has set up the European Telecommunications Office (ETO), starting from 1st September 1994 onwards, at Copenhagen.

³⁹ A substantial number of work requirements have been agreed or are under negotiation. Of special concern to mobile / personal communications are, inter alia, :
- in the field of frequency planning / co-ordination (ERC/ERO) : work requirements on DCS1800, TETRA, wireless LANs, mobile broadband systems, satellite PCS, VSAT/SNG, mobile satellite applications (general), UMTS ;
- in the field of numbering planning / co-ordination (ECTRA/ETO) : work requirements on UPT, including European numbering space and PCS numbering and portability, non-discriminatory access to numbering, aspects of user friendliness of numbering systems ;
- in the field of developing licensing conditions (ECTRA/ETO) : work requirements on satellite PCS, mobile satellite network and services (general), SNG.

⁴⁰ ERC Decisions, see Green Paper.

- satellite-based personal communications systems (including Low Earth Orbiting satellite systems).

- before 1st January 1998 :

- UMTS, with a global objective of allowing for an early designation and schedule of allocation for the bands set aside at WARC92 for UMTS/FPLMTS.

VI.3.3 Numbering

With regard to numbering of telecommunication services, firm decisions by ECTRA are required that will allow:

- before 1st January 1996 :

- the establishment of a European numbering space for freephone services;

- before 1st January 1998 :

- the establishment of a European numbering space for pan-European services provision;

- the creation of an open and integrated numbering scheme for Europe which allows (pan-European) intelligent network services, mobile and personal telecommunications services and other services to migrate into this new scheme.

As an immediate priority, current activities aimed at the reform of national numbering plans should take account of the requirement for convergence. Also, national regulatory authorities should ensure the timely availability of new number blocks for new market entrants, with numbers of "equal quality" to those of other market players.

VI.4 THE INTERNATIONAL AGENDA

VI.4.1 *Third country access*

A major focus for the Community for achieving market access in third countries will be the GATT forum (shortly to become the WTO, World Trade Organisation). The telecommunications sector, and the mobile sector in particular are directly concerned with- GATT rules to be developed during negotiations on basic telecommunications over the next two years.

These negotiations should not only result in an exchange of commitments on market access, but should also help set the ground-rules for the future. Among the issues covered would be clarification as to how the GATT/WTO principles apply in particular situations such as mobile communications where access to frequencies may be limited, and in global personal communications which have global regulatory implications.

International aspects of frequency allocation in the ITU, and the issue of mutual recognition of type approval on a world-wide scale will also require urgent attention.

On a bilateral level, common Community positions will be needed with regard to obtaining comparable and effective market access to specific third-country markets.

Common Community positions will also have to be developed on issues having a direct impact on trade and exports in this field. Comments have confirmed that this concerns issues related particularly to the effective enforcement of intellectual property rights, as well as to restrictions on exports of encryption techniques and other sensitive technologies.

VI.4.2 *International co-ordination on evolution towards UMTS*

International co-ordination will be a major aspect of the future evolution towards UMTS (see below). The main forum for such co-ordination will be the ITU-work on standardisation of the Future Public Land Mobile Telecommunications System (FPLMTS)

Additionally, the evolution towards UMTS is co-ordinated between the United States, Japan and Europe in a platform known as FAMOUS (Future Advanced Mobile/Wireless Universal System). The European delegation to FAMOUS is comprised of representatives from the Commission, the Telecommunications Equipment Manufacturers Association (ECTEL) and ETSI.

The main objectives of FAMOUS are to continue to seek collaborative approaches to the exchange of ideas in order to address the emerging needs of third-generation wireless communications systems and services, on a world-wide basis; to establish a broad common understanding of the requirements with a view to introducing these into the standardisation process; to pursue discussions concerning possible international roaming options, and to maximise international co-operation for interoperability on a global basis of such systems.

Information obtained through FAMOUS will be fed into the Union's research programmes in this area (see below).

