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A FOUR-YEAR PROGRAMME FOR THE DEVELOPMENT OF INFORMATICS IN THE COMMUNITY

(submitted to the Council by the Commission)

PART II

EXPLANATION OF AIMS

Technical annexes

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P A R T I I

EXPLANATION OF AIMS

(TECHNICAL ANNEXES)

Standardization Policy

I. Introduction

- 1.1. The Commission created in February 1975 an informal Working Group on Standards (WGS), composed of national experts. Their mandate was to submit recommendations on desirable Community data processing standards, to assist the Commission in working out policies for their implementation and to represent the Community's views within the international standards organizations.
- 1.2. This chapter is a brief description of aspects and objectives of Community standards policy and its links with the national and international standards organizations.

Its objectives and tasks envisaged in the framework of the multianual programme are defined as follows :

2. Aspects and objectives of Community Policy

- 2.1. For various reasons the situation in respect of the creation and adoption of data-processing standards is unbalanced.

- 2.2. IBM's domination of the market permits it, in many cases, to impose a de facto standard for its products. Damaging effects on competition would be reduced if the users and manufacturers concerned were informed in time of IBM's intentions to vary standards. Unfortunately this is not the case and this "suspense situation" seriously upsets the conditions of competition and standardization work for which manufacturers and users must eventually pay.
- 2.3. Contrary to the situation in the United States where equal participation of users and manufacturers is sought in defining standards and choosing priorities, work on standardization within the Community is often the exclusive domain of the manufacturers. Such a situation is at variance with the users' interests - and those of the European manufacturers too - and it would certainly be useful to consult users as widely as possible, if only to avoid subjecting the standards to variations which do not meet a real need on the part of users. Not only would this have a stabilising effect but the contribution from the user's technical expertise would also raise the level of any action taken.
- 2.4. International standardization work on data processing is a result of initiatives taken in the United States, some Community countries and Japan. The United States have a clear lead here thanks, in particular, to its powerful resources. The Commission is convinced that great emphasis should be put on defending the Community's viewpoints within the international standards organizations.
- 2.5. All these factors, IBM's role, the relative weak position of users and the need for Europe to have an effective say in international fora, assume a growing importance in view of the development towards distributed data-processing.

- 2.6. As the Commission stressed in its Communication to the Council of September 1975, Doc.COM(75)467 the development of distributed computing opens up two contrasting alternatives. In the one, I B M alone is able to offer a total information system comprising software, network facilities and standards, a wide range of terminals, applications and other communication facilities, and the users' choice is limited and key features of the market controlled more effectively than ever. In the other effective international standards acceptable to users and industry generally are established for networks, for interfaces, for languages in the major areas - standards which IBM accepts and implements-
- a prospect of a more open and competitive market appears in which a wide range of producers of hardware and software will be able to offer competitive products. Standardization thus has a key part to play in any Community policy designed to provide users with a wider range of choice, and to open the market to manufacturers of all kinds of equipment.
- 2.7. The need for widely recognised standards to provide users with free choice deserves stress. Clearly premature introduction of a bad standard can, on occasion, freeze development and prove costly; standards must therefore be introduced at the right time and after careful thought and discussion. But if no international standard exists, users risk imprisonment in the software and hardware of a single manufacturer, and can find change, or adjustment to subsequent equipments costly, and difficult.
- 2.8. The purposes of Community standardization policy cannot be described without reference to the great range of national and international standardization organisations which exist.
- 2.9. The existence of vigorous national standardization organisations in member states suggests a need to decentralise, as far as possible, the gathering of opinions on standards questions and on their ultimate support and implementation. The role of Community standards activity is to bring together and integrate the various national and professional views and where necessary to recommend or promote common action. _ _

2.10. It is also in the interest of Community industry and users that the widest possible international standardization should be established though in ways which take full account of European views and interests, and indeed of the views of users and industry generally. Community standardization activities are therefore designed, not to duplicate existing international work, but to fit as harmoniously as possible into existing international structures, to complement their activities, and to provide the essential Community component within the world scene.

3. WORKING METHODS FOR COMMUNITY STANDARDIZATION POLICY

3.1. The sources of proposals :

3.1.1. Proposals for standardization activities and recommendations in the Community framework may come from a number of sources, such as :

- a) the national standardization organisations in Europe
- b) the data-processing industry and users of data-processing
- c) International study bodies such as the Purdue workshop and its subcommittees.
- d) the WGS itself

3.1.2. In general it is hoped that views on possible Community activities from national organisations will be channelled through national representatives in the Working Group on Standards.

3.1.3. The Commission has already established a relationship with certain existing European organisations concerned with the study of standardization problems: for example , with Purdue Europe, an association of users, industry and computer scientists, which deals with the problems linked to the realtime aspects of informatics. One consequence of these contacts has been the Commission's proposal concerning the development of the LTPL language.

3.1.4. The Commission also intends to establish regular and systematic arrangements for consulting European industry and users on standards at Community level, in addition to the informal arrangements that have existed hitherto.

3.2. The choice of Priorities

3.2.1. A major feature of standardization policy is the choice of priority areas for action.

3.2.2. A check list has been elaborated, permitting each item of hardware or software, or each application or problem, to be defined and related to the overall information scene. The check list has a dual purpose: to identify

- the standard itself and
- the fields which benefit from the standards.

3.2.3. Once an item has been described by means of this check list it has to pass a list of criteria which are designed to determine the interest and priority of the subject for standardization.

The criteria include :

- the economic value for European users, the European DP industry and the overall Community economy
- political, industrial and technical feasibility
- the Community interest (e.g. implementing a specific Community policy)
- the timing requirements
- the existence of European or international standardization activities in this field and the need for a supplementary Community activity
- the financial implications of a standardization action and hence its overall cost benefit.

3.3. Methods of Action

3.3.1. When the need for a further Community activity has been identified, various forms of action are possible :

3.3.2. - creation of working groups on particular problems. In certain cases these working groups may make special arrangements to consult user and industrial groups.

3.3.3. - launching of policy studies of an economic or technical character with a view to exploring the economic benefits and feasibility of particular standardization activities. Policy studies of this kind may be needed to illuminate the costs and benefits of a standardization activity in a particular field, or to explore technical options. Such studies would be funded from the Community budget.

- 3.3.4. - possible contracts with industry or institutions in the Community for development work. These contracts would be financed from the budget for support to software, applications and standardization developments (see Chapter B.1. below)

A first example of such a Community development requirement may be the development phase of the project for a common realtime language. Others may be identified by the Working Group on Standards during the course of the programme. (see Annex B.1)

- 3.3.5. - arrangements with existing European organisations, such as CEN[⊛], CENELEC[⊛], CEPT[⊛] and EECA[⊛] to carry out a standardization activity.

In particular, in the field of telecommunications the CEPT has already agreed, at the request of the Community, to carry out a major programme of harmonisation and technical standards; in the field of components, the EECA has already agreed on a range of standards concerning the testing and acceptance of components.

⊛ C.E.N.	=	Comité Européen de Normalisation
CENELEC	=	Comité Européen des Normes Electrotechniques
C.E.P.T.	=	Conférence Européenne des Administrations des Postes et des Télécommunications.
E.E.C.A.		European Electronic Component Manufacturers Association.

3.4. Relationship with international Organisations

3.4.1. With regard to international organisations, such as ISO* and CCITT*, the purpose of Community standardization activities is to ensure that the interests of Community users and industry are effectively represented and to complement the work where no international activity exists. It is not the intention of the Community to duplicate the work of such international bodies. To fulfil the positive objective of active European participation in international standardization activities, it may be useful:

3.4.2. - to organise, where appropriate under the aegis of WGS, meetings of European members of particular international standardization activities or to arrange for specific cooperation with international bodies such as ISO, or those such as CODASYL whose work has international significance.

3.4.3. - to finance the cost of studies of technical dossiers likely to be the subject of discussion in international standardization organisations, together with the costs of certain journeys.

When complex standardization activities are undertaken intensive technical or scientific work may be necessary to prepare for discussions in international organisations. Today, the European impact on work, in the framework of ISO may be limited by lack of time and resources as well as by the absence of any prior European coordination of views. In addition certain organisations such as CODASYL* meet frequently, but briefly, in the United States. The cost of such frequent visits to the USA may exceed the means of European members and sometimes exclude them from the work, with damaging results.

3.4.4. A modest assistance from the Community budget could cover these costs of study and travel and significantly improve European representation in these bodies.

* ISO = International Standards Organisation

* CCITT = Comité Consultatif International Télégraphique et Téléphonique

* CODASYL = Conference for Data System Languages.

3.5. The infrastructure for supporting and maintaining standards at Community level

3.5.1. Once established, a standard needs to be supported and maintained permanently. To maintain and support standards recommended by the Community, it is proposed to make use of national standards organisations, or other public institutes which have the necessary skills and equipment.

3.5.2. Such maintenance and support has two aspects:

On the one hand a single organisation will need to be designated as the technical guardian of a standard for the Community as a whole.

This body, which may sometimes be the originator of a standard, will have the tasks of maintaining its basic documentation, introducing and documenting any necessary technical modifications or supplements to the standard, and piloting these through any wider world organisations.

3.5.3. On the other hand in each country, and for each standard, a named institution must have responsibility for coordinating users comments, distributing documentation and advising and supporting users.

3.6. Publication of Information of Community interest concerning standardization

3.6.1. The creation, acceptance and maintenance of standards must involve an extensive process of public debate. The dissemination of information concerning WGS and other Community standardization activities in informatics is therefore of great importance. It can make possible a significant feedback from users.

It is proposed to establish a Community standardization bulletin edited by the Commission, assisted by an editorial board chosen by WGS. The bulletin will, it is hoped, be published on a commercial basis, subject to the retention of control of editorial policy by the Community. It will initially cover the following areas:

- WGS activities
- contribution from WGS working groups
- other Commission DP activities relevant to standardization
- activities of other European bodies such as CAMAC - ESONE* and Purdue Workshops
- aspects of international standardization activities (in ISO for example) of special interest to Europe
- other activities relevant to European DP standardization.

3.7. Application in public markets of standards adopted in common

- 3.7.1. Public procurement can clearly be an important means of applying agreed standards.
- 3.7.2. Once standards are adopted as WGS recommendations the Public Procurement Working Group, described in Annex A.2. will be consulted with a view to establishing the best means of applying these standards to the public sector.
- 3.7.3. Once a standard is recommended by WGS, the Commission could recommend its progressive application in the public sector of Member States. The mechanism of a directive under Article 100 of the Treaty establishing the European Economic Community will remain in reserve if voluntary action is ineffective.

* CAMAC - ESONE - see 4.3.1.

4.0. First activities

Within the framework described above, the following activities have begun.

4.1. Languages

4.1.1. COBOL is the most widely-used programming language. Though ANSI and CODASYL endeavour to maintain a standard version of COBOL, in practice a great number of variations and dialects are used. A working group on COBOL has been set up with the aim of defining tools which would have the effect of unifying the various COBOL versions used in Europe.

4.1.2. With regard to realtime languages, the Commission has already proposed (in document COM (75)467) the development of a common realtime language (LTPL). This is an important economic priority, given the likelihood that realtime applications may represent in the 1980s up to a third of data processing applications.

It will be particularly valuable if it proves possible to develop a joint approach, together with the United States.

