

Evaluation der schweizerischen Beteiligung am 5. und 6. Forschungsrahmenprogramm der Europäischen Union sowie des Informationsnetzwerkes Euresearch

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Summary

Since 1987 Swiss partners have been able to participate on a project basis in the Framework Programmes of the European Union (EU). In 2004, Switzerland signed an association agreement with the EU and consequently has unlimited access to all parts of the programme and funding instruments. For the current 6th Framework Programme, commitments run to around CHF 214 million (as of 31.12.2004). These fall in part to the Confederation and in part to the EU, which, since Switzerland's association in the 6th Framework Programme on 1.1.2004, funds Swiss project participation directly. With a view to renewing the association agreement for the 7th Framework Programme, the State Secretariat for Education and Research (SER) has commissioned an evaluation of Swiss participation. In particular, the evaluation should provide information on the following issues:

1. How has Swiss participation, the circle of applicants and the participating institutes and companies developed as a result of the 5th and 6th Framework Programmes?
2. Which groups of researchers and institutions have chosen not to participate, or participated only to a limited extent, in the 5th and 6th Research Framework Programmes?
3. What is the qualitative and quantitative impact of Swiss participation in the 5th and 6th Framework Programmes?
4. What experiences have Swiss researchers had with regard to the changes and new opportunities created by the association agreement?
5. How can the performance of the Euresearch information network be assessed?
6. How can Swiss participation in the Research Framework Programmes be assessed in terms of comparable EU Member States and States with similar association agreements ?

In order to answer these questions, an analysis was conducted of the State Secretariat for Education and Research's database on applicants for the 5th and 6th Framework Programmes. Secondly, qualitative interviews were carried out with coordinators, delegates, key persons involved with Euresearch and with persons who have not yet participated in the Framework Programmes. Thirdly, a survey was carried out with applicants to the 5th and 6th Framework Programmes via internet.

Thematic orientation of Swiss participation and the circle of applicants

Swiss participation in the 5th and 6th Framework Programmes, with respect to the thematic priorities, corresponds to those relating to the participation in the 3rd and 4th Framework Programmes. Swiss researchers are strongly represented in the fields of life sciences and in Information and Communications Technologies. Swiss participation in the fields of support for international cooperation (INCO Cooperation with Third Countries and International Organisations) and in specific research projects for SMEs is relatively small. This has to do with the fact that these areas of activity were not fully accessible to Swiss researchers due to the status Switzerland held at that time. This also applies to the horizontal programmes of innovation, mobility and infrastructure. Increased participation in these programmes can be expected in the future.

In the *Balthasar et al* evaluation report (2001) on Swiss participation in the 3rd and 4th Framework Programmes, it was observed that in the areas of energy research and research in the social sciences, Swiss researchers participated only marginally in comparison with their European colleagues. This appraisal is no longer valid for the area of energy research in the 5th and 6th Framework Programmes. In the area of research grants in the social sciences however, Switzerland's share lies significantly be-

low that of the EU. One reason for this is likely to be that these projects are oriented to the social impact for the European Union, which is not a topic of primary interest to Swiss researchers.

In terms of the frequency with which institutions participate in the framework programmes, it was shown that 35 per cent of grants went to institutions related to the Federal Institutes of Technology. Just under a quarter of the grants went to the cantonal universities, 18 per cent to large corporations and around 13 per cent to SMEs. If these results are considered in terms of the time span (from the 3rd to the 6th Framework Programmes), it is possible to observe a decline in funding for participation for the universities. SMEs were able to significantly increase their participation from the 3rd to the 4th Framework Programme, however, in the current 6th Framework Programme participation lies somewhat lower. The margin set by the European Commission for around 15 per cent of funds for research activities to be deployed by SMEs, could be met. Switzerland, for its part though, has not as yet established any such limit. In the 5th Framework Programme large corporations had the lowest participation. They were able to increase this again in the 6th Framework Programme. It is not possible to draw any consistent trends regarding participation from the 3rd to the 6th Framework Programme on the part of the remaining institutions.

