

**COMMISSION OF THE EUROPEAN COMMUNITIES**

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**COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT**

**ON**

**THE COMMUNITY'S RELATIONS WITH THE COUNTRIES OF CENTRAL AND EASTERN EUROPE**

**- THE ROLE OF TELECOMMUNICATIONS -**

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**on**

**The Community's Relations with the countries of central and eastern Europe**

**- The Role of Telecommunications -**

**Summary**

The present document addresses the role that telecommunications will play in the development of the Community's relations with the countries of central and eastern Europe. Based on a preliminary analysis of the current situation and immediate outlook for telecommunications in these countries, it puts forward a number of possible cooperation and assistance activities, paying special attention to the European context.

Telecommunications development will be a major tool for integrating central and eastern Europe into Europe as a whole. As a central factor in the further development of their infrastructure, telecommunications will underpin the economic reform of these countries. It is therefore imperative that on this important subject the Community is in a position to respond in a coherent and positive way to requests for assistance and cooperation.

The commercial importance of the telecommunications market in these countries is well recognized. Suppliers from the US, Japan and Western Europe are already preparing to compete for the large investments to be made over the coming years, and there is the risk of incoherent procurement policies being followed. Technical options and commercial opportunities will be affected by the way loan operations by the major financing organizations, and the related technical specifications, will be handled. There is much at stake at the level of technical standards, a crucial part of the Community's internal market policy.

Actions that could be promoted within the framework of the bilateral cooperation agreements and their possible successors, the association agreements with these countries, include mutual information and understanding of policy approaches, trade and technology transfer, as well as the integration into trans-European systems. Training and consultancy studies could be organized.

In addition, the Community could explore with the relevant authorities of these countries programmes and projects which could qualify for Community and G-24 support, in order to help the "catching-up" process of the telecommunications sector. Such assistance could serve to "pump-prime" developments that would principally be supported through loans from bodies such as IBRD, EBRD and EIB.

The Council and European Parliament are invited to discuss and endorse the actions envisaged and the proposed means of carrying them out. In the light of their debate the Commission shall continue to hold discussions with the government authorities, telecommunications operating organizations as well as research institutes, universities and industries of central and eastern Europe in order to strengthen the analysis of requirements and develop further the proposals for action based on that analysis.

## **Introduction**

1. At its meeting in Dublin on 28 April 1990, the European Council gave a broadly favourable reception to the Commission's Communication<sup>(1)</sup> on relations with the countries of central and eastern Europe<sup>(2)</sup>. The present Communication provides further indications concerning the development of cooperation with and assistance to these countries in the area of telecommunications.

The subject has been discussed in the Senior Officials Group for Telecommunications (SOGT) on 28 February 1990 and this document incorporates not only the views of the Member States officials, but also of representatives of the telecommunications industry, as well as a cross-section of external and internal observers.

2. After recalling the political context and the state of cooperation in general, the current situation and immediate outlook for telecommunications are examined. The European context of possible actions is then explained. The possible forms of organizing the cooperation are briefly reviewed; it is particularly necessary that there should be close collaboration with the individual country involved in determining any actions to be undertaken. The concluding section outlines a number of possible actions.

Telecommunications will play a significant role in the transition of the central and eastern European countries towards competitive market economies; it is necessary to initiate actions quickly at a level and scale that reflects their absorptive capacity and the resources of the organizations concerned.

## **Background**

3. Telecommunications development will be a major tool for integrating central and eastern Europe into Europe as a whole. As a central factor in the further development of their infrastructure, telecommunications will underpin the economic reform of these countries. It is therefore imperative that on this important subject the Community is in a position to respond in a coherent and positive way to requests for assistance and cooperation.

The commercial importance of the telecommunications market in these countries is well recognized. Suppliers from the US, Japan and Western Europe are already preparing to compete for the large investments to be made over the coming years, and there is the risk of incoherent procurement policies being followed. Technical options and commercial opportunities will be affected by the way loan operations by the major financing organizations, and the related technical specifications, will be handled. There is much at stake at the level of technical standards, a crucial part of the Community's internal market policy. The interventions of other donors, particularly as regards training and technical assistance, are of significance in this context too.