The version of BASIC intended for realtime applications and which is the object of work within Purdue Europe could be considered as a shortterm complement to LTPL.

4.1.3. The proposals on portability put forward in document COM(75) 467 include a proposal to identify and develop a portable software implementation language. This language though not proposed as a standard, could eventually be used widely and offer users as well as others some of the advantages of a standard.

4.1.4. Exploratory discussions have been held on superlanguages.

4.2. Networks

The establishment of network standards is critical to the entire development of data-communication and distributed computing. A working group has been set up. Its first task has been to assist the Commission in establishing a dialogue with the telecommunications administrations on standard interfaces and other key features of the telecommunications subnetwork.

It will then go on to identify key areas for standardization within the data-processing functions of networks.

4.3.0. Interfaces

The definition of key interfaces will be an important part of Community standardization activity and in one area specific activity is already under way.

4.3.1. CAMAC is the designation of rules and recommendations for interconnecting instrumentation between computers and sources and/or receivers of information (CAMAC-Interface). So it specifies both standard electronic equipment and computer programming used in connection with this equipment. CAMAC has been developed by the ESONE Committee - a free association of experts mainly representing governmental research in Europe and including the Joint Research Centre of the EEC. The primary goal was system standardization in laboratory and medical research.

The experiences collected in this field have led to the extension of CAMAC to medical and industrial applications where it is becoming more and more accepted, thanks in part to ECA, the European CAMAC users manufacturers Association.

The move towards applications in the field of industrial process systems requires secretarial support for the ESONE Committee and ECA, maintenance of documentation and other support activity of the kind described in para 3.5. above. Hitherto this was provided on an informal basis by the

J R C but the increasingly industrial orientation of CAMAC together with stringent limitation of J R C activities to its own programmes now makes this impossible.

In view of the interest of CAMAC activity for Community policy for DP- standardization, it is proposed that this support should continue to be supplied by the J R C, under contract from the Commission, and funded through the Community budget.

4.4. Other Areas

Exploratory discussions have been held on other subjects such as documentation and description means.

Further standardization activities will continue to be identified during the course of the programme making flexible use of the methods described in 3. above.

5. Community objectives for the multiannual programme, implementation, budget and staff.

Objectives

5.1. The objectives resulting from the above, feature in paragraph 1.1. of the programme Annex of the draft Council Decision laying down a multiannual programme for the data processing sector.

5.2. Implementation

The Commission advised by the WGS (Working Group on Standards), shall be responsible for carrying out the action.

It is up to the WGS to submit to the Commission any recommendations it considers advisable on standards policy.

After examination of the recommendations, it will be up to the Commission to prepare any relevant proposals, to discuss them with the WGS and to implement them in the best way to attain the desired aim as efficiently as possible.

If development work proves necessary the Commission shall make a proposal to the Committee for Management and Coordination of Data Processing programs as part of the action "Support for software, applications and standardization" (see 2.2 and B.1). In the event of recommendations for the adoption of a standard, the Commission shall make the necessary proposals to the Member States (draft recommendation of the Council) and/or to the relevant standards organizations (ISO, CENELEC, CECC, ECMA, etc..)

The members of the Working Group on Standards shall be appointed by their Governments through the Management and Coordination Committee, there being two members per country. The Commission will suggest to the Member States that one of the members should come from a national standards organization. Observers or experts may attend the meeting as required.

The WGS shall draft its own rules of procedure.

5.3. Budget and Staff

The budget and Staff required for the actions feature in Annex C.2. "Budget and Staff" para. 1.3.2. Moreover standardization actions could benefit from the Community Premium Scheme (see also Annex B.1. "Support for software, applications and standardization" para. 2.1 and 2.2).

PUBLIC PROCUREMENT

1. Introduction

- 1.1. Public procurement can form a powerful instrument of industrial policy. This is shown by the policy adopted in some Member States where it has been used to expand the market of particular national firms. Whilst in the short-term such policies have proved to be effective in keeping national companies alive, the longterm need to succeed in the world market suggests that permanent protective measures are incompatible with the aim of creating in Europe a viable and competitive computer industry.
- 1.2. In the proposed Council Directive on coordination of procedures for the award of public supply contracts this view is reflected by the inclusion of the data processing sectors from 1980 onwards unless, on a proposal by the Commission, the Council elects to change that date. When the Directive becomes operative public authorities awarding data processing contracts will have to conform with rules of procedure intended to create an open market.
- 1.3. The intervening period provides some time for the contemplation and implementation of measures designed to maximise the benefits to users of an open market and to prepare the European-based industry to face the increased competition which the Directive will bring. A number of measures to this end are proposed elsewhere; this section is concerned with measures concerned with public procurement.
- 1.4. An informal working group of officials from member states (Public Procurement Working Group) has been studying the problem together with the Commission since March 1974. This chapter sets out the Commission's view on the tasks and objectives for collaboration in procurement policies in the light of their work.

2. Standards

- 2.1. If Community standards are recommended, as described in Annex A.1. public procurement authorities can ensure early implementation of these agreed standards in their area of immediate responsibility. This will catalyse the application of the standard in the peripheral areas, that is public authorities not within the immediate control of the central or Federal government purchasing authorities, and subsequently private enterprise.
- 2.2. A detailed procedure will need to be evolved to deal with the process of implementation. Firstly a close liaison with the Working Group on Standards will be assured to facilitate completion of preliminary work in parallel with this Group. Then there will be a need to decide what Community action is necessary to assure implementation. Standards may change relatively quickly to keep abreast of technological developments and the medium of individual Directives, which necessarily involve considerable time, may not always be the most appropriate way to ensure implementation. A possible approach to this problem could be to seek the approval of a broad Directive which would make the use of such standards as may from time to time be determined by the Commission on a recommendation by the WGS and with the agreement of the Member States, mandatory for public sector users.
- 2.3. The Federal German Government has already made provision, in its third data-processing plan, for implementation of Community standards through its standard administrative arrangements. Agreements will have to be negotiated with other Member States.
- 2.4. The United States' Federal Government procurement has been a formidable means of imposing (and sometimes introducing) standards. COBOL is an outstanding example.

3. Preparing for an open market

- 3.1. In the event that the Council adopts the general Directive on public supplies, application to the data processing sector may be deferred until 1980. Action needs to be taken in the intervening period to increase the competitive capabilities of the European industry to prepare them for an open market.

3.2. A number of measures to this end are being developed as part of the multiannual programme but, in the public procurement field, the particular task is to consider the feasibility of a progressive opening of the public sector market and ways in which this could be achieved to the best advantage of the European industry. It is possible for example to identify sectors of the market in which there is no European manufacturing capability and others where European industry currently offers competitive products.

The main task will be the determination of the categories and the criteria to be used in classifying products by category. When this has been done a programme for progression to an open market can be evolved, in advance of the general application of the directive.

3.3. This action in itself will only provide for a disciplined transition from the present position to an open market situation and consideration needs to be given to the development of public purchasing policies which will provide a measure of practical support to European industry. This is of major importance bearing in mind the substantial proportion of the total market which the public sector represents.

3.4. One concept which could be of material benefit to the European industry, and of equal importance to users, is that of building a system through separate purchases from different manufacturers of different types of equipment (mainframe, software, terminals...).

This approach enables the European manufacturer to bid for those parts of a major system which can conveniently be purchased separately and in which they have a competence. At the same time it provides the potential user with a number of options from which he can select the best technical/economic solution.

3.5. There are a number of problems associated with this modular concept which have to be tackled. The main one lies in the need to ensure hardware and software compatibility between the modules. In the medium term, and before this modular approach can be expected to make any real impact on the European manufacturer's share of the total Community public sector market, there will need to be development of interface standards.

The establishment of a common approach by public purchasing authorities in liaison with the Working Group on Standards should help to counterbalance the natural reluctance of the more dominant suppliers who have nothing to gain from such action yet who have a powerful influence on standards.

3.6. There are, in the meantime, a number of ways in which public authorities can promote the use of "mixed" systems.

One approach which has been used to some extent is the employment of a "system house" who arrange the procurement and ensure the successful implementation of the project. Another is to place the responsibility for the total system on the principal supplier and to make acceptance of this responsibility a condition of any contract. In suitable cases, where the user has sufficient technical knowledge (e.g. a University or Research Establishment) he can assume responsibility for the successful implementation of a mixed system himself. A further option is to seek independent maintenance contractors to undertake the total maintenance responsibility for a "mixed system".

3.7. Clearly, not all systems will lend themselves to this approach and any policy which emerges must cater for this fact. At the same time a positive policy on this aspect from the public purchasing authorities seems essential if the future well-being and progress of the European industry is to be assured.

4. PROCUREMENT PROCEDURES

- 4.1. The central purpose of the proposed Directive on public supplies is to establish common rules to ensure fair and equal treatment to all competitors within the Community. It does, however, allow the present national procedures for award of contracts to continue unchanged where they do not conflict with the fairly basic provisions included in the Directive.
- 4.2. Nevertheless, the development of an overall Community policy for data processing calls for a more systematic approach, with a Community orientation, to the ways in which data processing procurement in the public domain should proceed within the framework of the general Directive on public supplies. Matters such as the form which the initial approach to the trade should take, the criteria for selection of qualified firms to be invited to submit full proposals, and the discussions which should take place with intending contractors, should be encompassed within a Community-wide procedure.
- 4.3. The benefits which accrue from adoption of a common procedure can be summarised as follows :-
- a) It creates a firm basis for a greater crossflow of information between the member States thus permitting a greater sharing of experience and consequently a more informed approach by the public authorities.
 - b) It facilitates measures for technical cooperation between the States in such matters as technical appraisals and combined action on technical problems affecting member States generally.
 - c) It provides a better basis from which the Community members can review the progress of their agreed policies and makes it easier to implement any corrective measures.
 - d) It would create a more transparent interface between the Community's public purchasing authorities and potential

suppliers. This will help to encourage European manufacturers to seek contracts outside their traditional national public sector markets as the procedural complexities which currently exist would disappear. It will make all Community contracts accessible to European based companies on the same conditions and will encourage purchase of European equipment whenever price and performance are comparable to other bids.

It would seem appropriate to aim for the adoption of a common procedure as a natural step on the road to an open market in data processing and, as in some States there may be a need for amendment of legislation or decrees, the timing will need careful planning. In order to allow time for all parties involved in data processing contracts in the public sector to become accustomed to changes in procedure before the opening of the market the Commission considers it desirable to complete work or reach agreement on the harmonisation of procedures by the end of 1978. A comparison of national procedures has already been undertaken by the Public Procurement technical Committee.