Interviews with persons from various institutions that have not yet participated, reveal that it is above all the large effort involved in making a submission that has discouraged them from participating. Further reasons include the inadequate matching of topics, especially in the case of highly specialised SMEs and the lack of suitable partners, together with the fact that institutions often work with partners outside of Europe.

Impact of Swiss Participation

The utility drawn from participation in the Framework Programmes by Swiss researchers has remained at a high level compared with the 3rd and 4th Framework Programmes. As was already the case with preceding Framework Programmes, the participants pursue scientific, commercial and cooperative *goals* through their participation. Scientifically-oriented goals were pursued in projects to the same extent by all of the various institutions. As is to be expected, commercial goals were targeted to a higher degree by large corporations than by universities and non-university research institutions. Nonetheless, half of these institutions stated that they anticipate new products or the integration of project results into new products. In the case of SMEs, the creation of new products and services is the goal of programme participation for over 80 per cent of interviewees. In the case of goals linked to cooperation, it is possible to differentiate somewhat between the different types of institutions. While the improvement of existing cooperation and the development of new forms of cooperation are important for all types of institution, SMEs are inclined to explicitly pursue commercially-oriented cooperation goals for the purpose of expanding their network of business partners. SMEs therefore see the projects under the Research Framework Programme as a platform for initiating new business contacts .

If a comparison is made between realised *outputs from programme participation* across the various types of institution , it is possible to see that large corporations have a significantly lower output of publications than universities, non-university research institutions and SMEs. In contrast, large firms have a higher number of patents, realised and anticipated, compared with SMEs, and a significantly higher number when compared with universities and universities of applied science . Participation in the Framework Programmes leads to the creation of new jobs as well as “products”. The employment effect generated by the Framework Programmes is less marked in the case of large corporations than for universities, SMEs and non-university research institutions though. Rough estimates suggest that at least

around 950 temporary and permanent positions are created as a direct result of the Framework Programme.¹

In general the *benefit* of participation was deemed to have increased from the 5th to the 6th Framework Programme. An analysis of the survey clearly showed that participation in the European Framework Programme above all generates a benefit in terms of knowledge acquisition. Benefits linked to cooperation also play an important role and these are particularly important to the universities. Commercial utility is reflected in an increase in competitive advantage. All types of institution experienced an increase in this regard with the large corporations benefiting the most. Participants wanting to achieve the new establishment of spin-offs or start-ups were able to do so to the desired extent.

Participation in the Framework Programme also achieved a not insignificant share of *secondary-benefits*; that is utility generated in areas in which participants had not originally sought any benefit. For large corporations and research institutions, cooperation-related secondary benefits are almost as important as those benefits explicitly pursued and realised. Accordingly, one of the effects of the European Framework Programme originally envisaged, is still very relevant; namely, the improvement of a cooperation culture in Europe.

Despite the high level of utility of programme participation identified among participants, the *cost-benefit ratio* has *significantly deteriorated* compared with preceding Framework Programmes. Whilst 65 per cent of respondents participating in the 4th Framework Programme rated the utility of participation to be greater than the costs, this share fell to 56 per cent in the 5th and 6th Framework Programmes. Extensive bureaucracy and the high administrative effort required for the EU projects are the most important reasons for this deterioration. In addition, newcomers to the field in the relevant specialised area of technology rate the cost-benefit ratio significantly worse than project participants in the middle of the field or leaders in their particular field of specialisation. The most positive assessments of the cost-benefit ratio are provided by coordinators.

Even though the cost-benefit ratio has deteriorated, a high level of “*additionality*” has been ascribed to the Framework Programmes. 75 per cent of all participants indicated that their projects would not have been carried out without support from the EU Framework Programmes. The fact that 70 per cent of projects that were rejected were not subsequently pursued shows that support from the EU is of great importance to Swiss researchers.

