COMMISSION OF THE EUROPEAN COMMUNITIES

ANNUAL REPORT
OF THE DATA-PROCESSING DEPARTMENTS OF THE COMMISSION
1978

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0.   INTRODUCTION

0.0.   Data-processing at the Commission which, a few years ago, was
basically limited to statistical applications and pay has since
been extended and diversified considerably and the applications
currently being developed or already adopted cover virtually
all the Commission's activities.[+]

As regards the international development of the data processing
sector, the increasing requirements of user departments and changes
in technology and organization in this field have prompted the
Commission to take a certain number of decisions designed to adapt
its internal data-processing machine to the changing situation.
Thus, since 1976 three major decisions have been taken which will
shape the future of the Commissions's data-processing operations.

1. Administrative reorganization.
2. Hardware; change over to an ICL 2980 large-scale computer.
3. Gradual introduction of a European-manufactured teleprocessing
    network. (Mitra, Olivetti, Nixdorf)

+ Annual report of the data processing departments of the Commission -
   1977 - COM (78) - 347 final - of 21 July 1978.
   This report stems principally from a Resolution adopted by
   Parliament on 10 March 1975.

This policy should ultimately lead to the widespread use of data processing and its associated (office etc.) branches throughout the Commission's administrative machine, thus allowing it to rationalize management activities and develop its information systems.

In the immediate future, however, in the face of difficulties associated with rapid growth, the data processing sector is in a particularly difficult transitional phase, which it will only be possible to overcome by strengthening the organization and, above all, by increasing its resources.

1. ORGANIZATION

1.1. As described in the 1977 annual report, data processing at the Commission[x] underwent reorganizations in 1976 and 1977:

- Firstly by the setting up of the CDIC (Steering Committee on Data-Processing at the Commission) the role of which is to manage the Commission's data processing resources and to lay down overall guidelines and priorities.[xx]

- subsequently, by the creation of systems analysis departments for statistics, management, financial applications and documentation, to establish closer contacts between the users and the systems analysts.

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[x] CF Annex I

[xx] The request form for data processing work, on the basis of which the CDIC lays down priorities, is reproduced in Annex II.

The creation of these departments has been paralleled by the setting-up of a centralized Analysis and programming department and the formation of a Computer operation division.

1.2. The new organization began functioning in 1978. However, it is still too early to assess its efficiency since the systems analysis departments have not yet been able to integrate fully with their host directorates-general and the work of the Computer operations division and Analysis and programming department has been too greatly affected by the change in hardware, retraining of staff and conversion work for it to be possible to assess the real impact of the new organization.

1.3. However, it has become clear that there is a need to supplement the present organization by adding a planning unit whose task will be:

- to provide secretarial services for the CDIC,
- the administration of contracts and accounting,
- cost-benefit analysis for new projects,
- drawing-up of the medium-term plan, preparation of budgets and analytical accounting.

This strengthening of the administrative structure of data processing is required to meet the growing number of requests and the new opportunities opened up by teleprocessing, if there is to be a coherent and firm data processing development policy.

2. SERVICES PROVIDED

2.1. The services provided by the Commission's data processing facility cover three areas, each of which corresponds to one of the departments set up in 1977, viz:

  i)   management and financial applications,
  ii) statistics,
  iii) documentation management.

2.2. Within these three broad areas, it is possible to highlight certain significant operations from the series of applications dealt with in 1978.*

2.2.1.   Certain applications carried out in 1978 illustrate how data processing can, by providing data or services, contribute to the formulation or implementation of Community policies.

  - the textile monitoring system, by recording imports of textile products, makes it possible to warn the departments concerned when quotas have been or are about to be exceeded;

  - GATT data processing work in 1978 provided the Commission's negotiators with statistics and calculations of the possible consequences of various proposed tariff reductions;

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* Details of applications processed in 1978 are given in Annex (III).

- the SAFIR system [*], now operational, is already proving extremely useful and its value should increase with enlargement of the Community and the adoption of nine Community languages.

Other work on <u>compensatory amounts, trade in ECSC iron and steel products and indirect trade in steel</u> carried out in 1978 should also be singled out for its importance and volume.

2.2.2.　　Data processing can also form the basis for studies and surveys. This type of work also covers the analysis of statistical surveys and the construction of <u>econometric models.</u>

2.2.3.　　Data processing is also a valuable instrument of management and administration. A variety of services are performed in this field. Among those carried out in 1978, mention should be made of: implementation of the early phases of the 'fissile material accounting' application, the '<u>research and investment budget accounting</u>'application, programming work on the '<u>pay'</u> application using the EUA, conversion of the <u>EAGGF operational programs</u> on Gamma 10 to the ICL 2903 computer.

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[*] This system covers the allocation of rooms and interpreters for meetings (70 daily meetings, 300 permanent interpreters, six Community languages).

2.2.4.   In the field of documentation management it is worth noting
          the work done on EURODICAUTOM, a terminology data bank, and
          in particular the conversion from IBM to SIEMENS of the
          software for input and batch and operational mode retrieval.

          - The development of three thesauri on veterinary medicine,
            foodstuffs, agricultural economics and rural sociology on
            the ASTUTE thesauris compilation system.

          - Consolidation of the various automated files managed by CIRCE [x],
            and the extension of the services offered to users by the
            creation of a new file, ACTU, containing, in summary form,
            data on all documents issued by the Secretariat General of
            the Commission since 1 January 1978.

2.2.5.   Progress has also been made in the field of data base management
          and improvement of software. Thus, a new version of OSIRIS (table
          generator) has been produced and the first phase of a CRONOS data
          base management monitor has been completed. The CRONOS system,
          which manages 700,000 time series spread over 30 data bases,
          is one of the largest currently in operation.

2.3.   A description of some of the projects carried out in 1978 shows
          the variety and value of the services provided by the Commission's
          data processing sector. The following key figures show the volume
          of services provided and the extent of their growth in 1978.

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[x] CIRCE's activities in 1978 are described in Annex IV.

In 1978, 177 million characters were recorded as against 143 million in 1977, an increase of almost 24%. The number of jobs processed on the IBM 370/158 computer went up from 72 102 in 1977 to 101 134 in 1978, a rise of 40%, and in the same year the number of CPU hours on the IBM 370 computer alone increased from 1 694 to 2 352, a rise of 39%.

2.4. The table below gives a breakdown in hours of the CPU [*] time used by the various directorates-general on the computers of the operations division.

Directorate	1978	1977	1976	1975	1974
SOEC	58	55	57	64	42
DG IX	24	27	25	21	33
DG XIII	3	5	8	5	10
DG VI	2	3	3	4	1
Others	13	10	7	6	14
	100	100	100	100	100

Percentage breakdown of CPU time by user

The data given in this table show that the SOEC is by far the largest consumer of CPU time and that its share rose in 1978. It is also worth noting the increasing amount of time used by the 'other' directorates-general.

[*] Central Processing Unit.

2.5.   Despite the importance and scale of the work carried out
in 1978, the lack of resources meant that it was not
possible to meet all the requests submitted [*], much less
the needs of certain departments which failed to submit
any requests, knowing in advance that they would be re-
jected owing to lack of machine capacity and staff in the
data processing sector.

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[*] C.F. Annex V

3. __RESOURCES__

The inadequate level of resources[*] seen in 1977 and again in 1978 is due not only to the current economic situation, but also to factors which are likely to exercise a permanent influence.