VI.4.3 The role of personal communications in Information Highways

The report on Europe and the Global Information Society and the subsequent Commission Action Plan of 19th July 1994 has emphasised the importance of mobile communications as a major element in building the information highway.

The Commission will pay due attention to this aspect in further planning towards the information highway both at the European and global levels.

VI.5 SAFEGUARDING THE PUBLIC INTEREST*

VI.5.1 Development of a global Action Programme for Health and Safety in the mobile sector

Increasing acceptance by the general public of the use of radio frequencies as a means of communicating is the basis for the whole mobile industry. Therefore, concerns regarding hazards caused by the use of radio frequencies must be considered and taken into account. Comments on the Green Paper have confirmed that such concerns centre on two major areas: the potential hazards caused to human health on the one hand, and the potential for electromagnetic interference with other electronic equipment such as pace-makers and hearing aids, on the other.

There was broad support for the setting up of a comprehensive action programme to assess the impact of radio frequency radiation on human health and safety and to accelerate the development of the necessary safety standards.

The Commission will make proposals for initiating such a programme before 1st January 1996.

VI.5.2 On-going assessment of the environmental impact of the development of mobile and personal communications

There was general agreement on the need for an ongoing assessment of the environmental impact of mobile and personal communications. In particular, the sharing of sites will reduce the impact on the environment by preventing, wherever possible, the unnecessary proliferation of radio masts and related facilities.

Guidelines for sharing agreements, in conformity with Treaty competition rules, should be worked out before 1st January 1998.

VI.5.3 On-going monitoring of employment trends and training needs in the communications sector

In the context of the consultation, trade unions have stressed the need to examine the impact of the new technological developments on employment in the telecommunications sector.

In order to satisfy the increasing demand for mobile services, operators are establishing more cell sites to improve coverage, they are opening more service centres to take customer orders, and they are creating more distribution channels to sell services and equipment. All such efforts translate into a continuing and growing industry requirement for skilled workers. It is expected that as a result of this activity, employment in the public cellular telephony business will grow at a rate of 10 to 20 percent per year.

The on-going monitoring of employment trends, and the associated training needs in the mobile communications sector will be accorded high priority.

VI.5.4 Data protection and privacy

The future development of mobile and personal communications raises important questions of the protection of privacy with regard to the processing of personal data. The concepts of person to person calling, unique numbers for individuals and personalised cards need to be carefully examined from this point of view in order to take into account concerns such as those which have already been raised on line identification. This is addressed in the amended proposal for a Directive on the protection of personal data and privacy in the digital telecommunications networks⁴¹. In addition it is expected that the Council will adopt a common position on the framework directive on data protection before the end of the year⁴².

The Commission will prepare a report examining the need for further measures concerning the protection of personal data before the 1st January 1996.

⁴¹ 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 Networks (ISDN) and digital mobile networks, COM(94) 128 final, OJ C288, 13.6.94

⁴² Amended proposal for a Council Directive on the protection of individuals with regard to the processing of personal data and on the free movement of such data, COM(92) 422 final, 15.10.92

VI.6 UNIVERSAL MOBILE TELECOMMUNICATIONS SERVICES

VI.6.1 Continued support for Community research programmes into advanced mobile communications and telematics

The new programme for research and technological development in the field of advanced communications technologies and services was adopted by the Council Decision of 27 July 1994¹¹.

The global objective of the programme is to develop advanced communications systems and services for economic development and social cohesion in Europe, taking account of the rapid evolution in technologies, the changing regulatory situation and opportunities for development of advanced trans-European networks and services.

One of the main areas for technological development is that of mobile and personal communication networks. The objective is to accommodate the demand for personal communications beyond 2000 and to permit European industry to retain its leadership role in this area. Emphasis will be placed on miniaturisation, broadband radio technologies, advanced electrical/optical technologies, novel multiple access techniques, as well as the integration of satellite and terrestrial networks.

