ROMANIA IN THE EUROPEAN RESEARCH AREA
REPORT 2013

SUMMARY: PAGE:

➢ 7TH FRAMEWORK PROGRAMME OF THE EU (2007-2013)

ROMANIAN PARTICIPATION IN FP7

To date, 19.920 projects with 103.889 participants are funded by EC, out of which Romania participates in 684 projects (3,32% from the total), with 858 participants, representing 0,82% from the total number (chart 1 and 2).

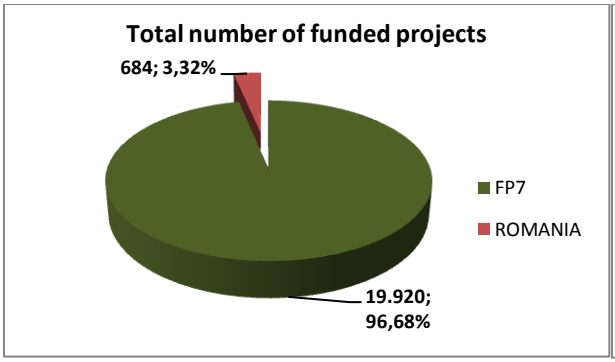


Chart 1 – Total number of funded projects

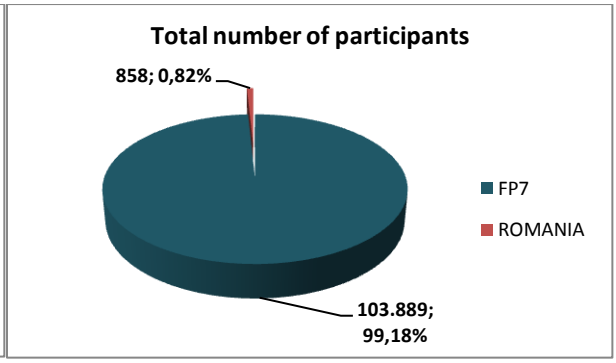


Chart 2– Total number of participants

The EC contribution for all the participants is 34.160.622.225 euro, of which the EC contribution for the Romanian participants is 114.865.043 euro, that counts for 0,33% from the total.

If we refer only to the grant agreements in which there are also Romanian participants and not to the total number of contracts in FP7, the amount of the EC contribution for the Romanian participants in the considered contracts oposed to the total value of the EC contribution for all the participants in those contracts where one of the participants is from Romania, the percentage is 4,49%, which can lead us to the conclusion of a low financial "involvement".

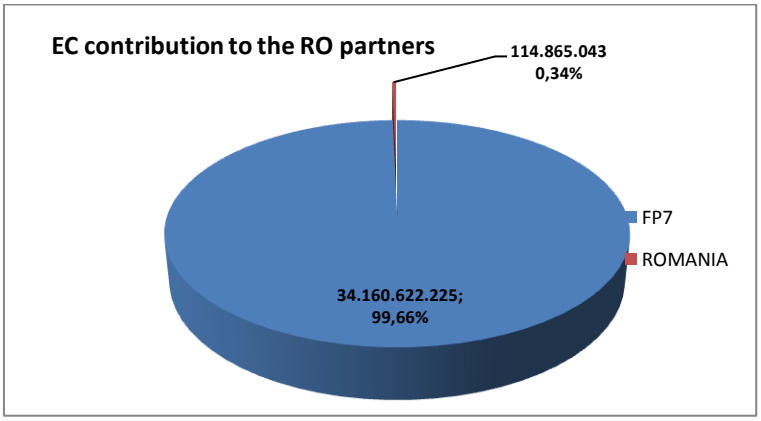


Chart 3 – EC contribution to the Romanian partners

The preliminary results of the UE member states participation to FP7 , which are best expressed by the succes rates per participants (all of them – coordinators and partners) and per EC contribution are the following:

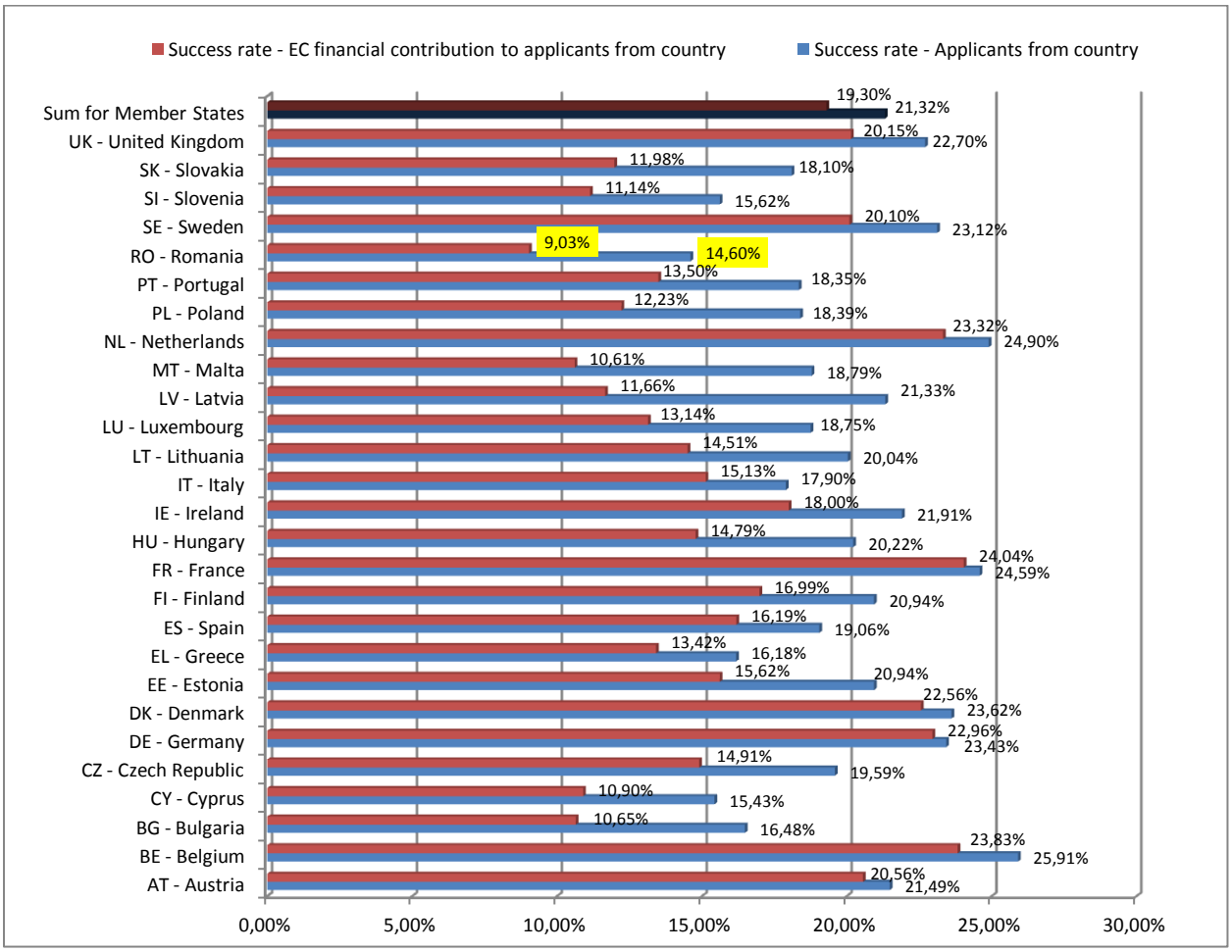


Chart 4 – FP7 Success rates by country

According to this chart, Romania's success rate is below the European level average – which is 21.32% (for year 2013) – with 14.4% for 2008, 14.5% for 2009; 14.9% for 2010, 14.57% for 2011, 14.92% for 2012 and 14.6% for 2013.

In financial terms, the "success rate" used as performance indicator is way below the average at the European level – 19.3% (for 2013) - (9.27% for 2008; 7.9% for 2009; 9.33% for 2010, 9.16% for 2011, 8.95% for 2012 and 9.03% for 2013).

As shown below in the chart, the success rate both in terms of participation and financial contribution remains the same over the time, except for a decrease in 2009 with regard to the financial contribution.

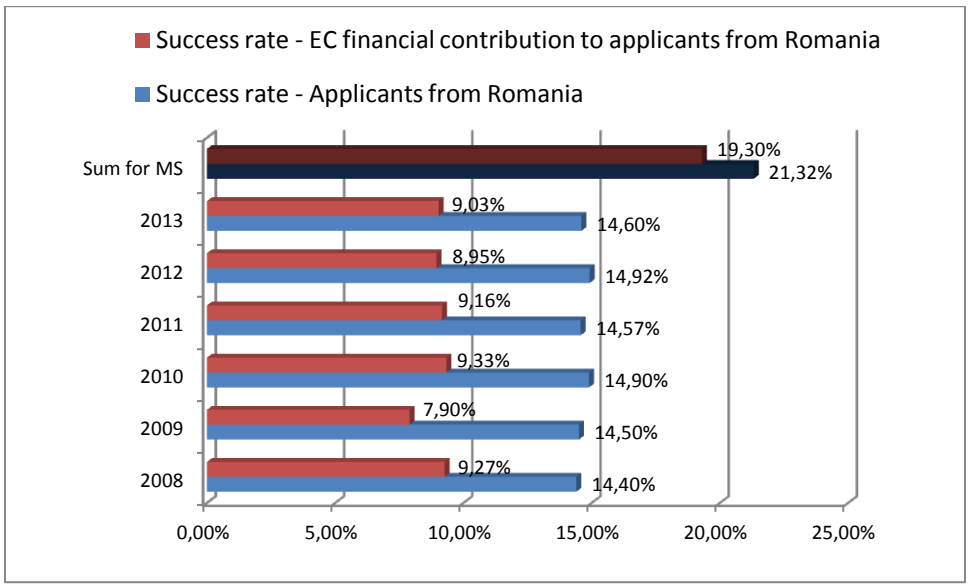


Chart 5 - The success rates in time (2007-2013)

The evolution of FP 7 contracts with Romanian partners and of the corresponding EC contribution for 2007 – 2013 are displayed in the next charts.

