European Union Framework Programme for Research and Innovation HORIZON 2020

(Focus areas: Health, Energy and Climate change)

Association Agreement with EU and Innovation Strategy of the Ministry of Education and Science of Georgia

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SCIENCE MANAGEMENT IN GEORGIA

There were many research Institutes, till 1991 year in Tbilisi. Among them about 60 units were in Georgian Academy of Sciences, about 30 units were in the State Committee on Science and Technology, remainder Institutes were in different ministries.

SCIENCE MANAGEMENT IN GEORGIA

Specialization of the Institutes was different. In the Academy of Sciences of Georgia there were mainly fundamental researches, in the State Committee on Science and Technology – technological researches, in ministries research area was dependent on the profile of ministry.

SCIENCE MANAGEMENT IN GEORGIA

- The majority of the Institutes were financed by the budget of Soviet Union and after walkout of Georgia from the community of Soviet Union many of the Institutes were closed.

- As a result about only 60 Institutes keep, basically in Georgian Academy of Sciences.

SCIENCE MANAGEMENT IN GEORGIA

- In 2006 year science reform in Georgia was implemented, the Georgian Academy of Sciences and State Committee on Science and Technology were disintegrated and, as a result of the reform, the Institutes received LEPL status.
- In 2010 year basic mass of the Institutes disable independence and LEPL status and were included in the Universities.
- The last decision was the worst, as far as deprivation of legal position of the Institutes result in quality loss of scientific works and technical basis degradation

SCIENCE MANAGEMENT IN GEORGIA

- At the same time another process took place. As far as the last 15-20 years the financing of science was many times smaller than minimally necessary, about 0.15% of GDP.
- The scientists themselves searched financial sources in International scientific centers, in joint projects, in countries: USA, Europe, Germany, France, Italy, etc.
- Owing to such projects some Institutes became stronger, they started working on international level, in the sphere of technologies also.

SCIENCE MANAGEMENT IN GEORGIA

- FP6, FP7 (EU)
- STCU (USA, EU, Canada, Japan)
- ISTC (USA, EU)
- VW (Germany)
- CNRS (France)
- CNR (Italy)
- CRDF, GRDF (USA)
- CNCP (GB)
- INTAS (EU)
- NATO for piece (USA, EU, . . .)
- USA National Laboratories (USA)
- . . .

SCIENCE MANAGEMENT IN GEORGIA

- FP7 - 53 scientists (Special category “Ideas”)
- STCU - more than 150 projects
- ISTC - more than 170 projects
- STCU-Partner projects – more than 25 projects
- CRDF (GRDF) – Cooperation Grants Program (CGP),
  - Travel Grant Program,
  - First Steps to Market Program,
  - Non-Proliferation Awards,
  - South Caucasus Cooperative Research Program,
  - Opportunity Grants Program,
  - Regional Experimental Support Centers Program (RESC),
  - RESC Mini-grant Program,
  - Bilateral Grants Programs (BGP-1, BGP-2, BGP-3),
  - Science & Technology Entrepreneurship Program (STEP).

SCIENCE MANAGEMENT IN EU

- Civilization entered the third millennium on the wave of the new technological “jump” which is caused by adoption of new technologies in different branches of social life (microelectronics, ICT, robot technique, computers, nano- and biotechnologies). As a result, it requires development of different organization forms of the innovation processes.
- In March of 2000 in Lisbon European Union worked out ten-year strategy, the main goal of which was formation of dynamic economics based on a knowledge, which will ensure creation of the best work places, social support and sustainable development.

SCIENCE MANAGEMENT IN EU

Before realization of the Lisbon strategy, European Union had experience of financing of different all-European projects, including projects of nuclear power engineering. From 1994, within the framework of FP4 are represented the basic directions of investigations: information technologies, communication technologies, industry and material science; standards, measurements and testing; environment and climate, marine sciences and technologies, biotechnologies, biomedicine and health, agriculture and fishery; nonnuclear power engineering; nuclear disintegration and safety, controlled thermonuclear fusion; transport; designated social-economical investigations.