5. APPRAISAL AND EVALUATION

- 5.1. One of the constant problems of any purchasing authority is the need to keep abreast of market developments, and to acquire sufficient knowledge of equipment and software capabilities to permit valid judgements of the claims made by suppliers. Comparison of this knowledge with past experience gained of the Company and its products is also necessary.
- 5.2. At the present time there is little or no sharing of this information between Member States and either a substantial duplication of work arises or decision have to be made without this background. Ideally, a technical appraisal conducted by the competent body of one member State could be made available to the other members who would then need to evaluate the report in relation to particular local circumstances relevant to that company or that product. To achieve this there is a need for collaboration between member States in the development of common appraisal criteria, including possibly the evolution of standard types of benchmarks, coordination of the work, and development of a system of confidential publication to the public authorities of the results of appraisals. Such action could produce considerable savings and increase the availability of basic information to assist in subsequent tender evaluations especially for the smaller member States. National data processing research centres could have a role to play in the definition of benchmark criteria and, where appropriate, particular aspects could become the subject of study contracts. Many Companies permit technical investigation of new products by the public authorities largely on the basis of the confidence in the technical ability and impartiality of the government staff involved. In addition they know that the resultant reports will be used only for government purposes and will not be disseminated to other bodies. It will be important to be able to assure companies that these conditions will remain unaltered.
- 5.3. As an extension of common appraisal methods there are grounds for exploring common means of evaluating tenders.
Each system requirement has its particular need and the

weighting of such factors as speed of response to calls for service, cycle time of the machine, and so on will vary from case to case. However the main evaluation criteria can be itemised and a methodology for evaluation drawn up. In the definition of a methodology account will need to be taken of the variations necessary to cater for large and small systems and sufficient flexibility built in to permit speedy decisions in appropriate cases.

6. Conditions of Contract

6.1. The development of a Community approach to data processing procurement would be incomplete without a cohesive approach to the conditions of contract sought by public authorities. The smaller States have indicated in the past a certain imbalance between their negotiating ability and that of the more powerful suppliers. There can be considerable advantages in establishing at least common basic principles on which the contracts should be based to give strength to these purchasing authorities in their negotiations and to provide a consistent Community approach to this matter.

7. Studies and Joint Projects

7.1. The useful involvement of national data processing research centres has been mentioned in Section 5.2. above. Another area in which their participation could be of considerable value would be the examination of technical problems suffered in common by the member States. Suggestions of items to be studied would come from the member States and, if necessary, priorities determined jointly.

7.2. It is hoped that regular meetings of national experts and the Commission on all these matters will lead to a substantial increase in the interchange of information about current and future projects. Early identification of the latter could offer the prospect of a joint specification of need by some or all of the member States; either in terms of the application or in the specification of a common equipment requirement, say for example interactive terminals.

Such action would be to the benefit of the users and, in creating a wide market, would provide an incentive to firms to develop a product to meet the need. Studies on feasibility or development of products to meet such requirements may be eligible for Community assistance through the * Community Premium Scheme; the Public Procurement Working Group could provide the right forum for identifying these requirements.

8. Community objectives for the multiannual programme, implementation, budget and staffing.

8.1. Objectives

The objectives resulting from this chapter, can be found in paragraph 1.2. of the programme Annex of the Draft Council Decision laying down a multiannual programme for the data processing sector.

8.2. Implementation

The Commission with the assistance of the technical committee on Public Procurement, shall be responsible for the implementation of the action.

On the basis of the recommendations from the group, the Commission will make appropriate proposals with a view to their implementation by member States in the framework of the multiannual programme.

The members of the Public Procurement Working Group shall be appointed by their Governments through the Management and Coordination Committee. Experts may participate in the meetings as required.

8.3. Budget and staff

The budget and staff required feature in Annex C.2 "Budget and Staff" paragraph 1.3.3. Moreover in relation to the launching of studies or development of projects, recourse by groups of public users to the Community Premium Scheme with a view to instituting studies or common developments is not excluded.

* (see the chapter "Support for software, applications and standardization, Annex B.1.)

III-D-1

GENERAL ASPECTS OF THE DATA-PROCESSING POLICYI. INTRODUCTION

- 1.1. The Commission has assembled in this chapter a range of problems that it considers to be important, which should improve the knowledge of the sector and which could in particular lead to a certain number of legal and social consequences.
- 1.2. The following points are covered in succession :
- a) Research and Education.
 - b) Medium- and long-term study of the data-processing sector and its impact on society.
 - c) Effects of data processing on employment.
 - d) Data security and confidentiality.
 - e) Legal protection for computer programs.
- 1.3. Paragraphs 2, 3, 4, 5 and 6 hereafter deal with points a, b, c, d and e above. The objectives which emerge from them feature in point 1.3 of the Programme Annex of the draft Council Decision laying down a multiannual programme in the data processing sector. Implementation will be the responsibility of the Commission. Budgetary indications are set out in Annex C.2 "Budget and Staff" paragraphs 1.3.4 to 1.3.6.

2. RESEARCH AND EDUCATION

- 2.1. Basic research in this sector is carried out partly by private laboratories and partly in public research establishments. In its proposals to the Council in Document COM(75)467, the Commission proposed a number of joint

studies to be carried out by public research institutes in the Community collaborating together. It is hoped that these studies will encourage a wider collaboration between the Centres in other fields.

- 2.2. The studies themselves may lead on to the identification of further research and for example the preliminary study on programming techniques which they are undertaking may lead to further development within a larger research programme.
- 2.3. In one other major field, that of realtime computing, discussions have been taking place in CREST subcommittee on informatics which could lead to a larger Community research programme.
- 2.4. A modest provision has therefore been made in the budget to provide Community support for certain new research programmes which will be identified during the course of the programme. They would be prepared by the Commission for the Management and Coordination Committee on Informatics after taking the advice of the CREST subcommittee on informatics.
- 2.5. Elsewhere in the programme, a number of other fields are mentioned in which national institutes concerned with research and support to users can contribute. They are :
 - support for development of standards
 - support for procurement policy
 - assistance to the Commission in evaluating projects and contracts.

Collaboration in this range of activities will make the national institutes a valuable infrastructure for the Community programme.

- 2.6. In the field of education, a CREST subcommittee has been running advanced courses in data-processing for several years. The content of these courses needs to be related, as far as possible, to the objectives of the multi-annual programme. The Commission recently proposed to the Council new arrangements for financing and managing these courses (Doc. COM(76)390).

3. MEDIUM- AND LONG-TERM STUDY OF THE DATA-PROCESSING SECTOR AND ITS IMPACT ON SOCIETY

- 3.1. The Resolution of July 1974 on a Community policy on data-processing explicitly invites the Commission to submit to the Council a report on developments in the data-processing sector in the Community in relation to the world situation.
- 3.2. Following this invitation, the Commission set up a group of experts formed of officials from the Member States to collect the data necessary for the preparation of the report, which is attached to this programme.
- 3.3. The work revealed the difficulties in collecting and coordinating the requisite information, which explains the delay in the publication of the report (which should have been presented to the Council before the end of 1975) and the paucity of information on a number of points.
- 3.4. In the Commission's opinion, a report of this kind should not be the outcome of discontinuous effort providing no more than a picture of the state of the sector at a given moment, as this would greatly reduce its interest and scope; it should be seen from a much broader and more dynamic point of view, so that it forms a valuable and up-to-date tool for those concerned with the development of the data-processing sector and its impact on society. Although it is doubtless somewhat unrealistic to envisage creating a true model of the sector, such work could lead to the establishment of a certain number of economic, technological or social indicators providing useful guidance for future activities.

4. EFFECTS OF DATA-PROCESSING ON EMPLOYMENT

- 4.1. In its document SEC(73)4300 which led to the Resolution of July 1974, the Commission indicated in the following terms its concern with regard to the structure of employment :

"The expected evolution of the sector in the next few years, due to its growth, industrial change and alterations in requirements for skilled manpower will inevitably bring appreciable shifts in the structure of employment".

- 4.2. Events have confirmed this assessment and one of the main objectives of the medium- and long-term study of the data-processing sector indicated in 2. should be to provide information on the evolution of employment from the point of view of quality and quantity and, to this end, close collaboration should be developed between the two sides of industry and those responsible for the study.
- 4.3. The problems concerning the quantitative and qualitative aspects of employment will be experienced not only by manufacturers of data-processing equipment their sub-contractors and component suppliers, but also by users, for whom the adoption of EDP will substantially change the qualifications and skills required of their staff and the numbers of persons assigned to certain job categories. It will also be necessary to analyse regional aspects of the foreseeable changes for employment in the sub-sectors concerned.

5. DATA SECURITY AND CONFIDENTIALITY

- 5.1. In its document SEC(73)4300, the Commission stressed the importance of this problem together with the desirability of seeking, at Community level, a political consensus with a view to establishing common ground rules, rather than subsequently having to harmonize conflicting national laws. With this in mind, the Commission had contacted the European Parliament on the subject.
- 5.2. After examining this question, the Legal Affairs Committee of the European Parliament submitted a draft Resolution to the European Parliament which was adopted on 19th February 1975 and contains, in particular, the following points :

The European Parliament :

- (i) approves the establishment of a special Committee composed of members of Parliament which would be authorized to examine this question and to study proposals concerning :

- (a) methods for collecting personal information stored in data banks;
 - (b) the right of individuals to consult the stored data and to challenge them;
 - (c) the expediency of applying common standards for private and national data banks;
 - (d) protection against unauthorized access to stored data and their improper use;
 - (e) control over the communication of data contained in data banks;
 - (f) the actual application of penalties against any act tending to prejudice the private life of individuals;
 - (g) related questions which may be judged useful.
- (ii) earnestly requests the Commission, in the light of the report of this special committee, to draw up rapidly a Directive for the purpose of protecting citizens within the Community against abuses arising from the storage, processing and communication of personal information stored in data banks, in both the public and private sectors.

5.3. In addition, in its document COM(75)467, the Commission proposed the launching of a large-scale study on data security and confidentiality, which would be entrusted to data-processing research institutes within the Community and which would cover the technical, legal, social and political aspects of this problem. It is evident that such a study would be a valuable supplement to the work undertaken in this field by the European Parliament, government authorities and the Commission.

5.4. Finally, the Commission has undertaken to collect the information necessary for the study of this problem from the Member States and has decided to set up a study group of governmental experts.

6. LEGAL PROTECTION OF COMPUTER PROGRAMS

- 6.1. The legal protection of computer programs poses complex problems for which no practical solution has so far been found. The only result which seems to have been obtained is of a negative nature : neither the patent nor the copyright is a suitable instrument for the legal protection of programs. However, the search for an appropriate instrument is continuing.
- 6.2. The absence of a legal mechanism for purposes of protection is one of the reasons why a producer very frequently supplies users with programs on magnetic tape and himself retains the source program. In addition, contractual commitments are entered into by the producer and the user with a view to safeguarding intellectual property.
- 6.3. The situation, however, is not felt to be satisfactory by those concerned and activities have been initiated with a view to seeking a solution, in particular by the World Intellectual Property Organization (WIPO), which has created an advisory group of experts on this subject.
- 6.4. From the Community's point of view, if guidelines in respect of legislation are to result from the work in progress, it would be desirable to harmonize laws in advance so as to avoid the creation of technical barriers resulting from the preparation of these laws at national level.

B. SUPPORT TO THE DATA PROCESSING SECTOR

SUPPORT FOR SOFTWARE, APPLICATIONS ,
STANDARDISATION DEVELOPMENTS

I. Role of the software and services industry

- 1.1. The existence of a strong software and service industry is essential to the effective and economic adaptation of data processing to the needs of users, and, as an overall part of the community's capability in the informatics sector. It can enhance the efficiency of systems, reduce their costs by the provision of tools and services and provide competition with the software and maintenance facilities provided by manufacturers. Generally, it can increase the openness and range of choice in the market.

- 1.2. From the viewpoint of Europe's overall economic development, indications of the importance of the software sector are contained in Chapter III of the Report on developments in the Data Processing industry attached.

