



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 08.11.1995  
COM(95) 486 final

95/0263 (CNS)

**THE MULTILINGUAL INFORMATION SOCIETY**

**COMMUNICATION FROM THE COMMISSION**

Proposal for a  
COUNCIL DECISION  
on the adoption of a multiannual programme to promote the linguistic diversity  
of the Community in the information society

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(presented by the Commission)

# **THE MULTILINGUAL INFORMATION SOCIETY**

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# THE MULTILINGUAL INFORMATION SOCIETY

## 1. POLITICAL CONTEXT

Europe's rich cultural heritage is closely linked to its many languages, uniting its peoples in national or regional communities and allowing them to participate fully in social, cultural, business and political life<sup>(1)</sup>.

The Commission's White Paper<sup>(2)</sup>, the Bangemann report<sup>(3)</sup> and the Commission's Action Plan<sup>(4)</sup> evaluate the potential of the information society and provide political guidance on its development. The Trans-European Networks<sup>(5)</sup>, the RTD activities in the Fourth Framework Programme<sup>(6)</sup>, notably Information Technologies, ACTS<sup>(7)</sup> and Telematics<sup>(8)</sup>, and recent proposals under the INFO2000 programme<sup>(9)</sup> demonstrate the extent of efforts towards implementation. These efforts are linked to initiatives in the audiovisual sector<sup>(10)</sup> and programmes in relation to education and training.

The European Council, meeting in Corfu in June 1994, stressed the importance of the linguistic aspects of the information society and, meeting in Cannes in June 1995, it emphasized the importance of the diversity of languages in the European Union.

Today, we are experiencing profound changes in human communications with the arrival of global networked information and communication services for text, sound and images. While these provide exciting challenges, they could also have a marked effect on the languages we use. At worst, citizens unable to communicate comfortably in the widely spoken languages could be denied full participation in our increasingly information-based society.

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- (1) Council Resolution on language diversity and multilingualism in the European Union, 12 June 1995 (Doc. 7755/95).
  - (2) Growth, Competitiveness, Employment: the Challenges and Ways Forward into the 21st Century, White Paper by the Commission of the European Communities, 1994.
  - (3) Bangemann, M. (ed) Europe and the global Information Society: Recommendations to the European Council, 26 May 1994.
  - (4) Europe's way to the Information Society - An Action Plan, COM(94) 347 of 19 July 1994.
  - (5) Under the Maastricht Treaty, there is special provision for Trans-European Networks for interchange of data between administrations, OJ No C 224 of 31 August 1992.
  - (6) Fourth Framework Programme of European Community activities in the field of research and technological development and demonstration (1994-1998), OJ No L 126, 18.5.1994.
  - (7) Advanced Communications Technologies and Services, COM(94) 243.
  - (8) Telematics Applications Programme. Council Decision, OJ No L 334, 22.12.1994, p. 1.
  - (9) INFO2000 Programme Proposal, Stimulating Multimedia Information Content for Business, Administrations and Citizens in the European Information Society. Communication from Mr Bangemann to the Commission, March 1995.
  - (10) Strategy to strengthen the European programme industry in the context of the audiovisual policy of the EU, Green Paper by the Commission of the European Communities, 1994.

Such dangers could be avoided if we were able to ensure full multilingual support in the use of electronic information, echoing the call for *diversity of content, including cultural and linguistic content*, expressed by the G-7 meeting on the information society<sup>(11)</sup>. While this diversity will continue to depend in large part on national initiatives at the educational and cultural levels, it can also benefit considerably from efforts to provide better facilities for access to information in our various languages. Furthermore, the trans-European telecommunications networks<sup>(12)</sup> now being established for various application sectors will benefit from efforts to promote multilingual information services.

In more general terms, multilingual support will contribute to the functioning of the *internal market* by facilitating interlingual communications and will strengthen *economic and social cohesion* by stimulating collaboration between Europe's different language regions. It will enable the *citizens of Europe* to participate more fully in our increasingly information-based society while providing *new opportunities for SMEs* to enter the multilingual information market. Indeed, increased awareness of the challenges and opportunities of the multilingual aspects of the information society will encourage industry at large to address *new markets* by reducing linguistic constraints.

What is needed first and foremost are practical solutions to the problems industries experience when launching products on foreign-language markets. It is not unusual for delays of several months to occur as a result of the need for translation and localization in technical product support, user manuals and advertising. In the case of computer products and services, language adaptation of software presents an even heavier burden on the vendor, frequently discouraging the multilingual approach. Suitable tools and procedures to reduce these constraints can thus be expected to have a significant impact on cross-border trade in a variety of industrial sectors.

The Commission itself, together with the other European institutions, will be able to contribute considerable expertise and experience in the development of multilingual tools and services as a result of its own needs for translation, interpreting and multilingual publications. Indeed, the European institutions stand to benefit directly from many of the results obtained. Progress at the European level will, wherever possible, be shared with Member States in the interests of promoting the development of multilingual tools at the national level.

This communication analyses the issues and describes how progress can be made in Europe with the development of a multilingual information society by coordinating efforts between the Member States and the public and private sectors, so as to provide adequate language support for its citizens, including cost-effective translation and multilingual customization.

The very technologies, whose pervasive application can pose a threat to linguistic and cultural diversity in the information society, can also help overcome the language barriers in Europe<sup>(13)</sup> by reducing the cost of multiversioning, translation and customization of information products and services.

However, market forces alone will not be sufficient to bring about the multilingual information society in Europe. Positive action is required at the level of the Member States and of the Union to catalyse the necessary developments.

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(11) G-7 Ministerial Conference on the Information Society, Brussels, 25 and 26 February 1995, Chair's Conclusions.

(12) Proposal for a European Parliament and Council Decision on a series of guidelines for trans-European telecommunications networks, COM/95/224, 16 June 1995.

(13) Speech by Mr Santer for the European Parliament, Strasbourg, 17 January 1995.

Commercial opportunities will follow: in the media industries (with improvements in dubbing and subtitling), in document preparation (by means of spelling and grammar checkers) and in many other activities involving translation bearing in mind that literary translation requires a creative and accurate adaptation of the original work. Multilingual resources will also pave the way for a variety of speech applications from systems converting text into speech to voice-operated machinery for factories.

Europe will thus be able to move towards a multilingual information society, creating new language industries and opening up new business and cultural opportunities for its citizens. This will, in turn, create new jobs and new markets, providing a potential for multilingual products and services throughout Europe and across the globe.

## **2. THE LINGUISTIC HERITAGE OF EUROPE**

### **2.1 The third language revolution**

Three successive revolutions have transformed the nature of human communication, each leading to significant functional changes in language use.

*The first came with the invention of writing systems*, providing access to knowledge through reading and writing. For the common man, however, face-to-face oral communication continued to be the norm.

*The second revolution, the invention of mechanized printing*, dramatically expanded the horizons of the ordinary citizen. Mass literacy was to provide a basis not only for consolidating access to knowledge and culture but the means for democratic participation in national government for the very first time.

We are now experiencing *the third and most radical revolution of all*, in which computer-based technologies offer individuals instant worldwide access to information. In this emerging information society, the role of language is once again changing, more profoundly than ever before, as a result of screen-based communication combining text, images and sound.

*The new information technologies are radically changing the nature of communication, with considerable repercussions on the role of languages.*

### **2.2 Europe's linguistic heritage**

Over 45 national and regional languages and major regional variants are spoken by the 380 million people of the European Union. Most are of Romance, Germanic or Celtic origin, others include Greek, Finnish or Basque<sup>(14)</sup>

Europe's language diversity is, however, moderate in comparison with other areas of the world. Globally, estimates of the number of different, mutually-unintelligible spoken languages vary from 5 000 to 25 000 depending on what counts as a language and what as a dialect.

But many of the minority languages are experiencing difficulties, often under the influence of changing patterns of communication. Penetration of the new technologies could substantially accelerate this process, threatening to diminish the linguistic and cultural<sup>(15)</sup> diversity of European society.

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<sup>(14)</sup> Hearn P.M. and Button, D.F. (Eds.) (1994) Language Industries Atlas, Amsterdam: IOS Press for CEC, Brussels and Luxembourg.

<sup>(15)</sup> Eurobarometer No 41, July 1994, provides data on language proficiency in Europe.

