

BAVARIAN RESEARCH ALLIANCE – A PILOT PROJECT FOR PROMOTING BAVARIA'S SCIENTIFIC EXCELLENCE AT THE EUROPEAN LEVEL

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ABSTRACT

The European Union, together with the European Research Area (ERA), have fashioned a concept for developing the region into the worldwide leading arena for research and innovation. The core organisational tools here are the Research Framework Programmes. Under the auspices of the current 7th Research Framework Programme (2007 – 2013), the essential topics and guidelines for a European research promotional policy are defined, which are publicly announced through regularly scheduled calls for proposals. Respective involvement is open to institutions from the European Member States, candidate countries to the European Union, Associated States and international partner countries. As essential actors within the international, inter-sector and inter-disciplinary consortia, primarily universities, research facilities, SMEs (small and medium-sized enterprises) as well as participants from the public administrative arena are slated to appear.

Despite a plethora of pre-existing institutions that are active in a consultancy capacity for promotion of European research, there often exists, for actors from the scientific and/or commercial sectors, a huge lack of clear understanding regarding the European programmes, as well as concrete support for access to them. In the form of the Bavarian Research Alliance GmbH, there now exists a new initiative for providing Bavarian actors from the scientific and commercial sectors with an opportunity for international participation, and for offering them support during the application process of submitted proposals. The following article introduces the offerings and procedural steps of the Bavarian Research Alliance as a central contribution to the internationalisation of research and innovation.

KEYWORDS:

BayFOR, ERA, Environment, European R&D programmes

THE EUROPEAN RESEARCH AREA AND THE RESEARCH FRAMEWORK PROGRAMMES

In order to establish the European Union as a worldwide leading arena for research and innovation, since the year 2000, the concept of the European Research Area (ERA) exists. This is a long-term goal to secure possibilities for employment by means of the use of scientific resources, to increase competitiveness and to improve consensual awareness regarding national and European research activities. Furthermore, mobility of scientists should be increased, and already existing research infrastructures should be advanced [1].

The most essential tools for building up this European Research Area are the European Research Framework Programmes, which exist since 1984. They are aimed at the promotion of world-renowned and state-of-the-art research, with scientific excellence being the crucial criterion [2]. The current 7th Research Framework Programme (FP7), with a budget of 54 billion euros, consists of five major building blocks, the specific programmes “Cooperation”, “Ideas”, “People” and “Capacities”. Included in this list as well is a specific programme for the (non-nuclear) Joint Research Centre and the Framework Programme EURATOM, with the nuclear activities of the Joint Research Centre. Welcome to participate in the FP7 are facilities from any Member State of the European Union (e.g. universities, universities of applied sciences, non-university research facilities, Small and Medium-Sized Enterprises) as well as European Union Candidate countries (Croatia, Macedonia, Turkey), and the so-called “Associated States” (Iceland, Israel, Lichtenstein, Norway, Switzerland). “Third countries” are invited to participate as well, i.e. those countries of the world with which the European Union has been striving towards collaboration in research and development (International Cooperation Partner Countries, ICPC).

EUROPEAN R&D-PROGRAMMES WITH THEIR FUNDING OPPORTUNITIES

The contents and scientific enquiries for public calls for proposals are generated primarily by the Directorate-Gen-

TABLE 1 - Activities and Sub-Activities of the thematic priority „Environment (including climate change) within the FP7-Cooperation-programme [4]

Activities	Sub-Activities
Climate Change, pollution and risks	<ul style="list-style-type: none"> ▪ Pressures on environment and climate ▪ Environment and health ▪ Natural Hazards
Sustainable Management of resources	<ul style="list-style-type: none"> ▪ Conservation and sustainable management of natural and man-made resources and biodiversity ▪ Management of marine environments
Environmental technologies	<ul style="list-style-type: none"> ▪ Environmental technologies for observation, simulation, prevention, mitigation and adaptation, remediation and restoration of the natural and man-made environment ▪ Protection, conservation and enhancement of cultural heritage, including human habitat ▪ Technology assessment, verification and testing
Earth observation and assessment tools for sustainable development	<ul style="list-style-type: none"> ▪ Earth and ocean observation systems and monitoring methods for the environment and sustainable development ▪ Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation
Horizontal activities	<ul style="list-style-type: none"> ▪ Dissemination and horizontal activities

erals of the European Commission (e.g. DG Research, DG Environment, DG Energy etc.). Additionally, positions from the European Parliament and the European Council are submitted, i.e. the Brussels Administration identifies the scientific topics for the framework programmes and provides a “top-down” list for them, prioritising where European-financed demand for research exists. Then scientific consortia are requested, through so-called “calls for proposals”, to develop high-potential approaches to solutions for the drafted research problems (“bottom-up”). Each call regarding a concrete topic is in reference to a specific work-programme and can be downloaded online from the Information Service of the European Commission CORDIS [3].