In effect :

- a) the European market for software was worth 474 m.u.a. in 1974 and the share of the european industry was 57 % of this amount (compared to 25 % only for computers and EDP systems)

- b) as hardware costs are decreasing relatively, software costs will in future be a major factor affecting not only the efficiency of computer systems but equally their cost in a decisive way. In this sector, the European industry is relatively stronger than in other sectors of the industry (covering 57 per cent of the market). A large number of companies are capable of providing both the specialised skills needed to satisfy the needs, and the portable industrial packages, which are increasingly needed in the market place.

- 1.3. Although the role of the software and services industry is important and growing it must be recalled that a very important part (about 24 per cent) of the software is developed by the hardware industry and by users. A policy for the software area must therefore take into account, not only the interest of the users and the interest of the Community in having a strong software and services industry but also of the European-based equipment manufacturers' need to penetrate new markets.

Indeed, European hardware manufacturers are limited by the slenderness of their resources from developing applications or specialised software to cover all sectors of the market. There is a need therefore to develop products enhancing the possibilities of market penetration by hardware producers. In the section on perinformatics the development of a number of software products has been envisaged. Applications packages will be covered by the section on applications.

2. Objectives of Community intervention

There are ways in which a judicious use of public policy can overcome weaknesses and help to meet users' or industrial needs :

2.1. Standardization

The Commission's proposed policy on standardization is set out in a previous Chapter of this document. This policy has already given rise to a first proposal (see Document COM (75)467) in the software area, the proposal to define the specifications of a real-time programming language (LTPL) and possibly its development.

If this definition phase leads to a need for development, a quick decision will be needed. The Commission proposes that any such action be financed by means of Community Premia.

Given that standardization is one of the essential elements of Community policy in the interests both of users and the industry, it is possible that other development projects on software standardization will arise in the course of the multiannual programme.

A very limited capability to finance studies is provided in the framework of "standardization policy" activities. If this policy identifies development needs which, in particular, bring together users or firms into partnership, the mechanism of the Community Premium Scheme can be applied.

2.2. Portability and Conversion

Conversion costs, as users seek to move from one kind of computer to another, or to link different types of machine, are estimated to cost the Community some 1,000 million u.a. over the next five years. Greater portability of software could reduce costs to users, open up the systems market to greater competition, and provide larger markets for the software industry. The Commission has already formulated a number of proposals on this matter in its document COM (75) 467. In this connection a distinction should be noted between standardization - a process by which the recognised authorities impose or recommend the general application of a procedure or technique - and portability which can be defined as the existence on the market of a product which facilitates the transfer of software, without its use being imposed.

The Commission proposals in this area envisage the choice and support of development of a software implementation language (to be used, for example in the writing of data base management systems), and of conversion tools. It is proposed to include the development phase of these actions in the programme. Furthermore, one of the criteria for support of other candidate products should be its portability, that it is concerned with sub-systems (management of data banks, of transactions) or of applications packages.

2.3. Systems efficiency and new technologies

Tools to assist in improving the efficiency of systems (measurement of performance) can bring large economic benefits; it is the same with software products adapted to the development of technologies of Community interest such as data transmission networks and distributed data bases; this group of products is worthy of consideration in the framework of Community support.

2.4. Applications

In the field of applications, Europe lacks the civil equivalent of the major space and defence applications which have stimulated the US industry. In Japan, some 80,000 million yen have been spent on supporting the development of applications in the period 1973-1975.

Moreover the tendency of national public authorities in Europe to develop separately their own solutions to applications problems limits the market open to the European software industry and thus increases costs to users. Joint applications projects can therefore be a valuable stimulus to the promotion of the use of data processing and at the same time to the software industry. In view of the importance of these application projects they are dealt with in more detail in what follows.

3. The Applications area

- 3.1. The national data processing programmes of European Governments have also recognised the importance of support for the development of applications and a growing proportion of resources are being devoted to this field, and not only because it is here that the techniques of data-processing can be effectively applied to user's needs and to increasing productivity, but also because by developing new and useful applications the national computer industry can be expected to expand its market share. The three larger Member States of the Community spent nearly 200 million u.a. on applications in the last three years.

- 3.2. For many types of applications, it is appropriate that study or development should take place at national level; for example, differences between national educational systems understandably mean different requirements for educational data-processing.

- 3.3. However in a good number of cases, public resources are being wasted by duplication of development for similar needs in different Countries. There are yet other cases where needs are inherently of a transnational kind. Moreover in both the private and public sectors the European market today is uneconomically divided and costs are raised by the different ways in which users express similar requirements; a product developed for one market requires costly adaptation to needs in another, and only a company with the Europe-wide market power of IBM is able to sell a European solution.

- 3.4. This national market environment is in turn in part responsible for the national structure of the European industry, in both the hardware and software fields, and hence the inadequate dimensions and lack of Europe-wide and indeed worldwide marketing capability of many European firms. Many European companies, in short, though capable, are only geared to serve national markets and not the European market as a whole. The granting of support for applications on a purely national basis does not overcome this weakness and indeed may enhance the divisions in the market and in the structure of the industry, which raise costs to users and lower Europe's overall industrial strength.

- 3.5. Financial resources can be saved, user needs better satisfied, and European industry provided with wider market opportunities and encouraged to collaborate to meet these if a limited proportion of financial resources hitherto devoted to applications in the Member States is spent through the Community budget in pursuit of the following objectives which have a Community character.

4. Community Action for the Multiannual Programme

- 4.1. Community action - products or considered objectives, criteria - are set out in para 2.2. of the programme Annex of the draft Council Decision laying down a multiannual programme for the data processing sector.

The resources set apart for the action are detailed in Annex C - 2 para I-3-7. They amount to a modest total of 32 MUA; action for the coordination of national aids should help to reinforce support of actions which have a Community character. This sum is composed of 9 MUA for actions on the development of standardization, and software of a general nature (portable sub-systems, conversion tools etc.) and 23 MUA for applications.

- 4.2. With regard to applications, consultations with industry and other discussions have shown that in order to produce a durable and fundamental impact on the European data-processing scene a minimum of 100 million u.a. per year needs to be devoted during the next four years. The prevailing economic conditions, however, limit the resources available. It is therefore proposed to support only a limited number of applications representing only a few priority data processing sectors of

Community interest. The Commission has already received a considerable number of applications proposals and is confident that it would be possible to identify and implement actions in areas such as transport, the environment, natural resources, documentation, office automation, medical computing.

- 4.3. In the last four years there were about 300 ongoing applications projects (of different size and duration) in the national programmes of Member States; of these more than two hundred were development projects. Though the Community programme for applications needs to be highly selective, in view of severe limitation of resources, nevertheless, at least ten to twenty major development actions must be undertaken in the four years in order to have a noticeable impact on the data processing scene in the Community.

Actions which result from coordination of national aid programmes must be added. Where Community funds are complementary to national aids a possible increase in the number of actions can be envisaged. Any reduction in the number of development projects must render the multiannual programme for applications less meaningful in terms of the intentions expressed in the Council Resolution.

- 4.4. The proposed budget is based on the hypothesis that the Community will support 12 applications developments, two at 100 % and 10 at 40 % (the balance coming from users in the Member States).

In order to develop between ten and fifteen applications predevelopment studies would be required also the promotion of a number of feasibility studies.

The information set out in the budgetary chapter elaborates these figures.

Support for the Periinformatic Sector
(peripherals, terminals, mini- and micro- computers)

1. INTRODUCTION

Since the appearance of Document COM (75) 467 which had already underlined the importance that needs to be given to the periinformatic sector, the Commission has continued to have exchanges of views with a number of firms and also with appropriate Administrations in the member States.

In addition, a study on the European periinformatic industry has been completed⁴. Chapter IV of the Report on Data Processing contains a summary of this work and presents information on the structure of the sector, on the market and on the strengths and weaknesses of the European industry.

The following sections therefore are restricted essentially to a review of a certain number of facts and an indication of the actions capable of being launched under the Community plan.

2. STRENGTHS AND WEAKNESSES OF THE EUROPEAN INDUSTRY : THE INDUSTRIAL ENVIRONMENT.

2.1 If the captive market is excluded, that is equipment sold by the manufacturers of large computers as part of their systems, the market of the periinformatic sector (peripherals, terminals, data collection systems and mini- computers) which had a value of 1677 m u.a. in 1974, is estimated at 4.500 m u.a. for 1980 implying a growth rate of 18 per cent per annum. The non-captive periinformatic market in 1980 will thus be the equivalent of some 50 % of the total data processing market and almost as important as the total data processing market of today. Within this market the strength of the European-based industry varies greatly from sector to sector.

⁴ Sema : The European periinformatic industry - April 1976

- 2.2 In near-in peripherals, there is a massive dependence on imports (82 per cent of the needs being supplied by firms whose origins lie outside the Community) In addition this limited European production is substantially dependent on licences. American producers, particularly of the larger types of peripheral, have achieved such economies of scale that European producers have great difficulty in entering the market economically.
- 2.3 Yet such peripherals are an increasingly important part of systems (by value) and can decide the competitive position of a systems manufacturer in the market place. Dependence on a single external supplier can involve high risk. The bringing together of requirements of Community systems companies, together with support from the Community premium scheme for selected products for which markets have been identified, could bring progressively into being a viable Community production at least of certain products.
- 2.4. Provision ought also be made, in this, as in other areas, to fund developments which take as their starting point licensed production of products made outside Europe, and have as objective the development of a more advanced European product which can be marketed worldwide.
- 2.5 Community industry is better placed in other sectors of the market, and there are limited sectors of the market (such as banking terminals) where it has gained the leadership.
- 2.6 There is, however, a fundamental problem of industrial structure and environment which affects all sectors. The character of demand, standards, internal regulations, laws and practices in the CEE Member States are still far from being harmonised; thus the European market for perinformatics equipment, although almost half as large as the corresponding market in the USA is not a single homogeneous market, like the market in the United States.
- 2.7 The trade statistics show that the European Community has not yet succeeded in promoting a high volume of intra Community trade by European-based companies in the sector. Intra Community trade by these companies is 16 % of their turnover compared with over 20 % for Community industrial products as a whole. In the sectors of near-in peripherals, specialised terminals and minicomputers the proportion is between 9 and 12 %.

- 2.8 Only in the rather healthy sector of office or management computers (Philips, Nixdorf, Olivetti) is there a rather better picture.
- 2.9 In the main, European-based companies in the perinformatic sector have grown up and become established within a national environment and market, and have relatively weak marketing presences in other major Community countries.
- 2.10 The principal consequence of this is that most companies are prevented from achieving sufficient economies of scale and tend on one hand to enlarge their product range in order to minimise industrial risks, and on the other hand to deliver complete systems in order to better follow customer requests and thus maintain their market share. All this adversely affects the costs of European products.
- 2.11 In consequence, marketing policies are aimed too often at survival rather than at a more dynamic aggressive strategy designed to increase turnover in certain selected fields. The mini-computer sector, working in real-time, gives an illustration of this phenomenon. Although a number of technically capable European firms exist, the American company, DEC tends to dominate the world market basing its success on specialisation and economies of scale.
- 2.12 Yet the technical capability in electronics of the European industry is quite satisfactory. The good position in the fast growing sector of accounting or office data processing and the tradition of custom tailoring could constitute an advantage, as distributed data processing develops, if the right actions are undertaken.