VI.6.2 Support for the work of the ETSI Special Mobile Group and promotion of a UMTS MoU

ETSI and in particular its SMG (Special Mobile Group) Technical Committee will continue to be a key player in the development of the GSM system family and third-generation technologies.

ETSI SMG is at present concentrating its work on extending GSM with new features (Phase 2, Phase 2+, Half-rate codec). It is expected that the emphasis of the Group will gradually move towards UMTS.

In order to secure such a smooth transition, the approach towards UMTS technology is expected to be built on an upgrade of the current GSM system family to include new functionality and extended broadband service capabilities. Such an approach seems to give the best guarantees that the present success of GSM can be carried over into the next generation UMTS, with consequential benefits for the sector employment and the European economy.

The future development of UMTS will require a common vision of all sector players. The Commission will therefore, in accordance with the emphasis on partnerships with the sector given in its 19 July 1994 Action Plan for the information society, support the setting up, prior to 1st January 1998, of a Memorandum of Understanding for the development of UMTS drawing on the experience of the GSM MoU and building on national initiatives currently under way in this field.

¹¹ Council Decision of 27 July 1994, adopting a specific programme for research and technological development, including demonstration, in the field of advanced communication technologies and services (1994-1998), (94/572/EC).

Future personal communication services will make use of a mix of terrestrial technologies such as the GSM system family and DECT, as well as satellite-based systems. By integration of the various systems into a common environment, users will be offered seamless services that can be accessed on a global scale.

Currently, Europe is the leading player in the area of digital mobile and personal communications technology. Systems such as GSM and DCS 1800/1900 are, or are poised to become world standards for terrestrial-based systems.

The complementary nature of terrestrial and satellite-based systems makes a combined system concept highly attractive where strong mutual benefits can be derived. Hence the importance of investigating the development of a satellite component for the future UMTS as a prerequisite for continuing the success of the current terrestrial digital systems into the next generation of mobile and personal communications networks.

A major condition will be a strong European presence in satellite-based personal communications systems, based on the early allocation of European licences for such systems

VII CONCLUSIONS AND TIMETABLE FOR ACTION

The mobile and personal communications sector is currently in a critical phase of its development. In order to secure further development and to reap the full benefits of its potential, a coherent and stable regulatory framework for the sector is required. This Communication sets the priorities for actions aimed at establishing such a framework, the main elements of which are shown in the **Timetable for Action (TABLE 1)** below.

The report on Europe and the global Information Society, and the Commission's Communication of 19th July 1994, have emphasised the importance of mobile and personal communications as a major building block for the future information environment. As such the Green Paper on mobile and personal communications, and the subsequent consultation, represent a first key step in the process of preparing for the full liberalisation of telecommunications markets in the EU from 1st January 1998.

The Commission has published the Green Paper as a consultative document with the intention to seek the views of all interested parties in the sector, as well as of the European Parliament and Council, the Economic and Social Committee, and the Committee of Regions. A broad consultation has taken place including public hearings whilst a substantial number of written contributions have been received. On the basis of this consultation, the Commission has drafted this Communication to the European Parliament and the Council and has prepared the attached Proposal for a Council Resolution.

In the light of the above, the Commission asks the European Parliament and the Council to endorse this Communication and urges the Council to adopt the attached Resolution.

TABLE 1: TIMETABLE FOR ACTIONS DESCRIBED IN SECTION VI ABOVE

Prior to 1st January 1996

Competition. Full application of the Treaty competition rules and, where required, amendment of Directive 90/388/EEC in order to achieve the objective of removal of all exclusive and special rights in the sector (VI.1.1)

Code of Conduct. Development of a Code of Conduct for Service Providers (VI.1.2)

DECT. Facilitating access to DECT and combined use of DECT with other technologies, in particular GSM/DCS 1800 (VI.1.5)

Support Programmes. Establishment of programmes for promoting TETS, ERMES, TETRA, and DSRR market introduction (VI.1.8)

Satellite-PCS. Agreeing procedures for licensing of satellite-based personal communications at Union level and starting licensing procedures (VI.1.10)

