COUNCIL DECISION

of 29 June 1988

on a Community action in the field of learning technologies — development of European learning through technological advance (Delta) exploratory action

(88/417/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 the Community has as its task, by establishing a common market and progressively approximating the economic policies of Member States, to promote throughout the Community a harmonious development of economic activity and close relations between the Member States;

Whereas education and training will play a decisive role in the future economic development of the Community; whereas advanced information and telecommunications technologies offer new and more effective means to support learning activities;

Whereas the Heads of State and Government, meeting in Stuttgart, Athens, Fontainebleau and Brussels, emphasized the importance of strengthening the technology base and competitiveness of industry and have underlined the necessity of making better use of human resources by means of increased cooperation between higher education and industry;

Whereas the Heads of State or of Government in their meeting of 28 and 29 June 1985 approved and endorsed the Commission memorandum on the strengthening of technological cooperation in Europe covering, among priority subjects on which to propose action, the education and training technologies;

Whereas a better understanding of learning and training which can be met by learning technology is beneficial for strategies in this field;

Whereas the European Parliament has emphasized repeatedly the importance it sees in education and training for the future economic and social welfare of the Community, and adopted on 24 May 1983 a resolution (4) calling for greater efforts in education and training; whereas the Parliament adopted on 11 November 1986 a resolution inviting the Commission to prepare a programme for the utilization of technology in education (5);

Whereas the Economic and Social Committee has stressed the importance of using new information and telecommunication technologies to maintain a highly skilled workforce capable of adapting to change job requirements, thereby making a contribution to the reduction of unemployment caused by lack of skills;

Whereas, by Decision 87/516/Euratom/EEC (6), the Council adopted a framework programme for Community activities in the field of research and technological development (1987 to 1991) providing for research to be undertaken in the field of the application of information technology and telecommunications to meet common social needs; whereas the framework programme contains special provisions for a Community action in the field of educational technology;

Whereas Article 130K of the Treaty provides for the implementation of the framework programme to be carried out by means of specific programmes developed within each activity;

Whereas Decision 87/516/Euratom/EEC provides that a particular aim of Community research shall be to strengthen the scientific and technological basis of European industry especially in strategic areas of high technology and to encourage it to become more

(1) OJ No C 265, 5. 10. 1987, p. 28.
(2) OJ No C 94, 11. 4. 1988, p. 200 and OJ No C 187, 18. 7. 1988.
(3) OJ No C 347, 22. 12. 1987, p. 14.
(4) OJ No C 135, 25. 5. 1983, p. 27.
(5) OJ No C 322, 15. 12. 1986, p. 55.
(6) OJ No L 302, 24. 10. 1987, p. 1.

competitive at international level; whereas the abovementioned Decision further provides that Community action is justified where research contributes *inter alia* to the strengthening of the economic and social cohesion of the Community and the promotion of its overall harmonious development, while being consistent with the pursuit of scientific and technical quality; whereas it is intended that the action for development of European learning through technological advance (Delta) should contribute to the achievement of these objectives;

Whereas the demand for education and training is steadily mounting, increasing in diversity and requires improvements in accessibility; whereas progress in learning technology coincides with the emergence of advanced communications services and equipment which can be harnessed, at incremental cost, to support learning and thus to enable demand for training and retraining to be met more economically;

Whereas learning technology represents a strategically important growth area for equipment and services world-wide, being the subject of strongly focussed development and investment efforts by other regions;

Whereas national and Community actions in information technologies, telecommunications and standardization lay the ground for introducing advanced learning support, yet additional efforts will be required to realize the full potential of this new field;

Whereas the Council adopted, by Decision 86/365/EEC [1], the Comett programme strengthening industry-university cooperation in education and training including the encouragement of distance learning, and the Comett programme would benefit from improvements in the technologies, tools, equipment and infrastructure required to support distance learning;

Whereas preparatory investigations on behalf of the Commission have laid the groundwork for a programme of work responding to the trends of expert opinion in the Member States; whereas the presentation of this work has attracted a full representation from academics, industry and publishing; whereas a peer group of academic advisers has contributed to the formulation of a preliminary plan of work;

Whereas the Delta exploratory action will benefit from the results of Esprit and Race and well as the on-going efforts in standardization;

Whereas the Scientific and Technical Research Committee (Crest) has expressed its opinion,

HAS ADOPTED THIS DECISION:

Article 1

1. An exploratory Community action in the field of learning technologies, called Delta, is hereby adopted for a maximum period of 24 months commencing 1 June 1988.