3.1. __Short-term economic factors__

3.1.1.   In 1978, both the IBM 370/158 and ICL 2980 computers were used. The IBM 370/158 computer was used for the actual management of the Commission's operational requirements more intensively than in the previous year (C.f.2.3.), and it was therefore possible to cut the cost per CPU hour from Bfrs. 100.000 to Bfrs.74.000. At the same time, the Service Bureau managed by ICL was working on the conversion of existing applications or the development of new ones. Processing of the COMEXT application on real files took place at the end of the year and this entailed a marked increase in the Service Bureau activities.

In 1978, the total appropriation, after transfers, for Computer Center operations was some 4.6 million EUA, that is more than Bfrs. 180 million.[**] For comparison, the cost of operations outside the centre was approximately Bfrs. 75 million, the CIRCE service bureau accounting for some Bfrs. 35 million of this amount and economic and financial applications [***] processed on a time sharing basis costing slightly more than Bfrs. 24 million.

3.1.2.   The conversion of applications meant that it was necessary to employ a large number of outside staff. Conversion of the main applications had not been completed by the end of 1978.

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[*] Staff statistics over recent years are given in Annex VI and expenditure on data processing in 1978 in Annex VII.

[**] See Annex VII for the breakdown of expenditure (item 2240)

[***] See Annex VII for the breakdown of expenditure (item 2242)

3.1.3.   The retraining of staff on the ICL 2980 computer made inroads into staff resources. To give one example, each programmer or system analyst followed from 7 to 10 weeks of courses in 1978. The time spent by staff on retraining courses was partly offset by recourse to outside staff. In 1978, the cost of staff retraining totalled Bfrs. 8 million.

3.1.4.   The initial allocation for budget item 2243 for the 'development of data processing applications' was increased by transfers during the year. The total amount spent in 1978 was 2 339 510 EUA, i.e. approximately Bfrs. 93 million of which around Bfrs. 43 million was accounted for by the 'Service Bureau and Conversion' and 49 million by applications for the various directorates-general.

3.2.   <u>Factors of a permanent nature</u>

3.2.1.   The increase in demand from the departments of the Commission means that there will be a need for certain changes in the services provided; these can only be achieved by increasing resources, in machine capacity and above all in staff. During recent years there has been an annual growth rate of at least 25 to 30% in requirements and such a rate can be assumed in the near future as a basis for defining the rate of growth in resources required. Over a period of four years (from 1975 to 1978) staff has only increased by some 20%. Consequently, the shortfall in staff is tending to increase from year to year in relation to the growth in requirements.

3.2.2.   In addition, the ICL 2980 is a large-scale computer of a forward-looking design. This means that the system is still developing and has not yet stabilized. The connection of a network of terminals to a central configuration also raises complex problems and the operations division's present systems team requires reinforcement to cope with the workload.

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3.2.3.   The gradual installation of a teleprocessing network will make it easier to meet user requirements by giving the latter a data processing tool that they can use directly. However, it presupposes the existence of a team responsible for management and monitoring of the network in order to guarantee that it will operate with a high degree of reliability. Similarly, the step-by-step commissioning in 1979 of 11 batch terminals, to be shared by several directorates-general, will require the recruitment of at least one operator per terminal.*

3.2.4.   The SIEMENS 7740 computer, which until September 1978 was used on a normal timetable, is now operating from 7 a.m. to 10 p.m. (i.e. two shifts). In 1978, 34 166 jobs were performed on this machine as against 18.000 in 1977, an increase of 90%. The connection time was about 13.000 hours spread over some 30 terminals. CPU use amounted to approximately 300 hours. Lack of staff has led to certain difficulties in operation of the Siemens computer. However, link-up of the Siemens computer to EURONET is scheduled for mid-1979. Shift working, increased use of the machine and its link-up to EURONET in 1979 make it all the more essential to increase the number of staff employed on this computer.

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* Cf. Annex VIII.

* The complexity of the network should also be noted and the provision of such new services as multiple access computing, the conversion and optimization of applications, which have led to a marked increase in the workload since the IBM equipment was replaced.

4. Conclusions

4.1. As forecast in the 1977 report, 1978 was a more difficult year than the preceding one. Even at this stage, it is easy to see that 1979 will be even more difficult. From 1975 to 1978 the overall increase in the number of staff was barely 20%, that is less than the increase in requirements in any single year. The shortfall in permanent staff is therefore becoming more serious from year to year and is likely to be particularly critical in the period 1979-80 when the Computer Centre will be taking over operation of the ICL hardware.

4.2. Appropriations for data processing have increased much more rapidly, since the initial appropriation for 1979 is almost three times the figure for 1976. What has in fact happened is that outside staff have been employed in an attempt to offset the effects of staff shortages. The annual cost of employing such staff currently falls within the bracket of 150 to 200 million Belgian francs.

Such a solution is satisfactory for dealing with abnormal peak periods of work but becomes both inefficient and expensive when used as a matter of course. It is sometimes difficult to find an adequate number of well-qualified employees on the market and the average cost per outside man/year is some 2 million Belgian francs. Equally, the recruitment of temporary agents[*] from among the successful candidates of competitions organized by the Commission to undertake work of a permanent nature, due to lack of staff, does not seem to provide a satisfactory solution either. What is needed, however, is the creation of permanent posts to regularize the position of such staff in a rational and fair manner.

In addition, the coexistence over a long period of a high number of outside staff, temporary staff (successful candidates in competitions) and permanent staff cannot fail to give rise to complex staff problems due to their divergent staff regulations, status and remuneration.

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[*] In 1978 the data pro sing   ed 2o temporary staff
(Annex VI)

4.3.   Recent technological developments and the opportunities opened up
by teleprocessing will also result in changes in the relationship
between the computer, systems analyst and user. The installation
of numerous terminals in the departments will make it possible
to input data direct and give access to data bases managed by
the central computer.

This new development and the 'popularization' of data processing will
not only affect social developments but also the operation of public
and private organizations by allowing them to rationalize and to
increase productivity in administrative activities by giving those
involved in research and management the possibility of direct
access to a vast volume of economic, social, legal, scientific
and other data.

Within this framework, it is essential for the European Commission
to expand its own network and to have the data storage capacity required
to develop large data bases in all fields and for it to promote the
setting-up of large-scale networks at European level (EURONET).

However, at the same time, it must be stressed that there is a close
correlation between the potential of a computer and the staff required to
operate it. For this reason, it would seem to be a matter of high priority
to bring the number of staff up to the level required to meet the in-
creasing demand and to avoid an under-use of the available hardware.

4.4.   The decision taken by the Commission in 1976 and 1977 were inspired
by a dual aim: firstly to increase and adapt internal data processing
potential in order to meet requirements and secondly to select a
European system.

This "European venture" entailed certain risks: the ICL computer chosen was new and the system had not been tried and tested. The decision also resulted in a vast amount of work on program conversion and staff training and meant that hardware from varied sources had to be made compatible with the network. A substantial budget allocation was granted and expenditure for item 224 rose from Bfrs. 158 million to 372 million over the period 1976 to 1978. The initial allocation for 1979 is Bfrs. 450 million. However, without allocation of the posts hoped for in 1979, it is already beyond doubt that this amount will be inadequate. Consequently, if the success of this "European venture" is to be guaranteed, it is essential that adequate allocations should be granted immediately; also, and this is even more important, the Commission's data processing sector should be granted the posts required to ensure its satisfactory operation.

ORGANIZATION OF DATA PROCESSING AT THE COMMISSION

Steering Committee on Data Processing
(CDIC)

Technical Committee   Secretariat of the
                                            CDIC

Systems analysis
  Departments   Statistics   DG XIII   DG IX
Systems analysts   (SSID)   (IGAF)

Systems designers   Specialized analysis
and programmers   and programming
                                   department

                                                    CIRCE

Data controllers, keypunch operators,   Computer operations
collection, systems engineers,   Division
network and user support

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REQUEST FOR DATA PROCESSING FACILITIES/WORK

(To be completed by the User and the Functional analyst for work requiring more than 6 man/months of A.O. and programming effort).

