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## REPORT

drawn up on behalf of the Committee on Youth, Culture, Education, Information and Sport

on the proposal from the Commission of the European Communities to the Council (COM(85) 431 final - Doc. C 2-81/85) for a decision adopting an action programme of the Community in education and training for technology - COMETT (1986-1992)

Rapporteur: Mr E. McMILLAN-SCOTT

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Or. De.



By letter of 30 August 1985 the Council of the European Communities requested the European Parliament to deliver an opinion on the proposal from the Commission for a Council decision adopting an action programme of the Community in education and training for technology - COMETT (1986-1992).

On 9 September 1985 the President of the European Parliament referred this proposal to the Committee on Youth, Culture, Education, Information and Sport as the committee responsible, and to the Committee on Social Affairs and Employment, the Committee on Economic and Monetary Affairs and Industrial Policy, the Committee on Energy, Research and Technology and the Committee on Budgets for opinions.

At its meeting of 20 September 1985, the Committee on Youth, Culture, Education, Information and Sport appointed Mr McMillan-Scott rapporteur.

At its sitting of 15 April 1985 the European Parliament referred the motion for a resolution tabled by Mr Selva and others on cooperation between education and industry to meet the challenges of technological change and unemployment (Doc. B 2-51/85) to the Committee on Youth, Culture, Education, Information and Sport as the committee responsible and to the Committee on Social Affairs and Employment, the Committee on Economic and Monetary Affairs and Industrial Policy and the Committee on Energy, Research and Technology for opinions. At its meeting of 20 September 1985 the committee decided to include consideration of this motion in its report.

The committee considered the Commission proposal and the draft report at its meeting of 31 October 1985. On this occasion the committee decided to recommend to Parliament that it approve the Commission's proposal.

The committee then adopted the motion for a resolution as a whole with 12 votes in favour and 4 abstentions.

The following took part in the vote: Mrs EWING, chairman, Mr SELVA, vice-chairman; Mr McMILLAN-SCOTT, rapporteur, Mr BROK (deputizing for Mr Munch), Miss BROOKES, Mrs BUCHAN (deputizing for Mr Gallo), Mr ELLIOTT, Mrs FONTAINE (deputizing for Mr Gerontopoulos), Mr HOWELL, Mrs LARIVE-GROENENDAAL, Mrs LEMASS (deputizing for Mr Baudouin), Mrs MAIJ-WEGGEN (deputizing for Mr Pomilio), Mr MARCK (deputizing for Mr Hahn), Mr McMAHON, Mrs PEUS and Mrs SEIBEL-EMMERLING.

The opinion of the Committee on Social Affairs and Employment is attached. The opinions of the Committee on Budgets and the Committee on Energy, Research and Technology will be published separately. The Committee on Economic and Monetary Affairs and Industrial Policy will present its opinion orally.

The report was tabled on 31 October 1985.

The deadline for tabling amendments to this report will be indicated in the draft agenda for the part-session at which it will be debated.

C O N T E N T S

	<u>Page</u>
A. MOTION FOR A RESOLUTION .....	5
B. EXPLANATORY STATEMENT .....	8
<u>ANNEX</u> : Motion for a resolution (Doc. B 2-51/85) .....	11
OPINION of the Committee on Social Affairs and Employment .....	12

The Committee on Youth, Culture, Education, Information and Sport hereby submits to the European Parliament the following motion for a resolution together with explanatory statement:

MOTION FOR A RESOLUTION

closing the procedure for consultation of the European Parliament on the proposal from the Commission of the European Communities to the Council for a decision adopting an action programme of the Community in education and training for technology - COMETT (1986-1992)