A good example for the structure of the FP7 Cooperation Programme, in this regard, is the thematic priority “Environment (including climate change)”. Over the course of the entire duration of the FP7, there are five central activities herein with corresponding sub-activities. Within these sub-activities, “areas” are, in turn, defined at a subordinate level, within which concrete topics are proposed (see Table 1).

Allowances should be made in this process for the specific scientific-criteria and formal-criteria of the respective promotional instruments (i.e. project types, funding schemes), which are indicated in the calls for proposals. In the area of collaborative research, one differentiates cooperation projects of varying sizes (e.g. small to medium-scale focused research projects, large-scale integrating projects), networks of excellence, coordination and support actions. Should it be the case that, on the part of the European Commission, a specific country is preferred for research cooperation, then, network projects are designated as so-called “SICA-Actions” (Specific International Co-

operation Action). In the sense of a further opening-up of the European Research Area, the EU Commission, moreover, places high priority on strengthened international cooperation with other research areas (e.g. North America, Asia, and Australia).

CONSULTANCY OFFERINGS FOR EUROPEAN RESEARCH PROMOTION

In the sense of internationalisation of research, there are numerous consultation structures for European Programmes. At the level of EU Member States, these are, for example, the National Contact Points (NCPs), which offer content and administrative information for the topics of the FP7. At the same time, there exist at most universities meanwhile research departments, in which information can be prepared regarding calls for proposals and the formal characteristics of an application. Nevertheless, universities often lack the structures necessary for active support during the drafting and development stages of European projects. In SMEs, in particular, both the requisite resources and experience are lacking that would facilitate the long process for development of a European research project.

THE BAVARIAN RESEARCH ALLIANCE GMBH WITH THEIR OFFERS OF SUPPORT

For improved support of Bavarian actors from the scientific and commercial sectors regarding their access to European R&D programmes, the Bavarian Research Alliance (BayFOR) was founded in the end of 2006 [5]. The private non-profit enterprise with its headquarters in Munich and a branch in Brussels has two participating asso-

ciates (University of Bavaria; University of Applied Sciences Bavaria) and is being funded by two Bavarian State Ministries (Ministry for Science, Research and the Arts; Ministry for Business, Infrastructure, Transport and Technology), and the Bavarian State Chancellery.

BayFOR maintains three different business domains:

- European R&D-Programmes.
- Coordination of the Bavarian Research Cooperations. Since 1985, the concept of research cooperations has worked for interdisciplinary research projects and close to application research projects in Bavaria. These cooperations are unique networks of scientists, structured in so-called “worlds of science” (Cultural world; information world; living world; material world). The researchers operate from different locations, and work together on complex topics in widely differing disciplines [6].
- International scientific coordination between Bavaria-Québec and Bavaria-Alberta (Canada). Bavaria and the North-American Region of Québec have been working closely together for many years in the areas of science, research and technology. BayFOR supports here the exchange between individual scientists and their facilities.

In the BayFOR core business domain “European R&D-Programmes”, scientists and enterprises are informed, advised and supported throughout the procedural sequence of: formulating an idea, making the respective application for that idea during the proposal writing and, finally, submitting a project based on that idea. Scientific officers are responsible for special scientific-related thematic areas (Environment; Energy; Life Sciences, Knowledge Based Bio Economy; ICT; Nano-sciences, materials and new production technologies; Socio-Economic Sciences and the Humanities). Their own academic background makes it possible for the BayFOR scientific officers to have subject-based access as well as language facility vis-à-vis the scientists. By means of the comprehension and recognition of relevant European background documents, they can also acquire access to the development of a research topic.

For awareness raising concerning European participation opportunities, organisation and execution of events are equally vital, in which the characteristics of a European participation are introduced and networking for relevant actors is accomplished. Concurrently, actors from the scientific and commercial sectors are pro-actively informed as regards concrete calls for proposals funding. Draft versions of work programmes of the European Commission are used as a source of support for this. Finally, potential applicants are strategically advised for efficient participation in research-relevant EU programmes. This involves, for example, clarification of who could be regarded as a potential partner for project participation, as well as support during the search for suitable (inter-)national partners. During the compila-

tion phase for the consortia, it is important to keep in mind that European research funding prefers a cooperation that would overcome the boundaries of countries, disciplines and sectors. In the sense of strengthening industry within the European Community (i.e. its competitiveness), private SMEs are called upon to get involved in the European project consortia. The EU has determined, via their official definition of a SME, the number of employees (fewer than 250), the annual revenue (max. 50 M euros), as well as the annual balance sheet total (max. 43 M euros) as threshold values. By means of inter-sector cooperation between actors from the scientific and commercial sectors, project results should acquire a stronger application-oriented character, and transfer of both technology and science should be enabled.