1. Nature of the request :

1.1. Department and officials concerned;

1.2. Community field of activity/policy concerned;

1.3. Object of the data processing facilities/work requested;

1.4. Motivation for the request.

2. Outline description of the work to be carried out :

2.1. Outline description of the overall system with description of the main inputs and outputs (incl. main volumes);

2.2. Brief description of each sub-system

2.3. Information on the operation of the system (one-line/batch, volumes, periodicity, etc...);

2.4. Relationship between the system and any existing system or application

2.5. Future evolution of the system.

3. Resources required and timescales :

   3.1. Functional analysis;

   3.2. Organic analysis and programming resources

   3.3. Requested implementation date and explanation of effect (if any)
         should the date not be met;

   3.4. Operations (computer, terminal, timeconstraints, operator/gestion-
         naire resources, etc...);

   3.5. Estimated costs
         - development
         - operations (annual)

4. Expected benefits from the facilities/work :

   4.1. Staff savings for the user (from which date) by category/grade;

   4.2. Other benefits (quantitative and qualitative);

   4.3. Consequences (if any) if the CDIC is unable to authorize implemen-
         tation of the system.

5. Confirmation by the interested parties that the ressources necessary
   to implement and operate the system are available (or can be made available) :

Dept	Name	Function	Signature
User	....	....	....
GACIS/IGAF/DR	....	....	....
SAP	....	....	....
COD	....	....	....

PROJECTS IN PROGRESS IN 1978 AND

PROJECTS EXISTING AS AT 31 DECEMBER 1978

1. **Administrative work**

   a) **Work carried out in 1978**

   The main projects undertaken by the systems analysts of the Management and Financial Applications Department (ICAF) and the systems designers/ programmers of the Analysis and Programming Department in 1978 were as follows:

   i) **Financial instruments**

   - **European Social Fund:**

     - Systems analysis for the first phase (collection and validity check of data) of the "Administration of the European Social Fund" application;

     - Programming and start-up of the "Paul Finet Foundation scholarship holders" application.

   - **EAGGF:**

     - Continuation of analysis of EAGGF (guarantee) applications;

     - Programming for the "Advances" system;

     - Conversion of operational programmes on Gamma 10 to the ICL 2903 computer;

     - Systems design for the EAGGF-Guidance application and (partial) programming of this application on ICL (creation of a recording file, programming of administrative statements, automatic printout).

   - **European Development Fund (EDF):**

     - Execution of the "EDF Accounts" application (third fund);

     - Additional analysis and programming of tables for the "EDF-scholarship-holders' application.

- <u>DG XVIII - Investments</u>:

  - Analysis of the first phase (Liquid assets) of a new conversational system;
  - Various changes to exsisting programs requested by the user.

- <u>ERDF</u>:

  - Incorporation of various changes to the "Administration of ERDF funds" application;
  - Start of analysis for a new conversational design for management of the ERDF.

ii) <u>Administration</u>

Programming of various tables and lists relating to staff management and posts.

Programming of lists and statistical tables for the "Officials'pay" application.

Analysis and programming of the new procedure for the "Officials' pay" application based on the European unit of account and other changes in the Staff regulations.

Start of programming for the management of personal data tables.

Design of the IDMS plan and programming (in progress) of the data base for the "Absences"application.

Execution of phase I of the "Allocation of Interpreters" (SAFIR) application.

Programming of the "Mission expenses" application.

Beginning of analysis of the requirements of the "Stocks" department in the field of inventories and stocktaking.

Analysis of requirements for computerizing the pay of local staff in Brussels.

Analysis and start of programming for computerizing calculation of the severance grant.

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Programming of the "Career structure" application.

Preliminary analysis for the "Calculation of travelling expenses"
application.

Analysis and drawing-up of specifications for the "Competition"
application.

Programming for the "Pupils at the European School - change of year"
application.

Interpretation of optical reading tests and analysis of data collection
for various applications in which it could be used (competitions, leave etc.)

New programming for updating of the "Sales revenue statistics" application.

iii) Budgets

Execution of the new application "Analytical accounts of expenditure
of the payment of officials out of the research budget" based on the
European unit of account.

Execution of the "Accounts for research and investment budget" application.

iv) Nuclear safeguards

Execution of the following phases: "unconfirmed movements", checking
of "totals" and "basic list" and introduction of various amendments
to the "selection and preparation" phases, and report to the AIEA in
Vienna on the "Fissile materials accounting" application.

v) Conversion of operational applications from the IBM 370/158
Computer to the ICL 2980

Drawing up for each application of the source standards defining
the "object" to be converted.

Conversion of applications outside team.

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b) Operations

DG I

Lists of contracts concluded, guaranteed and communicated to the Berne Union by the member states of the OECD.

DG III

Lists of multinational firms with their shareholdings and main characteristics.

Calculation of various components.

DG IV

Quantitative sectoral studies on the development of industrial concentration.

Computation of tables for estimating the cost of interest rebates and loans at reduced rates.

Lists of firms involved in mergers or with common interests.

DG V

Study of sea fishing accidents in 1975 and 1976 .

Internal accounts for Social Fund.

Statistical tables and lists relating to scholarship-holders of the Paul Finet Foundation.

DG VI

Agricultural accounts data processing network.

DG VIII

Statistics on the European Development Funds.

Financial and administrative accounting for the European Development Funds. (EDF)

DG IX

Calculation of salaries for:

- · officials in Brussels and Luxemburg
- auxilliary staff in Brussels
- local staff in Luxembourg
- retired staff
- cleaning staff in Luxembourg

Fixing of the notional step on the basis of which the step on promotion
to a higher grade is determined.

House purchase loans.

Deductions for private telephone calls.

Brussels and Luxembourg telephone directories.

Staff management. Publication of various tables and lists on the
administrative and family situations of officials and other employees.

Vacancies. Publication of various tables of vacant posts open to officials
and other employees.

Annual leave, special leave and sick leave.

Lists of decisions on the appointment of officials and lists for the
Monthly Staff Report.

Inventory for the Luxembourg "Economat".

Table of translations.

Inventory records.

Office supplies records.

Missions and travel agency reservations.

Refunds of medical expenses and statistics on the Sickness Insurance Scheme.

Lists of subscribers to the central library.

Statistics on the attendance of official working flexible hours.

List of former trainees of the EEC.

Statistics and breakdown of overtime.

Computation of variable components and compensatory amounts for agricultural
products.

Calculation of overtime.

Statistical lists of the sales revenue of the Publication Office.

"Pupils at the European School" application except for the "change of year" phase.

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DG XVI

Statistical tables on Community financing operations.
Administration of the ERDF funds.

DG XVII

The following phases of the "fissile material accounting" application:
"up-dating of master file","selection and preparation" and "report for
the IAEA in Vienna".

DG XVIII

Financial accounting for the ECSC.
Position of ECSC bonds portfolio.
Position of ECSC safe-keeping accounts, by bank.
Position of ECSC loans.
Community coal and steel levies.

DG XIX

Accounting for the research budget.
Accounting for the Sickness Insurance Scheme.
Analytical accounting of salaries paid out of the research budget.
Accounting for the ERDF funds.
Compilation of progress report on DG X action programs and various lists
giving an analysis of the resources and results by program, according to
various criteria (PPBS method).
Accounting for the Euratom Supply Agency.