Consultation. Promotion of the creation of a European Mobile and Personal Communications Services Forum (VI.1.11)

Alternative Infrastructure. Lifting constraints on alternative telecommunications and cable TV infrastructure for the provision of mobile communications, based on a general approach to infrastructure regulation (VI.2.1)

ONP, Interconnection and the Competition Rules. Adjustment of the Open Network Provision framework and proposal for an ONP Interconnection Directive in the context of general telecommunications reform; scrutiny of interconnection agreements under the Treaty competition rules (VI.2.2)

Mutual Recognition. Amendment of Directive 91/263/EEC concerning mutual recognition of type approval of mobile equipment (VI.2.3)

Directives pending. Adoption of pending Directives (mutual recognition of satellite licenses and data protection and privacy) (VI.2.4/5)

Frequencies. Adoption of ERC Decisions on frequency bands for TETRA, DCS 1800 and satellite based personal communications, including Low Earth Orbit satellite systems, (LEOs) (VI.3.2)

Numbering. Opening up of a European Numbering Space for freephone services (VI.3.3)

Standardisation. Establishment of standardisation mandates (VI.3.7)

Fraud. Monitoring the fraudulent use of mobile services and equipment and examining action where required (VI.1.9)

Third Country Markets. Ensuring international co-ordination and working towards furthering of equivalent access to third country markets (VI.4.1)

Health & Safety. Development of a global action programme for health and safety in the mobile sector (VI.5.1)

Employment & Training. Monitoring of employment trends and re-training needs (VI.5.3)

Prior to 1st January 1998

Service Provider Access. Review of the situation concerning access to the market by service providers (VI.1.3)

DCS 1800 Licences. Ensuring access to DCS 1800 and GSM extension bands in all Member States (VI.1.4)

Mobile Service Combinations. Allowing, in a first phase, full combination of different mobile technologies including the components of the GSM system family (GSM / DCS 1800) and ending any remaining restrictions (VI.1.6)

Fixed and Mobile Service Combinations. Allowing, in a second phase, full combination of fixed and mobile services in accordance with the schedule for full liberalisation of public voice services with additional transition periods for certain Member States, as established in Council Resolution 93/C213/01 (VI.1.7)

UMTS Frequencies. Adoption of an ERC Decision on the frequency bands for UMTS (VI.3.2)

Numbering Space. Creation of a European Numbering Space for pan-European service provision, including Personal Communications requirements (VI.3.3)

Environment, Infrastructure Sharing. Setting the general guidelines (VI.5.2)

UMTS MoU. Continuing support for work towards the Universal Mobile Telecommunications System (UMTS) and promotion of the creation of a UMTS Memorandum of Understanding including all actors concerned (VI.6.2)

BRIEF OUTLINE OF THE GREEN PAPER ON MOBILE AND PERSONAL COMMUNICATIONS

The Green Paper entitled "Towards the Personal Communications Environment : Green Paper on a common approach in the field of mobile and personal communications in the European Union (COM(94)145, 27th April 1994) provides an extensive analysis of the sector and sets forth a coherent set of positions for the future development of the sector.

Five major changes are proposed to remove the barriers to further development.

- 1 **Abolishing remaining exclusive and special rights** in the sector, subject where required to the establishment of appropriate licensing conditions ;
- 2 **Removal of all restrictions on the provision of mobile services** both for independent Service Providers and direct service provision by mobile network operators.

This should include the freedom to offer a combination of services provided under different licences, as well as the ability to provide services in different Member States, and the lifting of existing restrictions, thereby facilitating access of users to these services ;

- 3 **Full freedom for mobile network operators to operate and develop their networks** for the purpose of the activities provided for in their licence or authorisation.

This should include the right to self-provide infrastructure for use in carrying out these activities or to use third party infrastructure for that purpose, as well as the right to share infrastructure .

