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Perspectives of the European Research Area

Norbert Kroo

The significance of knowledge is growing in innovation oriented developed societies, it is the most significant driving force of economies. Existing technologies are drying out and future development is based on new ones, rooted mainly in new ideas, coming from research. The 3 most significant fields of development are information-, bio-, and nanotechnologies. The critical size for successful research is increasing and global cooperation – in competition – is the new approach to solve existing complicated problems.

The EU has recognized that R and D are the key to competitiveness and new (high tech) jobs. The basis of the solution is an increased research potential with 700.000 new researches and engineering positions until 2010 a proper research infrastructure (a roadmap for new large facilities), an appropriate institutional system, improved academia – industry relations and a better relation between science and society. To realize these goals higher R and D spending is needed.

Europe – based on its traditions – has a significant responsibility to be one of the engines of development, being the cradle of renaissance, enlightenment, the industrial and agricultural revolutions and modern science. We have broad experience in international scientific cooperation and a good traditional university system.

Based on these traditions and motivated by existing needs, the European Research Area concept has been launched. Its main elements are

- the harmonization of national research programmes;
- the emphasis on excellence in (basic) research;
- recruitment, training and clear career path of scientists;
- in all aspects balanced infrastructure;
- mobility of young and senior scientists;
- harmonization of science policies and;
- the better use and development of the research potential of less developed regions.

The main instrument in the realization of ERA has been the 6th Framework Programme with the aim to concentrate and integrate European research, to structure appropriately research activity and to strengthen its foundation.

The 7th Framework Programme with its four specific programmes and with its increased finances reflects a new situation in which ERA can and should be re-thought.

The weak points in European research are known:

- weak cooperation along strategic priorities;
- fragmented research;
- lack of finances for training, mobility and research infrastructure;
- lack of scientific-technological cohesion;
- low volume of excellent research and a small number of excellent research teams and
- the neglect on EU level of basic research.

Actions on each point are under way and even more is expected in FP7. This is important since after the acceptance of the ERA concept (Lisbon 2000) important decisions were made but not too much happened in the form of actions.

The basic philosophy of FP7 in the spirit of the Lisbon decision is emphasis on knowledge creation by developing the knowledge triangle, namely

- research and technology;
- education and training and
- innovation.

FP7 has strong emphasis on research with less bureaucracy, more efficient utilization of scientific results (in products, processes and services) by further developing the ERA concept with an increased level of both national and community funding. Its content is centered around the four specific programmes:

- Cooperation;
- People;
- Capacities and
- Ideas

and the priority cooperation themes, namely health, food, agriculture, biotechnology, ICT, nanoscience and technology, new materials and technology, energy, environment and climatic changes, transport and aeronautics, social sciences and humanities and finally security and space research.

The “Ideas” programme is a completely new element in community financed research, being one of the key instruments to realize the ERA concept. It concentrates on basic and strategic research and its benefits are expected in

- new knowledge, ideas and discoveries,
- in higher quality by raising competition to European level,
- in strengthening the European research efforts,
- in decreasing fragmentation,
- in minimizing duplications of efforts and resources, and
- leading to a better view in the Commission of research in Europe.

The “Ideas” programme is run by the Scientific Council of the European Research Council. This Research Council being – at least for the time being – a directorate of DG Research. To goal is to promote excellence in all areas of science by competitive funding, solely on the basic of excellence. The intention is to fund individuals or groups with strong attention to the young generation by the early stage independent investigator scheme.

ERC has been created by the Union and its heads of states and is accountable to the EC but the Scientific Council is an autonomous decision making body and the funds to be distributed by it are part of the budget of FP7 (~7,5 billion Euro).

The Scientific Council has 22 members and controls the executive actions of the directorate (later Executive Agency) via a Secretary General responsible to the Scientific Council.
20 panels have been created for the selection process from grant applications to be funded. The list of panels is as follows:

A. Social Sciences

- individuals and organizations;
- institutions, behaviour, values and beliefs;
- the human mind and its complexity;
- cultures and structural diversity;
- the study of the past and of cultural artefacts.

B. Life Sciences

- molecular, cellular and developmental biology;
- genetics, genomics, bioinformatics and system biology;
- neurosciences;

- evolutionary, population and environmental biology;
- applied medical and health sciences;
- applied biology, biotechnology and bioengineering.

C. Natural Sciences

- mathematical foundations;
- fundamental constituents of matter;
- structures and reactions;
- material sciences and methods;
- information and communications;
- engineering sciences;
- universe science;
- earth system science.

The mission of ERC and first of all its Scientific Council is more than grant distribution. It is to

- decide on scientific strategy;
- to monitor and control quality and performance and
- to establish a communication strategy.

It is expected that the programme, run by the European Research Council will encourage and support the best talents in Europe and the best ideas in frontier research. It will strengthen the status and increase the visibility of research leaders. There might be a dynamical structural effect on the European research system and on science based industry. It is hoped that potential investors invest into the European knowledge base.

To sum up FP7 is a significant step toward a more efficient, more competitive European future. The programme is rooted in the ERA concept and should be taken seriously by all of us.

Univ.Prof. Dr. Norbert Kroo
Member of the European Research Council
Vice-President of the Hungarian Academy of Sciences
Roosevelt sq. 9
H 1051 Budapest
kroo@office.mta.hu