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(1) SEC(90)717 final, 18 April 1990

(2) For the purposes of this Communication the expression "central and eastern Europe" includes Bulgaria, Czechoslovakia, Hungary, Poland, Romania and Yugoslavia. The German Democratic Republic will not be considered in detail in this paper since it is expected to become part of the territory of the Community soon.

4. Bilateral agreements covering trade and cooperation have recently been concluded with most of the countries and are under negotiation with the rest. The current situation as regards these agreements is set out in Annex 1. In the meantime, discussions have started in the Council on the possibility of making association agreements with each of the countries of central and eastern Europe, which could include an institutional framework for political dialogue as well as specific financial provisions. The Community will work to complete association negotiations with these countries as soon as possible on the understanding that the basic conditions with regard to democratic principles and transition towards a market economy are fulfilled.
5. It was agreed at the Western Economic Summit held in Paris in July 1989 that support should be provided for the reform process underway in Hungary and Poland. The Commission is coordinating a reconstruction programme for these countries in association with all interested parties, and which comprises loan financing as well as grant funding. It is expected that on 4 July 1990 the Group of 24<sup>(3)</sup> will decide to extend the assistance to Bulgaria, Czechoslovakia, the German Democratic Republic, Romania and Yugoslavia.

As regards more commercially oriented financing, the new European Bank for Reconstruction and Development (EBRD) will contribute towards the rejuvenation of the economic structure. The Bank is planned to become operational in 1991. The European Investment Bank (EIB) will be able to make available loans of up to 1000 million ECU over three years to Poland and Hungary.

6. Now that the groundwork has been laid in political and legal terms for the Community to intensify its cooperation with central and eastern Europe, one needs to consider, firstly how the requirements of these countries in the field of telecommunications are to be ascertained and assessed, and secondly what means of assistance and cooperation can be brought to bear.

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(3) The Group of 24 includes, besides the twelve Member States, Australia, Austria, Canada, Finland, Iceland, Japan, New Zealand, Norway, Sweden, Switzerland, Turkey and the United States.

## Current Status, Requirements and Plans

### **Current Status**

7. Due to the way in which the economies of central and eastern Europe have developed in recent decades and because of their particular market structures, their telecommunications are, on average, between 20 and 25 years behind those of Western Europe. By way of comparison, in 1970 the telephone penetration in the four largest countries in the present Community ranged between 8 and 16 lines per 100 of the population. It was only at the end of 1987 that telephone penetration in the seven countries of central and eastern Europe had reached this scale and the situation has not noticeably improved since then.

Details concerning telephone availability and levels of telecommunications revenue and investment are given in Tables 1 and 2<sup>(4)</sup>. In Hungary, Poland and Romania there are 7 to 8 subscriber lines per 100 of the population; in Bulgaria, Czechoslovakia and Yugoslavia the number is nearer to 15. While in the latter three countries one finds the beginning of a public switched data network, as well as pilot projects for certain advanced services such as videotex, in the first three these are almost non-existent. The situation is equally difficult for both business and private consumers. Even those who have access to the network experience great difficulty in using it or in successfully completing calls. There are very few digital exchanges, much of the equipment is in fact extremely out-dated and in some cases local switches are still operated manually.

8. Consequently, the revenues generated by the telecommunications service are low. Total revenue in 1987 for Czechoslovakia, Hungary and Poland (the only countries for which statistics are available) was 1447 million ECU (1 % of their collective GDP), equivalent to an average of 257 ECU per subscriber line, using official exchange rates. In the same year in the Community, telecommunications revenue was almost 70 billion ECU (about 2 % of GDP), with average revenue per line about 570 ECU.
9. But it is not at a technical level that the binding constraints on the development of the telecommunications sector have arisen. In any case, a number of Western telecommunications companies have had a market presence in the countries of central and eastern Europe for some years. The present problems stem from a chronic under-investment in the telecommunications network. Gross annual investment by Telecommunications Administrations in Western Europe is about one-third of their annual revenues or just over two-thirds of a per cent of GDP (Table 2). The equivalent figure for central and eastern Europe is only a third of a per cent of GDP and investment is significantly lower on a per capita basis. Gross investment in telecommunications in Czechoslovakia and Hungary in 1987 was 148 and 159 million ecu respectively. A Community country with a comparable population, the Netherlands, would typically undertake over three times this level of investment.