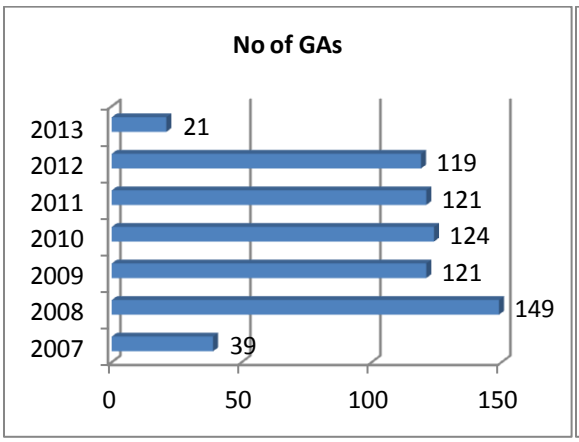


Chart 6 - The no. of FP 7 contracts

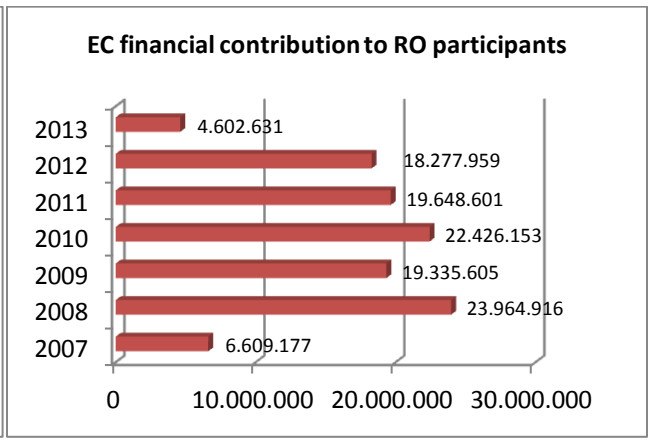


Chart 7 - The EC contribution to RO

The distribution of the number of contracts in which Romania is involved by programmes and themes, as well as the corresponding EC contribution is as follows:

- COOPERATION : 440 de contracts, EC contribution : 72.238.951 euro
- IDEAS : 1 contract, EC contribution : 366.960 euro
- PEOPLE : 59 contracts, EC contribution : 7.865.679 euro
- CAPACITIES : 170 contracts, EC contribution 32.475.556 euro
- EURATOM : 24 contracts, EC contribution 1.917.897 euro

It is worth mentioning the high interest of the Romanian scientific community for the COOPERATION programme in FP7, given the share of 62,89% from the total Romanian

participation to FP7. For a more detailed picture of the results, the chart below show the situation of the number of contracts and the total amount on each program and theme.

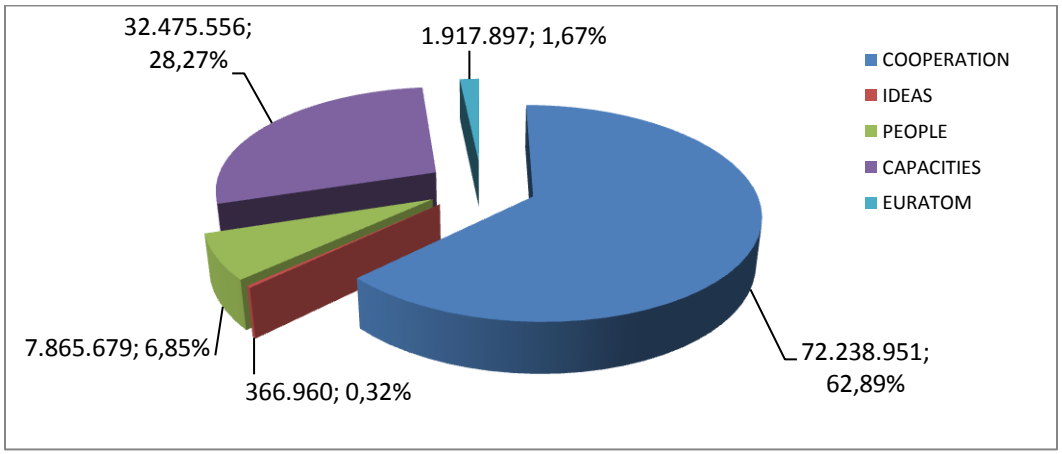


Chart 8 – EC financial contribution to RO participants by specific programmes

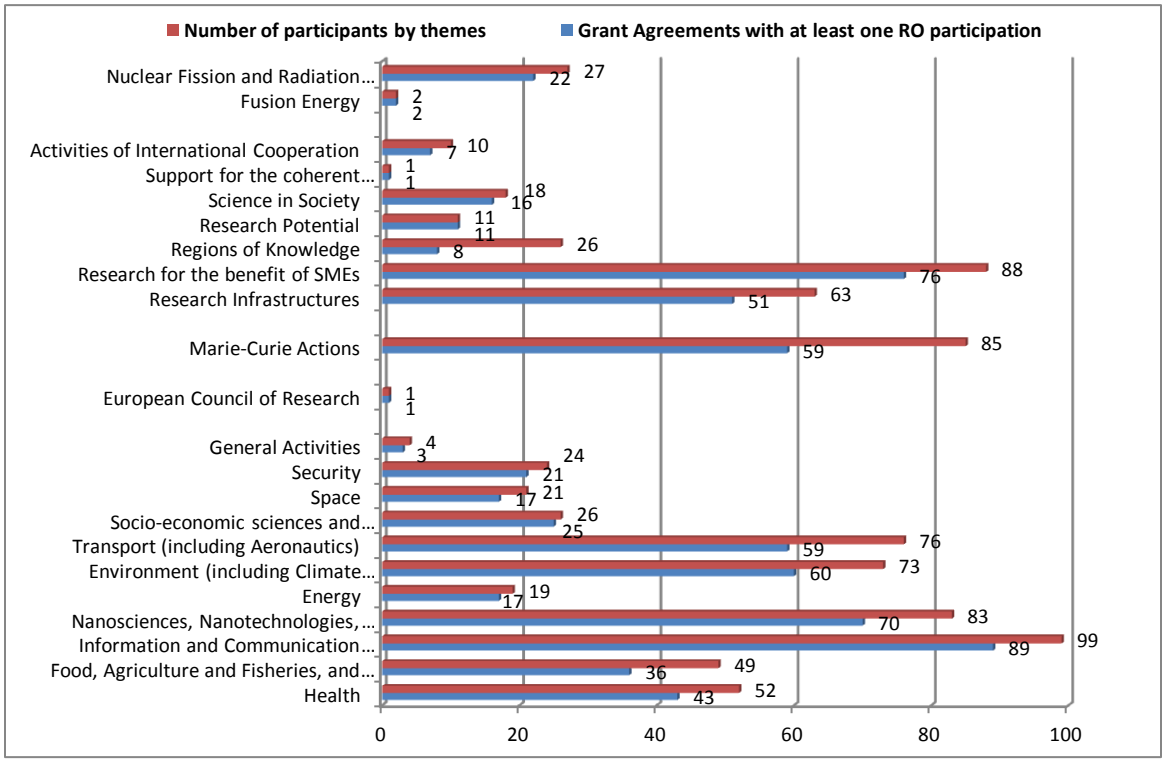


Chart 9 – Number of Romanian participants and grant agreements with RO by themes

The highest participation rate from the total is the Romanian participation to the COOPERATION specific programme (ICT, Nanosciences, NMP and Transport amongst the first), followed by the CAPACITIES (with Research Potential and Research for the benefit of SME's themes) and PEOPLE specific programme.

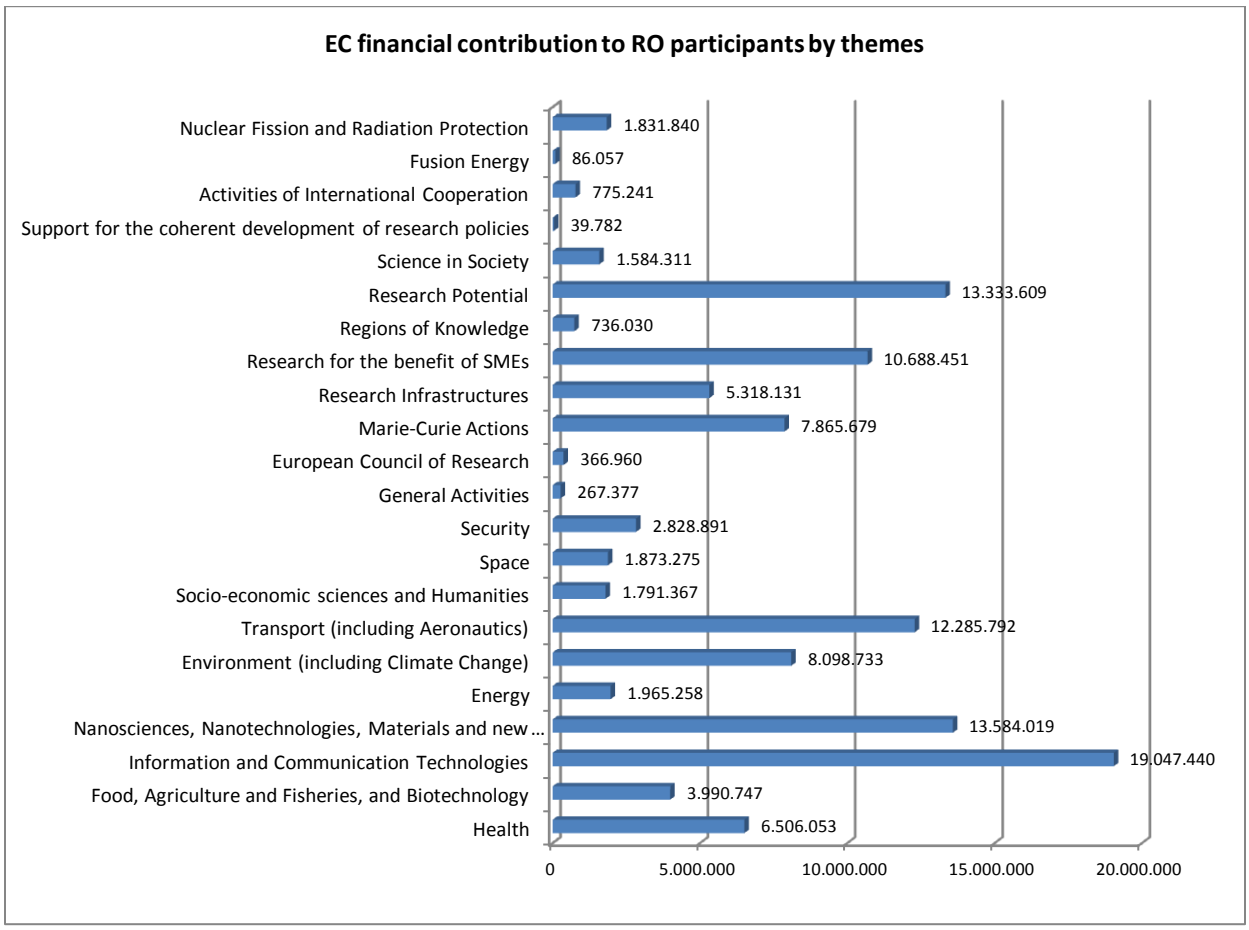


Chart 10 – EC financial contribution to RO participants by theme

As for the average EC financial contribution per Romanian participant, the figure varies from 1.212.146,30 euro for the CAPACITIES Programme - "Research potential" to 28.308,86 euro for Regions of Knowledge – CAPACITIES Programme. It must be pointed out that the average EC financial contribution per RO participant is 133,875.34 euro, which is way below to the average at the European level (328,818.47 euro). In the next chart, the average EC financial contribution by theme gives an indication of the level of funding per Romanian participant, which in most of the cases is set below 200.000 euro.