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2. Statistical Work

a) Work carried out in 1978

This work is at the analysis and/or programming stage.

i) External Trade and Related Statistics

General maintenance of the EEC External Trade programs. Incorporation of tables on trade in agricultural products and EEC trade broken down by economic activity (NACE-CLIO).

Trade in ECSC iron and steel products and indirect trade in steel. Production of EURACIER tables.

Statistics on textile imports and generalization of the system to cover other categories of sensitive products .

Monitoring and warning system for textiles (users: SOEC, DG III, ACU).

Generalization of this system to all categories of products subject to monitoring.

Tariff statistics and other work to be used in the GATT multilateral trade negotiations.

General remodelling of programs on the generalized system of preferences (GSP) with the incorporation of an annual comparison of imports under the GSP and normal imports.

Compensatory amounts.

Formatting of External Trade data for input to the CRONOS base:
(COMMODITY, PRODSNAG, ANIMAL PRODUCTS, PROD-IND, EXTERNAL TRADE/COUNTRY).

ii) <u>Surveys and other applications</u>

Continuation of the 1975 survey on the structure of agricultural holdings.

Annual industrial survey.

Typology of agricultural holdings.

1977 Survey on fruit trees.

Survey on investment in the iron and steel industry.

Survey on pollution.

Print-out of monthly bulletins.

- 'Selling prices - Animal Products'
- 'Selling prices - Vegetable Products'
- 'Purchase prices of means of production'

Analysis by sector.

National Accounts Bulletin - ESA.

Processing of ECSC questionnaires.

iii) <u>Data base and general statistical software in 1978</u>

- Data base management systems:

CRONOS (management of time series):

. conversion from IBM 370 to ICL 2980 (with cooperation of an outside team)
. development of a subsystem for input of work and data on terminals
. design analysis of a new CRONOS generator comprising an interface with the SABINE data base
. various improvements.

SABINE (management of nomenclatures)

. conversion from IBM 370 to ICL 2980

- Systems for compiling tables:

OSIRIS (table generator):

. production of a new version with various improvements, including use of the SABINE base (considerable expansion of OSIRIS applications,

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particularly to External Trade Statistics)

. conversion from IBM 370 to ICL 2980.

PASCAL (compiler medium): adaptation to international standard,

. conversion from IBM 370 to ICL 2980.

b) **Operations**

i) <u>External Trade and related statistics</u>

Monthly, quarterly and annual statistics on the external trade
of the EEC countries: these statistics contain various breakdowns
by partner countries, economic zones and by products and cate-
gories of products and constitute the basic documentation on
European trade: they alone account for one third of statistical
operations.

The related statistics cover data used in tariff and trade
negotiations, the GSP, monitoring systems, etc.

The external trade statistics of ACP countries (Africa, Caribbean
and Pacific): cover all the trade of the developing countries
benefitting under the Lomé agreements,with detailed breakdowns
by partner country and products.

ii) **Other applications**

Processing of the major surveys on the structure of earnings and the 1975 survey on the structure of agricultural holdings.

Annual survey on housing.

1975 industrial survey.

Use of the JULES package for compiling the annual Input -Output tables and handling of tables on request.

Use of OSIRIS language for producing statements on request (short-term economic indicators for industry, SABINE printout and various bulletins based on CRONOS).

iii) **Data bases**

CRONOS currently manages 700.000 time series spread over 30 data bases, i.e. 1000 million characters.

This base is updated daily and is permanently accessible to the departments of the European Institutions via on-line terminals allowing computation, analysis and the provision of simple graphs and tables.

Statistical publications are issued as a by-product of the base management. In 1978, in addition to the maintenance of and changes in statistical bulletins, a new bulletin on agricultural prices and indices was produced on the basis of CRONOS.

SABINE manages three data bases made up of more than 150 nomenclatures and over 120 relations between these nomenclatures, i.e. 20 million characters. Like CRONOS , this base can be accessed by the department of the Institutions via on-line terminals.

3. <u>Documentary applications</u>

a) <u>Work carried out in 1978</u>

The work carried out in 1978 by the Specialized Documentary Applications
Systems Analysis Department and the systems designers/programmers of
the analysis and programming department are described below:

i) <u>Multilingual projects</u>

These activities fall into three areas: the EURODICAUTOM terminology
data-bank, the SYSTRAN automatic translation aid system and the
ASTUTE thesaurus creation system.

As regards EURODICAUTOM, an in-depth analysis has been carried out
on the basis of user experience. This work will be continued,
taking into account in particular the opinions of national experts.
It will thus be possible to provide a second version of the
various products furnished by EURODICAUTOM so that the application
can go beyond the extended experimental stage necessitated by
the innovative and original nature of the project.

- Improvement and increase in the contents have been made easier
  by the writing of ad hoc programs.
- Input and batch or conversational mode retrieval software has
  been converted from IBM to SIEMENS.

In the case of SYSTRAN, the services provided have consisted
mainly in the verification of program execution and the supply
of data which can be accepted by the system both for the
development of dictionaries and to improve the translation
process itself. The work has consisted basically of the analysis
and writing of programs for the translation of texts taken from
the CNRS, Bulletin of the European Communities, Official Journal,
Commonwealth Agricultural Bureau and the AGRIS documentation
system.

Three thesauri have been developed using the ASTUTE system in the following fields: veterinary medicine, foodstuffs, agricultural economics and rural sociology.

ii) Commission documentation systems

A resticted version which will take over the Addressograph operations of the SAGAP system for the management of addresses and publications has been introduced. As part of the computeri- zation of the Press Offices, in the case of Paris standardization and the automated collection of addresses has been undertaken by an outside firm and in the case of the London Press Office a contract for a similar project is being drawn up.

Systems analysis work has been carried out for the Customs Union Service to compile a multilingual directory of the names of and synonyms for chemical products listed in the customs tariff.

The cataloguing system for the Central Library has now been completed.

A feasibility study has been made of the possibility of computerizing the Commission's Documentation Bulletin; it has been decided by the CDIC that this project should be dealt with jointly with the Commission's generalized system of documentation (CIRCE activities).

In connection with promotion of the EURONET public information and documentation network, an address file has been computerized; this file, containing some 5,000 addresses, will be used to inform potential users about network developments (EURONET News).

Feasibility studies have also been undertaken for two other address files: Data-processing consultancy bureaus (on behalf of DG III) and Credit Institutions (on behalf of DG XV). However, these projects have yet to be given the go-ahead.

Following a request from DG V that a conversational version of the
European file on Collective Agreements should be created, a feasibility
study for such a project has been undertaken.

The CIRCE system and its subsystem have been the subject of systems
analysis to allow those responsible for CIRCE to decide on the priorities
for the system's future development.

A progress report has been drawn up on the EURISM project of DG V on
the inventory of research projects in the field of industrial medicine
and on the arrangements for the possible taking over of this project
by DG XIII, at the request of DG V.

iii) Scientific and technical information projects

Although there has been a fairly substantial reduction in the sectoral
activities of DG XIII, the systems analysts have been called in for various
projects.

In the biomedical field, a study has been made of the setting-up of
a Community pharmaceutical data bank. In its initial phase this
will facilitate and speed up the exchange of information between
existing centres and develop a dictionary of the active constituents
of drugs.

In the Energy sector, a survey has been made of the energy information
systems developed by the various departments of the Commission; this
will serve as the basis for formulating a strategy for the development
of sources of information and the organization of the exchange of
information, which should contribute to the formulation of a Community
energy policy.

A study of the feasibility and economic liability of an on-line system
for the collection of inventory data has been carried out in the light
of the new possibilities opened up by the EURONONET network.