The result has been that waiting lists for subscribers have built up dramatically and access to long distance and international communication is very limited. Average waiting time for a telephone in Hungary is 12 years and in Poland 13 years. Waiting lists in Poland, Hungary and Czechoslovakia respectively are 2,2 million, 600,000 and 280,000.

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<sup>(4)</sup> The tables are to be found in Annex 2. Material for these tables was collected from various sources, including the International Telecommunications Union (ITU) and studies performed by or for the Commission.

## Requirements

10. A primary requirement for successful development of the telecommunications infrastructure and service capabilities in central and eastern Europe is to initiate institutional and regulatory reforms. It is crucial that the organisations that will prepare and undertake the necessary investment over the next decade break away from the central planning ministries with which they have been associated in the past. It is only in this way that they can undertake the commercial decisions which will be required and participate in the joint ventures that will be needed to generate sufficient investment funds. In this process they will retrace, in a way, the steps of the Telecommunications Administrations in the Community which have gradually separated operational and regulatory functions as outlined in the Commission's 1987 Green Paper.
11. A further requirement is for the creation of an environment which permits sufficient revenues and investment to be generated in the telecommunications sector. Many countries are currently preparing new plans and will soon have to take major investment decisions which are difficult and which they are not accustomed to take. They have already received numerous inquiries from the world's equipment and service suppliers. There will be an opportunity for the Community - alone or in cooperation with others - to provide advice and assistance on the basis of the know-how and experience accumulated at the administrative and industrial levels.
12. At a recent information seminar on telecommunications, organized by the Commission for the benefit of representatives of the countries of central and eastern Europe, the following priority requirements were mentioned by the participants:
  - expert advice and consultancy studies on telecommunications deregulation, organizational reform, organization of procurement, evaluations of offers
  - upgrading of the network in line with the evolution towards the Integrated Services Digital Network (ISDN)
  - national coverage for mobile communications and broadcasting distribution
  - improvement of international connections and availability of advanced services in the capitals and major centres as a means of attracting investments, chiefly by the introduction of an overlay network
  - close association with the standards work on a European and world level (especially for ISDN and mobile communications)

All stressed the crucial importance of telecommunications for the success of the economic reform as a whole.

13. It is clear that telecommunications investments in central and eastern Europe will have a major inward element because domestic revenues and resources will not be sufficient at the outset and because government or telecommunications administrations will not be able, in the near term, to borrow sufficient funds in the international capital markets as their Western counterparts have done in the recent past. Finance for network equipment will not be forthcoming if services cannot earn a commercial rate of return, and for this free markets and prices are prerequisites.

In order to speed the investments, certain obstacles need to be overcome. These exist in the form of controls on the flow of capital and profits, while others are physical, legal or financial in nature. Difficulties in establishing enterprises or joint ventures, or in repatriating profits in convertible currency, constitute important disincentives to investment; medium-sized suppliers would benefit in particular from early moves

towards currency convertibility. COCOM restrictions on the export of equipment are another major obstacle. It appears that the ability of certain Western companies to undertake to obtain waivers of these restrictions is already influencing purchasing decisions of telecommunications administrations in central and eastern Europe

#### Plans

14. As far as can be ascertained, Hungary and Poland have fairly well developed strategies for telecommunications investment and modernisation; Czechoslovakia is in the process of establishing such strategies and the other countries are bound to follow. In addition, Poland and Hungary are embarking on substantial regulatory and structural reforms including the liberalization of equipment and service markets, the separation of existing ministries into different service or even regional functions and for some market segments, particularly mobile communications, complete privatization is envisaged.
15. The most recently established Hungarian plan envisages an investment of 320 billion forints (at 1989 prices) over the ten years to the year 2000. This is equivalent to 5,3 billion ECU at official exchange rates or about half a billion ECU per year at present prices. The underlying aim is to increase telephone penetration to 27 subscriber lines per 100 of the population by the year 2000. The Ministry of Communications in Poland is aiming at investing nearly 13 billion ECU in the network over the next ten years. The aim is to install another 2 million lines by 1995. This would result in nearly 13 subscriber lines per 100 of the population.