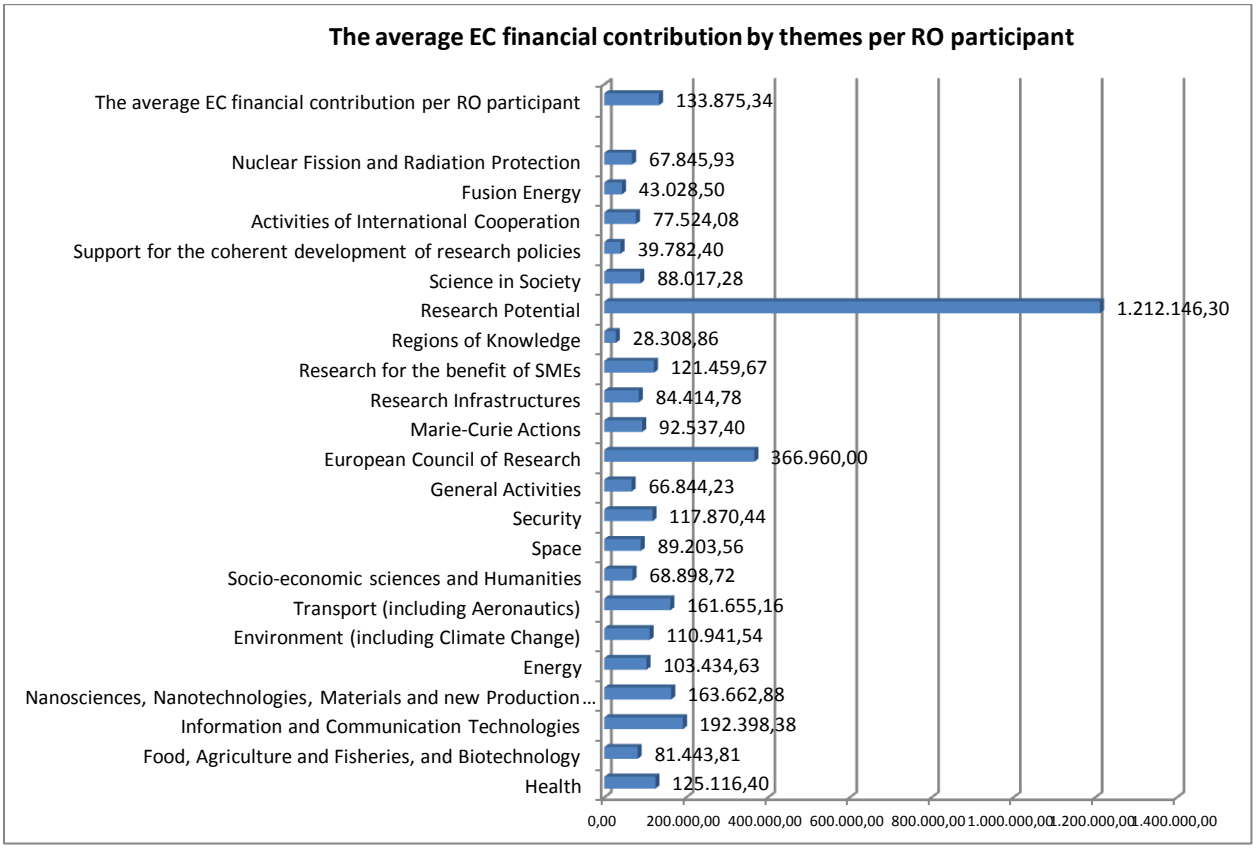


Chart 11 – The average EC financial contribution by themes per RO participant

One indicator of Romania's participation to FP7 is given by the number of coordinators in comparison with other EU member states, as shown below in the chart.

Also in this case, the success rate of the Romanian coordinators is below the European average (8.01% as opposed to 19.28%). Until now, Romania coordinates 52 projects with a number of 31 Romanian coordinators. To be noticed that apart from the "Coordination and support actions" projects and "Marie-Curie Actions" projects, Romania is coordinating three research projects per se. The complete list of the FP7 Romanian coordinators as well as the projects name is presented in the Annex 1.

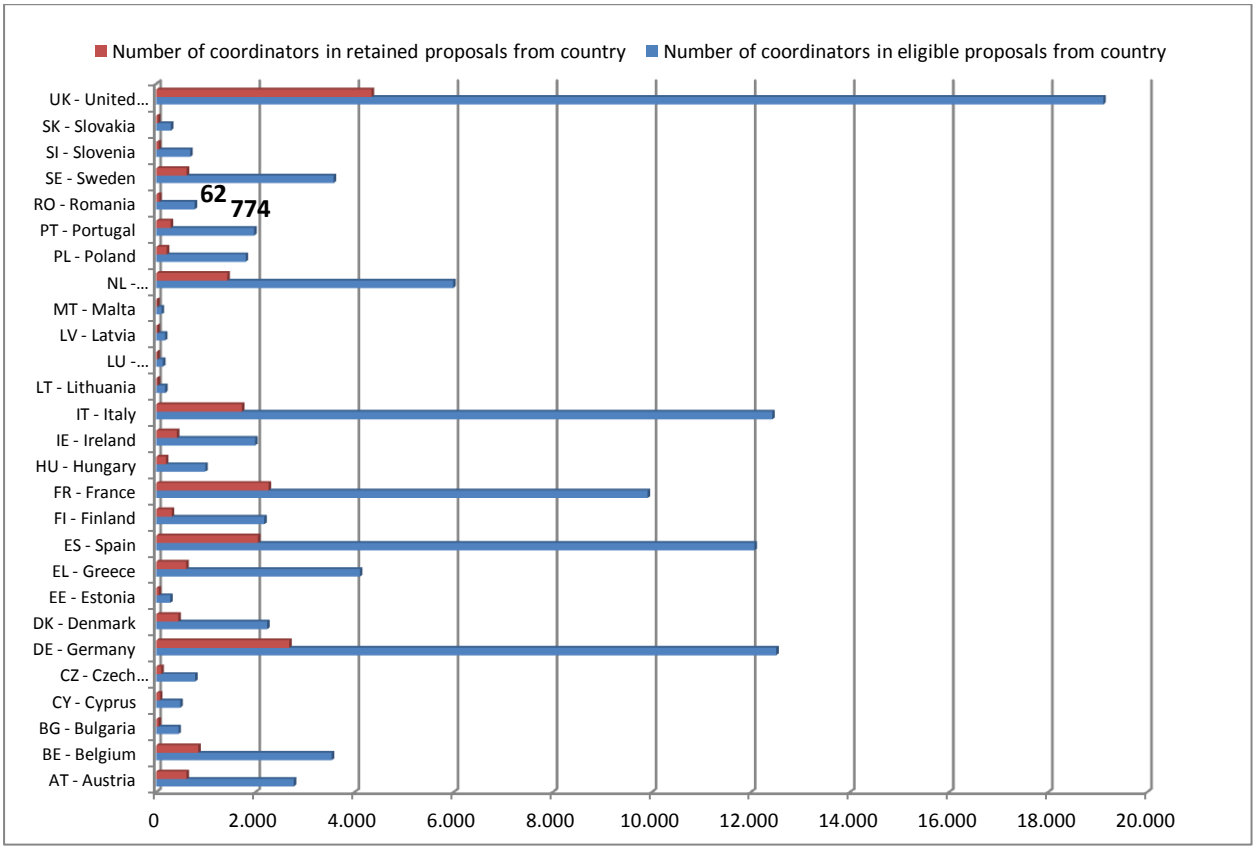


Chart 12 – Number of coordinators by countries

Based on the EC contribution for the Romanian participants, the contracts number in which Romanian researchers are participating and the average EC contribution per participant, it can be concluded that the Romanian participants' best results are on the ICT, NMP and Transport themes.

Another important feature of our participation to FP7 is given by the most active collaboration links of the Romanian participants with their counterparts from the EU Member States. The chart below shows that Germany remains Romania's traditional partner in FP7, likewise FP6. On the ranking list the next countries are Italy, United Kingdom, France and Spain.

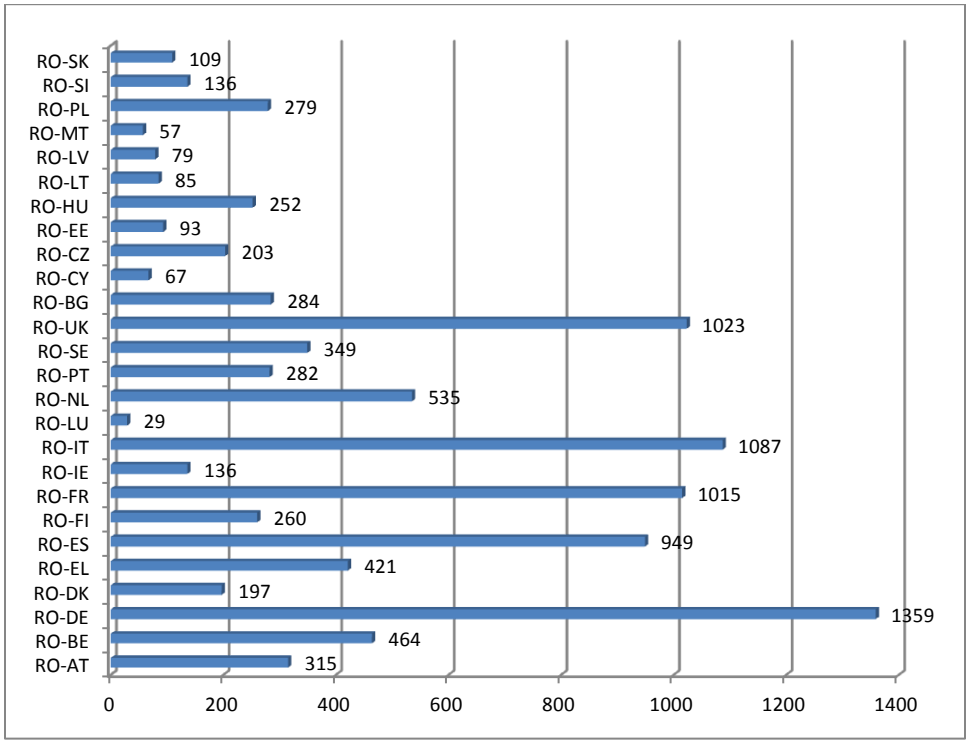


Chart 13 - Romanian researchers' collaborations with EU Member States

The following chart shows the distribution of the Romanian participation based on the organization type. Research organizations are leading the participation, followed closely by the private ones and universities. As for the EC contribution to the Romanian participants, we find also the research organizations on the lead, followed very close by the universities and the private organisations.