For the case involving a European application, various active methods of support are offered at BayFOR. For analysis of the demand for a particular applicant, the following topics are taken into consideration: definition of a competitive research plan, assessment of the financial needs of an applicant, as well as examination of the plan as regards European relevance and/or European added value. Via the BayFOR branch in Brussels, which represents the Bavarian universities and colleges for applied science at the European level, contact is established early on between the international project consortia and the European Commission. A clarification can then be made as to whether a call for proposals is being properly interpreted by the consortium in the light of the European Commission requirements to be fulfilled. Regarding strategic-policy lobby-work for consortia in Brussels, one must also consider their placement within the framework of scientific congresses, which are organised on site by BayFOR, and for which a scientific exchange with representatives from the European Commission is offered.

Concerning support for the proposal-writing process, the following are also significant factors in the transfer of and strict compliance with all scientific-relevant and formal application criteria:

- **Scientific and/or technological excellence:** Concept and objectives; progress beyond the state-of-the-art; S/T methodology and associated work plan; overall strategy and general description of the work packages; timing of the different work packages, deliverables and milestones
- **Implementation:** Management structure and procedures; participant description; budget calculation; resources to be committed
- **Potential impact:** Strategic impact; plan for the use and dissemination of foreground
- **Ethical issues and consideration of gender aspects**

Furthermore, relevant administrative application characteristics are considered by BayFOR. The characteristics that must be put forth by the participating institutions within

the consortium include (participant identification code; budget calculation; handling of the electronic proposal submission system EPSS). Relevant for provision, also graphics, as a component of an application (Pert diagram, Gantt chart, consortium as a whole etc.) as well as support for the layout of an application, count in this regard. Should a project application be positively evaluated by independent experts, and an invitation is issued for contract negotiations with the European Commission, BayFOR generates support as well during these negotiations (preparation of the Grant agreement; Description of Work, handling of negotiation electronic facility etc.).

BayFOR participates in the meantime in various European consortia also as project partner and is, in this case, usually responsible for project management and dissemination of project results (e.g. CLIMB; CAMbrella; EEN; WINALP). Assumption of scientific-related and financial-administrative responsibilities, securing of internal and external communication structures, and punctual reporting vis-à-vis the European Commission also belong to this list of tasks to be undertaken.

CONCLUSIONS

The European Research Area offers great possibilities for international cooperation, funding of research institutions, knowledge transfer as well as for research infrastructures. Within the further development of the ERA, the Research Framework Programmes will form the crucial instruments. To participate at the European level in a successful and competitive way, there is still a need to give support to scientists as well as to other relevant actors who form the research consortia. The Bavarian Research Alliance offers this support to researchers as well as small and medium-sized enterprises on a local scale in Bavaria. This local support can only be successful if main elements are included in the political development of an attractive, effective and efficient ERA: “the free circulation of researchers, knowledge and technology to offer maximum freedom and opportunities to all players in Europe; strong science, well linked to society to address major societal challenges; and close links between research, education and innovation to support European competitiveness” [7].

REFERENCES

- [1] Muldur, U., Corvers, F., Delanghe, H., Dratwa, J., Heimberger, D., Sloan, B. and S. Vanslebrouk (2007) A New Deal for an Effective European Research Policy, pp. 289. (ISBN 1402055501). Dordrecht.
- [2] European Commission (2008) Challenging Europe's Research rationales for the European Research Area (ERA). In: http://ec.europa.eu/research/era/pdf/eg7-era-rationales-final-report_en.pdf (13.12.2009).
- [3] Community Research & Development Information Service (CORDIS): <http://www.cordis.eu/tp7>
- [4] European Commission (2008) FP7 Cooperation Work Programme 2009 - Environment, including climate change. In: C(2008)4598 of 28 August 2008, pp. 2ff. Brussels.
- [5] Bavarian Research Alliance (BayFOR): <http://www.bayfor.org>
- [6] Parlar, H. (2009) The European research policies. In: Science & Technology 4, 42-43. (ISSN 1757-2770), United Kingdom.
- [7] Silva Rodríguez, J.M. (2009) Working together to strengthen research in Europe – European Research Area conference, p.3. Brussels (21.10.2009).

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