Preperatory work on the report "European Technology Pattern", based
on patent data, is nearing completion.

Systems analysis for the setting-up of a system of conversational
data collection has been carried out for EUROABSTRACTS (data base
on results of research programmes directly or indirectly financed
by the Commission)

A feasibility study has been made to assess the value of making
the inventory of Research centres (DG XII project) accessible on-line
to EURONER users. A decision is awaited on the continuation of this
project.

iv) Utilities

An assessment has been made of progress in the SCRAPBOOK application,
mainly used for text processing and the transmission of messages,
particularly with regard to how it operates on the SIEMENS computer,
in order to decide on any improvements that should be made and the most
suitable developments.,

Using a SINET planning program produced by SIEMENS, both a project
management system and a contract management system have been developed.
There are plans to create other control and management systems based on
the same program.

A system for accounting charges for the SIEMENS-computer has been
investigated and a practical solution based in an already-developed
system has been adopted. This system is now operational and may be
adapted if necessary in the future.

v) <u>Conversion</u>

Following withdrawal of the IBM computer, the EURODICAUTOM
application has been converted to the SIEMENS machine; this has
also been done for the Central library cataloguing system.

The EUROABSTRACTS applications and the EURONET address files,
which can be interrogated by GOLEM, have been converted to GRIPS,
a software with a higher level of performance developed by
an outside organization.

Conversions of files managed by CIRCE are described in the
section covering CIRCE activities.

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CIRCE (Information and research centre of the
European Communities)

In 1978, CIRCE's activities were characterized by the consolidation
of the various computerized files under its management, the expansion
of the range of services offered to users and the conversion of
existing programs to the new STATUS software.

Consolidation

Consolidation work has been concentrated on the three large files, CELEX
(documentation on Community law), EC∅1 (general internal documentation
file) and PRC (file of proposals, recommendations and communications),
all of which meets specific needs and which are complementary.

The quality of these files has been improved as regards both their
up-dating and comprehensiveness and reliability. The CELEX system is
up-to-date to within one month for areas of legislation covered by the
Commission (basic treaties, secondary legislation, supplementary
legislation). Work is going ahead on the cover of areas relating to
other Institutions (case law of the Court of Justice, acts and resolutions
of the Parliament and ESC, parliamentary questions). For EC∅1, the degree
of up-to-dateness is one month on average and one week for the PRC.

Widening of scope

The range of services offered to users has been widened by the creation
of a new file, ACTU, containing data in summary form on all the documents
issued by the Secretariat General of the Commission, as from 1 January 1978.
The original feature of this file is the use of software permitting
on-line coding and extremely rapid up-dating. The file is up-dated daily.

Consequently, the ACTU file is used not only for information retrieval,
but primarily as a management instrument for Commission decisions taken
by written procedure or by authorization.

Operations

Use of the various files has been intensified. As a result of the
installation of a special room equipped with a camera and wide-screen
projector, it has been possible to organize a large number of demon-
strations in excellent conditions. Major efforts have also been made
in the area of training (introductory courses on analysis, interrogation,
follow-up, etc.)

Use of the files as a management instrument is of increasing importance.
This is particularly true of the files up-dated rapidly, such as PRC
and ACTU. A new file, USACAD, for monitoring the application of directives
is being set up.

In addition to on-line interrogation, developments have taken place in
the design of more elaborate "products". Such products take the form
of statements, timetables, balance sheets, summaries, etc. which are
being systematically distributed to specific final users.

A few examples of such "products" are listed below:

- half-yearly list of Commission proposals, amendments to or withdrawals
  of proposals, opinions of the European Parliament or the Economic and
  Social Committee, items adopted by the Council;

- half-yearly list of proposals pending before the Council and on which
  the European Parliament has delivered its opinion;

- list of directives due to enter into force in the Member States;

- list of regulations enacted after the opinion of the Parliament and
  which are about to expire;

- periodic statistical analysis of measures taken by the Member States
  under Article 115.

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Index of Community law

Work has begun on the compiling of a multilingual index of Community
acts in force, using the CELEX system. Publication of the first
edition is scheduled for 1979.

Multilingualism and automatic input

Additional input to CELEX to make the system multilingual is continuing
on a experimental basis. In addition   to several thousand titles in
English and Italian, the system contains several hundred acts of secondary
legislation and judgements in full in the six Community languages, input on
the basis of by-products of the procedure for composing official publications.

Link-up with outside organizations

An experimental telecommunications link between CELEX and several outside
organizations in the three member states is now in operation and further
requests for experimental link-ups are being considered.

Statistics

Statistics for the four automated files managed by CIRCE as at the end of
1978 are given below:

	Unit	Volume	Increase in 78
ECØ1	documentary unit	90.000	29.000
CELEX	document	28.000	3.600
PRC	procedure	3.700	800
ACTU	document	9.000	9.000

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APPLICATIONS PENDING IN 1978

The following applications were pending in 1978 (this list is not exhaustive, in particular since it does not mention requests not submitted by departments aware of the difficulties in the data processing sector):

a) __Administration :__

- generalized management system for financial instruments (preparation of files for the Management committees, accounting and statistics for various funds);

- various systems for the Directorate-General for Fisheries (licences, quotas, markets);

- Rates system - Directorate-General for Agriculture;

- 4 systems for the Directorate-General for credit and investment (borrowing, loans, levies and accounting);

- Integrated system in the area of staff management;

- work on incorporation of the EUA for the Budgets Directorate;

- miscellaneous administrative work (inventories, management of equipment, etc.)

b) __Statistics:__

- survey on the structure of earnings 1979/80;

- survey on the structure of agricultural holdings 1977 and 1979;

- remodelling and systematization of analysis of multilateral and ACP trade.

c) <u>Documentation</u> :

In 1978, it was not possible to carry out certain work requested by CIRCE owing to lack of resources. The items concerned were:

- Input or transfer of data

- Output systems (production of lists, statistics, etc.)

- Expansion of the CELEX system

▲ Management of procedures

- Special techniques (photocomposition, microfilming)

- Multilingual aspects

STAFF (x)

Establishment table for 1978
(including temporary posts)

(The number of temporary posts is shown in brackets to the right of
the figure for all posts, permanent and temporary)

	A	B	C/D	Total
Computer operations division	12(1)	27(1)	68(3)	107(5)
Analysis and programming department	17(5)	47(3)	6	70(8)xx
System analysis -				
- statistics	8(2)	2		10(2)
- management and financial applications	8(1)	-	-	8(1)
- documentation	8(2)	1	2(1)	11(3)
- econometrics	3	-	-	3xx
Infrastructure	2	1	4(1)	7(1)
Total	58(11)	78(4)	80(5)	216(20)
CIRCE (IX/D/10) xxx	8	7	11	26
TOTAL	66(11)	85(4)	91(5)	242(20)

x)   The figures for staff comprise all posts authorized in 1978, including temporary
     posts. The number of staff at the present time (as at 1 March 1979) can be
     calculated as follows:
     present permanent staff = staff in 78 (above) - temporary staff 78 + posts
     created in 1979.

xx) officials carrying out data processing work in certain Directorates-General
     have been included (i.e. 10 officials working on analysis/programming and 3
     systems analysts in DG II).

xxx) The legal Service staff assigned to CELEX should be added to the figure
     for IX/D/10 staff.

TREND IN DATA PROCESSING STAFF

AT THE COMMISSION

YEAR	A	B	C	TOTAL
1975	43	68	60	171
1976	45	70	60	175
1977	49	73	69	191 (x)
1978	55	72	76	203 (xx)

x) The staff of CIRCE have not been included for 1977 and 1978. This department, which was set up in 1977, should be regarded as a data processing user department.

xx) Officials carrying out data processing work in certain Directorates General (other than the SOEC, DG IX and DG XIII) have been excluded from the 1978 figures for the sake of consistency, since such officials were not counted in previous years.