2. The action is designed to stimulate incremental research and development which will enable new technologies to be incorporated in the tools and infrastructure supporting advanced learning, in particular open and distance learning, in the Community. The action will be based on concertation with the corresponding activities of the Member States of the Community, in order to make available to the final users, at minimum cost and with minimum delay, the learning equipment and systems which will enable an increased demand for education, training and retraining to be met in the most economical way.

Article 2

The action shall consist of pre-normative and pre-competitive technology exploration as required for the objective of concerting European efforts in the field of learning technology.

The field of application of the action includes:

1. learning systems research;
2. collaborative development of advanced learning technology;
3. testing and validation;
4. interoperability;
5. investigation of related factors.

The summary and objectives of Delta are set out in more detail in Annex II.

Article 3

1. Projects relating to the programme shall be executed by means of shared cost contracts. Contractors shall be expected to bear a substantial proportion of the costs, which should normally be at least 50 % of the total expenditure.

Alternatively, in respect of universities and research institutes carrying out projects or actions, the Community may bear up to 100 % of the additional expenditure involved.

[1] OJ No L 222, 8. 8. 1986, p. 17.

2. The proposals for projects shall, as a rule, be submitted in reply to an open invitation to tender and involve the participation of at least two independent partners not all established in the same Member State. At least one of the partners shall be an industrial undertaking. Within each project, at least one partner should represent training or learning interests. The invitation to tender shall be published in the *Official Journal of the European Communities*.

3. In exceptional cases concerning projects indispensable for implementing key requirements of the work plan:

— where a proposal would involve:

  (i) an unreasonable burden on the participants, particularly small and medium-sized enterprises and research establishments;

  (ii) only one independent partner;

  (iii) only independent partners established in the same Member State, or

— where an open tendering procedure would be unjustified on grounds of cost or efficiency, or

— where the amount of Community's contribution to the cost does not exceed 0,25 million ECU.

it may be decided, in accordance with the procedures laid down in Article 8, to depart from the general provisions set out in paragraphs 1 and 2 of this Article.

4. The contracts for all parts of the action shall be concluded with undertakings, including small and medium-sized enterprises, publishing houses, universities, research establishments and other bodies established in the Community.

Article 4

Where framework agreements for scientific and technical cooperation between non-Community European countries and the European Community have been concluded, organizations and enterprises established in these countries may, in accordance with the procedures laid down in Articles 3 and 8 and on the basis of the criterion of mutual advantage, become partners to a project undertaken within this action.

Article 5

1. The funds estimated as necessary for the Community contribution to the execution of the exploratory action amount to 20 million ECU over a maximum period of 24 months including expenditure on a staff of 12.

2. The indicative allocation of these funds is set out in Annex 1.

Article 6

1. The Commission shall ensure that the exploratory action is properly performed and establish the appropriate implementation measures.

2. The Commission shall establish a draft work plan defining the detailed objectives, the type of projects and actions to be undertaken and the corresponding financial plans.

3. The procedure laid down in Article 8 shall apply to:

— the establishment of the work plan referred to in paragraph 2 of this Article,

— any departure from the general conditions laid down in Article 3 (1) and (2),

— the measures to be undertaken to evaluate each part of the exploratory action by appropriate organizations, groups and other bodies,

— the assessment of the proposed projects and the estimated amount of the Community's financial contribution to them where this contribution is in excess of 0,4 million ECU,

— the participation in any project by European organizations and enterprises as provided for in Article 4.

4. The Commission may consult the Committee referred to in Article 7 on any matter falling within the scope of this Decision.

Article 7

The Commission shall be assisted in the performance of its tasks by a committee, hereinafter referred to as 'the committee'. The committee consisting of two representatives of each Member State, shall be set up by the Commission on the basis of nominations by the Member States.