If investment plans of similar magnitudes, in terms of the level of telephone penetration achieved at the end of the century, were undertaken for the other countries of central and eastern Europe, the total investment required for the seven countries would be of the order of 60 billion ECU or 6 billion ECU per year; see Table 3 in Annex 2.

16. In line with the requirements expressed above, all of the plans involve substantial increases in telephone penetration, installation of digital switching, up-grading and extension of international and long-distance connections, including the use of fibre optic and satellite transmission, and the introduction of data communications and in particular mobile communications.

Plans have taken into account the fact that, although the major aim is to develop substantially the overall telephone network, in the short-term it is essential to improve international and business communications and to generate revenues. Investing in mobile communications means that significant numbers of paying subscribers can be connected to the network relatively quickly and generate much needed revenues. Similarly, establishing an overlay network and up-grading international connections means that advanced services for businesses can be provided. Nevertheless, in the longer run, the major part of the investment will be required in the overall network.



### The European Context

17. The European Community itself is in the process of undertaking regulatory reform and in achieving consensus on reform in the telecommunications sector. This process has also extended to developments in the European Conference of Postal and Telecommunications Administrations (CEPT) which includes, besides the countries of the Community, the EFTA countries and others. Telecommunications infrastructure is, among others, currently being examined by the Commission in the context of trans-European networks<sup>(5)</sup>. A specific programme on Telematics Services of General Interest (European Nervous System) has already been submitted to Council. In addition a strategic physical planning document will be established providing an overall picture of the Community territory in the year 2000.
18. In their efforts to improve their own networks and services, the countries of central and eastern Europe do not wish to act in isolation: they have shown that they want to become integrated in the European (and world) telecommunications infrastructure. On the institutional level, a first step would be to file an application to join CEPT. Hungary and Poland have already done so. Further steps would involve an approximation of the legal frameworks existing in the various countries, both among themselves and vis-à-vis the Community. The experience gained by the Community in liberalizing and harmonizing telecommunications networks and services, along the lines of the Green Paper, is certainly highly relevant for them.
19. The adoption, by these countries, of appropriate procedures for the management of their networks and the supply of telecommunications services is required. These procedures need to be based on two key principles: transparency and non-discrimination, in order to obtain the best cost/performance ratio. Two instruments have to be implemented for achieving this: information of interested suppliers, and transparency of procurement procedures. The Community has developed in the last years a great experience in the matter of call for competition, information and qualification of suppliers. With information or training actions, the Commission could allow the countries of central and eastern Europe to benefit from this knowledge and experience.
20. The Community's "new approach" to standardization was effectively launched in 1985 (Council resolution 85/6136/01) and today embraces all Member States of the Community as well as the EFTA countries and other European third countries. European cooperation takes place in the specialized bodies CEN/CENELEC and ETSI; a convergence between information technology and telecommunications standardization is being achieved. Opening up of these European standards bodies so as to allow the central and eastern European countries to be more closely associated with the work undertaken, has been suggested as the next step. The Commission will shortly produce a Green Paper on the development of European standardization in which this issue will be addressed.

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(5) Council Resolution of 21 December 1989.

21. In the regulatory field, the telecommunications sector is faced with an additional problem: besides the development of common technical specifications based upon voluntary standards like the ETSs (European Telecommunications Standards), there are the frequency regulatory problems stemming from the non-alignment of civil/non-civil allocations in the European region. The Community could become instrumental in opening up a dialogue with the competent frequency management authorities in those countries, with the aim of better utilizing the opportunities available within the ITU Radio Regulation covering Region 1. Such an initiative will have to be coordinated with the CEPT Radio Committee, in particular in view of the preparations for the World Administrative Radio Conference WARC-92.