The European Parliament,

- having regard to the proposal from the Commission to the Council<sup>1</sup>,
  - having been consulted by the Council (Doc. C 2-81/85),
  - having regard to the motion for a resolution on cooperation between education and industry to meet the challenges of technological change and unemployment (Doc. B 2-51/85),
  - having regard to Parliament's resolution of 10 October 1985 on new information technologies and the schools systems in the European Community<sup>2</sup>,
  - having regard to the report on the communications from the Commission on:
    - . technological change and social adjustment (COM(84) 6 final)
    - . vocational training and the new information technologies: work programme 1985-1988 (COM(85) 167 final) (Doc. A 2-97/85),
  - having regard to the report of its Committee on Youth, Culture, Education, Information and Sport and to the opinions of the Committee on Budgets, the Committee on Economic and Monetary Affairs and Industrial Policy, the Committee on Energy, Research and Technology and the Committee on Social Affairs and Employment (Doc. A 2-141/85),
- A. considering the manifest need to develop a 'technological Europe',
  - B. whereas the Community must step up its efforts in the field of education, vocational training and further education in the new technologies if it is to improve its competitive position and increase the prosperity of its members,
  - C. believing that the Community can make more efficient use of its scientific and technological potential by the integration of scientific and industrial structures in the field of education as well,
  - D. having regard to the demands of industry in the high technology sector for skilled manpower and to the needs of industrial workers in the Community,

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<sup>1</sup>OJ No. C 234, 13.9.1985

<sup>2</sup>McMAHON report (Doc. A 2-98/85)

- E. having regard to the increased number of industry/education collaborative programmes in high technology at a national level,
1. Welcomes the proposal from the Commission for a Council decision adopting an action programme of the Community in education and training for technology - COMETT (1986-1992);
  2. Welcomes the Commission's proposal to encourage cooperation between universities and industry in order to overcome the division between the two and to promote closer cooperation between them at local and regional level and across national boundaries;
  3. Points out that university-industry cooperation must not be restricted to the field of information technology alone;
  4. Considers it important that support should primarily be given to exchange schemes between university and industry which are organized on an international basis, thereby emphasizing the European dimension;
  5. Points out that such exchange schemes will be successful only if persons willing to take part in the scheme can be guaranteed their former posts on their return and incur no financial disadvantage; urges therefore the proper regulation of not only the revenue (scholarships and allowances) but also the legal position of those students and employees who are involved in the exchange programme;
  6. Calls on the Commission to draw up proposals for harmonizing courses in the different countries of the Community so that study periods abroad do not represent a break in the course of study but rather are given the same status as national studies, enabling existing barriers to student mobility to be dismantled;
  7. Calls on industrial enterprises to intensify in-house training and advanced training in order to meet the existing need for skilled workers with qualifications;
  8. Emphasizes that in the present period of rapid technological change premature over-specialization of education programmes must be avoided, so as to enable job-seekers to find suitable employment even when requirements change;
  9. Considers it necessary for greater importance to be attached to practical relevance in educational courses and therefore calls for courses of study to incorporate obligatory placements in industry;
  10. Recognizes that distance learning systems can improve the transmission of information on the new technologies to those seeking training but sees in this method the considerable danger of imparting excessively theoretical knowledge with no discernible relevance for the trainee;
  11. Would therefore welcome the creation of a European University for Technology, with courses which incorporate training in branches of industry in the Community, rather than the establishment of a European open university;

12. Notes, however, the increasing shortage of technology students in the Community and therefore advises the Commission to evolve together with the Member States and the universities concerned a positive campaign to interest more young people in technological courses.
  - Such a campaign should be addressed particularly to girls since the hidden potential is greatest in this group.
  - Advises the Commission to conduct such a campaign under an appealing slogan such as European Youth for Technology;
13. Notes that the COMETT programme forms a Community superstructure for national programmes of cooperation between universities and industry. Therefore requests the Commission to help those Member States who do not yet have such national programmes, or only have them in a rudimentary form, to help them (if necessary financially) in setting up such programmes so that these Member States can also take full advantage of the COMETT programme;
14. Wishes university technology courses and university management courses to be treated on an equal footing in the COMETT programme;
15. Asks the Commission to see to it that women are sufficiently involved in the exchange programme and advises the provision of an extra allowance for the care of children of the candidates concerned;
16. Asks the Commission to declare that part C of the first stage of COMETT (part-financing of joint training projects involving firms in different Member States) applies not only to training provided by firms but also to Community training initiatives by employers' and employees' organizations;
17. Asks the Commission to give a clearer and more concrete description of part E - (i), (ii) and (iii) of the first stage of COMETT and to avoid creating unnecessary administrative umbrellas;
18. Accepts the need for budgetary allocation for the programme;
19. Urges the Council to adopt the action programme before the end of 1985 so that it may be put in hand as from 1986;
20. Calls on the Commission to report annually to Parliament on implementation of the programme;
21. Instructs its President to forward this resolution to the Council and to the Commission.

