COMMISSION OF THE EUROPEAN COMMUNITIES

COM(83) 564 final

Brussels, 7 October 1983

FIRST REPORT BY THE COMMISSION TO THE COUNCIL

COMMUNITY PROJECTS IN THE FIELD OF MICROELECTRONIC TECHNOLOGY

AT JULY 15th 1983

COM(83) 564 final

EXPLANATORY MEMORANDUM

On 7 December 1981, the Council adopted Regulation No 3744/81 on Community projects in the field of microelectronic technology.

Article 9 of the Regulation stipulates that the Commission shall each year forward to the Council and the European Parliament a report on the development of the activities in the Community falling within the scope of this Regulation.

The first activity report on microelectronics, which is the subject of a written procedure, examines the actions for the introduction of the Regulation, the various phases in the first call for proposals and its results, the reasons which led to the Commission amending the list of projects benefitting from Community aid under Regulation No 3744/81 and publishing a second call for proposals, and the work carried out to coordinate national activities and the dissemination of the results. It also covers the links between the Regulation and the ESPRIT research and development programme.

COMMUNITY PROJECTS IN THE FIELD OF MICROELECTRONIC TECHNOLOGY
FIRST REPORT BY THE COMMISSION
AT JULY 15TH, 1983

INTRODUCTION

On 1 September 1980 the Commission sent the Council a proposal for a regulation on Community projects in the field of microelectronic technology[1], as a follow-up to the Dublin Summit and in response to the Council Resolution of 11 September 1979[2] inviting the Commission to propose specific projects at Community level.

The aim was to help European industry, which is lagging behind in microelectronic technology, catch up on Japan and the United States, by promoting research and development activities that would make Europe independent of American and Japanese electronic equipment and component suppliers and by coordinating various national activities concerning microelectronics. After the opinions of the European Parliament[3] and the Economic and Social Committee[4] had been received, Council Regulation No 3744/81 of 7 December 1981[5] was adopted, which came into force on 1 January 1982. The main aims of Regulation No 3744/81 are as follows:

- Coordination of national activities in the field of microelectronics.

- Granting of financial support to companies, research centres and universities in the Community in order to promote industrial research and development on equipment, processes, instruments and techniques, both hardware and software, for use in the design, industrial manufacture and testing of advanced integrated circuits.

---

(1) COM(80) 421 final of 1.09.1980
(2) O.J. No C 231 of 13.09.1979, p. 1
(3) O.J. No C 144 of 15.06.1981, p. 69
(4) O.J. No C 353 of 31.12.1980, p. 4
(5) O.J. No L 376 of 30.12.1981, p. 38

To achieve these aims, it will have to be ensured that the products and other results stemming from projects that receive Community support are properly disseminated throughout the Community.

For implementation of the programme, Regulation No. 3744/81 stipulates that the Commission is to be assisted in its work by a Consultative Committee. The Committee met for the first time on 28.01.1982.

This report, established in accordance with article 9 of the Regulation examines the steps the Commission has taken to start up the programme i.e. the main stages of the first call for proposals and its results and the reasons that led the Commission to amend the list of projects receiving Community aid under Regulation No 3744/81 and to publish a second call for proposals.

FIRST CALL FOR PROPOSALS

To inform potential participants that a call for proposals on micro-electronic technology was about to be published and to obtain an idea of those that might be interested (bodies, companies or individuals) so as to facilitate contacts between potential participants where necessary, an advance notice of a call for proposals was published in the Official Journal of the European Communities on 30 January 1982[1].

In response to this notice, the Commission received 157 replies expressing interest and classified them by area of activity. Lists of the names and addresses of those expressing interest in each area were then drawn up and the appropriate list was sent out to all those who had replied.

---

(1) O.J. No C 23 of 30.01.1982, p. 2

In accordance with article 5, paragraph 5 of the regulation, a first call for proposals was published in the Official Journal of the European Communities on 20 May 1982[1], the closing date being 19 July 1982. The notice specified that an information session would be held in Brussels on 15 June 1982.

The meeting was attended by 54 people representing 43 companies, universities and research centres. The idea was to brief them on the conditions for submitting proposals in response to the call, and in particular on the administrative procedures.

In response to the first call, the Commission received 25 proposals from 95 applicants in nine Community countries (none from Luxembourg).

When the proposals were examined, it was found that many more related to CAD[2] than to equipment. Of the 25 projects received, 19 concerned CAD and only 6 equipment.

The proposals were first examined by Commission staff to ensure that they were in conformity with the Council Regulation and conditions in the call for proposals.

After that, the proposals were classified in two groups: group 1 for acceptable proposals conforming to the requirements and group 2 for the others.

The preliminary appraisal was followed by a detailed evaluation during which technical experts meeting in Brussels examined and discussed all the proposals in group 1.

---

(1) O.J. C 130 of 20.05.1982, p. 2

(2) Computer Aided Design

The outcome was that 8 proposals were considered to merit financial support. The Consultative Committee met on 7 - 8 October 1982 and, on the basis of an initial evaluation report drawn up by the Commission, it agreed to the continuation of negotiations on the contracts proposed by the Commission.