### **The Forms of Cooperation**

22. A number of instruments are available for the purposes of cooperation with the countries of central and eastern Europe in the field of telecommunications. The choice will evidently vary according to the assessment reached of the needs and the wishes of the country concerned. Nor is the Community acting alone: indeed it is the Commission's task to coordinate assistance within the Group of 24. The instruments reviewed here are: the bilateral cooperation agreements; Community and G-24 coordinated assistance; general financial assistance and the EBRD; and joint ventures. Information on budgetary allocations is also given. The COST framework, in which there are some telecommunications actions that could be of interest for the countries of central and eastern Europe, is not treated here, since it relates to research and development strictly.

#### **Bilateral Agreements**

23. Under the bilateral cooperation agreements a Joint Committee is established, composed of representatives of the Community and the country concerned. It is possible to set up sub-committees and working groups, for example in the field of telecommunications. An institutional mechanism is thus available for discussions and for proceeding further in particular sectors if the parties so agree.

Under the broad framework of the bilateral agreements, a series of actions could be undertaken. Besides discussions to increase mutual understanding, these could take the form of organizing technical and business contacts (participation in technical exhibitions, business visits, licensing, technical standards and quality control programmes), workshops, seminars and other forms of exchange of knowledge and information, as well as training (fellowships, summer schools, etc.).

In considering such possibilities, it should be borne in mind that the bilateral agreements do not themselves make provision for the funding of major activities. Thus, either the parties themselves would have to meet their respective costs, or the Community would have to provide the necessary funds on a separate basis. Future Association Agreements may however possibly include specific financial provisions.

#### **Community and G-24 Coordinated Assistance**

24. The Commission coordinates assistance for Poland and Hungary from the Community and the Group of 24. This assistance will be extended to the other countries of central and eastern Europe. The areas of assistance are broadly defined to promote economic restructuring and may thus include telecommunications actions.

#### **General Financing: the Role of EBRD, EIB**

25. General financing is provided by such organizations as the International Bank for Reconstruction and Development (IBRD, "World Bank") and the European Investment Bank (EIB). The new European Bank for Reconstruction and Development (EBRD) will finance projects contributing to the development of the private sector in Eastern Europe as well as certain infrastructures such as transport and telecommunications.

In addition to the activities of these bodies, loans and credits will also be available from other institutions, including private firms and banks.

### **Joint Ventures**

26. In recent years there has been a significant increase in the use of joint ventures. For central and eastern Europe, the attraction generally lies in the training of management and the workforce as well as technology transfer. For Western investors, joint ventures offer an opportunity to establish a presence, with the prospect of an early access to a market of some 140 million potential customers. In the telecommunications sector, allowing foreign private investment may contribute significantly to boosting the investment overall.

### **Budgetary Aspects**

27. Under the Community 1990 budget, 300 million ECU have been allocated to the PHARE operation (approximately 200 million ECU for Poland and 100 million ECU for Hungary). In addition, 200 million ECU has been set aside for other countries that would become eligible for similar assistance. The programme for PHARE aid in 1990 agreed with the Polish authorities foresees actions in the field of telecommunications. One such action already underway concerns the development of rural telecommunications (up to 5 million ECU foreseen).

In the Community budget for 1991 and following years, funds are provisionally foreseen for the continuation of assistance to central and eastern Europe with a ceiling of 838 million ECU in 1991 and 970 million ECU in 1992. Programmes and projects within this budget will be defined essentially on a country by country basis according to the priorities expressed by the responsible national authorities, taking account of the specific characteristics of the Community economic aid (grant as opposed to loan funding) and the possibilities and plans of other donors.