## EXPLANATORY STATEMENT

Introduction

The need to ensure European competitiveness in the high technology sector has been recognised for some time and a series of initiatives such as the ESPRIT, RACE and BRITE programmes have already been undertaken at Community level. Parallel with these programmes which concentrate essentially on development of the technology, the Community also seeks to ensure an adequate supply of the necessary human resources. As part of an overall strategy aimed at promoting education and training for technology from school through to higher education level, the Commission of the European Communities has brought forward proposals for a seven-year Action Programme of the Community for Education and Training for Technology - COMETT (1986-1992), which is concerned with the level of advanced training and specifically the dimension of cooperation between industry and education.

1. The COMETT Programme(a) Brief description

The Commission aims through the COMETT programme to strengthen cooperation between the higher education sector and industry so that the Community is better able to respond to the challenges posed by technological and social change. The purpose of COMETT is to improve the initial training of undergraduate and graduate students and to foster the continuing training of skilled technical and managerial staff so that European firms apply modern and efficient equipment and production processes.

COMETT sets out to complement achievements in individual Member States by promoting:

- (i) a European identity through student mobility programmes enabling the current generation of students to develop a practical commitment to European industrial and technological developments;
- (ii) economies of scale through jointly-organised new training programmes which are required by rapid technological change;
- (iii) exchange of experimentation within the Community in the field of university-industry cooperation in advanced training.



(b) Financial implications

For the first four years COMETT would require the following expenditure - with substantial increases from one year to the next - under the Community budget, to be matched in many cases by corresponding financial support from particular organisations:

1986	ECU	1	m
1987	ECU	16.2	m
1988	ECU	25.1	m
1989	ECU	39.1	m

(c) Staffing implications

At present no post exists to administer COMETT, for which the Commission seeks creation of eleven new posts from 1986 (one A3 post, four A7/4 posts, three B posts and 3 C posts).

2. Commentary

In order better to assess the value of the action programme proposed by the Commission, your rapporteur consulted a number of specialist bodies and in particular the York Electronics Centre of York University and the officers of YORTEK (the association of high technology industries and educational institutions of North Yorkshire).

In light of his investigations, your rapporteur considers the COMETT programme to be timely, sensible and desirable.

First, the proposals are timely. The technological explosion of the past decade, largely brought about by widespread use of the silicon chip, has enormously benefited the economies of the US and Japan in particular. Pan-European enterprises scarcely exist to take advantage of the economies of scale and the large 'domestic' market offered by the European Community. But industry in Europe is now responding, as are the educational, political and administrative sectors, to the challenge.

Industry is now demanding far more young people highly trained in new technologies than are available - despite the fact that young people represent 40% of the 14 million unemployed in the Community.

The COMETT Programme may assist in providing additional training incentives to the education sector, guided by industry.

The COMETT proposals are also sensible, since they intend to promote Pan-European activity which is well within the scope of the European budget in a sector which has considerable employment implications for the long term. Their practical nature should commend the proposals to educationalists, industrialists and national authorities alike.

Finally, the programme is desirable. It is not within the scope of this report to identify the many demands which have been made for collaborative industry/training ventures in high technology. Indeed, a number of Member States have their own programmes already. However, action of this kind on a European scale is desirable, particularly if it reduces the tendency to the sort of 'national preference' which allows pre-competitive activity on a European scale, but encourages national commercial development thereafter.

On the other hand, your rapporteur feels he should sound a cautionary note with respect to the staffing estimates. As the programme develops there will no doubt be a need for eleven posts, but it is questionable whether these will all be needed from the outset. By way of comparison it is perhaps worth noting that only four people administer the Commission's entire famine aid programme.

### Conclusion

The Commission is to be commended for the very carefully worked-out proposals contained in the COMETT action programme which, together with the budgetary allocations involved, deserves to be fully supported by the European Parliament.

The Commission should submit to Parliament an annual report on the programme. Along with an account of substantive progress, the reports should provide a clear indication of staffing arrangements within the Commission and of financing.

