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(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DECISION

of 4 November 1982

on the adoption of a European Economic Community research and development programme for a machine translation system of advanced design

(82/752/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof,

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

Having regard to the opinion of the European Parliament ⁽²⁾,

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

Whereas, under Article 2 of the Treaty, one of the Community's main tasks is to promote throughout the Community a harmonious development of economic activities, a continuous and balanced expansion and an increase in stability;

Whereas the multilingual nature of the European Community is of high cultural value, but is also in practice an obstacle to closer ties between the peoples of the Community, to communications and to the development of the internal and external trade of the Community;

Whereas the benefits of teleinformatics and of communication and information networks cannot be fully reaped at Community level unless the language barrier is overcome;

Whereas the development of computational linguistics is likely to contribute to the overcoming of this barrier;

Whereas considerable research has already been carried out on this subject in the Member States;

Whereas this research, by its very nature, can only bear fruit provided that it is supported by a Community action which would *inter alia* have a catalytic effect on work already carried out;

Whereas such Community action can, in particular, consist in the creation of a European machine translation system of advanced design;

Whereas such a system would have numerous industrial applications and be of direct benefit to European industry and, in particular, to exporting industries;

Whereas the intellectual property rights in connection with the results of such research should be strictly defined;

Whereas the preliminary work already completed has demonstrated the technical feasibility of such a system;

Whereas a Community research and development programme on machine translation is therefore likely to make an effective contribution to the achievement of the above objectives of the Treaty;

Whereas since the specific powers of action required to adopt this Decision have not been proved for in the Treaty, it is necessary to invoke Article 235 thereof;

Whereas the Scientific and Technical Research Committee (Crest) has delivered an opinion on the Commission's proposal,

⁽¹⁾ OJ No C 328, 15. 12. 1981, p. 6.

⁽²⁾ OJ No C 172, 13. 7. 1981, p. 45.

⁽³⁾ OJ No C 138, 9. 6. 1981, p. 3.

HAS DECIDED AS FOLLOWS :

Article 1

A research and development programme for the creation of a machine translation system of advanced design is hereby adopted for a period of five and a half years commencing on the day on which this Decision is published in the *Official Journal of the European Communities*.

Under the terms of Annex I, the programme shall be divided into phases, each one concluding with a review which may involve a revision of some or all of the elements defined in the said Annex in accordance with the appropriate procedures.

Article 2

The funds estimated as necessary for the execution of the programme should be 16 million ECU, including expenditure on a staff of eight temporary agents.

Article 3

The Commission shall be responsible for the execution of the programme, in particular by means of research contracts. It shall be assisted by an Advisory Committee on Programme Management (ACPM), the membership and terms of reference of which, in accordance with the Council resolution of 18 July 1977 on advisory committees on research programme management⁽¹⁾, are set out in Annex II.

The Commission shall inform the Crest and the Committee for Information and Documentation in Science and Technology (CIDST) at regular intervals on the progress of the work. Furthermore, the Commission shall submit an annual report to the

Council and to the European Parliament concerning the execution of the programme.

Article 4

In accordance with Article 228 of the Treaty, the Community may, from the second phase and under the conditions laid down in Annex I, conclude agreements with third countries in particular with those taking part in European cooperation in the field of scientific and technical research (COST), on their participation in the research programme which is the subject of this Decision.

The Commission is hereby authorized to negotiate such agreements after the ACPM and the Crest have been consulted.

Article 5

If the results of the programme are used industrially or commercially and/or lead to intellectual property rights and the subsequent award of licences, part of the contributions made by the Community shall be repaid.

The Commission shall negotiate and conclude the necessary contracts. For this purpose it shall draw up, after consulting the ACPM, a standard contract defining the rights and obligations of each party, including, where appropriate, conditions and procedures for possible royalty payments and for the repayment of part of the contributions made by the Community.

Done at Brussels, 4 November 1982.

For the Council

The President

B. HAARDER

⁽¹⁾ OJ No C 192, 11. 8. 1977, p. 1.

*ANNEX I***1. OBJECTIVES**

The objective of the programme is the creation of a machine translation system of advanced design (Eurotra) capable of dealing with all official languages of the Community.

On completion of the programme an operational system prototype should be available in a limited field and for limited categories of text, which would provide the basis for development on an industrial scale in the period following the current programme.

2. PROGRAMME OF WORK

The programme is divided into three phases :

(a) Preparatory phase (two years, 2 million ECU)

In this phase the following work would be carried out in parallel.

1. First :

- setting up of the ACPM,
- definition of the project and its organization and of the responsibilities of the participating countries and centres,
- definition of the methodology of the work,
- preparation of a detailed programme of linguistic work to be carried out by the participating centres, and of the sectors and categories of texts covered by the research,
- definition of the allocation of intellectual property rights and definition of the arrangements for disseminating the results of the work in accordance with the actual contribution of each participant,
- examination of the value to the Community of participation by third countries and, where appropriate, definition of the conditions for such participation.

2. Second :

- preparation of more detailed specifications of the linguistic models and strategies for the various components of the process (analysis, transfer, generation),
- preparation of detailed and binding specifications for the Eurotra basic software and the data-processing programmes capable of carrying out the various processes : analysis, transfer, generation, monitoring functions and text management,
- preparation of more detailed specifications for the lexical data base,
- preparation of the contracts of association including financial and other contributions to be made by the associated parties.