- 4 **Unrestricted combined offering of services via the fixed and mobile networks**, within the overall time schedule set by Council Resolution 93/C213/01 of 22nd July 1993 for the full liberalisation of public voice services via the fixed network.

This would imply the right for mobile operators or independent Service Providers to bid for resale licenses on the fixed network, as well as for the lifting of all existing entry restrictions for fixed network operators in mobile markets, subject only to full application of the Treaty competition rules, in particular, Council Regulation 89/4064/EEC on the control of concentrations and the provisions of the Treaty competition rules concerning abuse of dominant positions ;

- 5 **Facilitating pan-European operation and service provision.**

This should include further development of mutual recognition of type approval of mobile terminal equipment, as well as coordination of licensing and award procedures, where appropriate to facilitate development of trans-European networks.

Based on these major changes proposed, the Green Paper sets forth detailed positions on :

- Licensing conditions for mobile network operators ;
- Service provision ;
- Interconnection ;

- Infrastructure ;
- Radio frequencies ;
- Numbering ;
- Launching the evolution towards personal communications services.

The Green Paper proposes measures required for implementation concerning :

- Introduction of competition ;
- Adjustment of the Open Network Provision framework ;
- Mutual recognition of type approval of mobile equipment ;
- Mutual recognition of licences ;
- Establishment of a Europe-wide Code of Conduct for service providers ;
- Framework for the co-ordination of radio frequencies ;
- Framework for the co-ordination in the field of numbering ;
- Protection of personal data and privacy in the context of digital mobile communications networks.

The Green Paper further submits a set of accompanying lines of actions to comment :

- Ensuring safety and safeguarding environmental concerns in the future mobile and personal communications environment ;
- Promoting standardisation to ensure interconnection and interoperability ;
- Setting priorities for frequency co-ordination related to mobile and personal communications ;
- Initiating co-ordination of numbering and working towards a European numbering space for personal communications ;
- Facilitating the development of trans-European networks based on mobile and personal communications technologies ;
- Elaborating common Community positions with regard to Third Countries and ensuring market access to those countries ;
- Continuing support for the evolution towards the Universal Mobile Telecommunications System

**LIST OF CONTRIBUTORS TO THE CONSULTATION ON THE
1994 GREEN PAPER ON MOBILE AND PERSONAL COMMUNICATIONS**

HEARINGS

General Consultation Meeting. 16th & 17th June 1994, approximately 210 participants

Round Table for the Chairman of Fixed and Mobile Network Operators. 28th June 1994, 67 participants

Meeting with Service Providers. 28th July 1994, 26 participants

Meeting with GSM MoU. 29th July 1994

Meeting with Consumer Organisations. 1st September 1994

Meeting with Trade Unions. 21st September 1994

WRITTEN CONTRIBUTIONS

Associations

Bedrijfstelecommunicatie Grootgebruikers
Bureau Européen des Unions de Consommateurs
CEPT/ERC
CEPT/ECTRA/ERC
Club Informatique des Grandes Entreprises Françaises
Conseil National du Patronat Français
EC Committee of the American Chamber of Commerce
ECTEL
ERMES MoU
ETNO
Eurocontrol
European Council of Telecommunications Users Association (ECTUA)
European Data Protection Commissioners
Federation of the Electronics Industry (FEI)
German MoU on Personal communications
GSM MoU
International Chamber of Commerce
Internationale du Personnel des Postes, Telegraphes et Telephones
Joint Committee of Telecommunications
LMT - Norwegian Suppliers Association
Matkaviestintöömittajat
Syndicat des industries de matériel professionnel électronique et radioélectrique (SPER)
UNICE