Following these negotiations, 7 proposals were the subject of draft decisions for the granting of Community aid under Regulation No 3744/81. After unanimous approval by the Consultative Committee meeting in Brussels on 2 December 1982, these draft decisions were forwarded to the Commission.

The Commission decided on 20 January 1983 to propose Community financial aid for each of these 7 proposals. The beneficiaries are as follows :

A) EQUIPMENT

Main contractor: Siemens AG, Munich and Berlin
Users: Thomson-EFCIS, Grundig, Italtel
Title of project: VLSI tester
Total amount of Community aid: 6 712 000 ECU

B) CAD

1. Main contractor: Standard Telecom Labs, Harlow
Associates: Standard Electric Lorenz, British Telecom, Brown Boveri, GEC Telecom
Title of project: VLSI verification and compilation.
Total amount of Community aid: 677 000 ECU

2) Main contractor: SERC, Rutherford Laboratories
Associates: University College of Swansea, Trinity College of Dublin, Philips Eindhoven, GEC Hirst Research Centre
Title of project: Three-dimensional semi-conductor device simulation including transient behaviour
Total amount of Community aid: 1 774 000 ECU

3) Main contractor: University College of Cork
Associates: University of Belfast, Analog Devices, GEC Wembley
Title of project: Two and three-dimensional numerical modelling of MOS devices
Total amount of Community aid: 336 000 ECU

4) Main contractor: Katholieke Universiteit Leuven
Associates: University of Languedoc Montpellier, Silvar-Lisco, Philips Research Laboratories, Siemens Munich
Title of project: Mixed-mode behavioural systems for MOS VLSI design
Total amount of Community aid: 587 000 ECU

5) Main contractor: MICADO/IMAG
Associates: SGS, TMC Ltd, RTC, Philips S.A. Paris, Philips Telecom Hilversum
Title of project: CAD overall approach: CASCADE.
Total amount of Community aid: 4 172 000 ECU

6) Main contractor: CNET, CSELT, FI Darmstadt
Associates: CII HB, CIT Alcatel, Thomson-EFCIS, SGS, Italtel, Olivetti AEG-Telefunken, Standard Electric Lorenz, 5 Italian universities, 6 German universities, GMD, Fraunhofer Gesellschaft
Title of project: CAD for VLSI for telecommunications.
Total amount of Community aid: 12 000 000 ECU

So far three contracts have been signed:
- MICADO/IMAG on 31.01.1983
- SERC, Rutherford Laboratories on 18.03.1983
- Katholieke Universiteit Leuven on 18.05.1983

To avoid any overlap between the administrative procedure for the first call for proposals and work on the projects submitted under the second call for proposals, Article 3 of the Commission Decision proposing Community financial support stipulated that the contracts had to be signed within a period of four months from the date of the Commission decision. The Commission has nevertheless had to grant periods of grace of 15 to 30 days for signature of some of the contracts because of delays owing to administrative difficulties encountered by some of the participants who were unfamiliar with the Community's contractual procedure.

Once all these contracts are signed the Commission will have committed 26 800 000 ECU or 67.5% of the budget.

SECOND CALL FOR PROPOSALS

As some funds were still available, the Commission decided to issue a second call for proposals. The results of the first call for proposals had shown that there was very much greater interest in CAD than in equipment. In order to make allowance for the most recent technological trends, to adapt the Regulation to the industry's real requirements and to give the Community support greater impact, the Commission therefore decided to revise the list of projects areas in accordance with Article 4 of Regulation 3744/81.

A draft revised list was sent to the Consultative Committee which had helped to draw it up. The regulation amending the list in Article 4 (1) of Regulation 3744/81 was adopted by the Commission on February 1983[1].

---

(1) O.J. No L 47 of 19.02.1983, p.13

A second call for proposals was published on 19 February 1983[1], its closing date being 29 April 1983.

The same procedures as for the first call for proposals were used to examine and evaluate the proposals received and the initial results show that it may be possible to restore the balance between the equipment and CAD sectors.

The detailed evaluation started on 15 May 1983 and the evaluation report will be discussed at the next meeting of the Consultative Committee.

The results of the second call for proposals will be given in a second report in 1984.

COORDINATION OF NATIONAL ACTIVITIES

Articles 1 to 3 of Regulation No 3744/81 make between the Member States and the Commission provision for the setting up of an information and consultation system. The system covers all information of a scientific, economic and financial nature concerning any activities under the authority of the Member States in progress on the date the Regulation enters into force or contemplated after that date.

Because of shortage of staff when the programme was launched, the Commission felt it preferable to give priority to the direct support operations covered by the Regulation.

Nevertheless, Commission staff have already collected initial data and when the Consultative Committee discussed the various projects at its meetings, national activities in the areas on which proposals had been received by the Commission were born in mind.

The collection of data on national activities is continuing and the results will also be given in the second report planned for 1984.

---

(1) O.J. No C 49 of 19.02.1983, p. 2

COORDINATION OF COMMUNITY ACTIVITIES

After the launching of the microelectronics programme, the Commission initiated the pilot phase of the ESPRIT programme. Those sectors in the field of microelectronics included in this programme were selected in order to encompass complementary activities not covered by Regulation No 3744/81 in particular, high-density multilayer interconnection and high-level CAD for interactive draughting and design.