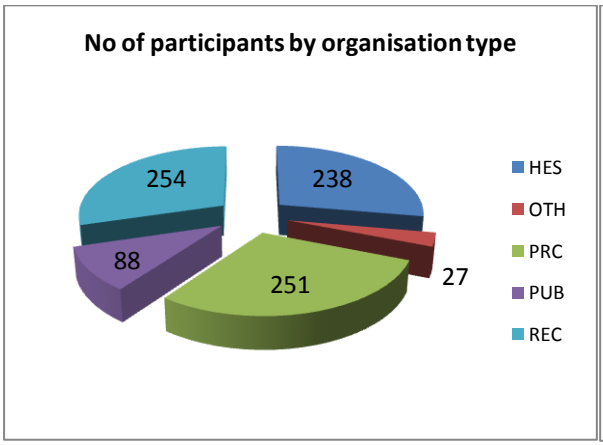


Chart 14 - No of participants by organisation type

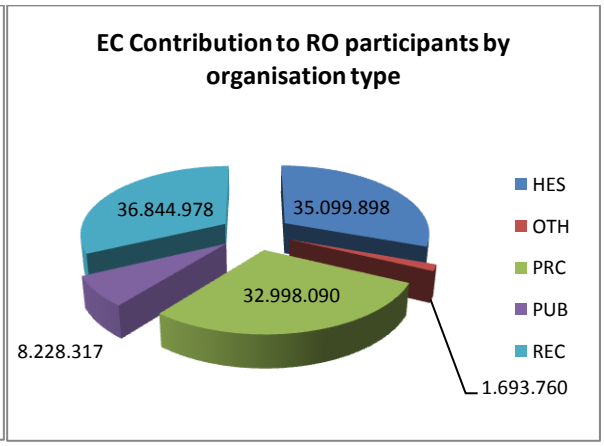


Chart 15 - EC Contribution to RO participants by organisation type

A range of the Romanian FP7 success stories are presented in Annex II.

SUPPORT SCHEME FOR ROMANIAN PARTICIPATION TO FP7

The participation of the Romanian researchers to EU FP7 and EURATOM is supported through a dedicated funding scheme under Module III of the national CAPACITIES Programme, part of the 2nd National Plan for Research, Development and Innovation (PNII).

The Romanian participants to FP7 and EURATOM projects, belonging to research organizations, can benefit from a co-funding of up to 100% of total eligible costs, as mentioned in the EC grant agreement.

Out of the total 694 grant agreements signed with the EC until now, a number of 145 projects applied for co-funding during 2008 – 2013. The contracts amount to 33,353,849.62 lei (aprox 7.411.966,58 euro). The distribution of financial support to the Romanian participants in FP7 projects by year and by different scientific field is presented in the following charts.

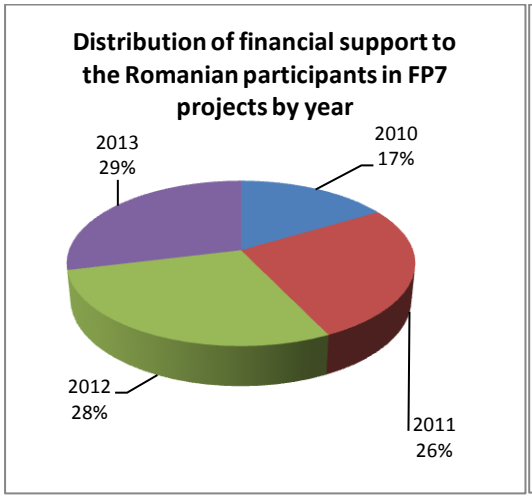


Chart 16 - Distribution of financial support to the Romanian participants in FP7 projects by year

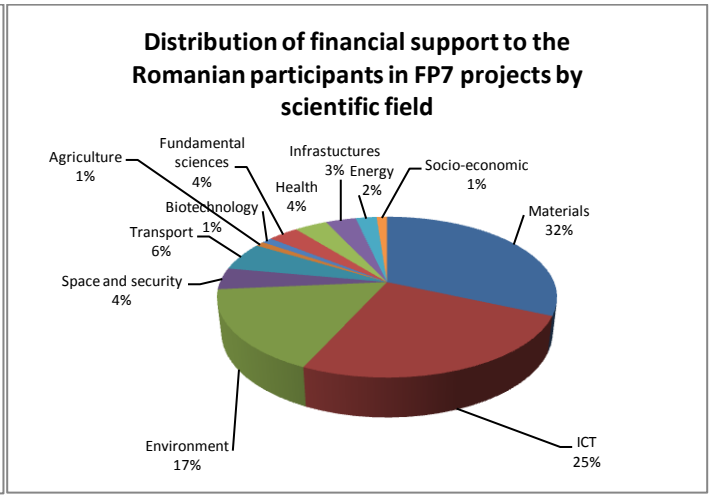


Chart 17 - Distribution of financial support to the Romanian participants in FP7 projects by scientific field

➢ 7th FRAMEWORK PROGRAMME EURATOM OF THE EU 2007-2013 (FP7 EURATOM)

The European Atomic Energy Community (EURATOM) has been established in 1957 and it is legally separated from the European Community (EC). It has its own Framework Research Programme, managed by the common Community institutions. The Specific Programme is focused on the following areas: nuclear fusion energy, nuclear fission energy and radiation protection. In these areas, it seeks primarily to enhance excellence and innovation and ensure a high level of cooperation and effectiveness through support for research and training.

FP7 Euratom (2007-2011, expanded until 2013) has two associated specific programmes:

1. Indirect actions – managed by DG RTD (Research)

- fusion energy research with construction of ITER (International Thermonuclear Experimental Reactor)
  - EUR 1947 million for 2007-2011 + EUR 2200 million for 2012-2013
- nuclear fission and radiation protection
  - EUR 287 million for 2007-2011 + EUR 118 million for 2012-2013

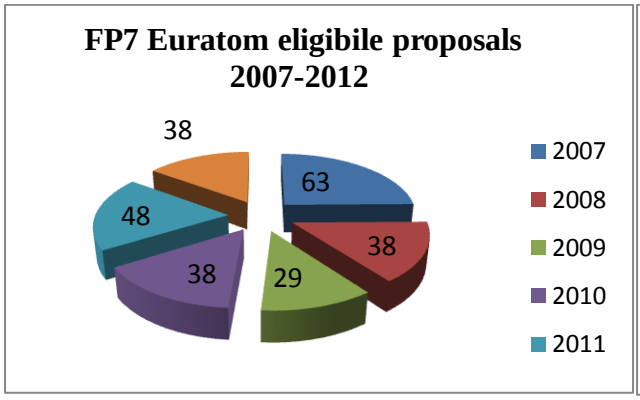
2. Direct actions in the nuclear field

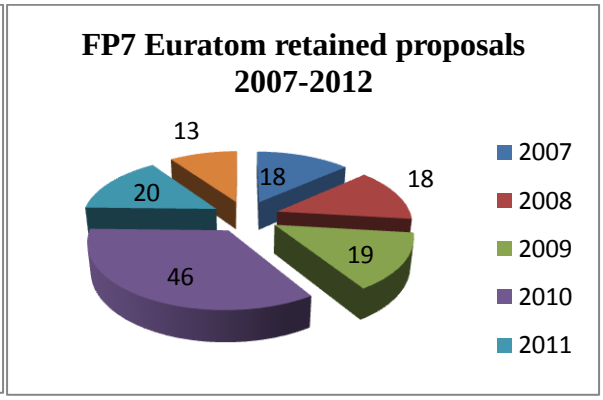
- Commission's Joint Research Centre (JRC) nuclear activities
  – EUR 517 million for 2007-2011 + EUR 233 million for 2012-2013

Support to trans-national cooperation has been implemented through three type of projects: collaborative projects, coordination and support actions, and support for training and career development of researchers.

Results in FP7 Euratom

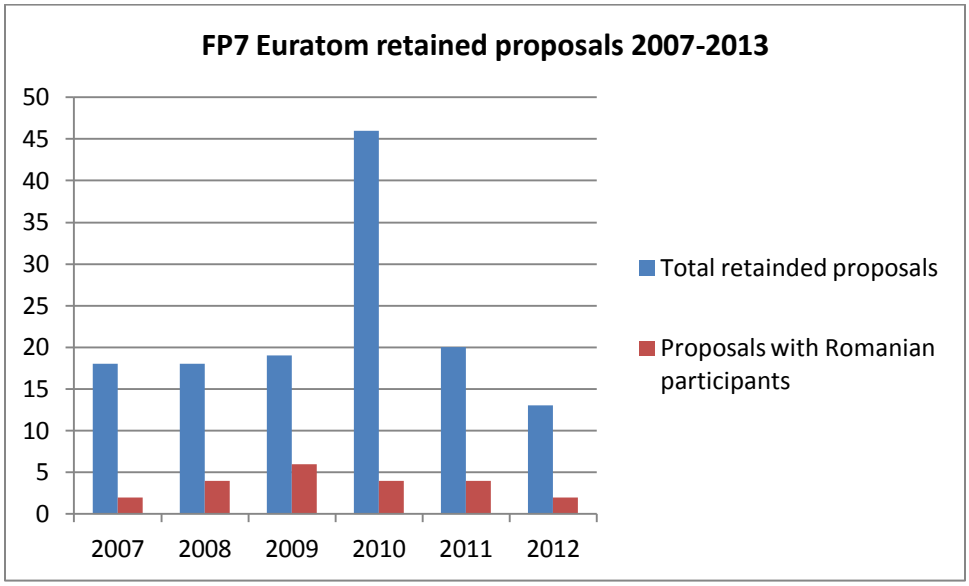
In the period 2007-2012, 349 proposals have been submitted and 134 projects were selected for funding. The following two charts are showing the distribution of eligible proposals respectively retained projects by year.





Romania's participation in FP7 EURATOM calls for proposals 2007-2012

Only one call for proposals has been launched in the field of Fusion Energy (in 2007).
Romania has received funding from the European Commission through the FP7 Euratom 2007-2013 for participation in 24 research projects (22 Fission and two Fusion projects) out of a total of 134 projects retained for funding, which means a success rate of 18% (see the graph below).
The Euratom projects with Romanian participation are listed in Annex III.