3. COMMUNITY ACTION

- 3.1 The above analysis indicates two main critical points : market and funds.
- 3.2 Actions aiming at unifying and harmonising demand and product availability throughout EEC Member States will be necessary to create a sufficiently wide market basis, as well as a deeper specialisation of the industry.
- Community policy in the fields of standardization, public procurement and applications is designed to serve these ends. Furthermore, the discussions held between certain manufacturers of d. p. equipment have confirmed the possible interest in group purchasing of peripherals at the European level. The Commission will continue to encourage the process of such discussions.

3.3. As far as funding is concerned, a certain number of Member States, notably France and the Federal Republic of Germany, have begun to mount national programmes designed to support the minicomputer and peripheral industries. These programmes will be positive in character, if they succeed in enlarging the overall market share of the European industry, but it is important that such national programmes do not result in distortions of competition, or in the creation of a number of protected public markets and industries. Such a development would damage not only the interests of users and the fundamental principles of the common market, but the industry itself which badly needs a market of European scale comparable to the home market base of American minicomputer and peripheral manufacturers. Purely national aid schemes risk, for example, promoting a series of national minicomputer industries, each of them having a substantial market share in the home country, but each of them lacking the marketing presence and market share throughout the Community which alone can make them competitive with outside suppliers. It is essential therefore that measures of national support be supplemented by Community activities designed on the one hand to coordinate in a systematic manner the national measures in the sector and on the other to support and financially encourage associations and developments between European enterprises with specific commercial objectives. In parallel with actions on the market side, this process can help to rationalise use of public and private development funds, promote specialisation and encourage the industry to develop structures adapted to the European market, within a broad competitive environment.

In this context, the Commission is not proposing that Community aid be necessarily tied to a joint-development in the manner of sharing tasks between laboratories; such sharing out could in fact work against effective rationalisation.

On the contrary, the objective of Community policy should be to encourage associations across frontiers which have the aim of achieving a greater penetration of the market and thus the

improvement of profitability of the development envisaged. Subject to examination that the chosen forms of cooperation are compatible with provisions of Article 85 of the EEC Treaty, these objectives could be achieved by different methods, such as

- an agreement between two firms from two Member States in which one of the firms undertakes to sell the product developed by the other (for example a specialised terminal).
- an agreement among a few manufacturers of systems for the creation of a common subsidiary company for the production of near-in peripherals or for the common purchase of such or peripheral from a European-based company (for example, based initially on an American license)
- an agreement between two European firms for marketing in non Community countries a product to be developed.

The criteria proposed by the Commission which is given in the programme annex gives precision to this approach.

4. COMMUNITY ACTIONS FOR THE MULTIANNUAL PLAN :

4.1 Community actions in support of the perinformatics sector, the products considered and the criteria chosen are given in para 2.3 of the programme annex to the proposed Council Decision on a multi-annual programme for the data processing sector. What should be the magnitude of the Community programme aimed at the promotion of such cooperation?

A reasonable aim for the European-based perinformatics industry would be to achieve a coverage of at least 50% of the market by 1980, compared with 44 % in 1974 ^{*)}. This means that the expected turnover of European industries in perinformatics should rise from 1145 m u.a. in 1977 to 2250 m u.a. in 1980.

Considering that the mean percentage of turnover dedicated to R & D in this sector needs to be no less than 8 %, and possibly more in the early years, this leads to a total required R. & D. expenditure of some 600 m u.a. over the four years considered.

In the opinion of the Commission, a significant Community support should be represented by at least 8 to 10 % of this total during four years, which implies a budget of 48 to 60 m.u.a. for the four coming years. But as the first years of the programme are of experimental nature the Commission is proposing only a limited effort of 32 m u.a. (or approximately 5 per cent of the total effort).

^{*)} European share was 40 % in 1973 and is forecasted to become 47 % in 1979 (SOHEMAP report on requirement for financing DP industry in Europe - 1975).

A limited scale of effort can only be viable if it is concentrated on a limited number of priority project of collaboration and if its catalytic effect is supported by contributions from the national support programmes as also by sizable investments by the concerned firms.

- 4.2 Such a scale of effort would make it possible to support a relatively wide range of companies throughout the Community, essential in an industry as diverse as this one. It would also enable the Community element to carry sufficient weight to be an effective partner in relation to national support schemes which on present showing would in total be of the order of 100 m u.a. over the period considered.
- 4.3 As already mentioned, sectors which seem to be promising, both from profitability and market points of view, are those of
- microprocessors
 - intelligent terminals
 - minicomputers
 - small complete d.p. systems.
- 4.4 As far as minicomputers are concerned, since they will be increasingly employed in a large variety of applications, a particular effort on software appears worth making for improving the evolution of "distributed intelligence" i.e.
- application oriented operating systems -O.S. (Real time, batch processing, message switching etc.), implementation languages and compilers, as well as boot strapping techniques and users tools;
 - furthermore the implementation of Virtual Interfaces and portability for O.S. would allow a longer life of application software as well as of utility packages which could facilitate and strengthen the employment of minis (See also the proposal on Operating Systems for minis in the document COM (75) 467 Annex 2).
- 4.5 The fact that the European industry is practically absent from the scene of electromagnetic mass storage devices suggests actions also in this field, as a means of freeing systems manufacturers from complete dependence on outside suppliers, and acquiring a technology which will remain critical to competitiveness in data-processing.
- 4.6 The precise distribution of funds between different categories would depend upon the nature of proposals submitted and on the evolution of the sector during the period of the programme. However, an estimate of the possible distribution of resources is given in the Annexure on budgets. (Annex C.2. , para 1.3-8)

C. MANAGEMENT AND FUNDING OF THE PROGRAMME

Annex C.1.

The Community Premium Scheme

1. INTRODUCTION

- 1.1. The Community Premium Scheme provides for the allocation of financial assistance, generally repayable, to the users and producers concerned, in accordance with the aims of the multiannual programme for the data-processing sector, as described in the Annex of the Draft Council Decision
- 1.2. The Scheme is not intended to replace arrangements already existing in certain Member States, but rather to complement them by supplying a Community component which they generally lack. The close involvement of the Member States in its management (through the Management and Coordination Committee for the Data Processing Programmes) will ensure the integration of national and Community policies.
- 1.3. There are no plans for the Scheme to provide the massive financial support required, for example, for the production of a complete line of computer systems. Within the Community framework, however, the Scheme's resources should enable limited groups of users and producers to carry out a number of significant projects.
- 1.4. The operation of the Scheme should be of limited duration. It will be for the Commission in due course to formulate proposals for modification of the rules of the Scheme, its termination or extension beyond the end of the programme.
- 1.5. Apart from the exceptional cases described in 2.5, the Community will in general finance a maximum of 50 % of the total project costs in order to encourage the parties concerned to make a significant commitment from their own resources; moreover the Community contribution will be repayable in the event of commercial success.

- 1.6. Experience has shown that there are only a very limited number of projects which could systematically involve users or manufacturers from all the Member States, and that the problems of negotiating and implementing such projects are likely to present difficulties not easily overcome from an industrial viewpoint. There are however numerous valid possibilities which could be initiated by users or manufacturers from several Member States. This is the type of project that the Scheme will normally support.
- 1.7. Within the framework of the criteria defined for this programme more precise guidelines can be evolved in order to define for each sector priority areas for the allocation of funds in the light of developments in these sectors in the course of programme. The parties concerned will be informed of these guidelines periodically and in good time, (for example, by means of the Official Journal of the Communities or other official publications of the Member States) and urged to adhere to them in their proposals, which will be collected together so that decisions on financial aid can be taken every six months.

2. ELIGIBILITY

2.1. Aid from the Scheme may be requested by :

- users of data-processing,
- producers in the data-processing sector (hardware and software),
- manufacturers of electronic components,
- the Community.

2.2. Users of data processing

The aims of the programme in this respect are particularly concerned with applications; it envisages the rationalisation of efforts in their development at the Community level and to encourage users in different Member States to define their requirements jointly.

Studies or developments conforming to the criteria of the programme and coming from users from at least three Community countries or mixed associations of users from

at least two Community countries plus a data-processing company are eligible for support from the Community Premium Scheme.

2.3. Producers in the data-processing sector (hardware and software)

The programme will ensure the promotion of mini and micro-computers, terminals and peripherals, as well as certain types of software (applications, languages, portable software, ...) will conform to the criteria in the Programme Annex to the draft Council Decision on a multiannual programme for the data processing sector.

The main aim is to encourage a rationalisation and collaboration at the Community level in the development of products adapted to the characteristics and dimensions of Community and world market, thus increasing the European competitive capability. This process should promote technologically advanced products which have good commercial prospects and also encourage the development of industrial structures on a European scale.

It should be noted that the resources of the Scheme will be inadequate for very large-scale industrial products. Thus it will be suitable for projects proposed by small- and medium-sized firms or alternatively for projects from major firms but covering only a part of their product range.

Proposals conforming to the programme criteria coming from at least two separate European-based companies from at least two member States of the Community are eligible for support from the Community Premium Scheme.

2.4. Manufacturers of electronic components

It is recognized that electronic components play an important role in the development of data-processing systems ranging from the micro-processor to the large computer. In this respect, the establishment of a dialogue between the European-based manufacturers of advanced components and of data-processing systems is highly desirable. The Scheme could help to finance any projects resulting from a dialogue between manufacturers of systems who succeed in defining common specifications for advanced components and manufacturers of components. Similarly the Scheme could support development plans put forward by European-based component manufacturers in several Community countries if the development would obviously lead to the

creation of products which would improve the technology of the industries using them.

The Commission is exploring with the electronic component manufacturers the possibilities of a long term programme for this very important sector. In the medium term it envisages the application of the Community Premium Scheme for certain component developments specifically designed for the data processing sector.

2.5. The Community

In principle it will be up to users and producers to apply for aid from the Scheme. However, it would also be possible for the Commission to take the initiative in launching projects in certain cases, on the advice of the Management and Coordination Committee on the data processing programmes; to carry out surveys connected with the operational framework of the Scheme (e.g., for the organization of certain user circles in the context of the promotion of the use of data-processing), to meet a strategic need clearly evident at Community level, or to satisfy a common need of a public nature giving rise to a single project which could be carried out within the operations of the Scheme. Some of the projects resulting from documents COM(75)35 and COM(75)467 would be financed by the Scheme at the instigation of the Community.

2.6. Partners from outside the Community

The Scheme could assist in the funding of actions involving partners from outside the Community, either in the event of collaboration on industrial policy between an outside country and the Community, or private negotiations between firms or users from another country and the Community, insofar as these actions conform to the aims of the programme. In the first case the agreement must be defined within the framework of the Community's foreign policy, in the second case, ad hoc agreements defining the respective obligations of the parties and providing for the application of the Scheme must be concluded in line with the aims of the programme and Community data-processing policy.

3. THE GENERAL CHARACTERISTICS OF THE AID

3.1. The Scheme may finance :

- (a) Feasibility studies
- (b) Predevelopment studies
- (c) Developments

on the lines set out in Section 2.

3.2. Feasibility studies are very modest projects; their aim is to verify certain facts or possibilities of a technical, commercial or other nature prior to the launching of more ambitious projects calling for a considerable financial commitment by the parties concerned.

