

II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DECISION

of 26 November 1990

**adopting a specific programme concerning the preparation of the development
of an operational Eurotra system**

(90/664/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 130q (2) thereof,

Having regard to the proposal from the Commission ⁽¹⁾,

In cooperation with the European Parliament ⁽²⁾,

Having regard to the opinion of the Economic and Social Committee ⁽³⁾,

Whereas Article 130k of the Treaty provides that the framework programme is to be implemented through specific programmes developed within each activity;

Whereas, by its Decision 82/752/EEC ⁽⁴⁾, as amended by Decision 86/591/EEC ⁽⁵⁾, the Council adopted a Community research and development programme for a machine translation system of advanced design (Eurotra);

Whereas, by Decision 88/445/EEC ⁽⁶⁾, the Council approved the transition of the Eurotra programme to its third phase;

Whereas, by Decision 89/410/EEC ⁽⁷⁾, the Council adopted a specific programme for the completion of Eurotra;

Whereas, following the adoption of Decision 90/221/Euratom, EEC ⁽⁸⁾ concerning the third framework programme for Community activities in the field of research and technological development (1990 to 1994), it is necessary to continue the implementation of the second framework programme (1987 to 1991), adopted by the Decision 87/516/Euratom, EEC ⁽⁹⁾, by means of specific programmes for which the latter makes provision as in the case of the activities on linguistic problems (Action Line 8.4), including the preparation of the development of an operational machine translation system;

Whereas Decision 82/752/EEC provided that on completion of the Eurotra programme an operational system prototype should be available in a limited field and for limited categories of text and it included in the programme of work for the third phase of the Eurotra programme the preparation of a proposal for the further development of the system;

Whereas this programme should lead to the development of a high-level scientific prototype in the field of automatic translation;

Whereas significant progress has been achieved as a result of the Eurotra programme in the field of linguistic research and it has constituted a first step towards the development of a practical machine translation system, to the benefit of the nine official Community languages;

Whereas the programme is expected to make an important contribution to the economic and social cohesion of

⁽¹⁾ OJ No C 7, 12. 1. 1990, p. 7.

⁽²⁾ OJ No C 175, 16. 7. 1990, p. 129 and Decision of 24 October 1990 (not yet published in the Official Journal).

⁽³⁾ OJ No C 168, 10. 7. 1990, p. 12.

⁽⁴⁾ OJ No L 317, 13. 11. 1982, p. 19.

⁽⁵⁾ OJ No L 341, 4. 12. 1986, p. 39.

⁽⁶⁾ OJ No L 222, 12. 8. 1988, p. 1.

⁽⁷⁾ OJ No L 200, 13. 7. 1989, p. 15.

⁽⁸⁾ OJ No L 117, 8. 5. 1990, p. 28.

⁽⁹⁾ OJ No L 302, 24. 10. 1987, p. 1.

the Community, and to reconcile the benefits of the linguistic and cultural plurality with the attainment of the internal market;

Whereas additional efforts will have to be made by the Community, the Member States and European industry in order to reach this objective;

Whereas the Scientific and Technical Research Committee (Crest) has been consulted,

HAS ADOPTED THIS DECISION:

Article 1

A specific research and technological development programme for the European Economic Community concerning the preparation of the development of an operational Eurotra system, as defined in Annex I, is hereby adopted for a period of two years commencing on 26 November 1990.

Article 2

1. The funds estimated as necessary for the execution of the programme amount to ECU 10 million, including expenditure on five temporary staff.
2. An indicative allocation of funds is set out in Annex II.

Article 3

Detailed rules for the implementation of the programme and the rates of the Community's financial participation are set out in Annex II.

Article 4

1. During the first quarter of 1993, the Commission shall conduct through a panel of independent experts an evaluation of the results achieved and shall send the panel's report and its comments on this subject to the European Parliament and the Council.
2. This report shall be established having regard to the objectives set out in Annex I and in accordance with Article 2 (2) of Decision 87/516/Euratom, EEC.