Individual Organisations

Airtouch International
Alcatel
Allgon AB
AT&T
ATC Finland
Austrian Postal Administration
Belgacom
British Telecom
Bundesministerium für Post- und Telekommunikation
Cellcom
Cellnet
CommEd Ltd
Department of Trade and Industry
Deutsche Bundespost Telekom
E-Plus Mobilfunk
Ericsson International
France Telecom
Gesellschaft für Datenfunk mbH
Hoskyns Group plc
Instituto das Comunicações de Portugal (ICP)
Makitorppa
Mannesmann Mobilfunk
Media & Technology International
Mercury Communications
Mercury oneZone
Ministry of Transport and Communications Finland
Mobile Systems International
Mobile Tele Leverantörerna
Motorola
Nokia
Omnitel Pronto Italia
Orange Personal Communications
OTE
Portugal Telecom
Post & Telesstyrelsen
PTT Telecom Netherlands
Raad voor Verkeer en Waterstaat
Société Française du Radiotéléphone (SFR)
Shell International Petroleum Maatschappij B.V.
Sistelcom
STET
Swissphone Telecommunications
Talkland International (UK) Ltd
Telecel
Telecom Eircann
Telecom Finland
Telefonica
Telia
Uniqueair
Vodafone Group plc
Vodafone S.A.

LIST OF ACRONYMS

CEPT	European Conference of Postal and Telecommunications Administrations
CT2	Standard for Cellular Telephony
CTR	Common Technical Regulation
DCS-1800	Digital Communication Standard for Cellular Communications
DECT	Digital European Cordless Telecommunications
DSRR	Digital Short Range Radio
ECTEL	Telecommunications Equipment Manufacturers Association
ECTRA	European Committee for Telecommunications Regulatory Affairs
EIR	Equipment Identification Register
ENF	European Numbering Forum
ERC	European Radiocommunications Committee
ERMES	European Radio Messaging System
ERO	European Radiocommunications Office
ETO	European Telecommunications Office
ETS	European Telecommunications Standard
ETSI	European Telecommunications Standards Institute
FAMOUS	Future Advanced Mobile Wireless Universal System
FPLMTS	Future Public Land Mobile Telecommunications System
GSM	Global System for Mobile
IN	Intelligent Network
ISDN	Integrated Services Digital Networks
ITU	International Telecommunications Union
LAN	Local Area Network
LEOs	Low Earth Orbit Satellite
NRA	National Regulatory Authority
ONP	Open Network Provision
PBX	Private Branch Exchange
PCS	Personal Communications Services
PMR	Private Mobile Radio
PSN	Physical Serial Numbers
SIM	Subscriber Identification Module
SMG	Special Mobile Group
SNG	Satellite News Gathering
TBR	Technical Basis for Regulation
TETRA	Trans European Trunked Radio
TFTS	Terrestrial Flight Telephone System
TO	Telecommunications Organisation
UMTS	Universal Mobile Telecommunications Systems
VSAT	Very Small Aperture Terminal
WARC	World Administrative Radio Conference

**Proposal
for a Council Resolution of []
on the further development of
mobile and personal communications
in the European Union**

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community,

Whereas, as a result of the 1992 review of the telecommunications sector, the Council, in its Resolution of 22 July 1993, called on the Commission to publish a Green Paper on mobile and personal communications⁴⁴;

Whereas on 27 April 1994 the Commission adopted its Green Paper on a common approach in the field of mobile and personal communications⁴⁵;

Whereas, on the basis of the wide-ranging consultation, the Commission has submitted a Communication to the European Parliament and Council on the outcome of the consultation on the Green Paper on mobile and personal communications,

WELCOMES the broad consultation carried out by the Commission on the main principles and objectives of the Green Paper on Mobile and Personal Communications and NOTES the consensus resulting from it, as well as those areas where a full consensus was not achieved.

SUPPORTS the development of a framework for Mobile and Personal Communications both through sector specific action and through action in the context of the overall reform of the telecommunications sector.