### Possible Lines for Community Action

28. The activities of the Community in the telecommunications area towards the countries of central and eastern Europe should be aimed at helping them to achieve their structural reform and integration into Europe as a whole. In this process, the Community has much to offer both in the way of cooperation and in the way of direct assistance. Mutual information and understanding of policy approaches should be actively pursued, trade and technology transfer, as well as the integration into trans-European systems should be promoted; training and consultancy studies should be organized. Such activities can be promoted within the framework of the bilateral cooperation agreements and their possible successors, the association agreements. In addition however, the Community should look into the possibility of making a concrete commitment to use grant funding in order to help the "catching-up" process of the telecommunications sector in these countries. Such a programme of assistance could serve to "pump-prime" developments that would principally be supported through loans from bodies such as IBRD, EBRD and EIB.
29. Over the coming months, the Commission will examine these possibilities further with the government authorities, telecommunications operators and other concerned organizations in central and eastern Europe. An indication of the actions currently under consideration is given in the following five action lines which are set out below:
- 1 Exchange of Information, Standardization, Promotion of Mutual Understanding of Policies
  - 2 Integration in Trans-European Systems
  - 3 Promotion of Trade and Technology Transfer
  - 4 Consultancy and Training
  - 5 Actions to Promote Critical Telecommunications Developments

#### **Action Line 1: Exchange of Information, Standardization, Promotion of Mutual Understanding of Policies**

30. Mutual information and understanding is essential in order to define common interests and potential cooperation. The Commission and Member States should immediately provide assistance regarding information sources, services and access methods. This will apply to all subjects of mutual interest in the area of information and communication technologies. The Commission may also encourage the central and eastern European countries to provide information about corresponding activities in their countries in accessible form, that is in translated and electronic form. The possibility of joint projects for the development and testing of databases and new information services should be explored.

The Commission will conduct briefing seminars on information and communications policies (e.g. telecommunications, information services, standardization, intellectual property rights) for the benefit of decision makers in the central and eastern European countries<sup>(6)</sup>.

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<sup>(6)</sup> A first such seminar was held on 16-17 May 1990.

On some subjects, e.g. standardization, public relations should be primarily the responsibility of the appropriate organizations, although the Community may have to assist these organizations in their task.

#### **Action Line 2: Integration in Trans-European System**

31. Many new industrial and commercial ventures in central and eastern Europe are being established with the help of Western capital. Community investors are anxious to establish close links with their new branches and depend therefore on the availability of compatible networks and communications services. These facilities tend to be inadequate or missing. Because of the general nature and the urgency of the requirement, the opening of the TEDIS II programme (Trade Electronic Data Interchange Systems) to applications in central and eastern Europe countries is of particular significance.

Similarly, it may be desirable to allow the progressive development and extension to central and eastern Europe of trans-European telecommunications services of general interest in such fields as transport, health care, distance learning and libraries. Due to the specificity of the developments of telecommunications services in these countries, special attention should be given to applications in rural and low density areas.

#### **Action Line 3: Promotion of Trade and Technology Transfer**

32. In view of the Community's interest in trans-European networks and services and a general East European interest in information and communications products, there is a strong case to be made for establishing showcases ("Maisons de l'Europe" or "Maisons Européennes de la Communication") in the capitals of the central and eastern European countries. These should provide information about the Community and could serve to exhibit Community products and services. This measure should appeal to the Member States and industry and could be carried out on a joint-funding basis.

The Community can also offer its presence or sponsorship for trade fairs and seminars; the establishment of business information services, especially for small and medium size companies in West and East, is another important contribution.

33. To date, exports of telecommunications equipment have been largely submitted to restrictions as coordinated by COCOM. These have constituted a considerable obstacle to trade and technology transfer. The existing restrictions are now under review and it is understood that a considerable streamlining is envisaged. For telecommunications equipment, relaxation of controls has been proposed, for example, in cellular communications systems and satellite ground stations. Greater access to modern fibre optics equipment (up to 156 Mbit/s) and microwave systems is also proposed.