The total cost of the Romanian participants amounts to 1,886,520 euro, representing on average a share of 58.9% from the total Romanian participants' costs. The split between Fusion and Fission programmes of projects total costs is given in the table below.

EC contribution to Romanian participants

2007-2012		Projects Total Cost (€)	Romanian Participants Total Cost (€)	Projects EC Financial Contribution (€)	Romanian Participants EC Financial Contribution (€)
FP7 Euratom	Fusion Energy	5.764.204	81.000	4.099.896	54.680
	Nuclear Fission and Radiation Protection	143.087.713	3.120.605	63.252.968	1.831.840
Total EURATOM		**148.851.917**	**3.201.605**	**67.352.864**	**1.886.520**

Support scheme for Romanian participation to FP7 Euratom

The 2nd National Plan runs the national Capacities Programme where under Module III dedicated to International Cooperation it provides support to Romanian participants, belonging to research organizations, in FP7 Euratom projects. This support scheme provides co-financing as follows:

- maximum of 25% of Romanian partner/ partners' budget for RTD activities. This amount is a top up to the contract signed with the E.C., but not exceeding 100% of total eligible costs.
- maximum of 50% of Romanian partner/ partners' budget, for experimental research DEMO activities. This amount is a top up to the contract signed with the E.C., but not exceeding 100% of total eligible costs.
- maximum of 80% for projects run within EURATOM - Fusion in accordance with the Treaty of Association between the European Atomic Energy Community and the Ministry of Education and Research of Romania.

Romania has acceded to EURATOM in 1999 and the Association EURATOM – Ministry of Education and Research (MEdC) was set up. The Association coordinates at national level the activities of several research groups.

In 2010, the participation of the Romanian EURATOM Association has been achieved through 36 internal contracts concluded between the Institute of Atomic Physics (funding agency for nuclear physics) and seven research institutions from Romania. In the next year 35 research projects were funded and in 2012 a number of 36 research projects received support.

From the 24 research projects, only for 3 research projects (FP7 Fission) have requested funding from the 2nd National Plan PNII.

➢ THE ROMANIAN OFFICE FOR SCIENCE AND TECHNOLOGY TO THE EUROPEAN UNION (ROST)

General presentation

The establishment in Brussels of the Romanian Office for Science and Technology (ROST) to the European Union was approved by Government Decision no 787/2005, with the main goal of strengthening the cooperation with the European scientific community.

ROST mission:

- to promote the efficient participation of the Romanian researchers, including the young researchers, as well as the universities, research-development institutes, small and medium enterprises, industry, services and non-governmental organizations to the European Union's research programmes;
- to efficiently present the research, development and innovation policy and the Romanian scientific and technological potential to the institutions it comes in contact with, at European level;
- to support and promote the co-operation between the industry and services companies, universities and research institutes, so as to support them to jointly participate in European research projects consortia;
- to stimulate the setting up of interest groups at European level, by focusing the existent competencies at national level in priority fields for the European research, in order to increase the chances of participation in European projects/programmes.

The following activities/services will be provided to institutions and scientific community:

- promotion of the Romanian research-development-innovation system;
- searching and facilitating links with European partners;
- specific dissemination and promotion;
- facilitating the connections with the European institutions, similar bodies, national institutions and organizations;
- recommendations regarding the European best-practice in the research-development-innovation field.

Expected results on a long term:

- achieving a participation level of the Romanian scientific community in the research framework-programmes comparable to the European average;
- gradually increasing the integration of the Romanian scientific community in the research framework-programmes.

The Office can host a maximum of 10 positions: 4 positions assigned to the Ministry of National Education, the other 6 positions assigned to the staff of Romanian public and private organisations interested in European research programmes; in this regard, the latter will have to conclude partnership Protocols with the Ministry of National Education, stipulating the rights and obligations for operating the Office.

The Office currently works with 2 positions provided by the Ministry of National Education. There are 6 signed partnership Protocols with: IFIN-HH (National Institute of Research and Development for Physics and Nuclear Engineering "Horia Hulubei"), ROSA (Romanian Space

Agency), ICPE-CA (National Research and Development Institute for Electrical Engineering - Advanced Research), CNIPMMR (National Council of Small and Medium Enterprises), Centre Regional Development Agency, Alba Iulia (ADR Centre), CRE (Romanian Centre for Energy).
The partnership Protocol with Tehnopol Galaţi is under negociation. The presence at ROST of these partners is not on a permanent basis.

Some facts
In accordance with its mission, ROST has followed seven action lines during 2012, namely:

1. Participation to the European Commission and EU projects and programmes events in order to promote the Romanian participation in European activities.

On behalf of the Ministry of National Education (MEN) ROST staff participates on a permanent basis or ad-hoc to EU meetings: SFIC (Strategic Forum for International Cooperation), Task Force SFIC, GPC (High Level Group for Joint Programming), EU-CELAC (Community of Latin-American and Caribbean States), EUREKA, FP7 Programme Committee, and Programme Committee „Specific". (42 meetings)

Romania, by ROST, has been one of the 5 Member States which, together with the European Commission, has organised the SFIC seminar „Improving framework conditions for successful cooperation with China" in Brussels. One of the rapporteurs was a Romanian scientist lady from a private innovative SME.

Concerning the bilateral relations between Romania and Belgium, ROST represented MEN at the seventh meeting of the Joint Commission Romania-Flanders for the Co-operation Programme for the years 2011-2014.

ROST has participated to the Commission's study on OMC (Open Method of Coordination).

Following the participation to a wide range of meetings (Commission, Parliament, EU liaison offices, EU association etc.) ROST promotes the Romanian position on Horizon 2020.

ROST has participated in 57 conferences, workshops and other events. For the events including brokerage events and on the PPPs events (Public-Private Partnerships), following consultation with the Romanian R&D&I community, ROST promoted the Romanian offers for partnership.

ROST has participated in 11 events organised by the Commission regarding information days on the calls for proposals.

For all of these events ROST informed in due time MEN and the Romanian R&D&I community by targeted e-mails, the thematic yahoo groups, and the weekly newsletter „ROSTeu-ul săptămânii".

ROST stays in contact with the "European R&D Advisory Councils" on behalf of the ministry's Advisory College.

2. Participation to the events of other institutions in Brussels aiming the promotion of the Romanian participation in EU programmes, contact relations and getting useful information for the R&D&I community and the national NCP network.

ROST is member of the IGLO (Informal Group of Liaison Offices for research and innovation) and participates to the events organised in this frame, at least twice a month. IGLO is an informal association of Brussels-based, non-profit, R&D national Liaison Offices (23). The aim of IGLO is to facilitate and enhance the interaction, information exchange and co-operation between members of IGLO, their national research systems and the European institutions on issues related to EU R&D&I, in particular, the Framework Programme. ROST participate to the IGLO Working Group "Industrial Partnership". In 2012, ROST participated to 26 IGLO meetings.

Looking for synergies and complementarities, ROST is in contact and goes to the meetings of the regional and university liaison offices based in Brussels. The aim is to identify new contacts and put together potential project partners.

3. Organisation of events at ROST, in Brussels, or in Romania, as information days and dissemination activities.

By the request of the R&D&I community, in 2012 ROST has organised 18 events in Brussels but also in Bucharest regarding EU debates, in particular on FP7, together with the following institutions: ANCS, UEFISCDI, the Romanian Academy, ITS Romania, EuroSens, Digital Bit, IPA, General Electric Romania, SITEX, ICI, ADR Centru, Sara Pharm, the University of Bucharest, the University „Politehnica" of Bucharest, the West University of Timişoara, the University of Medicine and Pharmacy „Carol Davila", the University „Danubius" of Galaţi, the University „Ovidius" of Constanţa, the University of Craiova. (Photo 1)

Photo 1: *FP6 UE project SOILCY at ROST working very hard for the final report to be presented next day to the Commission*

4. Organisation of face-to-face meetings between the Commission and other Brussels based actors on R&D&I and Romanians for exchange of information, guidance, support, planning of common events.

Besides the meeting with the Commission, usually with DG R&I, but also with DG ENERGY or DG INFSO, ROST has contacts with: ERRIN (European Regions Research and Innovation Network), EUA (European University Association), AllEnvi (Alliance nationale de recherche pour l'Environnement), ECRA (European Climate Research Alliance), European R&D Advisory Councils or EREA (European Research Establishments in Aeronautics). ROST has organised a working session meeting also at the European Parliament (Photo 2).

Photo 2: *Seminar organised by ROST at the Parliament with the participation of the president of the former ANCS: „Horizon 2020 – challenge or opportunity for Romania"*

Around 25 persons per month come to ROST following their participation to meetings in Brussels. They feel welcome as ROST is a good place of exchange of information, dialogue, a source of inspiration and knowledge on the EU tendencies or a quiet place to work till the bus is living to the airport.

5. Direct contact by ITC means with MEN, NCP network, R&D&I community and other persons interested in EU programmes.

The incoming average of the e-mails is 60/day; two-thirds need an answer. Furthermore there are the phone calls. The topics to be discussed are: open calls, information on future calls,

evaluation of project proposals, consortium agreement and IPR, tendencies in other countries regarding a domain, the degree of attractiveness of their project proposals and the chance to be a successful one, what to do at the first meeting of the consortium or EU policies in R&I.

6. Widening the presence in Brussels, at ROST, of the Romanian R&D&I institutions.

Out of the six partnership Protocols, ROST hosted the two weeks master fellowship programme of the Academy of Economic Studies (ASE), the Faculty of Public Administration and Management, in the frame of the project financed on structural funds: POSDRU "Stagiile de practică ale studenţilor – pas către integrarea profesională", code SMIS 81434a. Ten students and two professors have visited and exchanged information with units of the Commission, executive agencies, parliamentarians and IGLO offices. As a follow up one the stagiaire is working now in the department of EU projects of a R&I institute (Photo 3).

Photo 3: ASE s*tudents at the Research Executive Agency (REA)*

ROST hosts the trainees on a voluntary basis, as there is no budget allocated to this activity. In 2012 ROST took care of one trainee who was very helpful for the office activity. In this way the R&D&I activity gains a new „friend".

Following the association of the Republic of Moldova to FP7 and the Memorandum of Understanding between MEN and the Moldavian Academy of Sciences, starting with September 2012, ROST has been hosting MOST (the Moldavian Office for Science and Technology), also a IGLO member.

7. Communication

ROST forwards the public information on EU policies and strategies via the weekly publication „ROSTeu-ul săptămânii".

Communication between ROST and the R&D&I community is taking place by using the NCP dissemination tools and one of the most useful one is the thematic „ro_grup". There is also the web page and the e-mail messages. Communication are on subjects related to events, opportunities of

collaboration, job opportunities etc. Until now there are 11 „ro_grup" with 3073 subscribers. There is also a group of the managers with 132 subscribers; for this group the information is focused on policies and strategies.