SCIENCE MANAGEMENT IN EU

On 1st of January of 2007 started program FP7, the main goal of which is support of scientific investigations in generic space of European Union. The budget of the program was 54.58 milliard euro.

The program joins scientific-research initiatives, which are oriented on increase of competitiveness of investigations of European Union, on educational and innovation spheres.

SCIENCE MANAGEMENT IN GEORGIA

- First of all, the competitions of projects submitted within the framework of different programs belong to European organizations and European researchers, but there was possibility of participation for organizations and researchers from “third countries”, in consortium with status of a additional participator.
- During formation of the program European Union provides conditions for small and medium enterprise (SME) to participate the projects.
- The main goal of the program is support of scientific investigations of countries of European Union and creation of common European scientific space (ERA- European research area). European scientific space must become the basis of creation of special segment of “European domestic market”.

SCIENCE MANAGEMENT IN EU

The main categories and special programs of the program FP7.

- In program FP7 are joined the following basic categories:
- **Cooperation** – development of international scientific-technical cooperation;
- **Ideas** – new ideas for suitable practical realization;
- **People** - scientific-technical personnel, representatives of industry, etc., in terms of their participation in the program, citizens of European Union and society, as users of achievements of modern science an technics;
- **Capacity –** additional opportunities for consolidation of efforts of scientists, producers, financial sources for implementation of the FP7 and creation of integrated scientific space.

SCIENCE MANAGEMENT IN EU

Three special programs are combined in FP7 program:

- Nonnuclear Joint Research Center (JRC - Joint Research Centre),
- Nuclear Joint Research Center (JRC - Joint Research Centre),
- Euroatom (EUROATOM).

Peculiarities of FP7 program are connected with structural organization of supposed thematic priorities of technological platforms (started working earlier, within the frames of FP6).

SCIENCE MANAGEMENT IN EU

The basic trends of category ”Cooperation” of the program FP7:

- Public health
- Nutrition, agriculture, fishery and biotechnologies
- ICT (Informational and communication technologies)
- Nano-sciences, nano-technoogies, materials and new industrial technologies
- Energetics
- Natural environment, includung climate changes
- Transport, including aeronautics
- Social-economic sciencies and the Humanities
- Cosmos (Space)
- Safety

SCIENCE MANAGEMENT IN EU

Ideas

The Category of the program - ”**Ideas**” suggests pan-European mechanism of creative scientific investigations (so-called boundary (“frontier research" - new understanding of basic research)), including multidisciplinary projects with the aim of obtaining of new knowledge, which ensures technological progress and making new decisions, as in the sphere of social problems, so in the sphere of the problems of environmental protection.

SCIENCE MANAGEMENT IN EU

“People”

The goal of the special category **“People”** is increase of human factor in scientific investigations, increase of the number of researches and specialists, which are employed in scientific investigations. For support of advanced innovations, for involvement of social and private innovations are needed highly educated scientific workers.

SCIENCE MANAGEMENT IN EU

“Capacity”

The goal of the special category of FP7 program “Capacity” **-** is broadening of research and innovative development in Europe and their optimal application.

Program “Capacity” implements horizontal support of such projects, which are different from special themes or interdisciplinary projects.

The aims of this category of the program include support of coordination of international cooperation of the different parts of national programs FP7.

SCIENCE MANAGEMENT IN EU

Category “Capacity” of the program FP7 works in the following seven directions:

- Infrastructure of the scientific investigations
- Research projects for small-scale business and medium business
- Science in regions and support of development of the regional sectors
- Increase of the scientific potential of adjoining spheres
- Science in society
- Support of balanced development of scientific policy
- International cooperation

SCIENCE MANAGEMENT IN EU

European ”Technology platforms” (ETP- European Technology Platforms) is term, which was offered by Eurocommission for designation of thematic directions, within the frames of which was formulated or will be formulated scientific-technical priorities of the frame-program FP7 of European Union.