3.3. Predevelopment studies may be the logical follow-up to feasibility studies. They involve a major financial commitment and in scope and objectives they are comparable to the studies proposed in document COM(75)35 on the first priority projects in data-processing.

3.4. Developments lead to the perfecting of products (hardware or software) or systems for direct use in the field for which they are intended. The term "perfecting" means the work carried out on the basis of knowledge or practical research results already obtained, up to and including the prototype stage.

3.5. With a few exceptions financing will be based on the principles of risk sharing and repayment in the event of commercial success which leads to the following provisions in relations to Sections 3.2 to 3.4 above.

(a) Feasibility studies :

A capital grant of 20-100 % of the actual total cost of the study with a ceiling of 100.000 u.a.

(b) Predevelopment studies :

Financing of 20-50 % of the actual total cost of the study, the sums advanced being repayable as in (c) below if the study is followed by development which proves commercially successful.

(c) Developments :

Financing of 20-50 % of the actual total cost of the development.
Provision for repayment if the product developed proves commercially successful.

3.6. In the special case referred to under 2.5. where the project is launched on the initiative of the Community, the following options are available :

- (a) The financing terms are as set out in 3.5.(a), (b) or (c).
- (b) Taking into consideration the strategic importance of the project, the Community may decide to finance 3.5.(a), (b) or (c) up to 100 % with repayment as set out in 3.5.(b) and 3.5.(c) or even, in exceptional cases, by means of a capital grant.

3.7. No interest will be payable by the contractors, except in the event of a delayed repayment following commercial success or of fraud. Interest will then be charged at the rate prevailing on the capital market.

4. DECISION-MAKING PROCEDURES

4.1. Proposals put forward by interested parties will be submitted to the Commission, which is responsible for the management of the Scheme. They should give all the necessary technical, economic, financial and administrative information to enable a decision to be taken on the allocation of Community funds.

4.2. The Commission may have an assessment of the proposals, on the basis of their technical quality and the general criteria determined (see 1.7.), made by calling on impartial experts, members of the Services of the Commission or, where the need arises, from for example the data-processing research centres in the Member States, or by any suitable form of expert opinion. The Commission also expects to consult national administrations on certain projects to avoid duplication and ensure complementarity with national developments.

- 4.3. The examination of documents will be carried out in such a way that all communicated information remains confidential.
- 4.4. It is essential, taking account of company programmes, the rapid development of technology and the difficult conditions of competition, that the decision on the granting of financial support for a project should be taken as soon as possible (within six months - cf. 1.7.) provided, however, that the parties concerned have supplied a dossier containing adequate information.
- 4.5. The Management and Coordination Committee for data-processing will assist the Commission in the management of the Scheme by delivering concurring opinions, adopted by a qualified majority, concerning aid from the Scheme on the basis of a list of projects retained resulting from the work indicated in 4.2. Decision on award of contract should be taken within two months.

It will also assist the Commission concerning the definition, on the Commission's proposals, of general guidelines for its activities and at the same on

- the additional criteria for aid from the Scheme with a view to their communication to those concerned,
- the sectors who should benefit from the Scheme with an indication of the upper limit of funds to be made available to each sector, in order to prepare the annual budget.

- 4.6. The Commission shall send an annual report on the operation of the Scheme to the European Parliament and the Council.

5. OWNERSHIP OF THE KNOW-HOW

- 5.1. As a general rule, know-how, whether patentable or not, will remain the property of the contractors.

- 5.2. When the contractors are granted the rights in the know-how, it will be necessary to avoid a situation in which know-how acquired by means of contribution from the public Community funds is not put to use. Consequently, if the beneficiaries have not taken the necessary measures to make use of the results obtained within one year of the completion of the contract, they will be obliged to grant licences, on a commercial basis and with the Commission's consent, to persons or organizations in the Community who apply for them. This time limit may however be altered in certain cases during negotiation of the contract.
- 5.3. When the Community has to finance more than 80 % of the cost of the know-how obtained should be made available to persons concerned in the Community under conditions which take into account the financial and technical attainments by the contractors.

B U D G E T A N D S T A F F

I. Budget

I.1. Introduction

I.1.1. The purpose of this chapter is to present details of the budget for the multiannual programme; it contains estimates on the annual allocation of the budget and also covers the Commission proposals contained in documents COM(75)35 and COM(75)467.

I.1.2. The programme covers the years 1978 to 1981. In 1977, some of the actions proposed in documents COM(75) 35 and COM(75) 467 will actually be in progress; they will be regarded as included in the programme and subject to its management procedures as soon as the programme is adopted.

I.1.3. In connection with the budgetary details given below, it should be noted :

- that this is non-compulsory expenditure;
- that the budgetary totals relate respectively, for COM(75) 35 to the actual budget determined, and for COM(75) 467 to the budget based on the state of negotiations at Council level updated to mid-1977.
- that the amounts given may be revised under Article 4 of the proposal for a Council decision adopting the multiannual programme.
- staff costs necessary for the operation of the programme will be included in Heading I of the budget from 1978.
- In principle, apart from Community premia, the various expenses will be included under the appropriate chapters and articles relating to their subject except those which are specifically related to the operation of the programme which will be shown in the community budget relating to the programme.

I.2. Budgets relating to documents COM(75) 35 and COM(75) 467

I.2.1. Table 1 contains total and annual updated budget estimates for the proposals concerned. The following comments are called for :

I.2.2. The years 1976 and 1977 have been combined in one column and it has been assumed that the actions in COM(75) 35 will be completed during that period; it has also been assumed a start will be made on the initial stages of the actions in COM(75) 467 during that period.

I.2.3. COM(75) 35

The study on air traffic control has not been adopted. The project on the data bank for matching organs and blood has been replaced by a preliminary study costing 0.06 m u.a. ; should the original project, or any other project resulting from the studies covered in COM(75) 35, be launched at a later date, this would be done under the programme for the support of software, applications and standardization developments and through the Community premium scheme.

I.2.4. COM(75) 467

The LTPL project has been modified and it is now planned to initiate a definition and specification phase in the period 1976-78, following which a decision will be taken on whether to embark on the development of the language; the total overall budget has been estimated at 7.876m.u.a. the definition and specification phase has been re-evaluated (columns 1976-77 and 1978) and the balance of the budget has been split evenly between columns 1979 and 1980. It has been assumed that the project will be fully financed by the Community.

Under/^{the} heading of portability, the compiler action has been abandoned and it is proposed that the study on OS for minicomputers should be increased from 0.06 to 0.12 m u.a. The figures in brackets in the columns for 1978 and 1979 correspond to 50% of the amounts in the columns for 1977 and 1978 in COM(75) 467 updated to mid-1977 (there has been slippage of one year); aid under the Community premium scheme amounting to 50% of development costs has been assumed.

The commencement of the actions on data banks and transaction management is dependent on the ESL study, their commencement has therefore been shifted to 1978 with the initial budget updated to mid-1977.

The total of the General costs has been reduced to 110,000 u.a. to take into account the reduction in the number of actions.

The amounts allocated in support of the use of data processing (apart from general costs) have been reduced by 50% and updated to mid-1977 on the assumption that Member States will finance 50 % of the amount of the studies from national budgets.

In relation to applications, the data storage project has been abandoned. The amount for exploratory studies has been reduced to 200,000 u.a.

TABLE I

Budget table for COM(75) 35 and COM(75) 467

'000.000

u.a.

Actions	1976-1977	1978	1979	1980	Total
<u>COM(75) 35 :</u>					
- Organ and blood marching bank	1.094				
- Legal information					
- Computer-aided design					
- Import-Export *	0.668				
Total COM(75) 35 :	1.762				1.762
<u>COM(75) 467 :</u>					
- <u>LTPL</u>	0.943	0.873	3.035	3.025	7.876
- <u>Portability</u>					
ESLO	0.089	(0.324)	(0.294)		0.707
Data banks		0.127	(0.706)	(0.177)	1.178
Transaction processing		0.118			
Conversion tools	0.071	(0.589)	(0.589)		1.249
OS for minicomputers	0.120	(0.353)			0.473
General costs	0.110	0.536	0.418		1.064
- <u>Support for use :</u>					
Confidentiality/security	0.051	0.412	0.412	0.412	1.287
Programming techniques	0.051				0.051
Data bases	0.430	0.412	0.412		1.254
General costs	0.182	0.182	0.182	0.182	0.728
- <u>Applications</u>					
Data transmission	0.589	0.270	1.094	0.094 (+ 0.035 in 1981)	1.082
Exploratory studies	0.200				0.200
	2.836				
TOTAL COM(75)35 + COM(75)467	4.598	4.246	6.142	3.925	18.911

* Decision to launch has not yet been taken

TABLE II

Budget table for the full programme (1978-1981)

1 000.000 u.s.a.

ACTIONS	1977	1978	1979	1980	1981	Total
COM(75) 35 (see Table I COM(75) 467 (1.762 2.836	4.246	6.142	3.925	-	14.313*
- <u>General environment projects :</u>						
Standardization	-	1.3	1.3	1.3	1.3	5.20
Public procurement	-	0.12	0.12	0.12	0.12	0.48
Advanced courses	-	-	-	-	-	for reference
General aspects						
(a) Research centres	-	0.5	0.5	0.5	0.5	2.00
(b) study of the sector	-	0.12	0.12	0.12	0.12	0.48
(c) study of employment	-	0.12	0.12	0.12	0.12	0.48
(d) confidentiality-security	-	-	-	-	-	-
(e) software protection	-	0.06	0.06	0.06	0.06	0.24
- <u>Support for the data-processing sector</u>						
Software, applications, standardization	-	3 (1.266)	4.5 (1.589)	12.5 (0.177)	12.00	32.00 (3.032)
Peri-informatic sector	-	3.00	4.5	12.5	12.00	32.00
Electronic components	-	2.00	2.00	4.00	4.00	12.00
- Management of the programme :	-	1.00	1.00	1.00	1.00	4.00
TOTAL :	4.598	15.466	20.362	36.145	31.220	103.193*

* : Total for the years 1978 to 1981

I.3. Budget for the complete programme

I.3.1. Table II outlines the budget for the multiannual programme and gives details of the possible allocation of this budget year by year.

The totals given in Table I have been carried forward to the lines COM(75) 35 and COM(75) 467.

I.3.2. Standardization

The figures in brackets refer to the paragraphs of Annex A.1 on the standardization policy. All costs are expressed in units of account.

(a) WGS Secretariat

Staff :	1 Manager	44 000
	1 Assistant Manager	40 000
	1 Secretary	15 000
	General costs	15 000
	WGS Meetings (4 a year)	16 000
	Total :	130 000

(b) European Standardization Bulletin (ESB) (3.6.1)

Printing	
Editorial	20 000
Production	15 000
Postage	10 000
Sales promotion	10 000
Administrative work in connection with printing (updating of circulation lists, payment, product guides, general administration)	40 000

Administrative work in connection with publication
Staff attached to the WGS Secretariat :

1 Editing Manager	-----
(identical to WGS manager)	
2 Assistant Managers	80 000
2 Secretaries	30 000
Travel costs for administrative staff	4 000
Travel costs for Advisory Committee	12 000
	<hr/>
Total	221 000
Estimate of subscription income	-30 000
	<hr/>
Net total	191 000
	=====

The budget estimate does not allow for income from advertising which should increase and enable the budget to be reduced in future years.