ROST & ELI

ELI will be a new scientific infrastructure devoted to scientific research in lasers' field, dedicated to the investigation and applications of laser-matter interaction at the highest intensity level (more than 6 orders of magnitude higher than today's laser intensity).

The Extreme Light Infrastructure (ELI), has been established as an International Association during a notarial ceremony on April 11, 2013 in Brussels, Belgium. The ceremony and the subsequent reception were attended by Robert-Jan Smits, Director-General of DG Research and Innovation, and by Ana Arana Antelo, Head of Unit "Research Infrastructures", together with representatives from the European Commission and various ELI partner countries (Photo 4). In Romania, Magurele, the ELI pillar will focus on laser-based nuclear physics (ELI-NP).

The newly founded ELI Delivery Consortium International Association will be a non-profit organisation after Belgian law (AISBL) residing at ROST. It will promote the sustainable development of ELI as a pan-European research infrastructure, support the coordinated implementation of the ELI research facilities, and preserve the consistency and complementarity of their scientific missions. It will also organise the establishment of an international consortium that will be in charge of the future operation of ELI, preferably in the form of a European Research Infrastructure Consortium (ERIC).

Founding members of the ELI-DC International Association are three international scientific institutions, the Romanian "Horia Hulubei" National Institute of Research and Development for Physics and Nuclear Engineering (IFIN-HH), the Hungarian ELI-Hu Research and Development Non-Profit Limited Liability Company, and the Italian Elettra-Sincrotrone Trieste S.C.p.A. The Institute of Physics of the Academy of Sciences of the Czech Republic will join the Association immediately after its establishment. Institutions from other countries such as Germany, the UK, France and others are expected to follow.

The reception at ROST

Photo 4*: Notarial ceremony of the International Association ELI DC, 11 April 2013, Brussels*

➢ JOINT RESEARCH CENTRE (JRC)

The JRC is the European Commission's in-house science service. It is independent of any national, private or industry interest and it provides sound and relevant scientific input to European policy-making.

Across Europe, the JRC works with a large number of public and private organizations, research centers, universities, regulatory bodies, local authorities, industrial associations and companies within networks.

It has built up successful partnerships under the EU Research Framework Programmes and has many partners outside of the European Union including international organizations.

ROMANIA: JRC COLLABORATIONS

Formal collaborations

JRC and Romanian research partners have a good level of collaboration, established mainly through competitive activities.

As of February 2013, the JRC collaborates (ongoing) with Romanian partners in:

- 10 Institutional Networks on topics such as: analytic chemistry, reactor systems, radioactivity, metrology.
- 10 Collaboration Agreements on topics such as: decontamination, tsunami early warning, metrology, nuclear energy information.
- 31 FP7 Projects on topics such as: atmospheric research, advances reactor systems, biodiversity, natural hazards, risk management, materials research, nanoparticles, integrated coastal zone management, forestry research, security of mass transport.

The total number of partnerships is 55. The "top" partners with whom the JRC has the highest number of collaborations are:

- Romanian Authority for Nuclear Activities (6)
- University of Bucharest (5)
- “Horia Hulubei” National Institute of Physics and Nuclear Engineering (5)
- Ministry of Environment and Water Management (4)
- Institute for Nuclear Research (4)

Examples of JRC collaboration with Romanian research organisations

- **Institutional Networks**

  The JRC collaborates with organisations sharing a common interest in specific research areas. This collaboration is essential for JRC’s work on the harmonisation and validation of methods and measurements, establishment of common standards, and its provision of scientific and technical support in the implementation of EU legislation.

- **Ageing Materials Evaluation and Studies (AMES)**
  Romanian partner: Romanian Authority for Nuclear Activities - Institute for Nuclear Research
  A network bringing together European organisations focussed on materials assessment. It carries out research on ageing and annealing, and includes nuclear power plants, utilities, industrial companies, research centres and universities of the European Union and Candidate Countries.

- **Metrology in Chemistry for Academia (AcadeMiC)**
  Romanian partner: University of Bucharest
  A forum which fosters the advancement of education in metrology in chemistry and related topics addressed in the standard ISO/IEC-17025. It gathers people and organisations lecturing and training in these topics and provides for meetings, exchange of experience, skills and materials.

- **Combustion and Industry Expert Panel (C&I)**
  Romanian partner: Ministry of Environment and Forests
  Panel responsible for the chapters on the EMEP/CORINAIR Atmospheric Emissions Inventory Guidebook, which deal with combustion and industrial activities. The Panel works under the auspices of the UN Economic Commission for Europe and its Task Force on Emission Inventories and Projections

- **Improved Neutron-Emission Data Inferred From Gamma- Ray Observation (INDIGO)**
  Romanian partner: Horia Hulubei National Institute of Physics and Nuclear Engineering

A collaboration platform envisaged to research neutron-emission reactions. It employs and develops the acquired capabilities of the network partners for systematic measurements on isotopes of interest.

- **Landscape Europe**
  Romanian partner: University of Bucharest
  An interdisciplinary network of national research institutes with expertise related to landscapes. It emphasises the cause-effect relationships that are central to the landscape concept and the need for an integrated approach towards the global environment.

- **Network for Evaluating Structural Components (NESC)**
  Romanian partner: Romanian Authority for Nuclear Activities - Institute for Nuclear Research
  A network set up to verify the overall structural integrity assessment process in nuclear power plants. NESC strives towards harmonisation through consensus of procedures and practices to safeguard expertise.

- **Radioactivity Environmental Monitoring data bank (REM– REMdb)**
  Romanian partner: National Commission for Nuclear Activities Control - Section for Radioprotection and Radiological Emergencies
  A data bank for information provided by Member States on levels of radioactive contamination of the various compartments of the environment (air, water, soil). The bank can be accessed on-line. These data are used to produce annual monitoring reports.

- **Training in Metrology in Chemistry (TrainMiC)**
  Romanian partner: National Institute of Metrology
  European programme for life-long learning and training of practitioners of chemical measurements in metrology in chemistry, in close collaboration with major stakeholders, such as metrology organisations and educators. Its objective is to strengthen the measurement infrastructure, so that trustworthy results are produced, avoiding economic or societal waste.

- **Transuranus user network (TUnet)**
  Romanian partener: Romanian Authority for Nuclear Activities - Institute for Nuclear Research
  A network contributing to nuclear safety improvements by studying phenomena which may endanger the integrity of fuel

Collaboration agreements

The JRC has around 200 operational Collaboration Agreements and Memoranda of Understanding with public and private research organisations, universities and national and international bodies. The majority of these agreements concern joint research, information sharing and the exchange of personnel.

- **Collaboration Agreement with the Alexandru Ioan Cuza University of Iași (UAIC)**
  Romanian partner: Alexandru Ioan Cuza University of Iași
  This Collaboration Agreement contributes to understanding and resolving issues in the field of surface cleaning, decontamination, functionalization and nano/micro patterning for medical and environmental application.

- **EUropean Radiological Data Exchange Platform (EURDEP)**
  Romanian partner: National Institute for Research and Development for Environmental Protection
  A standard data-format for radiological data as well as a network for the exchange of automatic monitoring data. It makes unvalidated radiological monitoring data from most European countries available in nearly real-time.
  Romanian partener: Ministry of Environment and Forests
  Memorandum of Understanding with the European Radiological Data Exchange Platform and the National Environmental Protection Agency.

- **Nuclear emergency information**
  Romanian partner: National Institute for Research and Development for Environmental Protection
  Romanian partner: Nuclear Emergency Information and Analyses Centre
  Nuclear emergency information exchange with EU Member States under Council Decision 87/600/Euratom.

- **REMdB Implementation of EURATOM Treaty, Art. 36**
  Romanian partner: National Commission of Nuclear Activities Control and Institute of Public Health
  Article 36 of the Euratom Treaty states that all Member States shall periodically communicate to the Commission information on environmental radioactivity levels. These figures are stored in the Radioactivity Environmental Monitoring data bank (REMdb)

Framework Programme projects

The JRC is involved in more than 140 research projects and networks under Europe's Seventh Framework Programme for research and technology development (FP7), under the same conditions as other organisations. This enables the JRC to form partnerships with major European research players. The activities may involve work at the JRC facilities which results in increased access and use of specialised infrastructures and databases.

- **Development of appropriate solutions for the use, recycling and/or final treatment of nanotechnology-based products (NanoSustain)**
  Romanian partner: National Institute for Research and Development in Micro technologies
  This project is aimed at strengthening the competitiveness of the European nanotechnology industry through the exploration of new solutions for the design of nanomaterials and associated products as well as their sustainable use.

- **Development of upgraded capabilities for existing GMES Fast-Track Services and related (pre)operational services (Geoland2)**
  Romanian partner: Romanian Space Agency
  This project supports the implementation of the Land Monitoring Core Service (LMCS). It prepares, validates and demonstrates pre-operational service chains and products and subsequently recommends concrete functional organization of the LMCS.

- **Development of upgraded capabilities for existing GMES Fast-Track Services and related (pre)operational services (MyOcean)**
  Romanian partner: National Institute for Marine Research and Development "Grigore Antipa"
  This project builds on the European operational oceanography strategy and sets up infrastructures, services and resources to prepare the operational deployment of the first Marine Core Services.

- **Exposure to food additives, flavourings, and migrants coming from the food contact materials dietary intake models (Flavouring, Additive and Food Contact Material Exposure Task – FACET)**
  Romanian partner: National Institute for Research and Development of Isotopic and Molecular Technologies
  A sustainable surveillance system to estimate food chemical intake through the creation of tiered food consumption databases on food intake, food chemical occurrence and food chemical concentration.

- **Integrated Coastal Zone Management (PEGASO)**
  Romanian partner: Danube Delta National Institute for Research and Development
  Supports the Integrated Coastal Zone Management (ICZM) in the Mediterranean and the Black Sea. This project will build on existing capacities to develop new approaches that support coastal and maritime policy.

- **Prediction of triggering and risk assessment for landslides (PROJECT SAFELAND)**
  Romanian partner: Geological Institute of Romania
  This project provides generic quantitative risk assessment and management strategies and tools for landslides at local, regional and European levels. The main goal is to establish risk baseline whilst improving risk forecasting ability.

  Source: http://ec.europa.eu/dgs/jrc/

Joint scientific publications:

The table below shows the number of JRC scientific publications with co-authorship from organizations in Romania. The analysis uses data extracted from the PUBSY system, the JRC repository of scientific publications and deliverables. It uses a reference period 2006 – 2012.

Total peer-reviewed publications collaborations 2006-2012: 55 corresponding to 7.9 per year on average.