**MOTION FOR A RESOLUTION (DOCUMENT B 2-51/85)**

tabled by Mr SELVA, Mr COSTANZO, Mr MARCK, Mr CIANCAGLINI, Mr MUHLEN, Mr LAMBRIAS, Mr IODICE, Mrs PEUS, Mrs BANOTTI, Mr POETSCHKI, Mrs GIANNAKOU, Mr MERTENS, Mr McCARTIN, Mr MUNCH, Mrs MAIJ-WEGGEN and Mr KLEPSCH

on behalf of the EPP Group

pursuant to Rule 47 of the Rules of Procedure

on cooperation between education and industry to meet the challenges of technological change and unemployment

The European Parliament,

- A. aware that, with the gradual introduction of new technologies, the fundamental changes occurring in the system of production affect employment, working conditions, education and vocational training,
- B. stressing the need for educational and vocational training systems to take greater account of new technologies so as to familiarize young people with their use,
- C. whereas the vocational training systems and their links with business and the world of work differ widely from one Member State to the other,
- D. having regard to the advisability of fostering the spirit of enterprise through the education system,
  1. believes that more sustained cooperation between higher education and industry and between vocational training and industry ought to feature among the priorities of Community action in the field of education;
  2. Requests the Commission of the European Communities:
    - (a) to carry out a comparative study of national and sectoral provisions and of existing Community instruments,
    - (b) to submit specific proposals, with help from a European bank, on the new types of career profiles that need to be established through the pilot schemes for the transition from school to the workplace which were set up following the Council resolution of 13 December 1976;
  3. Requests those sectors concerned (businesses, administration, social partners, universities, socio-professional groups, etc.) to take specific action in close cooperation with the Community institutions to introduce gradually integrated policies on basic education and vocational training, the purpose being to facilitate an adequate introduction during the period of compulsory education, and a better adaptation of initial and continuing vocational training to changed requirements with regard to qualifications, taking into account the Community dimension of the problems of education and teaching, particularly in the light of the resolutions of
    - 11 March 1982 on a Community programme in the field of education (GAIOTTI report - Doc. 1-845/81),
    - 24 May 1983 on the problem of unemployment among young people (SALISCH report - Doc. 1-86/83)
    - 13 March 1984 on higher education and the development of cooperation between higher education establishments (PERY report - Doc. 1-1351/83);
  4. Instructs its President to forward this resolution to the Council and Commission of the European Communities and to the Member States.

OPINION

(Rule 101 of the Rules of Procedure)

of the Committee on Social Affairs and Employment

Draftsman of the opinion: Mrs J.R.H. MAIJ-WEGGEN

On 16 October 1985 the Committee on Social Affairs and Employment appointed Mrs MAIJ-WEGGEN draftsman of the opinion.

The committee considered the draft opinion at its meeting of 16 October 1985 and adopted the conclusions at the latter meeting unanimously.

The following took part in the vote: Mr WELSH, chairman; Mr McCARTIN, vice-chairman; Mrs MAIJ-WEGGEN, draftsman; Mrs d'ANCONA, Mr BACHY, Mr CHRISTIANSEN, Mr CIANCAGLINI, Mrs DURY, Mrs GIANNAKOU-KOUTSIKOU, Mrs MARINARO (deputizing for Mr Raggio), Mr McMAHON (deputizing for Mr Stewart) and Mr TUCKMAN.

## Summary of the proposal from the Commission

1. In its programme for 1985<sup>1</sup> the Commission announced its intention of taking measures in the near future to improve contacts between higher education and industry particularly in the area of technology. This has resulted in the COMETT programme, which forms one of the cornerstones of the future 'European Technological Community'.

2. The COMETT programme complements a previous Community programme for the introduction of new technologies in secondary education and basic vocational training, together with efforts by Member States to promote at national level the use of new technologies in higher education and to forge closer links between higher education and industry in this field. The COMETT programme is designed to situate such measures in a European context.

3. COMETT should also be regarded as supplementing existing European industrial technology programmes such as Esprit, Race and Brite. Finally, it is to be followed by a programme specifically concerned with advanced teaching technology (Delta), which is designed to make new technologies more available to education and on more favourable terms. This programme is to be submitted to the Council and Parliament at the end of 1985.