European integration must be based on transparency for the citizen. Key legislation and communications must therefore continue to be made available in the Union's languages to ensure full understanding and wide application.

*Europe enjoys a rich diversity of languages. The continuing process of integration will be significantly accelerated if open access is provided to legislative texts and supporting documents for all its citizens in the various languages used.*

## **2.3 The different roles of language**

Languages have profound yet complex effects on many aspects of society.

They serve to foster social cohesion in our countries or regions, encouraging common values. A common language facilitates open communication at all levels of society. Conversely, differences in language hamper communication, causing difficulties for minority groups.

Language is also an instrument for safeguarding democracy. Society flourishes on open debate and discussion: freedom of speech is a cornerstone of our democratic systems; the free press acts as a guardian of democratic expression; and language is the vehicle used by each and every citizen in his contribution to democracy. The transparency of the functioning of the European Institutions can therefore only be ensured by the availability of multilingual support.

Our cultural life is intimately linked to language. Every country has its poet or playwright whose work symbolizes the cultural identity of its people, while much of our cultural heritage is enshrined in our various languages.

Lastly, there are economic aspects. Languages determine markets, often in relation to translation or customization costs which can become a significant factor in international trade whatever the product or service. In the software industries, language customization of software products contributes significantly to their cost, although customization will also increase the market for such products. Europe's film and television industries as well as its cultural industries and institutions, unlike their American counterparts, have to bear the cost of dubbing and subtitling if they wish to reach large audiences.

*The political, cultural and economic effects of languages will each require proper attention in building Europe's information society.*

## **3. THE EMERGING INFORMATION SOCIETY**

### **3.1 A new technological revolution**

The convergence of information and telecommunications technologies is transforming the nature of communication at every level of society.

Not only are these technologies able to provide new ways of accessing, distributing and handling information in its various forms (text, sound, images, video), their use is already transforming the way in which we live and work, taking us from a society based on physical goods to one which is increasingly centred on knowledge and information.

The information society is gathering momentum in factories, offices, schools and homes in all our Member States. New approaches to information access are leading to a more open society with an increasing flow of knowledge, information, documentation and entertainment within and across frontiers.

Economic activities previously centred on local markets now have international potential. Culture-specific markets such as publishing, software production and home computer services are increasingly adopting a multinational approach.

Global information links, including satellite and cable television, are rapidly becoming commonplace. Worldwide computer networks such as the Internet attract countless new European users every month.

*The information revolution is radically changing the nature and use of communications throughout society, providing new opportunities for business, culture and education.*

### **3.2 A dual challenge for Europe**

As information affects every level of society, provision of equal opportunities for access is a key issue. Indeed, left unchecked, the information revolution could lead to a two-tier society, differentiating between those able to make full use of the technologies and those prevented from doing so, often because of the language factor.

The dual challenge for Europe in the emerging information society is therefore one of maintaining our rich linguistic and cultural diversity while ensuring equal opportunities for our businesses and citizens to participate in the new information age and to share its benefits.

Industry must adapt to remain competitive in European and world markets. Companies will have to pay careful attention to linguistic and cultural factors in tackling their product development and marketing strategies. SMEs experiencing difficulty in acquiring such knowledge and in adapting their product lines and marketing, will only benefit once they have understood the nature of the problem.

To meet these challenges, Europe's information society must remain multilingual. Citizens throughout the Union must be able to communicate to the full, not only with other Europeans but with partners throughout the world. They must be given the means to live and work together efficiently, in a spirit of tolerance, democracy and social unity.

*A multilingual approach to communications will provide equal opportunities for individuals and businesses, whatever their language, to participate in the new information age.*

### **3.3 Market forces will not suffice**

The rapid rise in use of information and communication technologies will naturally favour languages which can be successfully processed. Languages supported by key software products offering powerful facilities for manipulating text also provide almost unlimited access to information services in those languages.

In this respect, market forces tend to concentrate on a limited number of languages in order to bring the services as rapidly as possible to a substantial number of users. The effect of these trends is to exclude a large number of Europeans who do not master the languages concerned as well as companies, SMEs in particular, that do not acquire the language expertise, denying them proper access to the benefits of the new information age. The long-term viability of languages not specifically supported is therefore put at risk.

*There is a clear need for actions to ensure a balance between the major languages and languages serving smaller national or regional communities in Europe.*

### **3.4 Solutions for industry**

In the emerging information society, products are increasingly accompanied by complex support material, in the form of user manuals or, in the case of software, as screen messages displayed in the language of the user. Failure to provide such multilingual support presents a number of formal and practical restrictions on the markets which can be successfully addressed. In the absence of multilingual support, products frequently result in considerable frustration for the user.

Industries large and small are all too well aware of the time and cost taken to bring products to foreign-language markets. All too frequently, manufacturers decide to restrict their marketing approaches to those areas where translation requirements can be avoided or kept at a minimum.

As a consequence, the European market does not function well for a wide range of products, particularly those with an important information component, or niche markets generally served by SME's.

In the first place industry needs clarity about the language requirements of the market, so that they can prepare and are subjected to the same linguistic regimes as their competitors.

Secondly, they need to accelerate adapting their linguistic competence and marketing strategies, including the use of advanced language tools, translation services and human linguistic capabilities.

Thirdly, the tools, services and best practices must be developed according to their specific needs. There is a clear role for the language engineering industry to develop and market the products that improve cost-effectiveness.

In view of the European and multilingual nature of the problem, Community action is needed addressing the market, the supplier industries and the language industries in a coherent way.

*Coordinated action at Union level will help overcome some of the problems which individual companies now find impossible to solve alone.*

## **4. PRESERVING LANGUAGE DIVERSITY IN EUROPE**

### **4.1 The role of the Member States**

Preservation of the various languages in Europe is primarily a task for the countries concerned, some of whom have explicit language policies. Inspired by the wishes of its citizens, each Member State and region places special value on its languages, insisting on their continued recognition in the European context. The development and availability of tools specific to the languages used in a Member State or region, should be the prime responsibility of that Member State or region.

All the Member States and regions thus have a common interest in preserving language diversity in the European Union as it enters the information age.

*Each Member State and region has a decisive role to play in preserving its language or languages, in accordance with subsidiarity.*



## 4.2 The role of the European Union

The European Institutions, especially the Commission, can play a catalytic role and add value to national efforts by:

- safeguarding the status of official languages, in accordance with rules regulating the use of languages in the European Institutions<sup>(16)</sup>,
- informing public organizations and industry of the importance of language issues in the information age, with a view to identifying common problems and possible solutions,
- stimulating the language industries and user industries to pursue truly European or global marketing strategies, integrating multilingualism into their strategies to give them a competitive advantage,
- making the benefits of its R&D initiatives available to users and to industries developing language engineering services and products,
- promoting the development of tools, standards and infrastructures which are largely language-independent, though essential for the handling of languages,
- raising awareness and promoting a multilingual approach to the information society in Europe, in relation to content, interfaces, translation, interpretation and language learning.

*The European Institutions can offer support in promoting and ensuring language diversity in the information age.*

## 4.3 The role of the educational institutions

Educational institutions play a vital role in preserving language diversity in Europe. Mastery of the mother tongue is at the root of all our cultures and educational systems. Learning to be proficient in foreign languages is becoming a necessity for all Europeans in the emerging global information society.

*In line with the conclusions of the G-7 meeting on the information society, there is a need for an innovative approach to cross-cultural education and training, especially for students and for employees of all enterprises, including SMEs.*

## 4.4 The role of the private sector

The private sector has a key role to play in bringing about the information society in Europe as has been stressed in the Commission's white paper on Growth, Competitiveness, and Employment, the Bangemann report and the G-7 meeting on the information society.

Indeed, multilingual content production and multilingual interfacing will be handled by private companies. In the sphere of language learning, private organizations will increasingly complement public educational institutions. Translation, interpretation and language support for software and the media are important areas for the private sector in working towards the multilingual information society.

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<sup>(16)</sup> Based on Articles 217 and 248 of the Treaty of Rome and first enacted in Council Regulation 1, OJ No L 17, 6.10.1958, and subsequently modified with the accession of new Member States.

Language diversity, for a long time considered a cost factor only, is now seen as an opportunity for industry, creating new types of industrial activity, and allowing a greater diversity of products that comply with the individual wishes of customers.