(c) CAMAC Secretariat (4.3.1)

Staff : 1 CAMAC Manager	22 000
(0.5 man-year)	
1 Assistant Manager	40 000
1 Secretary	15 000
General costs	15 000
Travel costs	4 000
	<hr/>
Total CAMAC Secretariat	96 000

(d) Meetings of experts (3.1.3 and 4)

- Purdue-Europe	
(8 technical committees with	
15 members, 2 meetings a year)	48 000
- Networks Working Party (4.2)	
(10 people, 4 a year)	8 000
- COBOL Working Party (4.1.1.)	
(10 people, 4 a year)	8 000
- Other meetings of Working Parties	
resulting from WGS recommendations	49 000
	<hr/>
Total :	113 000

(e) <u>Symposia</u> (3.3.2)	
1 per year, including proceedings	70 000
(f) <u>Technical studies</u> (3.3.3)	250 000
(g) <u>Economic studies</u> (3.3.3)	250 000
(h) <u>Support for European participants</u> <u>in international standardization</u> work (3.4.4)	
- Technical studies and secretarial support	160 000
- Travel costs for 10 persons twice a year, 5 days in the United States	40 000
	<hr/>
Total	200 000
(i) Total budget	1 300 000
	<hr/> <hr/>

The total amount of the standardization policy budget for the programme therefore amounts to 5.20 m u.a.

(j) It should be borne in mind that any development resulting from this standardization policy will be carried out under the programme of support for software, applications and standards developments. Thus the LTPL action will be undertaken by means of funds estimated in the line COM(75) 467 and it is conceivable that other standardization projects leading to the development of products will emerge during the programme; for this purpose, provision has been made for manpower and funds under the Community premium scheme (see Annex B.1 "Support for software, applications and standardization").

I.3.3. Public procurement

Provision is made for the following per annum :

6 meetings (15 participants, 3 000 u.a. per meeting)	18 000 u.a.
Consultation of experts or studies	<u>102 000 u.a.</u>
	<hr/>
Total	120 000 u.a.
	<hr/> <hr/>

It has been estimated that the meetings of the Committee on Public Procurement will continue throughout the programme ; the total budget therefore amounts to 0.48 m u.a. In addition, as mentioned in paragraph 7.2 of Annex A.2 on public procurement, the Community premium scheme could be used to finance studies or developments at the request of groups of public users.

GENERAL ASPECTS OF THE DATA PROCESSING POLICY

I.3.4. Collaboration between research centres

Studies will be carried out by research centres of the Community as outlined in COM(75) 467. The Commission considers it advisable to have relatively modest funds available, estimated at 0.5 m u.a. for each year of the programme, giving a total budget of 2 m u.a., for the promotion of collaboration between research centres of the Community. National contributions should make it possible to increase the scope of these actions.

Possible subjects for such actions include the following :

- the development of a more detailed study on programming techniques as a follow-up to the initial study outlined in COM(75) 467 ;
- work on real time computing on which discussions have already been held in CREST's Committee on Data Processing.

In addition, as stated in paragraph 2.5 of Annex A.3, experts in the research centres could obtain contracts from the budget for other activities under the programme.

I.3.5. Advanced courses in data processing; for reference

1.3.6. Various studies (sector, employment, confidentiality, software protection)

The same budget estimates have been adopted for (a) study of the sector and (b) study on employment (that is meetings 18,000 u.a., consultations 102,000 u.a.) as for public procurement. The total budget for each of these projects is therefore 0.48 m u.a. No budget has been provided for (c) data confidentiality-security ; it is considered that the necessary expenditure can be met under the study on this subject covered by COM(75) 467. The following has been provided per annum for (d) software protection :

3 meetings at 3 000 u.a. per meeting	9 000 u.a.
consultations and studies	51 000 u.a.
	<hr/>
Total :	60 000 u.a.
	=====

giving a total budget of 0.24 m u.a.

1.3.7. Support for software, applications and standards developments

a. Applications

a.1. Feasibility studies : the studies should be of two types :

Study of user requirements

Exploratory studies at Community level, calling for user motivation and participation, to determine user requirements in a total of ten major commercial sectors of data processing are considered important as their results would supply the European-based industry with a satisfactory definition of user needs that it could try to meet from its own resources. Since this type of study needs to be carried out on a Community scale, Community measures are required and individual user groups cannot hope to undertake such a project by themselves. The average cost of this study is estimated at 100,000 u.a. and Community financing of up to 100 % is proposed. For a total of ten studies, one million u.a. must be made available over a four-year period.

Other feasibility studies

These relate to other types of study prior to predevelopment studies which are initiated by the user/manufacturer and are financed only partially by the Community. Provision is made for a total amount of 500,000 u.a. over a four year period.

Thus the total budget for all feasibility studies is 1.5 m u.a. for the four-year period.

a.2. Developments

It has been assumed that 12 projects would be started (including any which may possibly result from COM(75)35) that 10 of them would be financed to the extent of 40% of their total unit cost of 2.5 M u.a. and that two of them would obtain 100 % financing for their unit cost of 2.5 m.u.a. (organ matching bank, import-export or legal system for example

a.3. Predevelopment studies

To make the preliminary investigations necessary to identify the eight projects mentioned in d.2, it has been estimated that eight studies costing 0.5 m u.a. could be fully financed and ten studies costing 0.5 m u.a. could be 50 % financed.

a.4 On the basis of these hypotheses, the budget table for applications is given in Table III and shows a total budget of 23 m u.a.

b. With regard to software, it should be remembered that portability actions resulting from the studies proposed in COM (75) 467 will be supported by the Community programme (see Table I, figures in brackets). The budget for these actions is therefore included in the line COM (75) 467 in Table II; for reasons of clarity, the same amounts of 1.266 m u.a. 1.589 m u.a. and 0.177 m u.a. are also shown in brackets in the line "Software, applications, standardization", in the columns for 1978, 1979 and 1980; in view of the importance of portability and standardization, a budget of 0.9 m u.a. has also been included in the columns for 1980 and 1981 for the financing of other portability or standardization actions not included in COM(75) 467.

TABLE III

Estimated budget for applications

(000,000 u.a.)

Projects for the period 1977-81

(including those resulting from COM (75) 35)

- Feasibility studies (see d.1)	1.5
- Predevelopment studies (see d.3)	
(8 studies X 0.5 m u.a. X 100 %)	4
(10 studies X 0.5 m u.a. X 50 %)	2.5
- Developments (see d.2)	
(10 projects X 2.5 m u.a. x 40 %)	10
(2 projects X 2.5 m u.a. X 100 %)	5
	<hr/>
Total	23.0

In addition a budget of 7.2 m u.a. is proposed to cover requirements for the development of software products of general interest.

The "software standardization" part of the line "applications, software, standardization" in Table II is therefore made up as follows (Table IV) :

TABLE IV

"Software standardization" part
of the line "Applications, software, standardization"

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>Totals</u> <u>(000,000 u.a.)</u>
Portability-standardization	(1.266)	(1.589)	(0.177) 0.9	0.9	1.8 (3.032)
Software of general interest	0.8	0.8	2.8	2.8	7.2
	<u>0.8</u>	<u>0.8</u>	<u>3.7</u>	<u>3.7</u>	<u>9 (3.032)</u>
	(1.266)	(1.589)	(0.177)		

In brief, the line "Applications, software, standardization" in Table II can be broken down as follows, allowing for Tables III and IV, paragraphs a.4 and b and the need for a running-in period at the beginning of the programme (Table V):

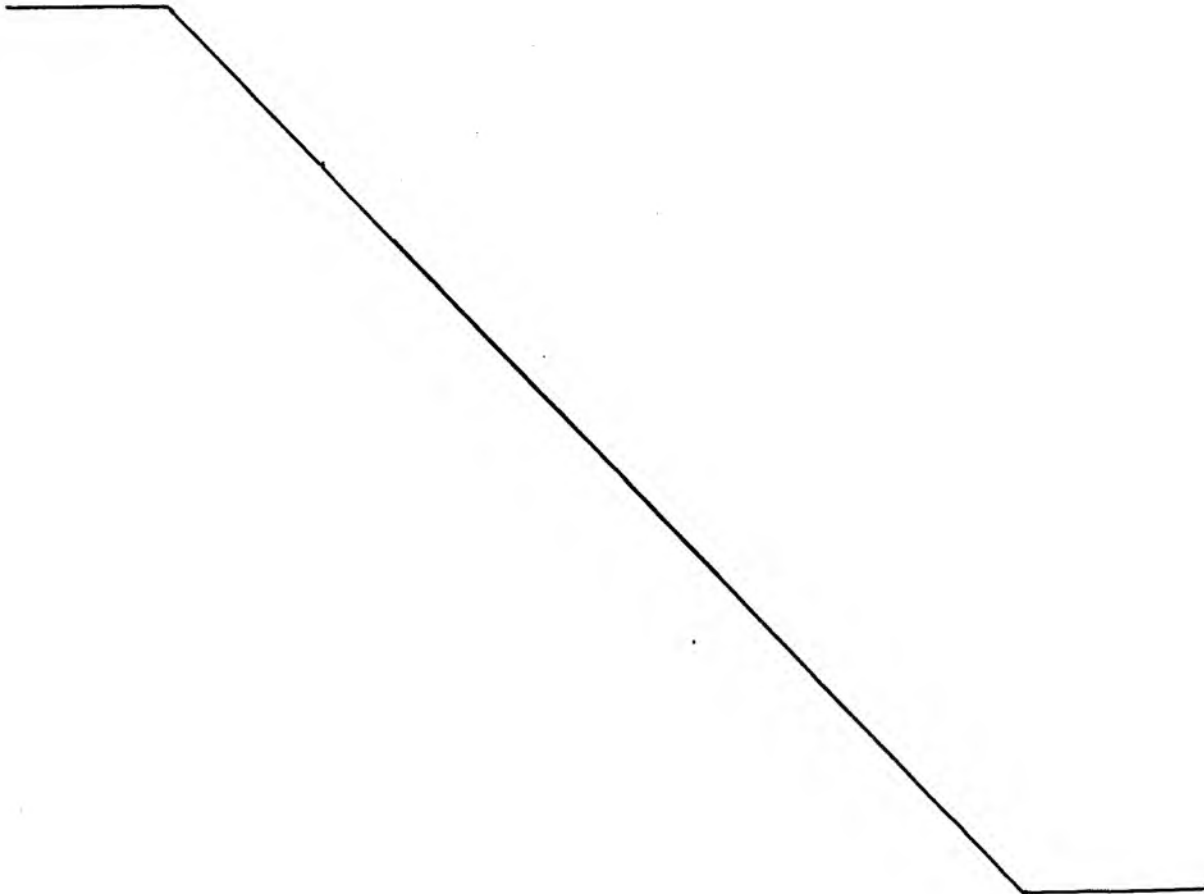


TABLE V

Details of the budget line

Applications - software - standardization

	<u>1976-77</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>Total</u>
Applications	-	2.2	3.7	8.8	8.3	23
Software :						
Portability -						
standardization	-	(1.266)	(1.589)	(0.177)	0.9	1.8 (3.032)
General interest	-	0.8	0.8	2.8	2.8	7.2
"Applications -						
software" line of						
Table II	=	3	4.5	12.5	12.0	32.0 (3.032)
		(1.266)	(1.589)	(0.177)		

I.3.8. Support for the peri-informatic sector

(a) Average development costs are estimated at :

- (1) Intelligent terminals 0.5 - 0.8 m u.a.
- (2) Electromagnetic peripherals 0.7 - 1.8 m u.a.
- (3) Small data processing systems 1.5 - 2.5 m u.a.