⁴⁴ Council Resolution of 22nd July 1993 on the review of the situation in the telecommunications sector and the need for further development in that market (93/C 213/01, OJ C 213, 6.8.1993)

⁴⁵ Towards the Personal Communications Environment : Green Paper on a Common Approach in the field of mobile and personal communications in the European Union (COM(94)145 final, 27.04.1994)

CONSIDERS AS PRIORITIES FOR SECTOR SPECIFIC ACTION measures which at a Union level seek to ensure :

- 1 the introduction of competition where this is still not the case, with the number of mobile licenses granted to be limited only on the grounds of essential requirements and public service requirements in the form of trade regulations;
- 2 service provider access to the market and promote the development of a Code of Conduct for service providers, with special regard to the protection of consumer interests;
- 3 the timely access to DECT and DCS 1800 frequencies and the rapid availability of adequate frequency spectrum on a pan-European basis to support the development of existing and new mobile technologies and systems, such as TETRA, ERMES, DCS 1800 and satellite-based personal communications services, as well as the removal of restrictions on the innovative combination of different mobile technologies ;
- 4 that the full combination of fixed and mobile services be allowed in accordance with the schedule for the full liberalisation of public voice services with additional transition periods for certain Member States, as established in Council Resolution 93/C213/01, in order to allow full-scale development of personal communications services.
- 5 that a harmonised licensing approach for satellite-based personal communications is established and that procedures for licensing such systems at the Union level be initiated at an early stage;

CONSIDERS AS AREAS FOR PRIORITY ACTION FOR MOBILE AND PERSONAL COMMUNICATIONS WITHIN THE FRAMEWORK OF THE GENERAL REFORM OF TELECOMMUNICATIONS:

- 1 examining constraints on alternative telecommunications and cable-TV infrastructure for the provision of mobile communications, in the context of the general approach to infrastructure regulation, with the aim of lifting such constraints
- 2 the development of the regulatory regime for interconnection based on the Treaty competition rules upon the ONP framework, modified in line with Council Resolution 93/C213/01, and the EU competition rules, giving priority to commercial agreement between parties under the supervision of regulatory authorities and strict scrutiny under Treaty competition rules;

3. the putting in place of an appropriate regulatory framework for the mobile sector, based on current legislative proposals and adopted directives, in relation to data protection and privacy, the mutual recognition of licensing and the mutual recognition of type approval for terminal equipment;

NOTES THE NEED FOR ADDITIONAL ACTION in order to develop the overall regulatory and technological environment

1. Establishing clear schedules for standardisation, numbering and frequencies, **together** with timetables for binding decisions on implementation by the Member States, **as well as** for agreement on the establishment of a European numbering space **taking account of** requirements for mobile and personal communications such as for **portable numbers**;
2. In order to maintain public confidence in the development of mobile communications, an action programme should be set up to address a range of areas linked to the **public** interest, namely to:
 - assess the impact of radio frequency radiation on human health and safety and to accelerate the development of necessary safety standards;
 - examine the impact on employment and re-training requirements in the **sector**;
 - study issues relating to fraudulent use of mobile services and equipment, **as well as** other issues of consumer protection; to propose appropriate measures **where** required at the Union level; and to monitor developments on tariffs and tariff structures (versus cost-oriented pricing), including subscription fees and equipment prices, **in order to** protect the economic interests of consumers ;
3. ensure that the necessary measures are taken to secure the success of future **European** systems and standards in emerging world markets for mobile and personal communications, with particular attention on the role of the future Universal Mobile Telecommunications System (UMTS)

EMPHASISES the importance of comparable and effective access to third country **markets** and of full recourse to international standards where possible, to be achieved by bilateral **and** multilateral negotiations conducted at the European Union level, with regard to mobile and **personal** communications technologies, equipments and services.

SUPPORTS the creation of a European Mobile and Personal Communications Services Forum

NOTES the proposals and timetable of the Commission in its Communication and

ENCOURAGES the Commission to prepare the necessary measures and, where appropriate, to pursue agreements and firm implementation decisions, in co-operation with the relevant European bodies in the areas of frequency, numbering, licensing and standardisation.

REQUESTS THE COMMISSION TO REPORT TO THE COUNCIL AND THE PARLIAMENT

on the progress made with regard to the implementation and effects of the above measures, by 1st January 1996.