*Private companies will play a key role in developing the multilingual information society.*

#### **4.5 The role of research and development**

New technologies can contribute to preserving multilingualism by providing ever increasing capacity and processing power for telecommunications and computer operations.

European R&D in language technology has created a strong scientific base. But technology transfer has had only limited success since marketable products have tended to be monolingual rather than multilingual and have, as a rule, been launched by the United States. Only now are European firms starting to bring products to the market.

*European research efforts have provided a strong base in preparation for technology transfer to the market place.*

#### **5. A MULTILINGUAL INFORMATION SOCIETY FOR EUROPE: THE NEED FOR COMPLEMENTARY ACTION**

Promoting multilingualism in Europe implies a broad range of initiatives in different domains, as elements of a coherent strategy.

A number of initiatives are already underway, helping to pave Europe's way to the multilingual information society. There are, however, a number of gaps which must be filled within a complementary framework if the strategy is to succeed

The multilingual information society initiative therefore addresses three new areas for action which will reinforce the overall strategy. These cover promotion of a European language resource infrastructure (Action Line 1), reinforcement of the role to be played by the language industries (Action Line 2), and the development of multilingual tools for public services (Action Line 3). To provide focus for defining issues related to language aspects of the information society, the creation of a platform for coordination is envisaged bringing together public and private organisations (accompanying measures).

The number and variety of actors is so great that the Commission can only act effectively through awareness and promotional activities, language infrastructure developments, pilot and demonstration projects with a promotional value and a limited number of focused actions for the language industries. Implementation will generally be by means of calls for proposals for shared-cost projects and by calls for tender for specific developments under Action Line 3.

The new activities will complement existing Community initiatives in the areas of language learning, multilingual content and language technology.

*Actions should create the right conditions for a multilingual information society by building on current European initiatives and stimulating collaboration.*

## **5.1 Creating, validating and distributing European language resources**

Transforming language technologies into marketable products and services depends not only on a strong technology base but on the availability of resources such as electronic dictionaries, terminology banks, speech databases and grammars. Considerable efforts will be required here, calling for investments well beyond the possibilities of private sector actors, particularly as most of the firms involved are SMEs.

Substantial sums have already been invested by Member States, the Commission and private companies in producing language resources such as on-line dictionaries, thesauri and terminology banks. The potential of these resources is presently hampered by the fact that they are mostly monolingual. Furthermore, they have been developed without due regard to compatibility and are therefore difficult to trace and to reuse. An inventory of potentially reusable language resources is needed as a basis for making them multilingual, compatible and widely available and accessible.

Subsidiarity can be made to work effectively in this area, the actual development of full scale resources for any language being the responsibility of the Member State(s) where the language is spoken, while the Community is concerned with general issues such as standards and their application, equal access for all businesses and citizens, Europe-wide networking of databanks, comparable quality levels for all languages. For multilingual resources, which are so vital to creating a truly multilingual information society, responsibility for taking initiatives will be shared between the Community and the Member States concerned, distinguishing the generic from the specific.

An association of suppliers and users will serve to promote the emergence of a resource infrastructure, whose establishment and operation will be left to public and private operators in the various sectors. In the United States and Japan, government has stimulated the creation, distribution and standardization of linguistic resources.

National lexical organizations will be encouraged to coordinate their resources and results in order to ensure that Europe's language industry can benefit to the full. Special attention should also be paid to contributions from the publishing industry.

In the field of speech technology, there is a need for research institutes to cooperate closely among themselves and with industry in compiling standardized databases for the development and testing of speech processing systems, leading to advanced speech technology applications. As a large number of spoken European languages should be covered, the Commission will investigate with the Member States the feasibility of supporting developments for speech databases, particularly for languages with limited economic potential.

The importance of terminology in information handling across Europe is so great as to justify the establishment of a common infrastructure for terminology. Millions of specific terms exist today in some 200 different sectors. Large distributed or networked data banks for easy access to multilingual terminology based on appropriate standards are therefore required.

Industries and institutions working on multilingual terminology in Europe could form the basis of a cooperative terminology venture. With suitable stimulation and proper financial and organizational backing, this could become a European Coordination and Information Centre for Terminology, cooperating with the national and regional terminology centres and with the various industrial, administrative, legal, scientific and medical sectors.

Careful consideration should be given to the most effective ways and means of ensuring unified access to these resources and to their use. To ensure a widely shared base, networked access tools could be made available for immediate downloading (i.e. as freeware).

***Wider availability of accessible multilingual resources will emerge from closer coordination between national and regional organizations dealing in lexicography and terminology. Under Action Line 1, the Commission will help to create the structures and procedures for coordination and will stimulate cooperation.***

## **5.2 Strengthening the language engineering industry**

An important aspect of the private sector's role in bringing about the multilingual information society is involvement in the so-called language engineering industries whose primary business is the development of marketable products for the computer-based handling of languages.

These industries, which stand to play a key role in developing European access to the information society, have not been able to develop to the full as a result of the prohibitive cost of developing the large-scale language resources which are so necessary for product performance.

Examples are authoring and editing tools, based on spelling and grammar checkers, translation support tools such as electronic dictionaries and terminology banks, computerized translation systems adapted to different subject areas and text types, and developments for speech recognition and speech synthesis.

A strong language engineering industry is clearly needed to build the backbone of Europe's multilingual information society. It could later play an important role in exporting European language products to other parts of the world. Its emergence will depend on pooling European expertise in order to increase the potential for developing applications and on an extension and better exploitation of the European science and technology base in this domain.

Essentially, it is a task for the private sector companies involved. However, Member States and the European Institutions should play a stimulating, catalytic role in their support, identifying potential markets and areas for action and encouraging industry to take on challenges which would be beyond their individual scope.

There are good reasons to do so. In Europe, industry is confronted with markets which are more fragmented than, for example, those in the United States. Most of the actors are fairly small companies, lacking the power to tackle linguistic and cultural barriers to foreign markets. This is compounded by the fact that for new products and services the European markets are less dynamic than the United States and East-Asia. This double challenge gives European companies a fundamental disadvantage that should be compensated for by infrastructural and stimulation measures.

In language engineering, many of the methodologies, standards, functional specifications and basic technologies are largely language independent. In these cases, initiatives at the Community level generate economies of scale. In the area of interlingual tools such as those used in translation, the Community quite naturally has a role to play in liaison with the Member States concerned.

Member States will maintain responsibility for those aspects of tools, resources and applications which specifically concern their particular language or languages.

***The stimulating role of the Union will involve enhancing the language engineering industries under Action Line 2 so that they can benefit from a more coherent approach to multilingualism.***

### **5.3 Developing an advanced translation industry**

The translation sector represents one of the most prominent domains of usage of language engineering products, and is itself a major supplier of language products, namely translations. It is estimated that in the European Union alone, over 100 million pages of text are translated a year, corresponding to a work force of 100 000 and a turnover of ECU 10 billion<sup>(17)</sup>.

But translation is not merely text translation, today it involves such diverse activities as interpreting, localization of software, dubbing and subtitling, versioning of audio-visual and multimedia products.

Software product sales in Europe, already at around ECU 25 billion per year, are increasing rapidly. A key sector here is the customization of software for local markets, involving the preparation of documentation, product support, manuals, packaging and warehousing as well as distribution and logistics. Most involve language-based activities even in cases where translation is not directly needed.

Emphasis in the translation industry is progressively on computerized translation support tools such as electronic dictionaries, translation banks and messaging systems which can be accessed from the translator's workstation. Computer literacy is thus becoming an essential skill for the practising translator, and will contribute to bringing about a more industrialized approach based on extensive use of appropriate networking services.

Easy access to multilingual aids, including large-scale lexical resources and terminology banks will become ever more important. Networking for individual translators and translation companies will improve efficiency and flexibility, raising Europe's competitiveness in the world market. In close consultation with the translation industry, actions including training and awareness building will be started to mobilize and strengthen European translation potential.

Ultimately, all citizens and business of the Union should have access to user-friendly translation tools. These do not yet cover all the lesser-used languages, as returns on investment are too low for the smaller companies involved. This is clearly an area for cooperation.