4. The preliminary studies which led to the COMETT programme revealed that:

- The number of young Europeans undergoing specialized technical training at high level is small compared with the United States and Japan. The number of engineers per million inhabitants in Europe is 260 in the USA 350 and in Japan 630 (OECD 85)
- European companies report a growing shortage of highly qualified technical staff. This applies to 55% of German, 45% of British and 51% of French undertakings<sup>2</sup>.
- European undertakings also report that university graduates are insufficiently well informed of the economic, social and cultural implications of technological innovation, in other words the non-technological disciplines (for example economics and management) do not include sufficient instruction concerning new technologies.
- In the various Member States moves have been made to improve cooperation between universities and industry by setting up specific bodies for this purpose. However, such moves have seldom included efforts to achieve cross-border cooperation.
- Student mobility in the Community is also particularly restricted. Less than 1% of graduates have studied or completed a traineeship in another Member State.

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<sup>1</sup> Bulletin of the European Communities, supplement No. 4/85.

<sup>2</sup> Doc. C 2-71/85 paragraph 8.

5. Esprit has shown that cross-border cooperation between European undertakings can be considerably encouraged by energetic measures at European level. A similar stimulus should be provided by COMETT, particularly for the exchange of technology students at European level and the promotion of cross-border cooperation between universities and industry.

6. The COMETT programme as proposed by the Commission is divided into two parts. The first phase (1986-1989) consists of the following measures:

- developing a European network of university-industry universities and training partnerships,
- introducing a Community exchange programme between university and industry involving students and staff,
- development at Community level of joint training projects involving technologically advanced companies from the Member States,
- promotion at Community level of measures by universities and industry to develop distance learning systems,
- promotion of activities and exchange of information in the field of advanced training between universities and industry from various Member States, including the setting up of a Community data base.

7. In the second phase (1989-1992) these measures are to be developed as follows:

- consolidate, expand and, if necessary, renew Community schemes for cooperation between universities and industry,
- consolidate, develop and if necessary renew the exchange programmes for students and academic and industrial staff,
- development of Community training projects,
- development of a European Open Technological University.

8. The COMETT project is to be entered in budget line B 6303 (classified as non-compulsory expenditure). For the period up to 1989 an amount of 80.4 m ECU has been budgeted for (1986: 1 m ECU, 1987: 16.2 m ECU, 1988: 25.1 m ECU and in 1989: 39.4 m ECU). From 1986 eleven officials will be required to staff the project.

#### Comment

9. The Commission is to be congratulated for its initiative and zeal in drawing up and setting out the COMETT programme which is well adapted to existing Community technology programmes for education and industry.

10. However, the extent to which the programme fits in with national measures is less clear. It would be useful if the Commission could provide a survey of all national programmes for cooperation between universities and industry. Such programmes are known to exist in the northern Community Member States. However, much less is known about the situation in Greece, (Southern) Italy, Spain and Portugal.

If a Community programme in this area is to be of equal use to all Member States the corresponding basic infrastructure must exist in all Member States.

11. Furthermore, the programme tends to be concentrated on the exchange at Community level of technology students, university lecturers and highly qualified technical staff from industry. This is an excellent idea, since such exchanges cannot fail to be fruitful and will certainly improve existing knowledge of developments in the field of technology. However, the programme does not solve the fundamental problem of a lack of sufficiently well qualified technology students. While young people in Europe are showing an increasing interest in technological studies, the level of interest remains far lower than in Japan and the United States and industry is reporting a growing shortage of staff in this area.

12. The number of girls opting for technical studies is particularly low. If their level of interest in this area was the same as that of male students, the existing shortages of qualified staff would soon be remedied and some of the additional unemployment among women could be eliminated.

13. The programme tends to be concentrated on education and training in technology with less attention being paid to the field of management, although the problems in this area are largely comparable with those of the technology sector, and it could legitimately be argued that all aspects of the COMETT programme should give equal weight to both areas thereby acquiring a dual foundation.

14. Concerning the substance of the programme, something should be said about part B of the first phase of COMETT (exchange of students/academic and industrial staff). For the purpose of carrying out these exchanges grants and fellowships are envisaged, of which the amounts are contained in the financial annex. However, the programme makes no mention of the legal status of those concerned.

Grant schemes for academic staff and fellowships for industrial staff should take account of their existing legal status (salary, social security, pension rights, etc.). For long-term detachments account should be taken of family housing requirements. Failure to take account of these factors in allocating grants and fellowships would lead to the unintentional elimination of certain candidates.