Broadly speaking, the development of five units per annum of each of the devices listed above would cost the following :

- (1) 5 x 0.7 3.5 m u.a.
 - (2) 5 x 1 5 m u.a.
 - (3) 5 x 2 10 m u.a.
- Total 18.5 m u.a. per annum
=====

With a Community contribution of 50%, this would amount to an annual expenditure of 9.25 m u.a.

(b) Support under the programme for random-access, high-speed mass memory devices of an advanced type would involve an additional 2 m u.a. per annum.

c) The following average development cost for software has been assumed :

- | | |
|--|------------------|
| 1) portable oriented OS | 0.8 - 1.5 m u.a. |
| 2) implementation language | 0.6 - 0.8 m u.a. |
| 3) sub-system packages and tools for users | 0.2 - 0.3 m u.a. |

Consequently the cost of developing three projects for point 1 and point 2 over four years and four projects a year for point 3 is as follows :

- | | |
|-----------------------------|-------|
| 1) 1.2×3 | = 3.6 |
| 2) 0.7×3 | = 2.1 |
| 3) $0.25 \times 4 \times 4$ | = 4.0 |

giving a total of 9.7 m u.a.

Financing of 50 % amounts to 4.35 m u.a. or an average of 1.1 m u.a. per annum.

d) On this basis the total average budget per annum (excluding microprocessors but including software) amounts to 12.35 m.u.a. (or 49.4 m. u.a. for four years).

This sum, which is equivalent to some 8 % of the forecast industrial expenditure on R & D is the minimum necessary to have a significant impact. Nevertheless it would not appear possible that money on such a scale could be efficiently disbursed during the first two experimental years of the programme. Moreover, the Community budget need not necessarily finance as much as 50 % of all developments, in particular because it could serve as a catalyst or a supplement to contributions from national funds.

The Commission has therefore only included a figure of 32 M U A (and not 49.4 MUA) in the budget of the multiannual programme estimating expense at 3 and 4.5 MUA for 1978 and 1979, and at 12.5 and 12 MUA for 1980 and 1981.

I.3.9. Electronic components

The budget of 12 m u.a. proposed by the Commission is sufficient to provide modest support for developments of component or systems specifically oriented towards data processing applications. The Commission will in due course make proposals covering the requirements of the electronic sector itself.

The intention is to support :

- the development of high-capacity semiconductor memories (unit cost 5 m u.a. over four years);
- the development of applications-oriented micro-processors, not including software (unit cost 0.2 to 0.5 m u.a. over one to two years).

Funding of such developments at up to 50 % could be envisaged for 2 MUA/year during the first two years and 4 MUA/year during the following two.

I.3.10 Management of the programme

This budget line, which relates to the staff required for the management of the scheme and of the programme, is dealt with in Chapter II below on staff.

II. Staff

The introduction of the programme will require a reasonable strengthening of the Commission staff. The Commission does not, however, want to bring about this strengthening wholly by the recruitment of officials.

The programme is limited in time and additionally, in the course of carrying it out changes in the abilities of the staff may prove to be necessary.

In relation to the total cost, the experience of member States has shown that staff costs normally amount to some 3 % of the total budget. As this total budget will amount to about 35 m u.a. when the programme is fully operational, an annual budget of 1 m u.a. has been shown in Table II.

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FINANCIAL SUMMARY FORMS

FINANCIAL SUMMARY FORM 1

1. Budgetary post principally : Article 3702
concerned
2. Title of project : General Environmental actions : STANDARDIZATION.
3. Legal basis : - Article 235 of the Treaty
- Resolution of the Council dated 15th July 1974
4. Objective of the Action : Development of Community policy in relation to
standards; definition of priority sectors; actions
aimed at the development of standards; dissemination
of information on standards; Secretariat of the
CAMAC activities.
5. Total cost of Action and annual payments foreseen
 - 5.0. Total cost : 5.200.000 u.a.
 - 5.1. Time-table for payments :

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
	1.300.000	1.300.000	1.300.000	1.300.000 u.a.
appropriation	-	-	-	-
6. Financing : Provisions to be made in future budgets.

FINANCIAL SUMMARY FORM 2

1. Budgetary post principally : Article 3702
concerned
2. Title of project : General environmental actions : PUBLIC PROCUREMENT
3. Legal basis : - Article 235 of the Treaty
- Resolution of the Council dated 15th July 1974
4. Objective of the Action : Harmonisation of public procurement policies;
standardization, measures preparing for the
application of Community rules on this subject,
evaluation of systems and of tenders, exchange
of technical experiences, collection of statistics,
projects of common interest.
5. Total cost of Action and annual payments foreseen
- 5.0. Total cost : 480.000 u.a.
- 5.1. Time-table for payments :
- | | <u>1978</u> | <u>1979</u> | <u>1980</u> | <u>1981</u> | |
|---------------|-------------|-------------|-------------|-------------|------|
| | 120.000 | 120.000 | 120.000 | 120.000 | u.a. |
| appropriation | - | - | - | - | |
6. Financing : Provisions to be made in future budgets.

FINANCIAL SUMMARY FORM 3

1. Budgetary post principally: Article 3702 concerned
2. Title of project : General Environmental actions : RESEARCH CENTRES
3. Legal basis : - Article 235 of the Treaty
- Resolution of the Council dated 15th July 1974
4. Objective of the Action : Collaborative studies led by Research Centres, on a common basis (Programming Technics, Real-time computing ...)
5. Total cost of Action and annual payments foreseen
 - 5.0. Total cost : 2.000.000 u.a.
 - 5.1. Time-table for payments :

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	
	500.000	500.000	500.000	500.000	u.a.
appropriation :	1.500.000	500.000			
6. Financing : Provisions to be made in future budgets.

FINANCIAL SUMMARY FORM 4

1. Budgetary post principally : Article 3702
concerned
2. Title of project : General Environmental actions : SECTOR STUDY
3. Legal basis : - Article 235 of the Treaty
- Resolution of the Council dated 15th July 1974
4. Objective of the Action : Collection of information for the updating and
development of informations on the data processing
sector.
5. Total cost of Action and annual payments foreseen
 - 5.0. Total cost : 480.000 u.a.
 - 5.1. Time-table for payments :

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
	120.000	120.000	120.000	120.000 u.a.
appropriation :	-	-	-	-
6. Financing : Provisions to be made in future budgets.

FINANCIAL SUMMARY FORM 5

1. Budgetary post principally : Article 3702
concerned
2. Title of project : General Environmental actions : EMPLOYMENT STUDY
3. Legal basis : - Article 235 of the Treaty
- Resolution of the Council dated 15th July 1974
4. Objective of the Action : Studies on the effect of the development of data
processing on employment structures.
5. Total cost of Action and annual payments foreseen
 - 5.0. Total cost : 480.000 u.a.
 - 5.1. Time-table for payments :

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
	120.000	120.000	120.000	120.000 u.a.
appropriation :	-	-	-	-
6. Financing : Provisions to be made in future budgets.

FINANCIAL SUMMARY FORM 6

1. Budgetary post principally: Article 3702
concerned
2. Title of project : General Environmental actions : PROTECTION OF
SOFTWARE
3. Legal basis : - Article 235 of the Treaty
- Resolution of the Council dated 15th July 1974
4. Objective of the Action : Studies on means of legal protection for computer
programs
5. Total cost of Action and annual payments foreseen

5.0. Total cost : 240.000 u.a.
5.1. Time-table for payments : 1978 1979 1980 1981

60.000 60.000 60.000 60.000 u.a.

appropriation : - - - -
6. Financing : Provisions to be made in future budgets.

FINANCIAL SUMMARY FORM 7

1. Budgetary post principally: Article 3702 concerned
2. Title of project : Support to the EDP sector : SOFTWARE, APPLICATIONS, STANDARDIZATION.
3. Legal basis : - Article 235 of the Treaty
- Resolution of the Council dated 15th July 1974
4. Objective of the Action : Support to users and firms on development of software or data processing applications; support to general standardization activities.
5. Total cost of Action and annual payments foreseen
 - 5.0. Total cost : 32.000.000 u.a.
 - 5.1. Time-table for payments :

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
	3.000.000	4.500.000	12.500.000	12.000.000 u.a
appropriation :	6.000.000	6.000.000	18.000.000	2.000.000 u.a.

(on the basis of repayable loans in the event of success where saleable products are concerned).
6. Financing : Provisions to be made in future budgets.

FINANCIAL SUMMARY FORM 8

1. Budgetary post principally : Article 3702
concerned
2. Title of project : Support to the EDP sector : PERIINFORMATICS.
3. Legal basis : - Article 235 of the Treaty
- Resolution of the Council dated 15th July 1974
4. Objective of the Action : Support to industrial users of periinformatics in
products likely to increase the competitive capacity
of the European-based industry.
5. Total cost of Action and annual payments foreseen
- 5.0. Total cost : 32.000.000 u.a.
- 5.1. Time-table for payments : 1978 1979 1980 1981
- | | | | | | |
|----------------|-----------|-----------|------------|------------|------|
| | 3.000.000 | 4.500.000 | 12.500.000 | 12.000.000 | u.a |
| appropriation: | 6.000.000 | 6.000.000 | 18.000.000 | 2.000.000 | u.a. |
- (on the basis of repayable loans in the event of
success where saleable products are concerned).
6. Financing : Provisions to be made in future budgets.

FINANCIAL SUMMARY FORM 9

1. Budgetary post principally : Article 3702
concerned
2. Title of project : Support to the EDP sector : ELECTRONIC COMPONENTS
3. Legal basis : - Article 235 of the Treaty
- Resolution of the Council dated 15th July 1974
4. Objective of the Action : Support to users and manufactures of electronic
components with a view to development of advanced
electronic products designed for the data proces-
sing sector.
5. Total cost of Action and annual payments foreseen
 - 5.0. Total cost : 12.000.000 u.a.
 - 5.1. Time-table for payments :

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
appropriation	2.000.000	2.000.000	4.000.000	4.000.000 u.a.
	3.000.000	3.000.000	5.000.000	2.000.000 u.a.

(on the basis of repayable loans in the event
of success where saleable products are concer-
ned).
6. Financing : Provisions to be made in future budgets.

FINANCIAL SUMMARY FORM 10

1. Budgetary post principally: Various concerned
2. Title of project : Management of the programme
3. Legal basis : - Article 235 of the Treaty
- Resolution of the Council dated 15th July 1974
4. Objective of the Action : Management of the overall multiannual programme (additional staff, consultation of experts, temporary staff).
5. Total cost of Action and annual payments foreseen
- 5.0. Total cost : 4.000.000 u.a.
- 5.1. Time-table for payments : 1978 1979 1980 1981
- | | | | | |
|-----------------|-----------|-----------|-----------|----------------|
| | 1.000.000 | 1.000.000 | 1.000.000 | 1.000.000 u.a. |
| appropriation : | - | - | - | - |
6. Financing : Provisions to be made in future budgets.