In the meantime, a proposal concerning a European Strategic Programme for Research and Development in Information Technologies has been approved by the Commission and sent to the Council (1). This programme also includes a section on microelectronics which is described in the technical annex to document COM 258.

The work to be carried out on microelectronics within the framework of ESPRIT represents both a continuation and an expansion of the activities undertaken pursuant to Regulation No 3744/81 and constitutes an indispensable complement to the development of advanced microelectronics within the Community.

DISSEMINATION OF RESULTS

To stimulate technical discussion, encourage contacts between research scientists in the Community and help to ensure proper dissemination of the results of the projects receiving financial support, the Commission has intiated a series of seminars entitled CAVE (CAD for VLSI in Europe - Conception assistée par ordinateur pour circuits à très haut niveau d'intégration en Europe) to be held twice yearly for a trial period (2).

The first seminar took place at Aquila on 24-26 May 1983 and the next will be held in Grenoble on 12-14 December 1983.

(1) COM(83) 258 final of 2.6.1983.
(2) Annex: reference document concerning CAVE

ANNEX

1. PURPOSE OF THE WORKSHOPS

The most commonly expressed problem, amongst persons hoping to make a proposal under Council Regulation 3744/81 on Microelectronics, has been the difficulty in finding suitable industrial partners in member states other than their own. A limited number of previous and existing collaborations has formed a basis for some proposed projects, but there appears to be a strong requirement to broaden and extend the matrix of personal contacts from which such collaborations usually spring.

Such relationships involving mutual understanding and confidence take some time to mature. The EEC has already proved remarkably successful in fostering such contacts. This occured within the framework of the four study teams set up to advise the EEC on priorities for the VLSI research topics to be funded. One of the outstanding results of these study teams' activities was that team members from various organisations and different member states were highly successful in collaborating frankly at the technical level.

The CAD Working Party, to whom these study teams reported, believed that it is important for the EEC to continue to support this exchange of technical ideas. Indeed they believe that, as a prerequisite for the full success of community-wide collaborative R & D projects, it is essential for the individuals concerned to become familar with each other, and to establish mutual understanding and confidence. They believed that the exchange of technical ideas produces an environment in which a spirit of collaboration grows, and in fact, that in such an environment, joint R & D projects will evolve naturally.

It was suggested that a regular series of technical workshops would go some way towards providing this environment.
Acquaintances made at these workshops could be furthered by subsequent independant meetings between individuals to discuss issues of common interest. The benefits of such improved prospects for

collaboration will be particularly valuable to future R & D programmes planned by the EEC, such as the ESPRIT Programme. The series of workshops are also expected to produce up-to-date ideas for research topics as well as fostering new collaborative partnerships.

A second purpose of the workshops is to provide a mechanism by means of which information can flow between teams involved in projects which are funded under Regulation 3744/81, and also between these teams and potential users of the CAD tools or knowledge which should result from this Community programme.

While it is clear that participants in the funded research programme must see some preferential benefits over those who have not taken part, it is also clear that the intention of the Commission is that its infusion of funds should ultimately benefit all EEC electronics companies in their competition with companies from outside the Community. The workshops should ensure that ideas can be exchanged during the process of R & D without waiting until the end of the projects.

The specific EEC dimension to the workshops is a novel aspect which is not duplicated by any existing series.

2. CHARACTER OF THE WORKSHOPS

The character of the workshops will need to be optimised to fulfil the previously stated purposes of the workshops. In fact it can be expected that the workshops will evolve to some extent as experience is gained and as the demand changes. However, some broad guidelines have been followed by the Commission and the Technical Committee which advises and assists the Commission in organising the workshops. There will be a kernel of regular participants apportioned between the Member States in a way determined by the Commission and the Technical Committee. This kernel will be complemented by other participants invited on a rotating basis, depending on the technical topics to be covered. A limited number of observers from the host Member State will also be permitted.

The workshop will be residential to allow maximum opportunity for informal discussion.

It is important to provide ample opportunity for open and private discussion sessions. Participants should be prepared to make a short verbal presentation at at least one workshop each year, but informal contributions in discussions are recognised as often being of equal value. Although presentations will be informal, participants are expected to do some serious preparation in advance of the workshops. Poster sessions will also form an important part of the workshops. The optimum split between presentations and discussion will need to be evaluated in the light of experience, and may well vary from workshop to workshop depending on topic.

In order to stimulate appropriate presentations, advance notice will be given of selected special topics for the following workshop. Requests for special topics can be voiced at the conclusion of a workshop. The Technical Committee will keep a close watch on trends in interest. All major areas of CAD will be covered at each workshop to motivate the regular attendance of the kernel of regular participants.

The location of the workshops will be rotated amongs the member states. This will emphasise the Community nature of the links. It will also spread the load of the local organisation. The EEC is funding all travel expenses for all participants, so that participants from a remote location will not be deterred from attending, and a balanced representation from the whole community will be encouraged.