15. Experience with Community training programmes for young European managers in Japan has shown that very few women participate. The Commission should ensure from the outset that this is not the case with the COMETT programme. Female candidates should, if necessary, be given extra temporary child-care facilities since, however qualified they are, they may otherwise refrain from participating in these exchange projects.

16. Section C of the first phase of COMETT concerns joint training projects involving undertakings in different Member States. This is to be partly financed by the Community and involves training not only in the field of technology but also in the field of management, which goes some way to meeting the objection contained in paragraph 13. This section of the COMETT programme, however, appears to be limited to training organized by undertakings. In this connection, however, it should be pointed out that employer and employee organizations are also concerned with high-level management training. Cooperation at Community level should be stimulated and given financial support.

17. Section E of the first phase (support for activities and exchange of ideas between universities and industry) is the most vaguely formulated section of the COMETT programme. This applies in particular to E I, II and III.

The Commission should define the objectives of this section more clearly and in more specific terms. Measures should be taken to avoid this section of the programme becoming too bureaucratic. Imprecise objectives coupled with ponderous administrative formalities will simply lead to pointless bureaucracy.

18. The second phase of the COMETT programme will largely depend on how rapidly progress is made in the first phase. In this context the foundation of a European Open Technological University to follow up the activities set out in section D of the first phase and the development of a European system for distance learning in the field of technology are interesting possibilities. However, the procedure chosen for setting up such a university may be too long and too non-committal. There is an urgent need for a high-level Community institute for training and research in the field of technology and management; an institute comparable with the MIT in Boston in the United States. The Community should take the lead in setting up such an institute in the near future with the cooperation of all concerned, in particular the national universities and the European heads of industry.

Emphasis should be given to high-level post-doctoral research. National universities and industry should send their best lecturers and managers on a temporary basis to this university with a view to imparting valuable and up-to-date knowledge and practical experience to a qualified group of young European graduates. In a later stage the question of giving the institute the status of an open university could be considered.

19. The European Community is on the threshold of a period of technological renewal which will change considerably our economic, social and cultural relations. It is essential for intellectual resources to be pooled in order to complete this process successfully. A properly equipped European University for Technology and Management could play a major role in this respect.

### Conclusions

The committee responsible is requested to include the following points in its motion for a resolution:

1. The COMETT programme provides a Community complement to national programmes for cooperation between universities and industry. In those Member States where such national programmes do not yet exist they should be started up as soon as possible, if necessary with Community aid. This requires a corresponding addition to paragraph 5.2.A. of the financial record annexed to the COMETT programme.

2. In order to remedy the lack of technology students the Commission, together with the Member States and universities concerned, should initiate energetic measures to arouse interest among young people in technological studies or encourage graduates unable to find suitable employment to retrain. Such measures should be particularly directed towards girls since the untapped potential is greatest in this area. The measures should form part of a programme which should be given an appealing title such as 'European Youth for Technology'.



3. In the COMETT programme technological and management training should be given equal consideration.
4. The legal position as well as the financial position of groups participating in Community exchange programmes (10 000 students and 700 employees) should be properly clarified. Particular attention should be paid to maintaining the level of income, social security and family allowances of the 700 employees involved (COMETT phase one section B).
5. Women should also participate on an equal basis both in the exchange programmes for students and those for qualified university and industrial staff. If necessary, arrangements should be made for temporary accommodation for children. This requires a corresponding addition to paragraph 5.2.8./1 and 2 of the financial record annex to the COMETT programme.
6. Section C of the first phase of COMETT (a Community contribution to joint training schemes involving companies from various Member States) should apply not only to company training schemes but also to joint schemes organized by employees and employer organizations.
7. Part E I, II and III of the first phase of the programme should be more clearly and specifically formulated and the creation of unnecessarily ponderous administrative strictures avoided.
8. The rapid creation of a European University for Technology and Management comparable in quality and prestige with the Massachusetts Institute of Technology in the United States should accompany the gradual introduction of a European Open Technological University with the stress on distance learning. Such an institution could in future become an open university.
9. Subject to the proposed additions and amendments the COMETT programme deserves a very favourable response and should be implemented with the cooperation of all concerned.

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