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EXPENDITURE ON DATA PROCESSING IN 1978 (EUA)

POSITION UNDER ARTICLE 224 AS AT 31 DECEMBER 1977 (EUA)

Item	Initial appropriation	Appropriation after transfers	Commitments entered into
2240	4,213,000,-	4,633,000,-	4,632,969,29
2241	581,000,-	-	-
2242	1,356,000,-	1,877,100,-	1,872,406,54
2243	1,017,000,-	2,329,510,-	2,339,510,02
2244	581,000,-	473,390,-	473,390,-
Total	7,748,000,-	9,323,000,-	9,318,275,85

BREAKDOWN OF EXPENDITURE AS AT 31 DECEMBER 1978 BY ITEM

ITEM 2240: OPERATION OF THE COMPUTER CENTRE

INITIAL APPROPRIATION: EUA 4,213,000   APPROPRIATION AFTER TRANSFERS: EUA 4,633,000

IBM 370/158 COMPUTER

- computer	1,466,635.56	
- extra shift	114,270.44	
- printers Brussels/Luxembourg	48,130.61	
- terminals " "	203,684.05	1,832,720.66

SOFTWARE

- autoflow II	8,034.42	
- CPL 1	7,979.45	
- Selecta scripta (balance 77)	248.80	
- CICS etc.	66,291.36	
- Librarian	8,703.95	
- IDMS	2,471.28	
- Atlas	34,059.05	
- Unipay	9,533.54	137,321.85

COM 90
Rental of camera plus purchase of tape reader

71,397.39

DISK PACKS
disks

12,460.66

SUPPLIES
miscellaneous items

541,920.09

TELEPHONE LINES/MODEMS

- telephone lines	179,764.58	
- CIRCE telephone lines	2,480.74	
- Modems	132,818.51	
- CIRCE Modems	1,022.85	316,086.68

DATA COLLECTION

- MDS	37.551.43	
- Olivetti	11.971.56	
- IBM Brussels/Luxembourg	65.101.70	
- Matra CIRCE	89.291.84	
- Matra Brussels library	4.824.60	
- DELTA terminals - CIRCE	94.519.-	303.260.13

OUTSIDE PUNCHING

- Service bureau	10.626.94	
- CIRCE Service bureau	110.288.13	
- Sagap Brussels/Luxembourg	35.902.79	
- Sagap London	4.489.28	161.307.14

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OUTSIDE OPERATORS/DATA CONTROLLERS

- 7 data controllers for OS/VS1 operational systems	155.440.39	
- 1 team of operators/data controllers Luxembourg	103.403.66	
- 1 2903 ICL operator for DG 06	6.577.95	
- 1 network coordination technician	22.362.58	287.784.58

ICL

Service Bureau/conversion

- CNP rental	93.289.30	
- Mac/Batch machine time	151.813.41	
- additions 5/6/9 (SAFIR/SAGAP/DG06 Brussels antenna)	96.387.33	341.490.04

Site preparation contract

Motor alternator	21.563.51

Main contract

Rental plus extension of hardware	234.017.88

Site maintenance contract

Motor alternator	15.046.42

Mitra 125

- rental, maintenance	21.999.28	
- software	3.468.88	25.468.56

Network contract

- phases 1,2,3,4	141.959.42	
- addition 2: diablo	142.554.09	
- addition 3: tektronix	65.667.07	
- addition 7: floppy disc	964.73	
- addition 9: 25 Oli/Nix supplement (contract signature)	125.39	351.270.70

Difference in exchange rates	20.147.038

Total commitments as at 31 December 1978	4.632.969.29

ITEM 2242:   WORK DONE OUTSIDE THE COMPUTER CENTRE

INITIAL APPROPRIATION: EUA 1.356.000.- APPROPRIATION AFTER TRANSFERS:EUA 1.877.100.-

OUTSIDE RELATIONS
Time sharing:GATT   49.993.97

ECONOMIC AND FINANCIAL AFFAIRS
Time sharing   541.943.22
TS terminals   65.962.47

INTERNAL MARKET/INDUSTRIAL AFFAIRS
Time sharing   3.615.90

SOCIAL AFFAIRS
Time sharing plus terminal   3.395.05

AGRICULTURE
Time sharing   2.428.90
Gamma 10 maintenance   10.453.57
Data input   8.953.55
terminal   263.55

DEVELOPMENT
Accounting machine   2.603.75

PERSONNEL AND ADMINISTRATION
Telephone search   107.128.45
Inventories   22.019.19
CIRCE service bureau   881.595.83

RESEARCH, SCIENCE AND EDUCATION

Time sharing   24.880.33

ENERGY

Time sharing   24.880.33

BUDGETS

Single accounting centre   47.735.54
Accounting machine   8.068.98
Data input   25.258.06
PURCHASE of a second input   34.725.25

PUBLICATIONS OFFICE

Sales accounting   10.018.23
EUA/Bfrs. variation   3.517.58

Total commitments as at 31 December 1978   1.872.406.54

ITEM 2243: IMPLEMENTATION OF DATA-PROCESSING APPLICATIONS

INITIAL APPROPRIATION: EUA 1.017.000   APPROPRIATION AFTER TRANSFERS: EUA 2.339.510.-

ICL Interim Services: balance   12.269.03

ICL: Service bureau and conversion
- development of MITRA software   280.009.56
- study for conversion of IBM to ICL DG 02   10.557.13
- Celex chain   9.494.-
- conversion of CIRCE STATUS data base   202.500.22
- balance of fixed expenditure under basic contract   319.606.73
- Status II V3 (development)   252.010.26

ICL: network
- balance of fixed expenditure under basic contract   14.941.86
- Mac terminal in screen mode   3.987.31

APPLICATIONS FOR DIRECTORATES-GENERAL
- DG 01: Generalized system of Preferences   30.665.17
       : GATT assistance   171.065.72
- DG 03: 'Textiles' application   5.060.45
- DG 06: EAGGF   16.114.69
       : ICL MITRA 125   2.736.84
       : conversion of programs on Mitra 125   53.697.36
       : EAGGF 'guidance'   30.665.17
       : EAGGF 'advances'   57.734.60
       : typology   12.037.16
- DG 08: 4th EDF   4.919.02
- DG 09: programming of 'B COMPETITION' software   14.580.02
       : 'unit of account ' pay in Luxembourg   9.919.04
       : balance 77 CII/HB   13.142.72
       : balance on UDAP Administration work (76)   439.31
       : 'European unit of account' pay   14.550.11
       : conversion of pensions programs OLIVETTI/ICL   5.242.78
       : technical assistance SAFIR   16.445.32
       : management of OS/VS1 TP network   23.088.60
       : library catalogue (SIEMENS 7740)   10.728.12
       : TAMIS balance (indexation)   3.795.67
       : allocation of data processing staff   10.629.16
       : assistance for CELEX-ECDOC (CIRCE)   6.266.37
       : SAFIR phase 1   30.743.88