#### **Action Line 4: Consultancy and Training**

34. Accompanying the massive upgrading and restructuring of the telecommunications networks in these countries, there will be commensurate requirements for education and retraining. A preliminary analysis has identified at least three target groups: policy makers and planning staff, telecommunications managers, and engineers and technicians. The training requirements for the latter category will of course depend to a large extent on the upgrading strategies chosen and these in turn may be dependent on the policy and management decisions taken. Thus the first priority is to help the

top-level decision makers themselves become aware of the options that exist (deregulation, privatization), and of the European context in which these decisions are to be made (e.g. as regards standardization).

At the recent briefing seminar (see above), the high priority for training, especially in the areas of management and general organizational skills, was fully confirmed by those attending. Another aspect repeatedly stressed was that of the need for assistance with all aspects of the management of procurement (preparation of specifications, issuing of calls for tender, evaluation of tenders).

35. In the package of Community support measures for restructuring the economy (PHARE Operation), it is planned to allocate a certain amount of resources for the creation of a European Training Foundation (vocational training, continuous training and training in particular sectors), as well as the TEMPUS programme (cooperation in the higher education system, including training in enterprises where it is part of the curriculum). The requirements in the telecommunications field would need to be examined in this context.

#### **Action Line 5: Actions to Promote Critical Telecommunications Developments**

36. In order to enable the countries to give a significant impetus to improving their infrastructure, in line with their stated plans, it is proposed to explore with them programmes and projects which could qualify for Community and G-24 financial support. Cooperation in telecommunications could be further developed within the framework of future association agreements. Close coordination with the activities of the Member States and the other members of the Group of 24, where possible already in the appraisal stage, would maximize the impact of the support given.
37. The action envisaged would comprise support for the establishment of essential planning capabilities, and "pump-priming" actions for the upgrading of critical international links and long-distance communications, to facilitate integration with the rest of Europe and provide an important seed for further investment. At the same time, requirements studies would identify ways in which assistance could be given for other objectives, such as the overall improvement in telecommunications networks and the development of mobile communications and other advanced services.
38. Initial contacts with the telecommunications authorities of the countries involved have confirmed the general priority they assign to these objectives within their own field. It is now urgent to explore with them and with the coordinating authorities in each country how this priority could be arranged within the overall programme of bilateral assistance. Important aspects to be examined more closely are the relative advantage of alternative types of finance, and their coherence with privatization or cost recovery policies. From a Community viewpoint a programmatic, multi-annual approach would have many advantages.

If such an approach would be taken, a crash programme would have to be defined with each of the countries, to initiate the upgrading or replacement of the most critical international and long distance exchanges and links. This could involve actions to support the installation of digital switches for international communications and for communications between metropolitan areas. It could also involve improving the quality and capacity of transmission by contributing to the installation of long distance fibre links and the establishment of terrestrial stations for satellite links.

39. Furthermore, requirements studies should be made in 1990 and 1991 with the aim of further identifying detailed options. Subjects for such studies would include:

- Rapid establishment of mobile telephony with particular emphasis on expanding new pan-European digital systems into central and eastern Europe.

One option being explored in these countries is the establishment of mobile communications for certain types of users. The advantage of simultaneously taking this route is that significant numbers of paying subscribers can be connected to the network relatively quickly, generating hard currency and with a shortening of the write-off time for investment.

- The development of the general telephone service, with particular emphasis on rural telecommunications.

This would focus on support for the initial development of telecommunications in the less developed areas of the countries concerned, where commercial criteria do not fully apply. The activity started in April 1990 with Poland, to define pilot projects in rural areas, is indicative of this approach.

- New services, in particular data communications and value-added services etc.