Experience with the association agreement and the new instruments

Switzerland’s *association* to the EU Framework Programme has by and large been rated positively by Swiss researchers. The assessment of experiences under the association agreement is seen more positively by companies than by the universities, universities of applied science and research institutions. Half of respondents reported an improvement in support and coaching as a result. In addition, the skills of contact persons have improved as well as access to these persons. Furthermore, the fact that there is the opportunity of acting as coordinator has a positive influence on the inputs to the project. The new *instruments* (integrated projects, networks of excellence) found in the 5th and 6th Framework Programmes tended to be rated more poorly in comparison with the other instruments. The complexity of the projects and the large size of the consortiums makes project management difficult. Of the two new instruments, the interviewees attested that the instrument of integrated projects made a greater contribution to Swiss integration in the European market than the networks of excellence.

¹ This figure on the impact on job creation is derived on the basis of information on 448 projects compiled from results from the online questionnaire with a response rate of 29%. The figure attributed to the given job creation impact simply describes the *immediate* job creation impact and does not provide any information on the *long-term* impact on job creation.

Assessment of Euresearch

A favourable testimony can be attributed to Euresearch if it is assessed in terms of the requirements set down in the performance mandate. Euresearch's services were rated as very good to quite good by the majority of respondents. The information and support services were rated as easily accessible, up-to-date and reliable. Similarly, the ease with which the institute could be reached by telephone, and the skills of the contact persons were each judged as quite good or very good by 90 per cent of respondents. Respondents were also of the opinion that the support and coaching provided by Euresearch, as well as the skills of the contact persons have improved. Euresearch fully satisfies the information needs of its users, above all in terms of the provision of basic information, information on administrative issues, and on questions relating to funding and contract negotiations.

In spite of general satisfaction with the services provided by Euresearch, the study revealed three areas with room for improvement, part of which have not belonged to the principal tasks of Euresearch up to now: partner matching, support in the case of rejected projects, as well as the user-friendliness of certain services.

Respondents seemed to be dissatisfied with partner matching. Companies, universities and non-university research and development institutions in particular considered themselves poorly supported in this regard. In addition, the provision of information subsequent to the rejection of a project was considered inadequate. For 70 per cent of interviewees, their information needs following the rejection of a project were only met in part or not at all. Despite the availability of workshops for rejected projects, Euresearch has apparently failed to meet these information needs.

In terms of the provision of information services, such as the Caiman e-mail service, publications and information events, there is a potential for improvement in user-friendliness and a more targeted orientation to the needs of clients. Euresearch could optimise its services by making the relevant modifications as proposed in the evaluation report by Infrac, including in terms of customer benefit.

With regard to organisational aspects, it is evident that Euresearch is increasingly perceived as a single unit. The question of cooperation and way in which contracts are dealt with by the regional offices have been resolved and have proven their worth. In addition, Euresearch has been able to draw the regional offices more closely into the network through the creation of a strategic board. There remains a potential for optimisation in terms of collaboration with delegates and in the information flow to delegates. The better this exchange, the more delegates in Brussels can target their influence on the EU Framework Programme. There would appear to be a further optimisation potential in cooperation between Euresearch and other bodies involved in the fostering of research in Switzerland.

Swiss participation in international comparison

Swiss participation in the EU's Framework Programmes was compared with that of the UK, Finland and Norway. In all of these countries the significance of the "additionality" of funding is great. Access to additional funding is a decisive factor for participation in all four countries. Similarly, the motivation for participating in the Framework Programmes in all four countries is driven by the search for new scientific and technical approaches to solutions, as well as the acquisition of new knowledge.

However, new cooperation is significantly less important in Switzerland than in the other countries. This finding is likely to be due to the relatively high tendency towards cooperation that existed before the project, thanks to the traditional openness of the innovation system in Switzerland.

If one compares the project results in the four countries, it can be observed that the economic benefits gained by Swiss participants are generally more positively assessed than in the UK, Finland and Norway. Economic benefits can be measured in the shape of competitive advantage and improved market

position. In Switzerland, 68 per cent of participants in the Framework Programmes claimed that they had obtained such competitive advantage. This percentage is very high when compared with the other countries. However, in Switzerland, some form of general competitive advantage was sought and not *concrete* improvements in market position, as was the case in the other countries.

The overall cost-benefit relationship of participation in the Framework Programme was rated similarly in all countries. Compared with other countries, the cost-benefit relationship was evaluated particularly critically by Swiss universities and research institutions.