Article 5

1. The Commission shall be responsible for the execution of the programme. It shall be assisted by a Committee of an advisory nature, hereinafter referred to as 'the Committee', composed of the representatives of the Member States and chaired by the representative of the Commission.
2. Contracts concluded by the Commission shall govern the rights and obligations of each party including the methods of disseminating, protecting and exploiting the research results.

Article 6

1. 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.

2. The opinion shall be recorded in the minutes; in addition, each Member State shall have the right to ask to have its position recorded in the minutes.
3. 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 7

The procedure laid down in Article 6 shall apply in particular to:

- the contents of the calls for proposals,
- the assessment of the proposed projects and the estimated amount of the Community's contribution to them,
- departures from the general rules governing Community participation set out in Annex II,
- the participation in any project by non-Community organizations and enterprises referred to in Article 8,
- any adjustment of the indicative allocation of funds set out in Annex II,
- the measures to be undertaken to evaluate the programme,
- the arrangements for the dissemination, protection and exploitation of the results of research carried out under the programme.

Article 8

1. Where framework agreements for scientific and technical cooperation between European third countries and the European Communities have been concluded, organizations and enterprises established in those countries may, on the basis of the criterion of mutual benefit, become partners in a project undertaken within this programme.
2. No contracting party based outside the Community and participating as a partner in a project undertaken under the programme may benefit from Community financing for this programme. Such a contracting party shall contribute to the general administrative costs.

Article 9

This Decision is addressed to the Member States.

Done at Brussels, 26 November 1990.

For the Council

The President

C. DONAT CATTIN

ANNEX I

1. OBJECTIVES, EVALUATION AND CONTENT OF THE PROGRAMME

1.1. Overall objectives

This programme constitutes the first step towards the development on an operational machine translation system of advanced design, capable of dealing with all official Community languages. The specific objectives of the programme are :

(a) Creation of the conditions for the transition to an operational system

- implementation of a development, testing and research environment capable of supporting large-scale systems,
- extension of the linguistic coverage and large-scale testing of the analysis and synthesis modules for all languages covered by Eurotra,
- the definition of common methods for large-scale development for machine translation and other applications involving natural language,
- experimentation and evaluation of relayed transfer, using an interface structure as pivot,
- research, prototype implementation and evaluation of new linguistic models aimed at the improvement of the interlinguality of the interface structure and control of overgeneration,
- research, prototypical implementation and evaluation of methods for the use of subject-field and text-type specific knowledge for translation and other applications ;

(b) advancement of work on lexicography and terminology

- definition of common methods and tools for the integration of existing lexical and terminological collections,
- participation in the definition of international standards for textual, lexical and terminological data,
- close cooperation with research bodies in the Member States with a view to harmonizing lexical and terminological resources and to making existing systems compatible ;

(c) Training and cooperative projects

- training of researchers and engineers through a grant scheme,
- setting-up, experimentation and evaluation of cooperation schemes between research institutes and industry.

1.2. Evaluation

At the end of the programme the results will be evaluated by independent experts against these objectives.

2. PRIORITY ACTION LINES AND SCIENTIFIC AND TECHNICAL CONTENT

2.1. System development, testing and research environment

On the basis of the critical review of the prototype implementations and the specifications to be produced by the end of June 1990 the implementation of a system development, testing and research environment will be commissioned to the European software industry on a turn-key basis.

This environment should have the following characteristics :

- a powerful and user-friendly formalism for describing linguistic facts (to encode dictionaries and grammars),
- a special-purpose data management system for the creation and maintenance of large-scale dictionaries and grammars with special user services for the addition, inspection and modification of the linguistic data,
- an efficient rule interpreter capable of dealing with large dictionaries, grammars and texts,
- a set of testing tools with special attention to interactive run-time testing and correction of dictionaries and grammars.

The system development environment will pay special attention to modularity to ensure the re-usability of the linguistic resources created through the possibility of combining the various modules in different ways to fulfil special tasks and of interfacing them with external applications.

2.2. Language-specific research and development work**2.2.1. *Review and extension of the existing implementations***

For each of the nine languages covered, the analysis modules produced by the Eurotra programme will be thoroughly reviewed to ensure their generality and adjusted to the features of the revised formalism.