ORGANISATION	Total
Alexandru Ioan Cuza University	16
Bucharest University	15
Horia Hulubei National Institute for Physics and Nuclear Engineering - IFIN HH	13
Danube Delta National Institute - DDNI	3
Institute of Nuclear Research - Pitesti	2
National Institute of Metrology	1
Forest Research and Management Institute (ICAS)	1
Babes-Bolyai University	1
Academy of Scientists	1
National Meteorological Administration	1
Research Institute for Soil Science and Agrochemistry (ICPA)	1
Grand Total	**55**

➢ EU STRATEGY FOR THE DANUBE REGION

Short history

A strategy to boost the development of the Danube Region was proposed by the European Commission on 8 December 2010 (Commission Communication - EU Strategy for the Danube Region) and adopted by the European Parliament on 24th June 2011.

EUSDR has four priority axes as follows:

1. Connectivity (intermodal transport, culture and tourism, energy networks),
2. Environmental protection (water management, biodiversity protection and risk management)
3. Increasing prosperity in the Danube Region (education, research, competitiveness),
4. Improving governance (institutional capacity and internal security)

Membership / Participation in EUSDR:

a) EU Member States: Austria, Bulgaria, Croatia, Germany, Serbia, Slovakia, Slovenia, Hungary, Romania,
b) Acceding States: : Bosnia and Herţegovina, Serbia, Muntenegro,
c) Neighbouring countries: Moldovia, Ukraine

The Action Plan has 11 priorities, namely:

A) **Connectivity**

1) Improve mobility and inter-modality
2) Encouraging sustainable energy
3) Promoting culture and tourism and people to people contacts

B) **Environmental protection**

4) Restore and maintain water quality
5) Environmental risk management
6) Preservation of biodiversity, of landscapes and water, air and soil quality.

C) Increasing the prosperity in the Danube Region

7) Development of the Knowledge Society through research, education and information technology
8) Supporting the competitiveness of companies, including cluster development
9) Investments in people and skills

D) Improvement of governance

10) Increase institutional capacity and cooperation
11) Joint activities to promote security and tackle organized crime

Priority 7: Develop the knowledge society through research, education and information technology (PA 7):

From the research point of view, the most important is Priority 7 which foresees the setting up of the International Centre for Advanced Studies Danube - Danube Delta – Black Sea.

The main activities carried out by Romania until now focused on the development of this project idea are:

a) ***Drafting the White Book of the Centre (scientific case):*** Following numerous meetings with the scientific community in Romania and in the EU – starting with 2011 – has been drafted the scientific case of the Centre (version 7.2) as the hub of the distributed pan-European research infrastructure. The next step is developing the scientific case for the entire infrastructure. (hub and nodes).
b) ***Drafting the application for accession to the ESFRI roadmap. Ministry of National Education*** is funding within the sectoral program, a project entiled "*The analysis and extension of the scientific case and identification of the organizational structure of the environment infrastructure "Danube river" International Centre for advanced studies for systems river-delta-seas*" for drafting the application for the update of ESFRI roadmap for a distributed pan-European research infrastructure", which will perform the following activities (main expected results):

1. The application for updates ESFRI roadmap
2. Development plan of the Centre
3. Memorandum for Understanding signed between the partner institutions of the "Danube-river International Research Centre for Advanced Studies for systems river-delta-seas" on supporting its activities
4. Draft of an Intergovernmental Memorandum of Understanding on building up the "Danube-river International Research Centre for Advanced Studies for systems river-delta-seas"

The project is fully funded by the Ministry of National Education, with a budget of 1.800.000 lei, and the consortium which implements this project consists of:

a) National Research and Development Institute for Marine Geology and GeoEcology – GeoEcoMar
b) National Institute of Research and Development for Biological Sciences - INSB
c) GEA Consulting & Strategy SRL
d) FMMC SRL

The project duration is 15 months and it started on 2nd of august 2013.

c) ***Submission and successfully starting of an FP7 project under the theme "Environment (inclusive global changes)".*** The project (acronym DANCERS) started on the 1st of June 2013 and is coordinated by the National Research and Development Institute for Marine Geology and Geo-ecology – GeoEcoMar. The consortium consists of 15 partners from EU. The project duration is 24 months and it has a total budget of 1.000.000 EUR for the entire consortium.

There are no calls for proposals but it is estimated that the Program Danube 2014-2020 will be one of the main sources of funding for related activities of the Centre.

➢ ESFRI, THE EUROPEAN STRATEGY FORUM ON RESEARCH INFRASTRUCTURES

General Aspects

ESFRI, the European Strategy Forum on Research Infrastructures is a strategic instrument to develop the scientific integration of Europe and to strengthen its international outreach.
ESFRI's mandate has been expanded by the Council in December 2012. In its Conclusions on a reinforced European research area partnership for excellence and growth, the Council endorsed the need for strengthened partnership in the field of research infrastructures and "for renewing and adapting the mandate of ESFRI to adequately address the existing challenges and also to ensure the follow-up of implementation of already on-going ESFRI projects after a comprehensive assessment, as well as the prioritization of the infrastructure projects listed in the ESFRI roadmap."

Mission and Scope

The main scope of ESFRI is to support a coherent and strategy-led approach to policy-making on Research Infrastructures in Europe and to facilitate multilateral initiatives leading to the better use and development of RIs. The aforementioned strategy aims to overcome limitations caused by fragmented individual policies and will endow Europe with the newest research infrastructures which answer to the dinamic scientific, technological and knowledge needs.
ESFRI also intends to give periodic recommendations on the management of RIs and related human resources.
Notwithstanding the wide scope of ESFRI activities, ESFRI does not fund Research Infrastructures; the Forum's role is not to indicate priorities on specific funding sources (national or international, including the Framework Programme), nor on specific research infrastructure related projects.

Among the approached subjects by ESFRI we mention:

* Exchange of information on national and EU policies, on institutional arrangements and resources, on existing or planned national research infrastructures open to international use;
* Joint development and continuous update of a European Roadmap on research infrastructures and capacity building;
* Analysis of the socioeconomic returns of research infrastructures;
* Exchange of views on new funding instruments and institutional arrangements for pan-European research infrastructures, including access to them;

* Recommendations on management of research infrastructures and related human resources: integrating and training aspects, increase of exchanges, involvement of user communities, including industry;
* Communication to a wider public about importance of research infrastructures.

ESFRI roadmaps

The ESFRI Roadmap identifies new Research Infrastructures (RI) of pan-European interest corresponding to the long term needs of the European research communities, covering all scientific areas. The ESFRI roadmap is an ongoing process. First published in 2006, with 35 projects, it was updated in 2008 bringing the number of RIs of pan-European relevance to 44. The latest update focusing on projects dealing with energy, food and biology was published in December 2010. Having identified 48 projects of new research infrastructures (or major upgrade on existing ones) so far, ESFRI will more focus on their implementation for the next few years. In this regard, since potential new RI are likely to be realized in the next 10 to 20 years they may have different degrees of maturity but it should be noted that they are supported by a relevant European partnership or intergovernmental research organisation.

Essentially, the roadmaps describing research infrastructure projects underline how they would impact international technology development and how to strengthen the European Research Area. In addition, they serve as a tool to highlight the national and pan-European priorities and providing a reference framework to define the national budgets, facilitate political support and maintain long-term financial commitments.

Romanian participation in ESFRI projects

Romanian partners involved in ESFRI projects, as included in the "Roadmap 2010":

ESFRI projects	**Romanian partners**
CLARIN The Common Language Resources and Technology Infrastructure	(UAIC Al. I. Cuza Uiversity Iaşi) (RACAI Research Institute for Artificial Intelligence)
EMSO European Multidisciplinary Seafloor Observatory	(GeoEcoMar National Institute)
EPOS European Plate Observing System	(National Institute for Earth Physics, GeoEcoMar National Institute, National Institute for Research-Development in Geology)
IAGOS In service aircraft for a global observing system	(National Institute for Aerospace Research "Elie Carafoli" - INCAS and the National R&D Institute for Optoelectronics – INOE)
LIFE WATCH Science and Technology	(Bucharest University - Faculty of Biology)

Infrastructure for Research on Biodiversity and Ecosystems	
BBMRI Biobanking and Biomolecular Resources Research Infrastructure	(Ministry of National Education)
ECRIN European Clinical Research Infrastructures	(University of Medicine and Pharmacy Craiova)
ELIXIR European Life Science Infrastructure for Biological Information	(**The National Institute of Research and Development for Biological Sciences - INCDSB)**
ERINHA European Research Infrastructure on Highly Pathogenic Agents	(Romanian Academy - the Stefan S. Nicolau Institute of Virology, Bucharest Hospital and Medical Services Administration)
EU-OPENSCREEN European Infrastructure of Open Screening Platforms for Chemical Biology	(Institute of Chemistry Timisoara of Romanian Academy)
ELI Extreme Light Infrastructure: ultra high intensity short pulse laser	(Horia Hulubei National Institute of Physics and Nuclear Engineering)
KM3NET Cubic Kilometre Neutrino Telescope	(Institute of Space Science)

Projects in the areas of research covered by the Roadmap 2010:

Project categories	Total projects	Projects with Romanian involvement
Social Sciences and Humanities	2	1
Environmental Science	9	4
Energy	6	0
Biological and Medical Sciences	13	5
Materials and Analytical Facilities	3	0
Physical Sciences and Engineering	5	2
Total	38	12

➢ THE FACILITY FOR ANTIPROTON AND ION RESEARCH IN EUROPE (FAIR)

On 5 February 2003, the Federal Ministry of Education and Research of the Federal Republic of Germany (BMBF) has notified the German government's decision to build FAIR as an

international project, Germany covering about 75% of total costs, the remaining 25% being covered by the contribution of international partners.
Fourteen governments, representing Austria, China, Finland, France, Germany, United Kingdom of Great Britain and Northern Ireland, Greece, India, Italy, Poland, Romania, Russian Federation, Spain and Sweden have signed a multilateral agreement ("Memorandum of Understanding"), which have committed to participate in the next twenty years to the construction, commissioning and use of the most advanced equipment for scientific research center in the field of ions and antiprotons.
The FAIR Convention and Final Act have been signed by the authorized representatives of the governments on 4 October 2010, in Wiesbaden Biebrich Castle. By signing the FAIR Convention, Romania became a founder of the Research Center for Antiprotons and Ions in Europe.
The construction and operation of the Centre were entrusted to a limited liability company that is subject to German law, unless otherwise provided under the Convention. The company is called “Facility for Antiproton and Ion Research in Europe GmbH" (FAIR GmbH), headquartered in Darmstadt.