Members of the committee may be assisted by experts or advisers depending on the nature of the issues under consideration.

The committee shall be chaired by a commission representative.

The proceedings of the committee shall be confidential. The committee shall adopt its own rules of procedure. The secretarial services shall be provided by the Commission.

Article 8

1. Where the procedure laid down in this Article is to be followed, the chairman shall refer the matter to the committee, either on his own initiative or at the request of one of its members.

2. Under this procedure, the representative of the Commission, who acts as chairman, refers the draft of the measures to be adopted to the committee. The committee delivers an opinion within a time limit which shall normally be one month and shall in no case exceed two months. The opinion is delivered by the majority specified in Article 148 (2) of the Treaty for decisions which the Council is required to adopt on a proposal from the Commission, the votes of the representatives of the Member States being weighted as indicated in that Article. The chairman does not vote.

3. The Commission shall adopt the measures envisaged if they are in accordance with the opinion of the committee.

If the measures envisaged are not in accordance with the opinion of the committee, or if no opinion is delivered, the Commission shall, without delay, submit to the Council a proposal relating to the measures to be taken. The Council shall act by a qualified majority.

If, on the expiry of a period which may in no case exceed two months from the date of referral to the Council, the Council has not acted, the proposed measures shall be adopted by the Commission for matters falling within Article 6 (3).

Article 9

1. The result of the action shall be reviewed by the Commission after 12 months. The Commission shall report to the Council and the European Parliament on the results of this review.

2. After the completion of the action, the Commission shall send to Council and the European Parliament a report on the performance and results of the action.

3. The abovementioned reports will be carried out in relation to the precise objectives set out in Annex II to this Decision and in conformity with the provisions of Article 2 (2) of the framework programme.

Article 10

1. With regard to the concertation activities provided for in Article 1 (2), the Member States and the Commission shall exchange all appropriate information to which they have access and which they are free to disclose concerning activities in the areas covered by this Decision, whether or not planned or carried out under their authority.

2. Information shall be exchanged according to a procedure to be defined by the Commission after consulting the committee, and shall be treated as confidential at the supplier's request.

Article 11

This Decision shall apply from 1 June 1988.

Article 12

This Decision is addressed to the Member States.

Done at Luxembourg, 29 June 1988.

For the Council

The President

H. RIESENHUBER

ANNEX I

INDICATIVE INTERNAL ALLOCATION OF FUNDS

	Estimated Community contribution (million ECU)
1. Learning systems research (Activity I)	2,10
2. Collaborative development of advanced learning technology (Activity II)	9,80
2.1. Learner environment	
2.2. Authoring facility	
2.3. Learning material production environment	
2.4. Tutoring and monotoring facilities	
2.5. Information resource management	
3. Testing and validation (Activity III)	2,70
3.1. Video-audio conferencing	
3.2. Information and programme exchange system	
3.3. Adaptation to ISDN	
3.4. SOFT operational plan	
3.5. Design and specification of a satellite educational channel	
3.6. Controlled experimentation via SOFT	
4. Interoperability (Activity IV)	2,30
4.1. Identification of standards relevant to learning	
4.2. Organizational support for learning standards	
5. Investigation of related factors (Activity V)	0,85
5.1. Fiscal treatment	
5.2. Regulatory conditions	
5.3. Telecommunications policy	
5.4. Copyright and authors' rights	
Personnel costs	1,69
Administration costs	0,56
Total	20,00

ANNEX II

SUMMARY AND OBJECTIVES DELTA

(Developing European learning through technological advance)

1. Rationale

Modern society is undergoing a process of profound and rapid technological and social evolution. Symptomatic of this are the explosive developments in information and telecommunication technologies and their integration into complex information systems that span the globe. These systems represent the nervous system of the emerging global economy. These developments have an impact on individuals, institutions and governments, affecting what they do, how they do it, and how they relate to each other.