	ı Celex/Cjus	7.417.19
	ı equipment/furniture	16.503.22
	ı Safir maintenance phase 1	8.767.47
	ı technical assistance HB/CIRCE	176.177.37
- DG 17ı	Non-proliferation treaty	91.751.08
	ı Fissile material accounting application	10.030.97
- DG 19ı	revaluation of commitments under non-differentiated appropriations	3.541.97
	ı CUC/EUA	15.039.29
	ı CUC conversion ECSC chain	8.671.95
	ı CUC maintenance programs non differentiated approp.	11.067.80
	ı program changes non-differentiated appropriations	3.484.97
	ı integration of differentiated and non-differentiated approp	6.721.02
- SOEC ı	Pascal/Osiris	17.518.90
	ı programming of ATLAS generator	16.300.33
	ı documentation/new functions CRONOS	17.641.04
	ı Eurostat	13.457.59
	ı maintenance of CRONOS system (balance 77)	32.732.82
	ı CRONOS system link IBM/ICL	50.093.61
	ı technical assistance SABINE/CRONOS applications	13.292.68
- PUB. OFF.ı	SAGAP 1978	6.721.02

- REMAINING CONVERSIONS	-	169.407.18
Difference in exchange rates		247.89

TOTAL COMMITMENTS AS AT 31 DECEMBER 1978   2.339.510.02

ITEM 2244: EC INFORMATION AND DOCUMENTARY RESEARCH CENTRE (CIRCE)

INITIAL APPROPRIATION: EUA 581.000   APPROPRIATION AFTER TRANSFERS: EUA 473.39(

Supplies:
- equipment for CIRCE projection room   478.52
- MITRA V4 training course   1.541.82
- miscellaneous   22.53
- peritechnic (Multiterms removal)   1.313.92

Outside Coding:
- coding   1.558.36
- microfiche reproduction   17.126.06

Technical assistance :
- documentary analyst   28.612.99
- controller   40.173.84
- Adjustment for '77   7.129.01   75.915.84

Documentary analysis:
University of Strasbourg   86.780.69
Free University of Brussels (Fr.section) 89.360.82
College of Europe   67.020.62
University of Edinburgh   22.259.27
University of Paris   56.004.76
University of Bologna   40.598.55
Free University of Brussels
               (Dutch section)   12.949.51   377.489.54
Free University of Brussels, CELEX   2.515.32

Difference in exchange rates   -   2.056.59

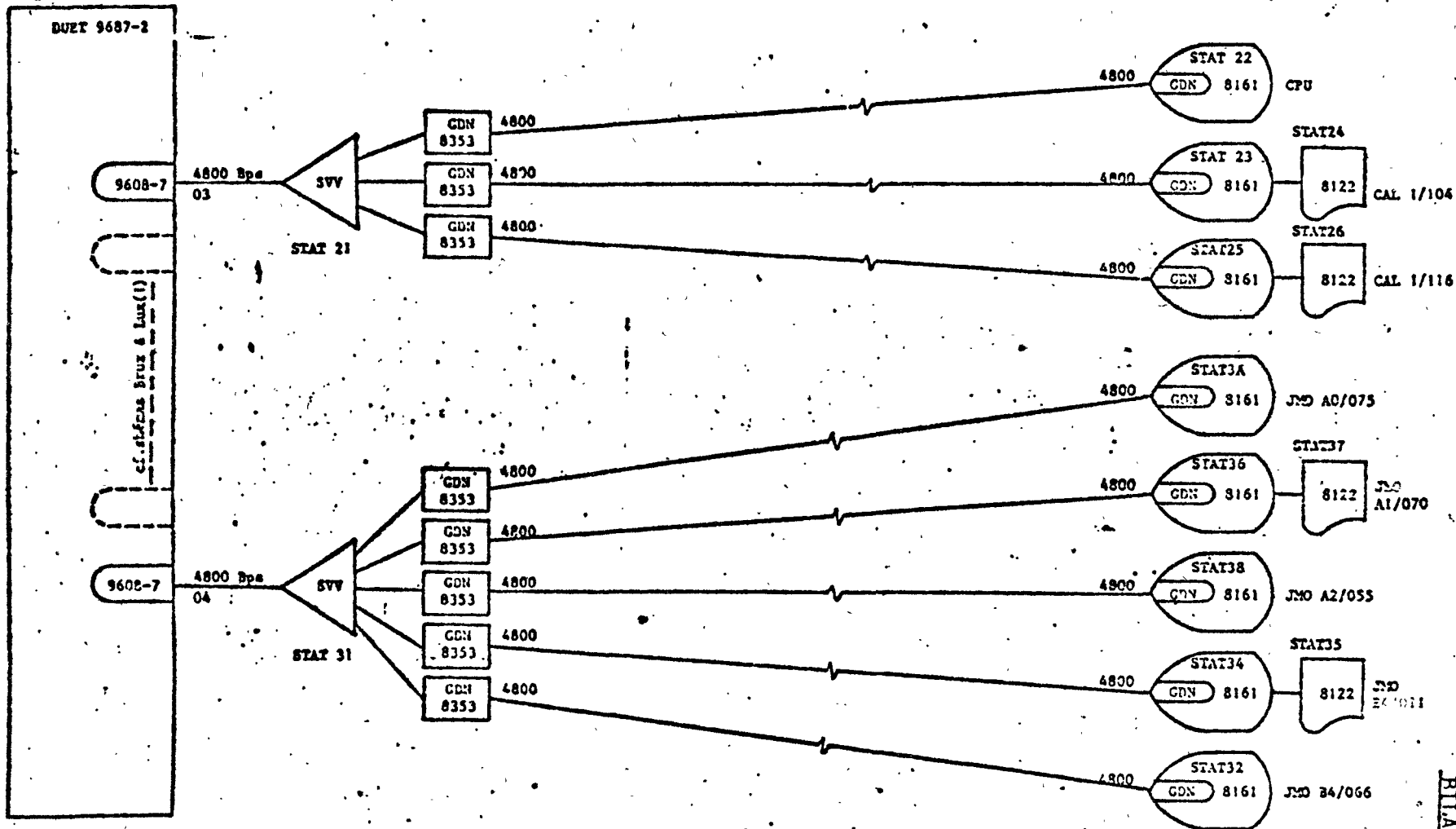Total commitments as at December 31 1978   473.390.-

Commission data processing network

<u>List of abbreviations and initials used in the annual report</u>
<u>of the data-processing departments of the Commission – 1978</u>

ACTU	a file containing summary data on documents published by the Secretariat -General of the Commission
IAEA	International Atomic Energy Agency (Vienna)
AO	systems analysis
ASTUTE	a thesaurus compilation system
CDIC	Steering committee on data processing at the Commission
CELEX	a documentary file on Community law
CIRCE	information and research centre on documentation of the European Communities
CNRS	French national centre for scientific research
COMEXT	an external trade application
ECO1	a general file on internal documentation (part of CIRCE)
EUROABSTRACTS	a data base on results of research programmes directly or indirectly financed by the Commission
EURODICAUTOM	a terminological data bank
EURONET	European network
ERDF	European Regional Development Fund
EAGGF	European Agricultural Guidance and Guarantee Fund
GOLEM	a mass memory list-based inquiry method
GRIPS	a general relation-based information processing system
IDMS	integrated data base management system
IGAF	management and financial applications department
NACE-CLIO	a nomenclature of commercial and economic activities
PPBS	planning, programming, budgeting system
SAFIR	a system for allocating interpreters to meetings
SAGAP	an automated address and publications management system
SSID	a specialized service for documentary data processing (DG XIII)
STATUS	software for interrogating documentary data bases on ICL
SYSTRAN	an automatic pre-translation system

