

## **FUNDING THE RESEARCH ACTIVITY THROUGH THE SEVENTH FRAMEWORK PROGRAM**

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*Abstract. The research activity is rightfully considered to be the real engine of the economy. This is even more relevant because the results of this activity are implemented in the economy. In time, there were conceived several ways to finance research activity. Thus, while in the USA, the funding is based especially on capital funds, in Europe, the research is funded through this Framework Programs, since 1984. From one framework to the other, the value of the funding has increased. In this way, the Seventh Framework Program provided a budget of almost 53.5 billion euro. The funding of the research activity through this program reunited five blocks of specific programs: Cooperation, Ideas, People, Capacities and Nuclear Research, and each program had very different activity areas.*

*The European Union conceived, in 2010, in the context of the economic crisis, a funding project that worked simultaneously with the Seventh Framework Program, called "Innovation Union", whose purpose was to reduce the distance between the funding of the research in the USA, or Japan. The results appeared quickly: in 2011, the value of the funding, in the private sector, in the European Union was almost equivalent with that of the USA, and bigger than the value of the funding at a global level. The next project of funding is called "Horizon 2020" and it is envisaged that it will have a budget of over 80 billion euro, from which over 70 billion euro meant for research, development and innovation.*

*Key words: funding, research, innovation, framework program.*

### **1. INTRODUCTION**

Framework Programmes have played an important role in multidisciplinary research as well as for cooperation activities in Europe and abroad since 1984 when they were launched. Unlike previous programs, the 7<sup>th</sup> Framework Programme contains a wider range of funding the research activity areas and, at the time of its launch, was the largest ever biggest budget allocated by this type of grant programs.

Thus the 7<sup>th</sup> Framework Programme has a budget of 53,221 million euros, representing an increase of 41% from the 6<sup>th</sup> Framework Programme, in relation to

2004 prices, and of 63% compared to 2007 prices<sup>1</sup>. In fact, the evolution of the budget allocated through the last 4 framework programs is shown in Figure 1.

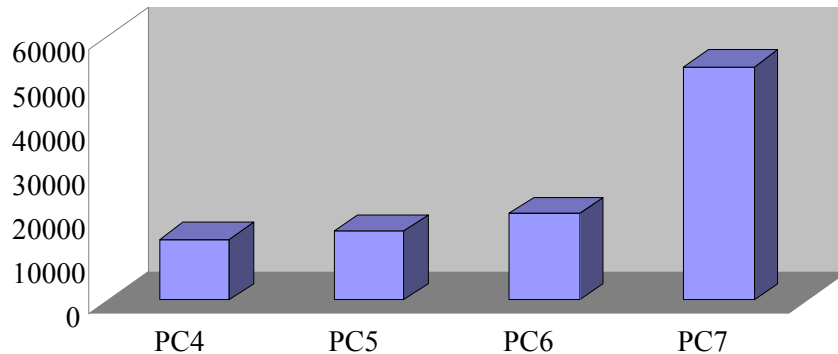


Fig. 1. The evolution of the allocated budgets through the Research Framework (million euro).

Sure, several questions have been asked about what's new in the 7<sup>th</sup> Framework Programme. The news is:

- The budget increase – as I stated earlier, the FP7 budget represents a 63% growth from FP6 at 2007 prices; also EU Member States took the obligation to increase research spending from 2% of the GDP to 3%.
- The focus on themes – in the Cooperation program there has been a strong focus on the main research themes (health, ICT, space), as shown by the large budget allocated for this program.
- European Research Council (ERC) – it was aimed to establish the first pan-European agency for funding research, which aims to fund European research at the frontiers of science even if it is high risk, having, however, the potential to also generate higher earnings.
- Regions of Knowledge – by this was searched a connection within a region, among universities, research centers, multinational companies, regional authorities and SMEs.
- Risk-sharing funding – this feature has the purpose to enhance the financial backing of private investors in research projects by improving access to loans from the European Investment Bank (EIB) for European research actions.
- Joint Technology Initiatives (JTI) – these come as a continuation of the European Technology Platforms (ETPs) and address, specifically, the

<sup>1</sup> [www.ec.europa.eu/research](http://www.ec.europa.eu/research)

research activity areas that are essential for improving collaboration and considerable investments for the research activity.