***The stimulation of a more industrial approach to translation based on extensive networking and access to translation tools and resources will be promoted under Action Line 2 to improve Europe's efficiency and competitiveness in the world translation market.***

### **5.4 Creating an educated and advanced user community**

Incentives for bringing technology to the market place will only be successful if a strong and growing demand for multilingual information products and services exists. This demand will come from citizens (entertainment, information), businesses (information, interpretation, translation) and the public sector (information, culture, translation, interpretation, documentation). All must be made aware of the emerging information society and of current and future possibilities for a multilingual approach to information in Europe.

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<sup>(17)</sup> Source: Praetorius Ltd., Nottingham, England.

The European Institutions can also play a specific role in this respect. The Commission, under successive Multilingual Action Plans<sup>(18)</sup>, has for some time been experimenting with the use of multilingual tools, such as computerized translation and terminology banks. Recently, there have been efforts to extend these activities to the other European Institutions and to some Member State administrations. These should be intensified.

***Efforts must be made to inform businesses, administrations and individual citizens of the availability of language tools and services. Under Action Line 3, the European Institutions can act as a showcase for the European industries concerned, stimulating high-level demand and contributing directly to the emergence of Europe's multilingual information society.***

## **5.5 Developing a framework for coordination and promotion**

If the private sector is to participate actively in bringing about the multilingual information society, a clear policy will of course be required, fostering joint action between the EU Institutions, the Member States and private enterprise.

In the context of international initiatives relating to the global information society, the Commission will emphasize the need to address linguistic and cultural aspects.

Cooperation will be pursued in particular with the non-Community countries in Central and Eastern Europe, the European Economic Area and the Mediterranean Basin, and countries where European languages are widely spoken.

To provide focus for defining issues relating to the language aspects of the European information society, the creation of a *platform for coordination* is envisaged bringing together public and private organizations that have responsibilities or missions with respect to multilingualism and society. Its tasks include:

- improving the understanding of language issues for the information society;
- analysing the relevant economic, social and cultural aspects;
- identifying the main obstacles in creating a multilingual information society;
- stimulating coordination between national bodies and the European Institutions;
- assessing progress towards the multilingual information society;
- cooperation and exchanging language resources with countries outside the European Union;

***A platform for coordinating public and private multilingual initiatives will be established as an accompanying measure to provide a focus for policy making.***

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<sup>(18)</sup> 6th Multilingual Action Plan 1994-1995.

## **6. COORDINATION WITH RELATED COMMUNITY ACTIONS**

The actions described above have been carefully targeted to complement work which is already in progress under a number of existing Community initiatives. Indeed, promoting multilingualism in Europe implies coordination between a broad range of initiatives in different domains which should, however, be regarded as elements of a coherent strategy.

*Complementary Community actions strengthening language knowledge and the technology base will each play a vital part in creating Europe's multilingual information society.*

### **6.1 A European approach to language learning**

The growing need for multilingual support in communicating information and knowledge is recognized by businesses, administrations and individual citizens. More emphasis is therefore now being given to language learning initiatives.

While the basis is excellence in the mother tongue, proficiency in foreign languages is becoming almost as important. Only by extending their language capabilities will our citizens be able to benefit from the ever richer information services provided over the global networks. This could be achieved, in part, by the development of distance language learning products for the networked environment.

Following LINGUA<sup>(19)</sup>, the SOCRATES and the LEONARDO programmes give full attention to language learning, extending coverage to vocational training. In the new Telematics Applications Programme, both the Education and Training sector and the Language Engineering sector include development of language learning tools.

The Research Council recently agreed to establish a number of task forces charged with the elaboration of certain multidisciplinary research topics. The task force addressing educational multimedia software will be looking into the language learning issues.

*The focus on language learning in all phases of the educational process as well as in the professional environment should be enhanced. Community programmes like LEONARDO and SOCRATES as well as the Telematics Application Programme will contribute to this.*

### **6.2 Promoting multilingual content**

As it moves into the information age, Europe can certainly capitalize on its extensive content holdings in the publishing, audiovisual and language areas. Modern production, packaging and distribution methods will open international markets for a variety of services, whether for leisure, culture, or business, often requiring a multilingual approach to content.

These will include techniques for lowering the cost of producing content-related products for Europe's many language markets. New technologies will enable a more integrated approach, reducing translation and adaptation costs while improving multilingual quality.

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<sup>(19)</sup> LINGUA: Promotion of the teaching and learning of the languages of the EC, Council Decision, OJ No L 239, 16.8.1989.

The European content industry will be one of the main industrial participants in bringing about the information society, in view of the need to publish in a variety of languages for the multilingual market. This need will also be addressed under the proposed INFO2000 programme and the Media II programme.

Similarly, in RTD programmes, particularly in the information engineering and language engineering sectors of the Telematics Applications Programme, due attention will be given to technologies for reducing the additional costs and cutting back the turn-around time of multilingual content production, including dubbing, subtitling and multilingual software support. An important area here will be tools for the production of CD-ROMs and CDIs in a wide variety of languages.

***Development of tools and methods designed to reduce production costs of multilingual content while improving its quality will be stimulated in the framework of the RTD programmes. The INFO2000 and the MEDIA II programmes will stimulate the production of multilingual content.***

### **6.3 Extending and exploiting the technology base**

Despite significant progress in the past 10 years, language technology remains immature, requiring further research and development. A constraint is lack of large-scale, widely accessible computerized resources for the various technologies.

- Natural language processing covers language recognition, dialogue management, syntactic, morphological and semantic analysis, computerized translation, document indexing and retrieval, and techniques for evaluation. These technologies are needed to create grammar checkers, parsers for use in translation and authoring systems, and tools for networked information discovery and classification.
- Speech technology can be broken down into signal processing, automatic speech recognition, language understanding, speaker recognition, speech generation and text-to-speech synthesis, as well as speech technology evaluation. Speech technology can be applied at the synthesis level, for example in creating text-to-speech systems for the blind, while speech analysis techniques are required for voice-controlled equipment and for automatic dictation systems. All these technologies are closely tied to their written-language processing counterparts.
- The ergonomic aspects of language engineering cover the design of effective interfaces for handling both spoken and written language. These include screen displays and help messaging in all the necessary languages as well as components supporting multilingual voice commands.

Language engineering builds on these to develop applications involving the processing of written or spoken language. Potential applications could, for example, include systems offering rough translations of abstracts from scientific databases or for converting speech to text, for example reports dictated by medical specialists.



Europe's scientific basis for language technology has been consolidated by RTD programmes such as ESPRIT, Telematics, Eurotra<sup>(20)</sup>, and Linguistic Research and Engineering<sup>(21)</sup>. Exploitation of this strong science and technology base is, however, lagging behind.

*Special efforts will be made both within the specific programmes concerned and through continued support for the exploitation and dissemination of results to ensure that industry is kept informed of achievements in the area of language technology.*

## 7. CONCLUDING REMARKS

In conclusion, the proposed Multilingual Information Society programme will address a number of significant gaps which need to be filled in developing a coordinated strategy for a multilingual information society. In many cases it is not only the ideas, but better coordination, adequate speed, appropriate implementation that are required in Europe. The proposed Council decision to launch an action programme promoting the multilingual information society takes these issues into account.

Language diversity has been and will remain a cornerstone for European communication and cooperation. It will become all the more important with the emergence of the global information society, where countries will try to capitalize on their strong position in certain areas of information and communication services by exporting products and services across the globe.

As the global information society develops, Europe must be ready to play its part and reap the full benefits for its citizens, its businesses and its public administrations. European identity must be preserved, characterized as it is by fruitful cooperation between different peoples with different languages and different cultures.

Europe's language diversity is considerable when compared with the United States and Japan, its main competitors, even if it is less marked than in many other parts of the world. Europe has the scientific and technological competence, the economic strength and the political will to maintain its language diversity in the information age as wished by the European citizens. Business is prepared to take its share in this enterprise, having experienced the need to cope with a multilingual and multicultural society. Small enterprises, confronted with large and diversified markets, also need adequate help.

The multilingual information society will thus make it easier for citizens to communicate in the language of their choice, at work or at home. It will also ensure a strong position for Europe when transferring its own experience and maturity in dealing with a culturally and linguistically diverse Europe to an even more diverse Information Society worldwide.

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<sup>(20)</sup> EUROTRA, A European machine translation system of advanced design. Initiated by Council Decision 82/752 of 4 November 1982 and last covered by Council Decision 90/664 of 26 November 1990.

