

COMMISSION OF THE EUROPEAN COMMUNITIES

Information Directorate-Générale

B-1040 BRUSSELS  
Rue de la Loi 200  
Tel. 35 00 40

Subscription: ext. 5120  
Inquiries: ext. 2590  
Telex COMEURBRU 21877

# INFORMATION

R E S E A R C H

ACTIVITIES OF THE COMMUNITY BUREAU OF REFERENCES (CBR)  
BRIEF SUMMARY OF ACHIEVEMENTS TO DATE

103/75

Purpose and aims

Our present-day society and economy are quantified to a very large extent, and almost every human activity is measured and expressed in numerical terms. This has long been so in commerce business, industry and science, and there is therefore a long tradition of measurement in these fields, where optimum standardization and coordination very soon proved to be absolutely essential - one need only mention the need for the introduction of the decimal system, and the internationally recognized metre, kilogram, etc. Every problem faced by man in connection with the protection of the environment; the functional safety of industry in general, and of the nuclear industry in particular; the threatened raw-material supplied (in which the energy crisis is also included); and the world economic crisis in some way require the accurate collection of data by means of measurement. Therefore in developing methods of measuring the characteristics of materials and systems, optimum coordination and cooperation must be sought just as much as in pure R & D work in these fields, and the provision and use of common reference materials and methods in addition to standards and the statutory system of weights and measures takes on considerable importance. In particular, reference materials make it possible to test the functioning and accuracy of measuring methods and instruments and to ensure that valid comparisons may be made between results obtained in different laboratories, or even different countries.

Under the Commission's scientific and technological policy programme (1), tasks in connection with public service and scientific and technological services are to be carried out for the Member States.

Some of these tasks will be undertaken by the Community Bureau of References (CBR).

(1) Bulletin of the European Communities, Supplement 14/73, p. 10

The aims of the Community Bureau of References are therefore a) the general coordination and standardization of all work in this field, and b) the planned use of the resources available for R & D, so that the work is as effective as possible and - in many cases - so that it may point the way for the future.

The Bureau of References already serves as a coordination centre for all relevant work being carried out at Community or national level within the Member States, and this role is considered extremely necessary and useful by all those involved.

Development work has begun here within a framework of a large number of fairly small projects, and an overall idea for a Community R & D policy may already be seen developing in this field.

#### General coordination and cooperation

During the period 1974-75, the interest of all the national and private centres concerned and their desire to cooperate in the very diverse and technical work carried out by the CBR became steadily more apparent, and at the present time, all the major national research centres in the Member States are closely involved in the work programme of the Bureau of References, in many different fields. Only a few of the centres which have a particularly fine tradition need be given special mention here, i.e. the Physikalisch-Technische Bundesanstalt and the Bundesanstalt für Materialprüfung in Germany and the National Physical Laboratory in the United Kingdom. The existing national planning centres for this type of work are represented either on the Advisory Committee on Programme Management or on its subcommittees and a large number of industrial undertakings support this work on coordination by sending qualified specialists. The abovementioned technical diversity, which was after all inevitable since every conceivable specialist area is to be covered, involved the setting-up at Community level as well as at national level of a whole network of laboratories and specialists cooperating with each other.

Between 250 and 300 technical advisers at present work for the Bureau of References, planning and coordinating the work of the specialist groups, of which there are about 45 in operation. In other words, according to their particular interests and technological potential, the industries and countries involved feel justified in allocating from time to time between ten and fifty valuable specialists per country for this work. The flexibility of this ad hoc system also guarantees that at any time the work may be adapted to suit changing needs and the demands of the economy.

The system of cooperation that has thus been built up, and is to be developed further, started with the work assigned to the Advisory Committee on Programme Management and the central Secretariat in the indirect action "Reference materials and methods (Community Bureau of References)".

The CBR Research Programme 1973-75

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The first CBR research programme was adopted on 18 June 1973 (1) for a period of three years, starting on 1 January 1973.

The objectives are:

- a) the activities of a Secretariat;
- b) - identification of materials;
  - inventory and definition of requirements for new certified reference substances (CRS);
  - technical specification of CRS;
  - perfecting and preparation of CRS;
  - arrangements for comparative surveys;
  - European certification of technical characteristics of CRS;
  - approval of laboratories.

The ACPM - CBR met for the first time in January 1974 and continued the work that had been done by the Advisory Group CBR in earlier years.

The work can be divided into three main sections:

1. Listing and definition of requirements and activities

In close cooperation with the national representatives in the ACPM, the whole field of measurement and calibration is kept under constant review. Existing and new programmes in the field are discussed and joint action projects are recommended accordingly.

2. Definition of short-, medium- and long-term programmes in the various specialized sectors

This has led in numerous sectors, subsectors and specialities to the formulation of short-, medium- and long-term programmes. Work in a number of new sectors had to be started. There are still certain sectors largely unexplored. This work will be continued and intensified.

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(1) OJ No L 189 of 11 July 1973, p. 41

3. Organization of inter-laboratory comparisons, development and assay of CRMs

Wherever urgent needs and possibilities were identified, practical projects have been implemented.

By the end of 1974, 81 contracts totalling 221.000 u.a. had been placed with 41 laboratories in the member countries.

About 30 specific projects totalling an estimated volume of 800.000 u.a. were under discussion at the beginning of 1975.

The CBR Research Programme 1976-78

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Activities

The second programme is based on the assumption that activities will continue in sectors already covered and that new activities will gradually be started in other sectors. The total funds needed for all the existing sectors are of the same order as for the first programme. Provision of funds for the new sectors will increase the overall budget in 1976. The exact allocation of funds to the various sectors and special activities will continue to depend on actual needs and proposals from member countries and decisions will have to be taken case by case on the basis of recommendations from the ACPM - CBR.

The funds made available will allow:

a) the continuation and slow expansion of work in the following sectors:

- ferrous metallurgy,
- non-ferrous metallurgy,
- inorganic chemistry,
- physical and technological properties,
- organic chemistry (analysis, plastics and rubbers, petroleum and related products),
- clinical chemistry,
- environmental analysis.

b) the start of work in new sectors, e.g.

- ~~- food products,~~
- cosmetic products,
- pharmaceutical products.