The focus would be on assessing potential demand and promoting and developing specific applications



**Annex 1: Cooperation Agreements between the Community and the Countries of central and eastern Europe - Current Status**

<u>Country</u>	<u>Status of agreement</u>
Bulgaria	agreement signed 7 May 1990 in force September 1990?
Czechoslovakia	agreement signed 7 May 1990 in force September 1990?
Hungary	agreement signed 26 September 1988 in force since 1 December 1988
Poland	agreement signed 19 September 1989 in force since 1 December 1989
Romania	agreement on trade exists; renegotiations in course
Yugoslavia	agreement signed 2 April 1980 in force since 1 April 1983

## **Annex 2: Tables**

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- Table 3: Implications of Increase in Main Line Penetration to 27 per 100 Inhabitants by the Year 2000**

Table 1 : Telephone Penetration and Telecom Revenue, E. Europe compared to EC and EFTA, 1987

Country	Main Lines (millions)	Population (million)	Lines/100 Inhabitants	Telecom Revenue (mecu)	Revenue per line (ecu)
Bulgaria (86 est.)	1.5	9.0	17		
Czechoslovakia	2.0	15.6	13	1015	499
DDR	1.7	16.6	10		
Hungary	0.8	10.6	7	239	293
Poland	2.8	37.9	7	193	69
Romania (86 est.)	1.9	22.9	8		
Yugoslavia (86)	2.7	23.4	11		
sub-total	13.4	136.0	9		
USSR (86)	29.5	283.6	10		
Total	42.9	419.6	10		
Community	122.7	330.0	37	69387	565
EFTA	16.3	32.0	51	11122	682

Source : ITU

Official Exchange Rates : US \$ = 9.4 Cz. crowns = 46.387 H. forints = 580 P. zloty

Table 2 : Telecommunications Investment relative to Revenue, E. Europe compared to EC and EFTA, 1987

Country	GDP 1987 (bn. ecu)	Equipment Market (mecu)	Gross Investment (mecu)	Investment /Revenue Telecom	Telecom Investment /GDP	*
Bulgaria	34.2	115			0.34	
Czechoslovakia	51.1	153	148	0.15	0.29	
DDR	105.7	450			0.43	
Hungary	20.5	208	159	0.67	0.77	
Poland	62.7	240			0.38	
Romania	52.7	97			0.18	
Yugoslavia	50.2	170			0.34	
sub-total	377.1	1435			0.38	
USSR		8887				
Total		10322				
Community	3721.2	21552	22947	0.33	0.62	
EFTA	540.7	2535	3555	0.32	0.66\	

Source : ITU , CEC Studies, \* Equipment Market used as proxy for Investment where Invt. not available.

**Table 3 : Implications of Increase in Main Line Penetration to 27 per 100 Inhabitants by the Year 2000**

<b>Country</b>	<b>Main Lines (thousands) 1987</b>	<b>Main Lines (thousands) 2000</b>	<b>Annual Increase ( % )</b>	<b>Total Cost (mecu)</b>	<b>Annual Cost (mecu)</b>
Bulgaria (86 est.)	1540	2430	4.7	2296	229
Czechoslovakia	2031	4212	7.6	5626	562
DDR	1695	4482	10.2	7190	719
Hungary	813	2862	13.4	5286	528
Poland	2774	10233	13.9	19244	1924
Romania (86 est.)	1855	6183	12.8	11166	1116
Yugoslavia (86)	2720	6318	8.8	9282	928
<b>sub-total</b>	<b>13428</b>	<b>36720</b>	<b>10.6</b>	<b>60093</b>	<b>6009</b>

Source : ITU, CEC Estimate.

Note : Annual increase and annual cost based on ten years to 2000

38. The overall five year programme would have the following four parts.

(i) *Crash programme to*

(ii)

It is quite conceivable that in the initial stages mobile investment in these countries will be a patchwork of analog systems. Hungary has already signed contracts and Poland is beginning the process of inviting and assessing bids. However, the pan-European digital mobile GSM system will be available by 1992 and preparatory studies now could establish the commercial viability of this system in E. Europe with orders already being established in 1991.

(iii)

In the medium and longer term, the potential for investment is enormous. At this stage requirements studies in 1990 and 1991 could be made with investment getting underway from 1991 onwards.

(iv)

Requirements studies could take place in 1990 and 1991. Here

39. To cover the cost of this programme in 1991, the Commission intends to propose that 100 million ECU of the budget of 850 million ECU be allocated to the countries of central and eastern Europe in 1991.