<sup>(21)</sup> Council Decision of 7 June 1991, OJ No L 192, 16.7.1991.

## ANNEX 1 : Summary of MLIS Actions

	TITLE	DESCRIPTION	JUSTIFICATION
1.	Supporting the construction of an infrastructure for European language resources	<p>Call for proposal (shared cost projects) for the :</p> <ul style="list-style-type: none"> <li>- support starting up European language resources association with respect to validation and dissemination of language resources</li> <li>- phased development of a network connecting sector and language based terminology banks</li> <li>- selection and operation of an information centre for terminology</li> <li>- phased development of a network of compatible electronic corpora and lexicons</li> </ul>	<ul style="list-style-type: none"> <li>- better use of language resources which are being developed independently in different Member States</li> <li>- language resources need to be developed according to commonly agreed standards</li> <li>- networking these resources ensures their compatibility</li> <li>- Community action promotes development of <i>multilingual</i> resources</li> </ul>

	TITLE	DESCRIPTION	JUSTIFICATION
2.	Mobilising and expanding the language industries	<p>Calls for proposal (shared cost projects) for the :</p> <ul style="list-style-type: none"> <li>- demonstration of effective use of controlled language and language tools, in a limited number of industrial and business environments</li> <li>- demonstration of advanced tools and methods for localising multimedia software</li> <li>- development of electronic translation directory services</li> <li>- demonstration of tele-translation and tele-interpreting using pan-European networks</li> </ul>	<ul style="list-style-type: none"> <li>- SME's need increasingly to address different language markets</li> <li>- skills and experience to handle multilingualism are lacking</li> <li>- Community action will improve the chances of SME's in the Single Market</li> <li>- direct access to multilingual services will reduce time-to-market of SME's.</li> <li>- language industries, mainly SME's, will benefit from European cooperation</li> </ul>

## ANNEX 1 : Summary of MLIS Actions

	TITLE	DESCRIPTION	JUSTIFICATION
3.	Promoting the use of advanced language tools in the European public sector	<p>Calls for tender for the :</p> <ul style="list-style-type: none"> <li>- development of a multilingual information infrastructure for the public sector (tools, resources, standards, interfaces)</li> <li>- development of translation tools in bilateral cooperation with Member States and regions</li> <li>- elaboration of unified terminology specific for the European public sector</li> </ul>	<ul style="list-style-type: none"> <li>- the need for multilingual communication between public administrations in Europe is rapidly increasing</li> <li>- deployment of language tools can vastly improve efficiency</li> <li>- experience of European institutions to handle multilingualism should be shared with administrations in the Member States</li> <li>✓ European public sector will be a showcase for the European language industries</li> </ul>

	TITLE	DESCRIPTION	JUSTIFICATION
-	Accompanying measures	<p>Calls for tender (mainly for studies and awareness actions)</p> <ul style="list-style-type: none"> <li>- organising concertation and coordination between the principal operators</li> <li>- study to assess needs and progress towards multilingualism</li> <li>- support linguistic standards work</li> <li>- various promotional activities, particularly addressing the general public and business sectors</li> <li>- organise concertation with third countries.</li> </ul>	<ul style="list-style-type: none"> <li>- concerted actions at European level to improve effectiveness of action plan</li> <li>- standardisation essential for large scale deployment and re-use</li> <li>- awareness of language issues and potential solutions in Europe is low</li> <li>- international exchange can extend European action and strengthens links with selected third countries</li> </ul>

Proposal for a  
**COUNCIL DECISION**  
on the adoption of a multiannual programme to promote the linguistic diversity  
of the Community in the information society

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THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 130(3) thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament<sup>(1)</sup>,

Having regard to the opinion of the Economic and Social Committee<sup>(2)</sup>,

Whereas the advent of the information society provides industry with new prospects for communication and trade on European and world markets which are marked by a rich linguistic and cultural diversity;

Whereas industry must work out specific and adequate solutions to overcome the linguistic barriers if it is benefit fully from the advantages of the internal market and remain competitive on world markets;

Whereas it is necessary to encourage the use of technologies, tools and methods which reduce the cost of transferring information between languages, while also assuring the quality of translations, particularly in the case of literary translation, which requires a specific creative effort;

Whereas the European Council meeting in Corfu on 24 and 25 June 1994, stressed the importance of the cultural and linguistic aspects of the information society, and whereas the European Council meeting in Cannes on 26 and 27 June 1995, restated the importance to the Community of its linguistic diversity;

Whereas the emergence of the information society could afford citizens greater access to information and offer an outstanding opportunity to exploit the cultural and linguistic wealth and diversity of the Community;

Whereas language policies are a matter for the Member States, taking account of Community law; whereas, however, promoting the development of modern language processing tools and their use is a field of activity in which Community action is justified in order to achieve substantial economies of scale by stimulating suitable cooperation between those involved in the various language areas; whereas the measures to be taken at Community level must be commensurate with the objectives to be attained and concern only those fields which are likely to produce an added value for the Community;

Whereas it is in the interests of the Community to support efforts to set up an infrastructure encouraging the creation and exploitation of the language resources required to improve language services and tools and give a boost to R&D work;

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<sup>(1)</sup> OJ No

<sup>(2)</sup> OJ No

Whereas the Community should also mobilize the language industries and help create an environment which is conducive to their expansion;

Whereas the information and communications technology industries should be encouraged to draw up standards which take account of linguistic diversity and incorporate them in their products and applications;

Whereas it is useful for the Community institutions and the administrations concerned in the Member States to collaborate more closely in order to reduce the cost of developing and using the language tools required to carry out their tasks;

Whereas the actions to be carried out in implementing this programme should be coordinated closely with initiatives implemented under other Community programmes with a view to setting up a multilingual information society;

Whereas mutual benefits can be obtained by involving international organizations and legal entities from non-member countries in the implementation of all or part of the programme, while respecting the general policies of the Community towards these organizations,

HAS ADOPTED THIS DECISION:

#### Article 1

A Community programme which aims to:

- (a) encourage the use of technologies, tools and methods which reduce the cost of transferring information between languages and the development of multilingual services,
- (b) stimulate the expansion of the languages industries,
- (c) promote the development of multilingual services,
- (d) promote the linguistic diversity of the Community in the global information society,

is adopted for the period running from the date upon which this Decision takes effect until 31 December 1998.

#### Article 2

The following actions shall be undertaken under the responsibility of the Commission and in accordance with the action lines set out in Annex I and the procedures for implementing the programme set out in Annex II:

- (a) support for attempts to construct an infrastructure for Community language resources and encouragement for those involved,
- (b) the mobilization and expansion of language industries by encouraging the use of modern language technologies and tools and their incorporation into computer applications,
- (c) promotion of the use of advanced language tools in the Community public sector.

None of these actions should duplicate the work being carried out in these fields under Community or national programmes.

### Article 3

1. The budgetary authority shall determine the appropriations for each financial year, subject to the availability of resources within the context of the financial outlook.
2. The Community's financial contribution to the shared-cost projects shall, as a general rule, be 50%.

### Article 4

1. The Commission shall be responsible for the implementation of the programme.
2. The Commission shall be assisted by a committee of an advisory nature composed of representatives of the Member States and chaired by the representative of the Commission.

The representative of the Commission shall submit to the committee a draft of the measures to be taken. The committee shall deliver its opinion on the draft within a time limit which the chairman may lay down according to the urgency of the matter, if necessary by taking a vote.

The opinion shall be recorded in the minutes; in addition, each Member State shall have the right to request that its position be recorded in the minutes.

The Commission shall take the utmost account of the opinion delivered by the committee. It shall inform the committee of the manner in which its opinion has been taken into account.

### Article 5

The procedure laid down in Article 4(2) shall apply to:

- (a) the work programme for carrying out the action lines set out in Annex I,
- (b) the content of the calls for proposals,
- (c) the selection of the actions proposed for Community financing and the estimated amount of this financing for each action, where this amount is equal to or exceeds ECU 0.5 million,
- (d) the procedures for evaluating the results of the programme,
- (e) adaptation of the procedures for carrying out the programme laid down in Annex II,
- (f) the decision to allow the participation of international organizations and legal entities from non-member countries.

### Article 6

Upon completion of the programme, the Commission shall present to the European Parliament, the Council and the Economic and Social Committee an evaluation report on the results obtained through implementing the actions referred to in Article 2.