Within the frames of directions of Technology Platforms is possible to financing such scientific investigations, results of which may be practically realized in small or middle plants in industry.

The platform of new type becomes actual from 2010 - (ETIP – European Technology and Innovation Platforms).

SCIENCE MANAGEMENT IN EU

Conception of European "Technology platforms".

- Conception of European "Technology platforms" ensures:
- Selection of scientific strategic directions;
- Analysis of market potential of technologies;
- Providing of views of all parties concerned: state, industry, scientific society, controlling units, users;
- Active participation of all countries of the European Union,
- Mobilization of public and private financial sources.

"Technology platforms" are established on basis of contribution, by consolidation of intellectual and financial resources of European Union, by consolidation of major European industrial workers and financial resources, for activation of scientific investigations, which are necessary for modern industrial plant.

SCIENCE MANAGEMENT IN EU

Forming of European “Technology platforms”.

- As a rule, forming of European “Technology platforms” is initiated by Europian big business, from different branches of industrial producer’s, unifications etc., representatives of which are members of so-called High Level Group, which defines strategic plan of operation in specified field (agro-industry, energetic, etc.).
- For working out of European “Technology platforms” is established Advisory Committee, the members of which are representatives from different structures: Eurocommission, scientific society, small and middle business, users organizations and unifications, nongovernmental organizations, etc.
- Forming of National Support Groups of interested in countries and regions takes place at the same time.
- Scientific Council, the members of which are leading experts of appropriate fundamental and applied sciences is established for formation of scientific part of “Technology platforms”.
- Today are established more than 35 Technology platforms within the frames of seven directions.

SCIENCE MANAGEMENT IN EU

The main tasks of “Technology platforms”.

The main tasks of established “Technology platforms” are (Strategic Research Agenda):

- Popularization and promotion of the aims and tasks of the established “Technology platforms” in structures of European Union and European society;
- Working out of strategic plan (Strategic Research Agenda) of researches, which is the main document and where is given proof - in which direction, in what terms, what goals and what for must be carried out given researches
- Working out of implementation plan of Technology platforms (Implementation Plan/Deployment Strategy).

SCIENCE MANAGEMENT IN EU

Joint technology initiative (JTI – Joint Technology Initiative)

- New tool (consortium) - JTI – Joint Technology Initiative was established in Euro Union for attraction of private financing and effective use of public and private resources. Activity of Joint Technology Initiative begun at 2004 (see IP/04/804) ARTEMIS, by operate of corresponding European Technology Platform (see MEMO/06/331).
- The sources of financing of Joint Technology Initiative may be FP7 and other funds, public and private, of separate Euro Union country or the whole Euro Union.
- For example, one of JTI – Disadvantageous Industrial Association ARTEMIS was financed from Austrian national sources (4 million euro) and at the same time from Program FP7 (2.2 million euro). The half or more of the whole financing was used for researches.

SCIENCE MANAGEMENT IN EU

The main branches of JTI:

- Today six branches are considered as JTI:
- Hydrogen and fuel elements (FCH JTI),
- Aeronautics and air traffic (”Clean Sky” JTI),
- Innovative medical initiatives (IMI),
- Nano-electronic technologies 2020 (ENIAC),
- Computerized systems (ARTEMIS),
- Global Monitoring for Environment and Security.

SCIENCE MANAGEMENT IN EU, Horizon 2020

Horizon 2020 – The Framework Programme for Research and Innovation

will succeed Framework Programme 7 (FP7) as the main financial instrument supporting European research and development.

- Running from 2014 to 2020 with a €79 billion budget (a significant increase over FP7), the new programme is intended to form a key part of the overall drive to create new growth and jobs across Europe.
- Aside from the increase in budget, Horizon 2020 will provide various simplifications through a unified set of rules. It will combine all of the research and innovation funding previously channeled through the Framework Programmes for Research and Technical Development, the innovation related activities of the Competitiveness and Innovation Framework Programme and the European Institute of Innovation and Technology.