- The unique support service – this service acts as a first contact for potential participants in the 7<sup>th</sup> Framework Program, providing answers to their questions on all matters regarding research funding through this program<sup>2</sup>.

## 2. SPECIFIC PROGRAMS FUNDING OF THE FP7

The 7<sup>th</sup> Framework Program supports research in priority areas to make or keep the EU as a leader in these fields and to address the needs and the competitiveness of employment in Europe.

Thus, we distinguish the following specific programs of the FP7<sup>3</sup>:

A. *Cooperation* – this program is the core of FP7, representing two thirds of the total budget. It stimulates research collaboration across Europe and other partner countries, particularly transnational consortia projects consisting of private companies and academia. The research is conducted in the following thematic areas:

- health;
- food, agriculture and fisheries, and biotechnology;
- computer science and communication technologies;
- nanosciences, nanotechnologies, materials and new production technologies;
- energy;
- environment, including climate change;
- socio-economic and humanities sciences;
- space;
- security.

B. *Ideas* – this program supported research solely on the basis of scientific excellence. Research can be done in any field of science and technology, including engineering, socio-economic and humanities sciences.

If under the Cooperation program there is an obligation of cross border partnerships, in this program the obligation does no longer exists and the projects can be implemented by, “individual teams grouped around a principal investigator”.

C. *People* – People program provides support for career development and mobility of researchers, of both of those from the European Union and those from non-EU countries. The program is implemented through a set of Marie Curie actions, by which are ensured scholarships and other measures in order to help researchers build their skills and competences throughout their careers:

- initial training of researchers Marie Curie Networks;
- partnerships and links between the business and academic environment;
- co-financing regional, national and international mobility programs;

<sup>2</sup> [www.ec.europa.eu/research/fp7](http://www.ec.europa.eu/research/fp7) (14.11.2013).

<sup>3</sup> *Ibidem*.

- Intra-European fellowships;
- international dimension: outgoing and incoming fellowships, international cooperation scheme, reintegration grants;
- Marie Curie awards.

D. *Capacities* – this program comes to support research capabilities that Europe needs if it is to become a knowledge-based economy. The Capacities program covers the following activities:

- research infrastructures;
- research for the benefit of SMEs;
- Regions of Knowledge;
- research potential;
- science in society;
- specific activities of international cooperation.

E. *Nuclear Research (EURATOM)* – is a program for nuclear research and training, and includes research activities, technological development, dissemination of technical information and exploitation, and training, as well as international cooperation.

It comprises two specific programs: a) the first program includes: fusion energy research (ITER) nuclear fission and radiation protection, b) the second program covers the activities of the European Research Center (ERC) in the field of nuclear energy, including nuclear waste management, and environmental impact, nuclear safety and hence nuclear security.

### 3. THE BUDGET OF THE 7<sup>th</sup> FRAMEWORK PROGRAM

For the duration of the program 50.521 million euro were allocated for the first four specific programs (Cooperation, Ideas, People and Capacities, as well as for the Joint Research Centre), while, separately, for the Euratom program, were allocated 2,700 million euro. Distribution of the five programmes under FP7 is presented in Figure 2 and the budget allocated to the Programme Cooperation is presented in Table 1.

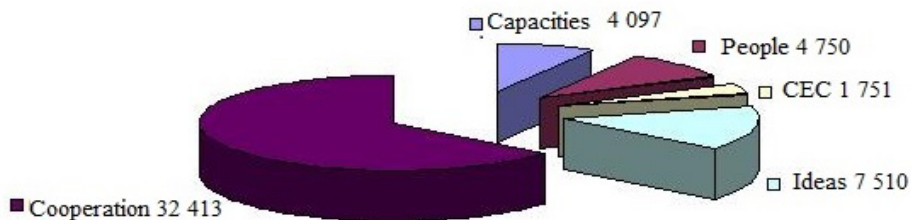


Fig. 2. The budget of the 7<sup>th</sup> Framework Program (million euro).