**Article 7**

**This Decision is addressed to the Member States.**

**Done at Brussels,**

**For the Council  
The President**

## ACTION LINES

### 1. Action Line 1: Supporting the construction of an infrastructure for European language resources

Language resources such as dictionaries, terminological databanks, grammar books, collections of texts and voice recordings are an essential raw material for linguistic research, the development of language-processing tools integrated into data processing systems and for improving translation services. Considerable amounts of money have already been invested by the Member States, the Commission and some private companies on producing language resources of varying size and complexity. The full utilization of these resources is currently being hampered by the fact that they are mainly monolingual and their basic specifications sometimes differ, thus limiting their wider use. In addition, they are often difficult to locate. The aim of this action line is to support efforts to construct a European infrastructure for multilingual language resources.

#### 1.1 The Commission will lend its support for the starting up of the activities of the European language resources association (ELRA), whose aims are to:

- compile an inventory of the language resources available in the Community,
- introduce mechanisms to ensure that they are disseminated throughout the Community,
- promote the application of common standards to ensure their compatibility and enable quality certification.

#### 1.2 The work in the field of terminology covers a vast range of activities with important implications for trade, science, the cultural sector and technology and the implementation of Community decisions, directives and regulations. This work is being undertaken by a very wide range of public and private operators who often lack the means to coordinate their actions with those of their counterparts in other Member States.

The Commission will encourage the launch of concerted actions between interested bodies in the different Member States in areas which have priority in attaining the objectives of Community policies. To this end, it will, where necessary, make financial contributions to expenditure involved in the introduction of concerted European action among the bodies concerned, particularly addressing standards, dissemination of information and networking.

#### 1.3 The availability of lexicographical databanks and voice recordings which are suited to the development of data processing applications and cover all the Community languages is essential in order for a European language industry to emerge. Most of the resources currently available in Europe are monolingual and mutually incompatible, which makes them impossible to use for the production of multilingual tools. In this field too, the Commission will encourage the launch of concerted actions between public and private sector operators in the different Member States with the aim of developing compatible vocal and lexicographical resources which conform to generally-accepted standards.

#### 1.4 The Commission will ensure that the concerted actions receiving its support have appropriate links with international work in this field.



## **2. Action Line 2: Mobilizing and expanding the language industries**

It is the private sector's role to produce and market modern tools facilitating the development of multilingual data processing applications and information transfer between languages. Europe has a solid scientific and technological base in this field which has been strengthened by Community research and development programmes, in particular the programmes relating to information and communications technologies and telematic systems of general interest. However, the European market lags behind when it comes to exploiting the advances made by research in the area of language engineering. A concentrated effort needs to be made to speed up the process of getting new language processing technology onto the market, particularly as part of the actions for disseminating and exploiting the results of research carried out under the framework programme and the specific programmes. All the action lines proposed in the present programme seek to create an environment which is conducive to the expansion of the language industries such as language engineering and translation industries.

The aim of this action line is to spur the language industries into action by stimulating technology transfer and demand through a limited number of shared-cost demonstration projects which could act as a catalyst in certain key sectors.

- 2.1 A number of industries has experimented with controlled language to facilitate drafting of technical documents and user support information. This approach improves general document management and allows effective use of machine-translation. A limited number of shared cost projects will demonstrate the cost-effectiveness of integrating controlled language, authoring and translation tools, in operational document management systems for different industrial and business environments.
- 2.2 Localization of multimedia software, including translation of the spoken and written word, is becoming increasingly in demand in the Information Society. To stimulate professionalism and to improve competitiveness of the localization and the multimedia industries, a call will be issued to launch a small number of shared cost projects, demonstrating the integration of localization methodology and tools, training of localization staff and developing best practice guidelines of particular importance for SME's.
- 2.3 The Commission will promote the use of networks by the translation and interpretation industries. These give access to advanced tools, including electronic dictionaries, improve logistics, allow integration with other functions, and generally improve the functioning of the translation market. A call for proposals will ask for the definition and implementation of European translation directory services, the definition of an open translation environment in Europe, and for pan-European tele-translation and tele-interpretation demonstrators with the involvement of the translation industry and profession.

## **3. Action Line 3: Promoting the use of advanced language tools in the European public sector**

On account of their linguistic obligations, the European institutions, and the Commission in particular, have had to spend a substantial amount on acquiring and perfecting advanced tools which have become indispensable for the efficient processing of an increasing volume of translations and multilingual documents. In addition, through their daily translation activities they are also helping to compile important multilingual language resources in the various fields of Community activity. With the introduction of the Single Market and the removal of internal frontiers, there will be an increase in the transfer of information between administrations in the different Member States. These will be faced with an increasing number of situations where they will need advanced language tools in order to make communication

with their counterparts in other Member States easier and cheaper. Transferring the experience acquired by the European institutions in the processing of multilingualism to the administrations in the Member States and sharing the language resources which each produces can help achieve economies of scale and reduce the cost of multilingual communication.

The aim of this action line is to encourage cooperation between administrations in the Member States and the European institutions in order to reduce the cost of multilingual communication in the European public sector in particular by using advanced language tools. In this way, the European institutions can act as powerful catalysts for the development of the European language industry in the form of a public demand based on common standards or technical specifications.

- 3.1 The long-term goal is the provision of an efficient multilingual processing service which satisfies the requirements of the Institutions and the administrative services concerned in the Member States. This will favour the establishment of an infrastructure enabling each party to use the different linguistic tools available in the Community institutions and the different administrations without any loss of their current functions, whilst encouraging convergence in future developments. Calls for tender will be issued for the development of tools and systems which help reduce translation time by making it easier to locate and re-use texts or sections of documents which have already been translated, as well as on access to terminological databanks. Particular attention will also be devoted to tools and applications which make the task of interpreting easier.
- 3.2 Work will continue on shared-cost cooperation projects conducted with certain Member States in order to improve terminological tools and existing computer-assisted translation systems, and will be extended to include other interested Member States.
- 3.3 A special effort will be made to bring the language tools for the new official Community languages up to the level of the others.

#### **4. Accompanying measures**

Achieving the multilingual information society calls for the devising of converging strategies on the part of the public authorities, associations and institutions working to develop language resources and tools, the experimental users and the market operators producing and disseminating the information services or providing language processing tools, services and systems. To help in this, the Commission will carry out the following accompanying measures:

- organizing concertation and coordination between the principal operators involved in developing a multilingual information society,
- assessing progress made towards multilingual information society, and identifying remaining barriers;
- promoting technical standards which meet the linguistic needs of users;
- launching promotional activities and user awareness campaigns and supporting the exchange of best practice;
- exploring the possibilities for fruitful collaboration with third countries and multilingual international organizations.

## **PROCEDURES FOR IMPLEMENTING THE PROGRAMME**

1. The Commission shall implement the programme in accordance with the technical specifications set out in Annex I.
2. Where appropriate, the action lines in the programme shall be carried out by means of shared-cost projects, except in the case of developments exclusively for the institutions of the EU, in which case the rate may be up to 100%. The Community's financial contribution will not normally be more than 50% of the cost of the projects, this proportion decreasing the closer the project is to being marketed. Universities and other institutes which do not have cost accounting systems shall be reimbursed at 100% of their additional costs.
3. The selection of shared-cost projects is, in principle, based on the normal procedure for calls for proposals published in the Official Journal of the European Communities. The objectives shall be set out in work plans compiled in close cooperation with the market operators and the committee referred to in Article 4 of the Decision.
4. In exceptional cases, having received the opinion of the committee referred to in Article 4, the Commission may consider proposals for projects which have not been requested but which might involve particularly promising and important developments for achieving the objectives of the programme and which could not be submitted under the normal procedure for calls for proposals.
5. Support for attempts to construct an infrastructure for European linguistic resources could take the form of concerted actions to coordinate the development of multilingual linguistic resources, particularly through "concertation networks". The Community's financial contribution could cover up to 100% of the coordinating costs.
6. Projects financed entirely by the Commission under study and service contracts shall be implemented through a call for tenders in accordance with the Commission's financial regulations. Transparency will be ensured by the publication and regular dissemination of the work programme to professional associations and other interested bodies.
7. To implement the programme, the Commission shall also carry out activities drawn up in accordance with the general objectives of the programme and the specific aims of each action line. Such activities shall include workshops, seminars, conferences, studies, publications, awareness campaigns, training courses, participation in cooperative projects with the administrations in the Member States, the European institutions and international organizations, helping national language observatories and specific support for the development of language tools and resources for those Community languages most in need of such assistance.