Already there is evidence that the traditional approach to learning is bound to require a significant change in adaptability to increasingly diversified learner needs to meet future demand. To meet this changing demand entails, in parallel to the deployment of new tools of education and learning, some degree of adaptation on the part of educators, both in the way their activity is organized and in their individual contributions to the teaching process. It will also require adaptation on the part of educational publishers in order to take advantage of the new tools to be developed. The Delta programme is directed to supporting technology and tools. The active participation of educators, both in the definition and implementation, will be of crucial importance for the success of this action. Delta focuses on the common learning support requirements which will enable educators to exploit the new techniques for the benefit of their respective educational tasks.

Europe has an excellent educational system and a high standing in learning technology research. However, seizing the opportunities offered by advanced learning technology will require concerted efforts of administrations, academics and industry, including publishers, (the 'main actors') of a sufficient scale and continuity.

The creation of the internal market in this context, the strengthening of the international competitivity of industry and businesses as part of a policy for growth and employment, requires a concerted effort in the field of human resources at a Community level. Education and training — both initial and continuing — have a fundamental role to play in relation to both the economic and social challenges.

In the development and implementation of a Community strategy relating to human resources, the new technologies play a key role as a subject as well as an option for a more economic and flexible means of providing education and training. This is addressed by a set of actions focusing on key aspects in a specific manner. These programmes rely on today's technology for education and training.

The complementary research and development into *advanced techniques to support learning* is the objective of the Delta action, which will focus on the development of new technologies, tools and infrastructures required to support distance learning. Specifically, Delta will exploit advances in information technology and telecommunications (IT&T) for the support of learning. In this way it will rely on synergy with other actions in the provision of education and training as well as on the Community actions in the field of information technology (Esprit), telecommunications (Race), IT&T standardization and the information market policy.

Delta is based on the following considerations:

— identifiable advances in IT&T can enrich and enhance education and training,

— the high degree of commonality in basic learning requirements at the Community level bring about economies of scale,

— action in this field will ensure a supply of leading-edge equipment and systems,

— new opportunities will open up to the education profession in developing learning technology and their application in learning and training,

— a sound basis for concerted action is formed by past and on-going work in the field,

— the opening of this innovative market will create opportunities for the Community IT&T sector,

— advances requiring the collaboration of several sector actors, in particular industry and educationalists.

The rationale for the Delta programme is further based on the following:

— identifiable milestones in the technology of personal computing, home entertainment, telecommunications, and artificial intelligence present a unique opportunity for industrial concertation,

— the United States of America and Japan have gained experience over recent years in the effective use of new technology in support of learning covering large geographic areas and populations,

— there is a risk that, without a common consistent approach, the effort of individual countries and organizations would remain below critical size and fragmented,

— Delta coincides with the second phase of Esprit, with Race, Comett, Brite efforts towards creating a common information market and the first results of a common standardization policy in the field of information technologies and telecommunications,

— Delta combines short-term with longer-term objectives.

The content of the programme results from a series of strategic studies, and from consultations during 1984 and 1985 with experts drawn from the academic and user community and from the principal electronic companies concerned within the Community. All those consulted have shown a high degree of interest and conviction about the proposals.

The proposal identifies five main areas of action:

— concertation between the authorities, academics, the users and the industrial companies, including publishers and information providers, to establish present and future learning support requirements,

— cooperative development of technology appropriate to the progression through the three main stages identified in the programme,

— on-going testing and validation of the concepts on the basis of a shared resource ('test-bed') and selected experimental implementations,

— determined efforts to achieve a considerable degree of harmonization of the many standards and practices which, in this field, would otherwise constitute a continuing obstacle to development and use, by means of reinforcement of the on-going work,

— the promotion of favourable conditions for the development of learning technology and its use in open learning. Measures which are proposed for further consideration include the reduction of the 'cost of entry' for learners and companies, and of an appropriate regulatory regime facilitating the introduction of new learning support techniques (open learning).

2. Objectives and deliverables

The development and application of advanced technology to learning will enable Europe to put into effect the vast effort of training, retraining and continuous professional updating which could not otherwise be undertaken on an economical basis.