Partie 2: lignes louées
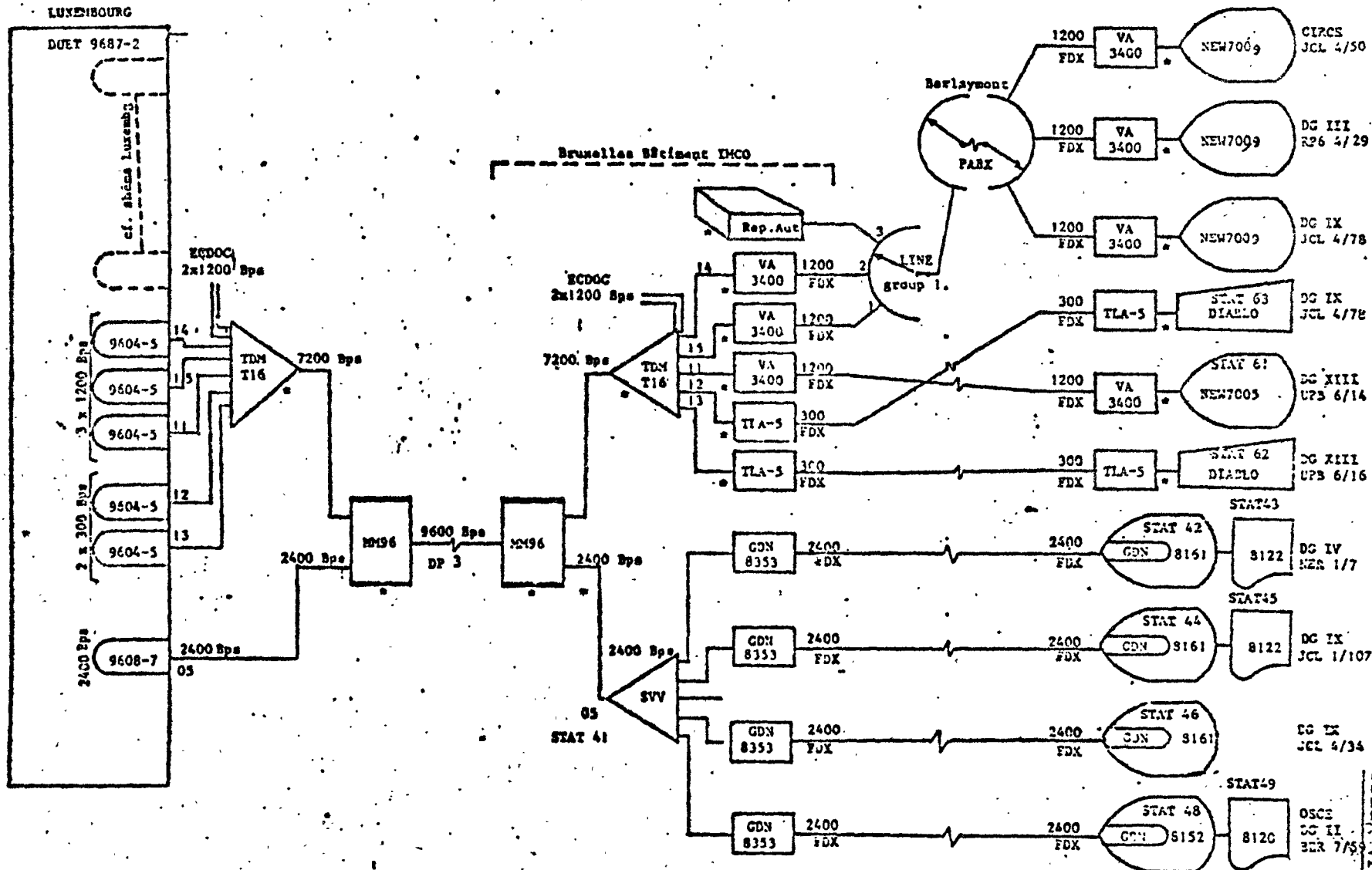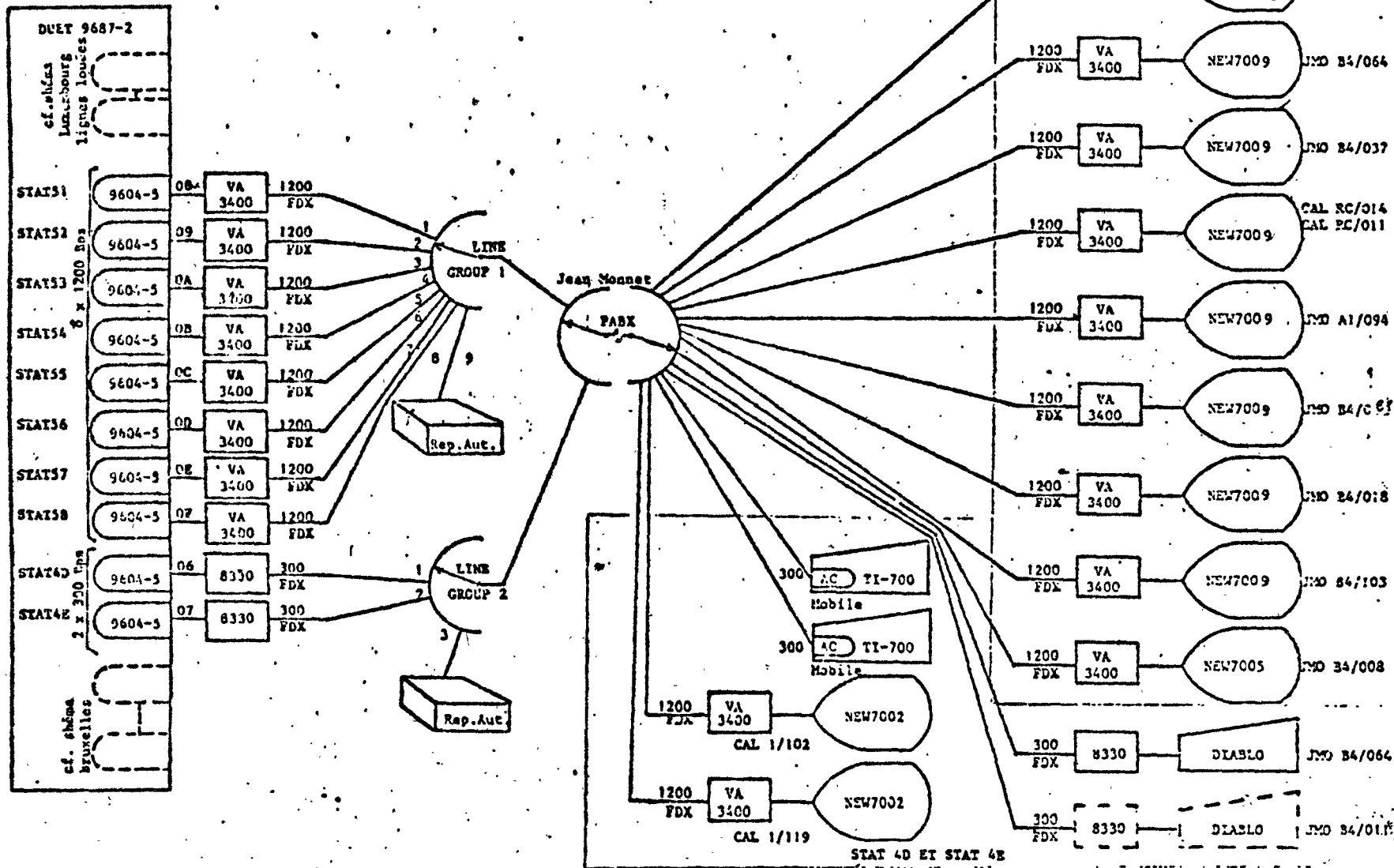(octobre 78)

BILAG VIII

(octobre 78)

STAT 64
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RESEAU SIEMENS LUXEMBOURG

Partie 1: lignes commutées

(octobre 78)