# FINANCIAL STATEMENT

## 1. TITLE OF OPERATION

Promotion of the multilingual information society (MLIS): multiannual action programme to preserve and exploit linguistic diversity in Europe.

## 2. BUDGET HEADING INVOLVED

B5-403

## 3. LEGAL BASIS

Treaty on European Union, Article 130 (3).

## 4. DESCRIPTION OF OPERATION

### 4.1 GENERAL OBJECTIVE

The programme is based on the experience acquired by the Commission of the European Communities in managing research programmes in the field of language engineering and the development, for its own requirements, of language tools which facilitate translation and reduce its cost.

This new programme has four principal objectives:

- to stimulate the use of technologies, tools and methods which reduce the cost of transferring information between languages and the development of multilingual services;
- to encourage the strengthening of the language industries;
- to encourage the development of multilingual services;
- to promote the linguistic diversity of the European Union in the global information society.

The technological revolutions which are profoundly modifying the form and modes of human communication have an impact on the evolution of languages and their use. The appearance on the scene of a global information society is a challenge to linguistic cohesion and diversity in Europe. Economic pressures (the cost of multilingualism) will tend to encourage the use of dominant languages through the networks. Those citizens who are not in a position to express themselves easily in those languages risk missing out on the benefits of the information society.

However, the progress achieved in language engineering and language processing technologies means that there are now tools available which reduce the cost of translation and multilingualism and make it easier to learn languages.

The principal lines of action of the new programme are as follows:

- to support efforts to set up the infrastructure of European language resources and to encourage the operators involved;
- to mobilize and reinforce the language industries by promoting the use of modern language technologies and tools and their incorporation in computer applications;
- to promote the use of advanced language tools, in particular in the European public sector.

## **4.2 PERIOD COVERED AND ARRANGEMENTS FOR RENEWAL**

Three years, covering the period from 1 January 1996 to 31 December 1998.

## **5. CLASSIFICATION OF EXPENDITURE OR REVENUE**

### **5.1 NCE**

### **5.2 DA**

### **5.3 Type of revenue**

Any revenue will be reemployed in accordance with Article 27 of the Financial Regulation of 21 December 1977, as most recently amended by Regulation 610/90 of 13 March 1990.

## **6. TYPE OF EXPENDITURE/REVENUE INVOLVED**

### **6.1 Provision of services**

Projects financed in whole by the Commission under study and services contracts will be implemented through calls for tender in accordance with the financial regulations of the Commission. These services will generally concern studies, the organization of coordination meetings, workshops and demonstrations of language tools for the European institutions. They will derive, in particular, from the implementation of action lines 2 and 3 and the accompanying measures. Transparency will be ensured by publishing the work programme and communicating it to commercial associations and other interested bodies.

### **6.2 Subsidy for joint funding with other sources in the public and private sectors**

Shared-cost projects and joint projects will normally be selected following the usual procedures of calls for proposals published in the Official Journal of the European Communities. This type of funding applies, in particular, to the activities provided for in the three action lines for joint development projects. The content of the calls for proposals will be drawn up in close consultation with market operators and the programme committee. The principal criterion for supporting projects through the calls for proposals will be their potential contribution to attaining the objectives of the programme. The Community's financial contribution to shared-cost projects will not normally exceed 50%. The Community's financial involvement may of course be as high as 100% in the case of projects involving exclusively the institutions of the European Union. Specific supplementary bonuses may also be granted to encourage the development of a European language resources infrastructure, the participation of SMEs and initiatives concerning those Community languages for which the advanced language tools are least developed. The Community's financial contribution to the projects involved may cover up to 100% of the coordination costs.

## 7. FINANCIAL IMPACT

### 7.1 Method of calculating total cost of operation (relationship between individual costs and the total cost)

The volume of appropriations required to finance the Community contribution to implementing the MLIS programme takes account of the financial parameters derived from previous experience and activities and the nature of the actions proposed with a view to achieving the specific objectives set out in point 9.1.

### 7.2 Itemized breakdown of costs

Commitment by line of action (current costs in million ecus):

	1996	1997	1998	Total
Supporting the construction of an infrastructure for European language resources	0.5	0.5	1.0	2.0
Mobilizing and expanding the language industries	1.0	1.0	1.5	3.5
Promoting the use of advanced language tools in the European public sector	2.0	2.5	2.5	7.0
Accompanying measures	0.5	1.0	1.0	2.5
<b>TOTAL</b>	<b>4.0</b>	<b>5.0</b>	<b>6.0</b>	<b>15</b>

## 8. FRAUD PREVENTION MEASURES (AND RESULTS OF MEASURES TAKEN)

Overall monitoring will be exercised by a committee composed of delegates of the Member States. Specific monitoring criteria and procedures will be laid down at the start of the programme and applied periodically during the implementation phase of the programme. The Commission officials, if necessary assisted by independent experts, will verify the proper implementation of the projects and studies before payment, taking into account the contractual obligations and principles of good management. Administrative checks will be carried out by the Commission. Verification will be by the Court of Auditors under the terms of the Treaty. At the end of the programme an evaluation report will be drawn up by independent experts on the results obtained in implementing the lines of action.

## 9. ELEMENTS OF COST-EFFECTIVENESS ANALYSIS

### 9.1 Specific and quantifiable objectives; target population

#### *Specific objectives*

#### *Supporting the construction of an infrastructure for European language resources*

Language resources such as dictionaries, terminological databanks, grammar books, collections and the like are an essential raw material for linguistic research, for the development of operational language processing tools and the improvement of computer-assisted translation systems. Considerable sums have already been invested by the Member States, the Commission and certain private companies in an effort to produce language resources of varying scale and complexity. Exploitation of these resources is currently hampered by the fact that they are mainly monolingual, their basic specifications are sometimes disparate - which limits their use - and they are often difficult to locate. The objective of this line of action is to support the efforts being

undertaken by producers and users, with a view to facilitating their identification, structuring, distribution and utilization at Community level.

### *Mobilizing and expanding the language industries*

This line of action will essentially involve promoting the modern language processing tools in those sectors of activity to which they are particularly well-suited and in which they are likely to considerably reduce translation costs: product labelling, controlled-language drafting and computer-assisted translation of documentation and user notices, adapting software to different language markets, etc. It will also aim to promote the use of language tools and means of communication to strengthen the efficiency and competitiveness of the European translation industry and interpreting services.

### *Promoting the use of advanced language tools in the European public sector*

This line of action aims to exploit the Commission's prior investment, for its own requirements, in the field of machine translation and multilingual tools, and to act as a catalyst for the development of the market through public demand. The objective is to allow the other European institutions and the civil services of the interested Member States to use these tools and to set up cooperation projects to share the development costs needed to cover the Community's new working languages.

### *Accompanying measures*

In addition to the measures to strengthen coordination of the suitable initiatives in the language field undertaken under various Community programmes, and to speed up their impact, the accompanying measures will involve the organization of strategic coordination meetings with the principal market operators, launching studies and strategic surveys so as to monitor the development of the market and evaluate the impact of the programme, stimulating standardization work, launching promotion measures and measure to increase user awareness, and encouraging cooperation and the exchange of best practice in public and private bodies which are taking steps to adapt to a multilingual society and market. These measures will also involve examining opportunities for advantageous cooperation with third countries and multilingual international organizations.

### **Target population**

The target groups comprise:

- the national language departments or institutions with strategic and executive responsibilities in the Member States and regions,
- language "professionals": translators, terminologists, publishers of grammar books and dictionaries, teachers of languages and specialized bodies and institutes in the Member States,
- creators of language resources and the specialized bodies which process them to give them a structure,
- computer service companies and software publishers specialized in the production of language processing tools,
- major groups of users of these tools (export-oriented industries, providers of information services and international communications, software publishers, administrations and institutions which need to communicate in several languages, etc.)

## **9.2 Grounds for the operation**

### **Subsidiarity**

Language policies are the responsibility of the Member States. Nevertheless, promoting the development of modern language processing tools and their use is a field of activity where Community action is justified in order to achieve substantial economies of scale through promoting suitable cooperation between the operators involved in the various language zones. The activities under the programme will be commensurate with the objectives to be achieved and will involve only those fields likely to achieve an added value at European level.