To this end, the Delta programme seeks, via incremental R&D, to work with academia and industry so as to harness, in the interest of learning, the identifiable advances in information technology and telecommunications to be expected in future years. In the telecommunications area, the main milestones are the advent of the integrated services digital network (ISDN), followed, over the next decade, by a broadband network (IBC). Other potent technological developments to be expected over the same time scale are ever more powerful personal computers/work stations, providing more economical processing of data and images in real time; direct broadcasting by satellite (DBS); high definition television; more powerful and economic techniques of storing information, and the increasing use of artificial intelligence techniques of computing to complement the conventional methods and to assist both the structuring of information and its accessing by the user.

As means towards this objective, Delta will undertake a concertation with the actors concerned — the administrators, educators, industrial companies, publishers — in order to fully ascertain the requirements which are then to be implemented in the course of the programme. Delta will build on the many relevant activities of Member States in this field.

The requirements will be analysed in terms of the various sectors of the field which have been identified in the course of consultation during the preparatory phase as the most significant. The first of these is the learner environment, with the objective that the learner may be served in the future by the technological supports which best meet his/her needs and aspirations. Delta envisages the learner in a number of possible scenarios: he/she may be at home, or using a terminal or work station provided at the place of work; or he/she may be using a dedicated work station related to the professional activity of the learner.

In relation to the author, Delta seeks to provide that help and support which will enable the talents of the teaching profession to be deployed far more effectively than at present in the writing of learning material. Delta will not give financial support to the writing of learning course ware as such. (This task lies within the field of Comett.) Delta will seek rather to research and develop an environment, complete with all the required software tools, which will enable the author of multi-media course ware to call up the material required, by the use of standard commands and formats, so that it can then be passed on with optimal efficiency for putting into production.

At the production stage, Delta's objective is to ensure that learning material is produced — i.e. made ready for delivery and/or publication — at the very highest standards available.

The learner of the future will be able, potentially, to acquire knowledge, by a process of discovery, to an extent hitherto impracticable. To this end, Delta will aim to establish a learner knowledge base, organized so as to encourage access by reference to content and context, and with the use of near-natural language.

Delta will, as a complement to the technological thrust, aim to consider with the relevant authorities what help can be given to the demand side of learning, particularly as regards fiscal, regulatory and copyright matters.

The goals of Delta, seen in this light, are to remedy the present shortcomings of European activities in the learning field i.e.:

1. to bring a medium or longer-term view to bear on European learning support;

2. to provide the opportunity and the incentive for European producer organizations and publishers to adopt common strategies in the learning field;

3. to improve the accessibility and flexibility of systems to help both the learner and the author of learning material;

4. to ensure a supply of learning material of good quality and able, technologically and economically, to command a wide European market;

5. to this end, to achieve sufficient standardization to make learning material readily transportable as between machines, including authoring stations and establishments;

6. to assist the use of new techniques of transfer and delivery — in particular direct broadcasting by satellite with video return channel — both by collaborative research and by the development of key elements and interfaces, together with organizational assistance where a number of European educational organizations require similar logistical and other support.

Delta as an exploratory action:

Delta, as an exploratory action designed to last for a maximum period of 24 months, will not have the resources or the time to meet the full range of these challenges. It seeks, therefore:

(a) to test the approach to work collaboration on a European level within the framework envisaged by Delta;

(b) to validate the initial assumptions about the relations between the actors, the objectives and priorities of work best suited for cooperation on a European level;

(c) to do initial work for the most promising activities to be undertaken in the future;

(d) to provide tangible results as part of the exploratory action.

The exploratory action will aim specifically at the following deliverables:

1. functional specifications for the categories of learner station referred to above and for the interfaces which will enable them to link to the peripherals and other equipment of future systems;
2. functional specifications for the equipment and the software required for the efficient operation of the authoring and production activities;
3. specification for the software and the hardware support which enable advanced knowledge bases to be constructed, together with specifications for the access language;
4. early identification of the standards important to learning which require to be negotiated, and the provision of the organizational framework whereby the learning input can be made to the ongoing international discussions on standards;
5. continuous monitoring by the assessment of progress towards the specific goals which will be built into the detailed work programme.