SCIENCE MANAGEMENT IN EU, Horizon 2020

The proposed support for research and innovation under Horizon 2020 aims to:

- Strengthen the EU's position in science. This will provide a boost to top-level research in Europe, including a significant increase in funding for the very successful European Research Council.
- Strengthen industrial leadership in innovation. This includes major investment in key technologies, greater access to capital and support for SMEs.
- Provide significant funding to help address major societal concerns shared by all Europeans; such as climate change, developing sustainable transport and mobility, making renewable energy more affordable, ensuring food safety and security, or coping with the challenge of an ageing population.

SCIENCE MANAGEMENT IN GEORGIA, Problems

Problems in Science management:

- Competence of the University Scientific Board in the Research institutes scientific programs;
- Very low level of the financing in research institutes (payment of science 10 and more times loss then payment of professor with equal scientific degree in the same university);
- Many research institutes have not equipment and condition for education, it is impossible to use resource of the research institutes for education (from 2010 till 2014 amount of the students I and II levels (bachelor and master) in IICE is 0);
- Now there are strategy law for Innovation development of country, but the level of industry is very low and financing of science from a private sector is near 0;
- The legislation problems (High education, Science, Economic (spin-out company, etc.)

SCIENCE MANAGEMENT IN GEORGIA, Horizon 2020

Georgian Government's top priority is to pursue the integration track leading to the European Union. Truly, this event devoted to Horizon2020 is an integral part of this European integration journey.

That is why, in Georgia-EU Association Agreement, the whole separate chapter is devoted to cooperation in research and technological development.

This commitment is further specified in the Association Agreement Agenda, under which our Ministry assumed the responsibility to, on the one hand, promote and facilitate the integration of Georgia into the European Research Area (ERA) and on the other hand, gear its efforts to enhance Georgian participation in the EU Research and Innovation Program Horizon2020

SCIENCE MANAGEMENT IN GEORGIA, Horizon 2020

In order to help Georgian researchers safely navigate in rapidly updating information seas of Horizon2020, Georgian government and namely the Ministry of Education and Science of Georgia has set up the system of National Contact Points for Horizon2020

In order to ensure effectiveness of their assistance, the Ministry is committed to train Georgia NCP and facilitate NCP Network and cooperation with their European counterparts. In this regard, the first steps are already taken.

SCIENCE MANAGEMENT IN GEORGIA, Horizon 2020

For instance, this November, the EU-funded 2 day Workshop for Georgian National Contact Points on the various topics around Horizon2020 program is scheduled to take place in Tbilisi.

The topics to be addressed in the given workshop will range from the general legal & financial rules of participation in Horizon2020 program; from establishing mechanisms of networking with member state NCPs to finding partner and writing project proposals.

We expect that the format and topics of the workshop will significantly enhance consulting capacity of the Georgian NCPs that in the long run, will be favorably reflected in the Georgian participation rate in the given program

SCIENCE MANAGEMENT IN GEORGIA, Horizon 2020

Ministry has also decided to become an Associated Member to Horizon2020.

The substantial steps have been already taken; The Ministry already filed an official request to join the Horizon2020 as an associated member.

We are strongly determined to become the associated member of the program by the first half of 2015.

SCIENCE MANAGEMENT IN GEORGIA, Horizon 2020

The Association membership will offer Georgian researchers new opportunities. If now a Georgian researcher or organization is eligible to participate in the Horizon 2020 through the consortium made of the three partners established in EU member countries or Horizon2020 Associated countries.

After the Accession, Georgian researchers and organizations alike will be entitled to act as a partner for countries from the rest of the world. Access to benefits offered by the Horizon2020 will be much simplified for Georgians.

Likewise, this will have favorable effects upon Georgian research and innovation industry.

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Thank you for your attention