The Commission will ensure that the objectives of portability and compliance with international standards are correctly reflected in the specifications referred to in the first three indents above.

At the end of this phase the opinion of the ACPM must be obtained on the above specifications in order that the linguistic work can progress quickly and so that the widest possible invitation to tender for construction of the software can be issued as soon as possible (see point 2 (b) below).

(b) Phase of basic and applied linguistic research (two years, 8.5 million ECU)

On the successful completion of the first phase, and after consultation with the ACPM and Crest, the second phase will be divided into two parts :

1. Basic linguistic research

This part will consist of the following work (1) :

- the development of initial linguistic models for the analysis and generation of each of the official Community languages and for transfer between these languages. This work will be based on a corpus and vocabulary in a limited field, estimated at around 2 500 entries,

(1) Some of this work could continue in the following phase.

- preparation of the lexical data base, for the abovementioned vocabulary, which will serve both for the analysis and for the generation of each of the languages and for the transfer between these languages,
- a study of the linguistic strategies best suited to machine-execution of the various processes.

2. *Construction of the basic software for Eurotra*

This part comprises the following work :

- issuing of invitations to tender, the specifications for which will have been defined during the first phase,
- scrutiny by the Commission of the replies to the invitation to tender and selection, after consultation of the ACPM, of a body to construct the Eurotra basic software, within as short a time as possible,
- development of the basic software by the body selected, including :
 - the high level language for describing the linguistic data and strategies,
 - the high level language for interaction between the user and the system, which will make it possible to introduce the various modules into integrated systems corresponding to the different utilization options,
 - the utility software for compiling the high-level languages, for tests and for management of the data bases.

This initial version of the software is intended to enable the development and machine-testing of the linguistic models defined by the participating centres when they are sufficiently advanced. Its development is consequently a prerequisite for validating the linguistic work under this programme.

The industrial development of the Eurotra system, including adaptation of the software to the performance and reliability requirements for producing translations under commercial conditions, will not be put in hand until this programme has been completed.

(c) **Phase of stabilization of the linguistic models and evaluation of results (18 months, 5.5 million ECU)**

After opinions have been received from the ACPM, Crest, CIDST and Cetil at the end of the second phase, i.e. when it is possible to carry out systematic testing of the initial linguistic models, comprising complete language pairs and consisting of analysis, transfer and generation, the objective of the work will be concentrated on the following aspects :

- adapting the linguistic models, in order to produce linguistic modules which are as reliable as possible. The modules will then be fit for pre-operational use,
- progressively extending the basis of the text corpus, the linguistic models and the vocabulary for a specific field, and on texts of increasing complexity,
- revising and progressively extending the lexical bases to cover the chosen field as exhaustively as possible (about 20 000 entries in all the languages),
- evaluating the technical and economic performance of the system,
- preparing a proposal for the development of an operational system on an industrial scale and proceeding to the stage of commercial exploitation.

*ANNEX II***Terms of reference for an Advisory Committee on Programme Management for a machine translation system of advanced design (Eurotra)**

1. Without prejudice to the Commission's responsibility in the implementation of the programme, it shall be the task of the Advisory Committee on Programme Management for a machine translation system of advanced design, hereinafter referred to as 'the Committee', to contribute, in its advisory capacity as defined by the Council resolution of 18 July 1977, to the best possible implementation of the programme for which it is responsible, and in particular to:

- the general organization of the programme, specifying in particular the main deadlines and the mechanisms envisaged for following the progress of the work,
- the preparation of contracts of association setting out the commitments of the institutions participating in the project at national level,
- the definition and solution of problems concerning intellectual property rights, connected with the different system components, and the definition of the procedures for disseminating the results of the work,
- the drawing up of binding specifications for the software to be jointly developed, to serve as a basis for the widest possible invitation to tender and for drawing up the list of undertakings and organizations to which the invitation to tender is to be sent,
- the clarification of user requirements, in particular in the field of information and documentation,
- the drawing up of detailed financing plans relating to the various fields of work and components of the system.

2. In carrying out these tasks the Committee may if necessary call on the services of independent experts.

3. In its advisory capacity the Committee's powers will cover the R & D aspects of the Community's plans of action for the improvement of the transfer of information between European languages in addition to the Eurotra programme. The Committee will also ensure the necessary cohesion between the R & D aspects of these plans, the Eurotra programme and the plans of action in the field of scientific and technical information and documentation. For this purpose, it will maintain close contact with the CIDST and the other committees set up under the auspices of the Community institutions with responsibility in the field of multilingualism.

4. In its advisory capacity the Committee will ensure the evaluation of the results of the programme and, in particular, the dissemination of the knowledge acquired to Community users in accordance with the third indent of paragraph 1.

5. The Community is also requested to give opinions on:

- the annual preparation of budgets and the allocation for appropriations accorded,
- any proposals for reviewing the programme and proposals for future research programmes within its field of competence,
- where appropriate, the conduct of negotiations with institutes in third countries with a view to their participation in the research programme,
- the multilingual aspects of the plans of action in the field of scientific and technical information and documentation.

6. The Committee shall submit to the Commission and to the Council a detailed report at the end of each phase of implementation of the programme. It shall also submit a final report which will be forwarded to the European Parliament.