Table 1

The budget for the Cooperation Program (million euro)

Health	Food, Agriculture and Biotechnology	Environment (including climate changes)	Nano production	Energy	Transportation (including Aeronautics)	Space	Security	Socio-economic and humanities sciences	Information and communication technologies
6050	1935	1800	3500	2300	4180	1430	1350	610	9258

An example of an allocation of funds from the 7<sup>th</sup> Framework Programme is the sixth grant competition for confirmed researchers, which is the last within the FP7. Through this grant competition were allocated 660 million euro through which the CEC provided funding for the research topics up to 3.5 million euro. Among the topics financed, I must mention the exploration of the limits of life on Mars, the development of a virus that can target cancer cells, the use of photonics to restore vision in patients with cataracts, as well as an aging study of the population in the developing countries etc.

Grants for consecrated researchers are assigned, usually to high-level researchers who are consecrated, regardless of nationality or age, scientifically independent and who have a profile and research results through which are identified as leaders in their field or fields of expertise. Moreover, the CEC finances high-level young researchers at the beginning of their professional career (ERC Starting Grants) and also independent top scientists (ERC Consolidator Grants)<sup>4</sup>.

CEC grants were addressed to top researchers regardless of their nationality but who are established or are willing to move into the European Research Area, which consists of the EU Member States, to which are added the countries associated to the EU research programs. Britain, Germany and France, the EU Member States with the largest population, host, by default, the highest number of researchers selected by the call today. However in proportion to their population size, the Netherlands, Belgium, Finland and Denmark, among the EU member states as well as Switzerland and Israel among the countries associated with the EU's research program, host the largest number of laureates of this call.

#### 4. CONCLUSIONS

The result of research activity, which is based on creativity and innovation, is represented by the technical progress that is applied in economic practice.

<sup>4</sup> I. Plumb, S. Vişan, L. F. Botez, M. S. Florescu, A. Angelescu, *The Management of Research and Innovation*, 2<sup>nd</sup> edition, Bucharest, ASE Publishing House, 2007.

The integration of technical progress in certain development strategies that can ensure sustainable economic growth might result, among other things, in: conservation of natural resources, ensuring the development of a healthy and competitive economy, improvement of the social conditions, of the life and work of the people, as well as the protection of the environment.

The next research funding program will not be called “Framework Programme”, but will be called “Horizon 2020” and will take place for the period 2014-2020. This funding program is a key tool in the implementation of the Initiative, “An Innovation Union”, which aims to contribute to the development of an economy based on knowledge and innovation, by mobilizing a budget of over 70 billion euro for research development and innovation.

Thus the support proposed for research and innovation under Horizon 2020 aims at the following<sup>5</sup>:

1. **Strengthening the EU’s position in science**, that has a proposed budget of 24,341 billion euro. This objective is intended mainly to increase the level of excellence of Europe’s science base and should provide a steady stream of world-class research to ensure the long term competitiveness of Europe.

2. **Strengthening the industrial leadership in innovation** of the Union, that has a proposed budget of 17,015 billion euro. The objective is to ensure the transformation of Europe into a more attractive place to invest in research and innovation, by promoting activities for which businesses are setting the agenda, and will result in major investments in the main industrial technologies, as well as in the maximization of the growth potential of the companies within the EU.

3. **Contributing to global challenges**, that has a proposed budget of 30,956 billion euro. Here are reflected the political priorities of the Europe 2020 strategy, which is based on challenges for whose solutions will be combined resources and knowledge from different fields, technologies and disciplines, including social and humanities sciences. However, in this case funding will focus on the following areas: health; demographic changes and wellbeing; food security; sustainable agriculture; marine and maritime research and bio-economy; safe, clean and efficient energy sources; intelligent and environmental integrated transportation; climate action; efficient use of resources and raw materials; inclusive, innovative and secure societies.

<sup>5</sup> [www.ec.europa.eu/research/horizon2020](http://www.ec.europa.eu/research/horizon2020) (14.11.2013).