On the basis of these revised implementations the grammatical coverage will be gradually extended to include additional text and discourse types. No large-scale lexical and terminological development work is planned for this phase pending the outcome of the research on the re-usability of lexical and terminological resources (see point 2.3).

2.2.2. *Relayed transfer*

The research and experimentation are to determine the feasibility of this approach and the optimal strategy for its implementation.

2.3. Linguistic research of general interest

This action line is intended to gradually improve the linguistic performance of the system and the quality of translation. It will be organized along three main directions:

- general linguistic research to increase the interlinguality of the interface structure and to reduce overgeneration,
- use of subject-field specific knowledge (terminologies, classification schemes, paradigmatic relations, domain models, knowledge bases, etc.),
- use of text and discourse type-specific constraints to reduce overgeneration.

It can be predicted that some progress will be made in the course of this programme, but additional efforts must be foreseen for the future.

2.4. Research into advanced system architectures

To create a potential for innovation and keep pace with the fast advancement of hardware and software technologies, continuous research into new formalisms, software and hardware architectures is to be foreseen, which will lead in selected cases to experimentation and prototype implementation (e.g. parallel system architectures).

2.5. Re-usability of lexical and terminological resources

The details of this action line will be defined through project definition studied to be carried out in 1990.

It is expected to have two main components:

- development of methods and tools for the conversion of the formalized parts of existing dictionaries which cover mostly orthographic, phonological, morphological and syntactic information,
- research into the utilization of non-formalized portions of dictionaries which concern mostly subject classification, discourse types, definitions and examples or citations. This is an advanced research topic whose outcome cannot be predicted now.

2.6. Standards for textual, lexical and terminological data

This activity is closely related to the re-usability of linguistic resources in the future. The Commission will support and stimulate international activities in this field in close cooperation with professional associations and national and international standards organizations.

2.7. Education and training

A number of research grants will be awarded to post-graduate students to participate in the research and development work in the projects outlined hereabove.

ANNEX II

IMPLEMENTATION OF THE PROGRAMME, RATES OF THE COMMUNITY'S FINANCIAL PARTICIPATION AND INDICATIVE ALLOCATION OF FUNDS

1. MODALITIES OF EXECUTION

The various action lines pursue different objectives which demand different forms of organizational, contractual and financial schemes.

The participants may be universities, research organizations and industrial companies, including small and medium-sized enterprises, individuals, or any combination thereof established in the Community.

1.1. Service contracts

The implementation of the system development, testing and research environment (action line 2.1) which will provide all participating parties with a common set of tools, will be entrusted to industrial contractors on the basis of calls for tenders. It will be financed fully from the Community budget.

1.2 National research teams

The work concerning the different languages (action line 2.2) will be carried out by national research teams in the Member States, and cofinanced by the Community and the Member States.

1.3 Shared cost projects

The linguistic research of general interest (action line 2.3), research and development into advanced system architectures (action line 2.4) and re-usability of lexical and terminological resources (action line 2.5) will be carried out as cooperative ventures between industries, research centres and Eurotra teams. Shared-cost research projects should as a general rule be carried out by independent participants from at least two Member States.

The contracts for shared-cost research projects shall, as a general rule, be awarded following a selection procedure based on calls for proposals published in the *Official Journal of the European Communities*.

For shared-cost contracts, the Community participation will as a general rule be up to 50 % of the total expenditure, but this percentage may be varied according to the nature and the stage of development of the research. Alternatively, universities and research institutes may, for each project they carry out under this programme, opt either for 50 % funding of total expenditure or 100 % funding of the additional marginal costs.

1.4. Grants

Grants will be awarded to qualified post-graduate students.

1.5. Subsidies

The Commission will award subsidies to professional associations and standards organizations for action line 2.6.

2. INDICATIVE ALLOCATION OF FUNDS

The indicative breakdown of the amount of ECU 10 million deemed necessary for the execution of the programme is as follows (in thousands of ecus):

(a) System development environment	2 000
(b) Community contribution to the national research terms	4 000
(c) Shared-cost research projects	3 000
(d) Training, subsidies, evaluation	1 000
Total	<u>10 000.</u>