### **Choice of ways and means**

The costs will be reduced as much as possible through competition by means of calls for tenders and proposals. The Commission contribution to shared-cost projects will coordination meetings should avoid any duplication of effort and promote synergy. The choice of ways and means takes account of the guidelines set out in the Bangemann Report and in the Commission action plan COM(94) 347, as well as of the consultations held with industry, users and the representatives of the Member States in preparing the programme.

### **Spin-off and multiplier effects expected**

Promoting the development of the language industries and the use of modern language tools has spin-off benefits of great interest to the Community:

- promotion of an industry and services which create jobs;
- reduction in the cost of translating and transferring information between languages (the number of pages translated in the Community in 1988 was estimated at 100 million);
- new outlets offered by linguistic adaptation of products and services to local markets;
- strengthening of the cohesion of the Community in its linguistic diversity;
- preservation of the cultural and linguistic diversity of the Community in the global information society.

The Community's means of action - shared-cost projects and support for joint projects have a multiplier effect through the supplementary funding contributed by the partners taking part in these projects. Moreover, they achieve a further multiplier effect by encouraging investment by the market operators.

### **Factors of uncertainty**

The main factors of uncertainty which might affect the specific results of the programme concern the readiness of the private sector to invest in the development of modern language processing tools before the market for such products has taken off.

## **9.3 Monitoring and evaluation of the operation**

Some of the projects will be devoted to developing indicators for monitoring the multilingualism market in Europe, in terms of both developing the supply of products and the industry and demand. In the very first year of the programme, a methodological framework will be laid down for the systematic collection of data in the various fields.



An analysis of these annually-updated indicators will allow an assessment of the effectiveness of the measures taken in the course of the programme. Before the end of the programme an evaluation report will be drawn up on the results achieved in implementing the lines of action.

## **10. ADMINISTRATIVE EXPENDITURE (PART A OF SECTION 3 OF THE GENERAL BUDGET)**

The expenditure is calculated per year.

### **10.1 Additional staff in the Commission**

Implementation of the proposed action will require the additional allocation of 2 officials (1 A-grade post and 1 C-grade post, cost = ECU 160 000). Effective mobilization of the necessary administrative resources will depend on the Commission's annual decision on the allocation of resources, taking account in particular of the additional staff and sums approved by the budgetary authority. Additional requests can in no way prejudice the decision which the Commission will have to take on the allocation of resources.

### **10.2 Amount of staff and administrative expenditure involved**

The annual amounts of administrative expenditure are as follows:

#### **10.2.1 National experts seconded**

A-1520

Total expenditure: ECU 70 000

Two national officials will have to be seconded to coordinate the MLIS projects between the EU and the national/regional levels.

#### **10.2.2 Meetings of experts**

A-250

Total expenditure: ECU 120 000

To prepare the work programme, the Commission will consult outside experts and representatives of users, industry administrations and research.

9 meetings are planned, with 1 participant per Member State (cost =  $880 \times 15 \times 9 = 118\,800$ , rounded up to ECU 120 000).

#### **10.2.3 Meetings of the Committee**

A-2510

Total expenditure: ECU 40 000

The MLIS programme committee mentioned in the Council Decision will hold an average of 3 meetings per year, with 1 participant per Member State (cost:  $880 \times 15 \times 3 = 39\,600$ , rounded up to ECU 40 000).

#### **10.2.4 Official travel**

A-130

Total expenditure: ECU 50 000

Total official travel costs for Commission staff and the seconded national experts are estimated at ECU 50 000 and will be taken from the overall amount allocated to DG XIII.

# RELATIONSHIPS OF MLIS WITH OTHER EU PROGRAMMES

PROGRAMME CHARACTERISTICS	
MLIS	MLIS is a programme promoting linguistic diversity in the emerging Information Society. It comprises horizontal actions such as language infrastructure development and related standardisation, stimulates the use of language technologies by the language industries so as to improve their cost-effectiveness and stimulates the market for multilingual products and services. The vertical market addressed is the public sector for which MLIS will develop multilingual solutions and best practice methodologies. The success of MLIS will depend to a large extent on how other initiatives incorporate multilingualism in their objectives and concrete actions.
MLIS RELATIONSHIPS	
INFO 2000	INFO 2000 is a Community programme to encourage Europe's content providers to develop new multimedia products and services and to stimulate user demand for these products and services. INFO 2000 aims at creating favourable conditions for the development of the European multimedia content industry, focus on the transition from print to electronic publishing and on the interactive multimedia services that are currently emerging. MLIS contributes to INFO 2000 objectives by addressing the multilingual aspects of multimedia content, for example, by encouraging the language industries to use language technologies for cost-effective services and by ensuring that suitable information and communication infrastructures and human interfaces are provided for the various language versions.
IT and ACTS	IT and ACTS cover infrastructure-oriented research and technological development programmes in the field of information technologies (addressing software technologies, technologies for IT components and subsystems and interface technologies) and advanced communication technologies (addressing the technological base for interactive digital multimedia services, photonics, high-speed networking, mobility and personal communications, intelligent networks and service engineering, and quality, security and safety of communications services and systems). MLIS will build on the results of the IT and telecommunications programmes, and will promote the application of language specific technologies and tools. Specifically, MLIS will promote the systematic localisation (translation) of software in view of the considerable economic benefits this can represent.
TELEMATICS	The Telematics Applications programme stimulates applied telematics research and demonstrators in a number of public sector domains such as health care, education, transport and libraries. MLIS will contribute to telematics applications, particularly if they are meant for multinational or multiregional use, by ensuring that multilingualism is taken into account from early design to the pilot-stage in a cost-effective way. MLIS will ensure availability of the necessary language infrastructure. The Language Engineering sector of the Telematics Applications programme supports language tool development and demonstration. MLIS will ensure that these results are used in operational environments.
MEDIA II & RAPHAEL	MEDIA II addresses the specific needs of the audiovisual segment (television, video, radio, audio and cinema) of the content-industry, while RAPHAEL is a vertical programme addressing the cultural heritage sector. The content-industry at large is composed of those enterprises involved in content creation, development, packaging and distribution. MEDIA II will make a very important contribution to linguistic pluralism through its language versioning actions. These actions will build on work under MLIS Action Line 2.2 relating to the cost-effective use of versioning methodologies. MLIS will encourage the translation industry to meet the challenges in the audiovisual sector and will develop the language infrastructure.
SOCRATES AND LEONARDO	The SOCRATES and LEONARDO programmes establish general Community frameworks for education and training policy actions, for educational systems and for a wide of range of economic sectors, while MLIS concentrates on the specific needs of the language industry. Very important in this context are the post-LINGUA actions to promote foreign language learning. These contribute to the overall MLIS objective to promote linguistic pluralism and international communication. MLIS and SOCRATES in particular are thus fully complementary striving for the same strategic goal.
SMEs AND CRAFT SECTOR	The purpose of the Integrated Programme in favour of SMEs and the Craft sector is, in the context of the White Paper, to initiate in a concerted manner measures facilitating reciprocal consultation and, where necessary, coordination between Member States with a view to improving the business environment by simplifying procedures, promoting support measures for enterprises and identifying ways in which the Community can contribute to the development of enterprises. MLIS addresses the language industry which, apart from a limited number of international players, consists mainly of SMEs. The MLIS programme aims at stimulating this sector and its users, many of whom are SMEs. Results from MLIS will open up new business opportunities for SMEs in the single market. In short, the Integrated Programme and MLIS are fully complementary in improving the competitiveness of SMEs in Europe.
IDA	IDA aims at improving communication between the various Member State administrations and between them and the Community institutions. The actions under IDA are complicated by the different languages used by administrations for communications, for their laws and regulations; and by the lack of European terminology standards in this sector. MLIS will contribute to IDA in a significant way, through its actions on terminology infrastructure and on multilingual services in the public sector where the Commission's considerable experience in dealing with multilingualism will be taken into account.

ISSN 0254-1475

COM(95) 486 final

# DOCUMENTS

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Catalogue number : CB-CO-95-559-EN-C

ISBN 92-77-95286-5

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Office for Official Publications of the European Communities

L-2985 Luxembourg