The organs of the Company are the Shareholders’ Assembly, hereinafter referred to as “the Council”, and the Managing Directors, collectively forming the Management Board.
An Administration and Finance Committee (AFC) was established, as a Committee of the FAIR Council under Article 11, paragraph 3 (f) of the Articles of Association. Also an In-Kind Review Board (IKRB) was established as a subcommittee under the FAIR Council Technical Document 4 attached to the FAIR Convention.
As a shareholder of the company FAIR GmbH, the Ministry of National Education (MEN) has designated the Romanian representatives in the FAIR Council, the Administration and Finance Committee (AFC), and in the In-Kind Review Board (IKRB).

By signing the Convention, Romania has committed to contribute to the construction costs in cash and in kind with EUR 11.87 million (at 2005 prices), between 2011-2018. Romania's contribution to this project will be provided one third in cash and two thirds in kind (through provision of equipment, facilities and systems components for accelerators and the 4 experimental programs APPA, CBM, NuStar and PANDA).
In accordance with the Technical Document 4 annexed to the Convention, each contribution in kind is subject to a separate contract between the provider and the institution FAIR GmbH. The contract must be validated by the funding Authority of the collaborating institution that provides in-kind contribution.
Romania's in kind contribution, so far, to the FAIR project will be made by ICPE CA (National R&D Institute for Electrical Engineering) and will be subject to a contract of € 3,917,800 with FAIR GmbH as beneficiary, MEN as a shareholder and ICPE CA as provider.

Shortly after signing the Convention, the Ministry of National Education has prepared a Law proposal for ratification of the FAIR Convention which is still following national procedures for its approval due to the numerous changes in the structure and composition of the Government. Since beginning of September, 2013 this law proposal has entered for debate and approval in the Romanian Parliament.

➢ JOINT PROGRAMMING INITIATIVES (JPIs)

The concept of Joint Programming

The Joint Programming Initiatives (JPIs) are inter-governmental collaboration schemes introduced by the EC in 2008, as a reaction to the great societal challenges that cannot be tackled at national level alone, thus contributing to the building of ERA.
The JP is considered a long-term process. It encourages the Member States to coordinate their national research activities, to share resources, to exploit complementarities and to develop Strategic Research Agendas, to gradually develop a sound research base to respond to the social needs. The participation in JPI is made on a voluntary basis and on a variable geometry – the partners are free to take part in activities according to their national research priorities.

❖ Joint Programming Initiative Cultural Heritage and Global Changes – A new challenge for Europe

Short description

Europe's cultural heritage is the world's most diverse and rich patrimony that attracts millions of visitors every year to monuments, historical city centres, archaeological sites and museums. Moreover, this heritage is an important component of individual and collective identity. In both its tangible and intangible forms it contributes to the cohesion of the European Union and plays a fundamental role in European integration by creating links between citizens.
Taking into account that cultural heritage is a fragile and non-renewable resource, much of which has been irretrievably lost over the last century, the protection of cultural heritage in the face of global change is becoming a major concern for decision-makers, stakeholders and citizens in Europe. Research into strategies, methodologies and tools is needed to safeguard cultural heritage against continuous decay. Before irreversible damage is done, concerted actions, based on sound science, are needed to protect, strengthen and adapt Europe's unique cultural patrimony.
A concerted research action is needed to allow Member States to maximise and exploit at best their research efforts. Joint Programming provides a framework within which Member States address jointly areas where public research programmes can respond to major societal challenges. It is worth mentioning that research in cultural heritage protection is generally developed in public research programmes, considering its complex socio-economic aspects.

Objectives

- European policy development
- European cohesion - support the creation of a common action framework in order to avoid duplication and repetitions of initiatives at national and regional level and to reduce fragmentation of cultural heritage research;

- Growing the European research community – implementing new digital management systems, standardization in the fields of cultural heritage diagnostics, conservation, digitisation, co-ordination of public research programmes in the field of technological research and e-Infrastructure in Europe in the sector of digital cultural heritage;
- Quality and leadership among research communities;
- Human resource development – structured programmes to underpin mobility and integration of new researchers and established researchers in academic, research and heritage institutions, SMEs and industry;
- Development and joint exploitation of infrastructures and regional facilities;
- International impact – promoting European research excellence outside the EU, promoting cultural heritage research to a large public, assessment of the impact of cultural heritage on the social dimension of Europe;
- Long term development of the Cultural Research Area and its sustainable development for a better integration in ERA.

Research directions addressed

1. Sustainable Management of Cultural Heritage
1. 1 Defining carrying capacity and resilience for the protection of heritage assets
1.2 Synthesizing data and modeling
1.3 Development of condition indicators
2. Natural and Man-Made Impacts on Cultural Heritage
2.1. A network for the protection of cultural heritage from natural and man-made hazards
2.2 Regional earth observation for improved impact assessment of sites
2.3 Localized early warning (EWS), alarm and rapid response systems for the protection of cultural heritage
3. Cultural Heritage Treatment, Repair, Maintenance, Digitisation and Re-Use for the 21st Century
3.1 Advanced diagnostic tools and technologies
3.2 Applications of innovative technologies
3.3 Digitisation as challenge for long-term preservation and data transferability
3.4 Intelligent multi-sensor systems for remote control of cultural heritage
3.5 New materials
4. Social, Cultural, Political and Economic Value of Cultural Heritage
4.1 Socio-cultural benefits of cultural heritage
4.2. Tourism flows, economic impact and sustainable management
4.3. Implementing the principles of sustainable development to cultural heritage
4.5 Online accessibility and usability of cultural heritage
4.4 Cultural inclusivity
5. Training and Mobility
6. Dissemination of Results out of Europe

Member States : Italy (coordinator), Belgium, Cyprus, Czech Republic, Denmark, France, Ireland, The Netherlands, Lithuania, Norway, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, UK. Turkey was also a member state but choose to withdraw in 2012.

Membership since: 2010

Current Status At the time being the Strategic Research Agenda is nearly finished.

Launched competitions
JPICH has not yet the capacity of launching joint calls for proposals. However, JPICH is supported by the FP7 SSA project JHEP, which launched its first common call for proposals in January 2013 (http://www.jpi-culturalheritage.eu/joint-call/)
Unfortunately, Romania was not able to participate to this common call due to a lack of funds, but expressed its intention to be involved (pending on the available financial resources) in the ERA-NET Plus project HERITAGE Plus, that has been submitted in order to further support the collaboration of the cultural heritage research community in joint projects.
The first call of HERITAGE Plus will be launched in the first quarter of 2014 and the effective starting of the selected projects is envisaged in 2015.

3. Romania's representation in JPICH

Romania has nominated two representatives in the governing structures of this JPI, in both the Management Board and Executive Board.

Participation in FP7 support actions related to JPIs
Romania (represented by the Ministry of National Education) is a partner in the FP7 Support Action JHEP, running between 01.10.2011 – 30.09.2014, together with the Ministry of Culture (associated partner). JHEP focuses on structuring and supporting the JPICH, elaborating the common vision document for JPICH and the Strategic Research Agenda, as well as on the effective implementation of the JPICH.
Therefore, JHEP proposes the following general objectives:
- Development and elaboration of the Strategic Research Agenda (WP 2);
- Implementation of Joint Programming Initiative (WP 3);
- Extending the partnership and cooperation at regional and international level (WP 4);
- Monitoring and evaluating the JPI (WP 5);
- Dissemination and communication (WP 6).

JHEP and JPICH have the same coordinator, the Italian Ministry for Cultural Goods and Activities (MIBAC).
The budget allocated to the Romanian partner (MEN) is dedicated to travel expenses for the representatives in the Governing and Executive Board to and from the place of the meeting. The personnel costs for MEN are considered as an in-kind contribution to the project and amounts to 20 person-months (PM) for all 6 Work Packages.
The total value of the project is 2.242.800 Euro, EC total contribution 1.999.830 Euro, and the budget granted to MEN is 22.470 Euro.

- **Joint Programming Initiative Healthy and productive Seas and Oceans (JPI OCEAN)**

Brief description, objectives, research direction:
JPI Oceans is a coordinating and integrating long-term platform, open to all EU Member States and Associated Countries who invest in marine and maritime research. The initiative aims to add value by:

- Avoiding fragmentation and unnecessary duplication;
- Planning common and flexible initiatives;
- Facilitating cooperation and foresighting;
- Establishing efficient mechanisms for interaction, secure relevance and knowledge transfer between the users and producers of science (the scientific community, industry & services, policy makers and society at large)

Partner countries

Belgium, France, Germany, Italy, Norway, Romania, Spain, the Netherlands, United Kingdom.

Starting date of JPI: 2010

State of the art (adoption of SRA, calls for proposals, etc.): SRA was adopted but it will be updated in the following period will be updated, in compliance with the provision of the Description of Work of the CSA OCEAN (an FP 7 project funded by DG Research and Innovation)

Calls for proposals (year, budget): No call for proposal was launched so far

RO involvement in JPI – Romania is participating to the JPI since the beginning and from 2012 onward is a partner in the project supporting JPI (acronym CSA OCEAN), represented by UEFISCDI

a. **Participation to the governing structure of the JPI**
There is one MEN representative and one representative of the academia (University of Bucharest)

b. **Participation in other working groups, relevant for JPIs at EU level** (participation to GPC and to Advisory Board for JPI COWORK – an FP 7 project that aims to improve the framework conditions for JPIs). – It is not the case

c. **Participation to support measures** (FP 7 projects – coordination actions) to organize the Member States that participate to the JPI: Romania is participating to the CSA OCEAN represented by UEFISCDI, a funding agency.

Budget, role in the project

Project acronym	Romanian participant	Budget (EUR)	Role
CSA OCEANS	UEFISCDI	43793	participant

d. **Participation to the calls for proposals launched by JPI** – It is not the case as no call was launched so far

❖ **Joint Programming Initiative – Water Challenges for a Changing World (JPI WATER)**

Brief description, objectives, research directions:
The JPI **"*Water challenges for a changing world*"** deals with research in the field of water and hydrological sciences. The availability of water in sufficient quantities and adequate quality is indeed a public issue of high priority and addresses a pan-European and global environmental challenge.

The Initiative responds to the grand challenge of **"*Achieving Sustainable Water Systems for a Sustainable Economy in Europe and Abroad*"**. No single European country can address this challenge by itself, due to the magnitude of the needed operations and to the geographical variation of the water problems. Responding to the grand challenge requires a joint multi-disciplinary approach, since outstanding economic, ecological, technological and societal challenges are to be addressed.

Partner countries
Full members: Austria, Cyprus, Denmark, Finland, France, Germany, Ireland, Israel, Italy, The Netherlands, Norway, Poland, Portugal, Romania, Spain, Turkey, United Kingdom, Moldavia
Observers: Belgium, Greece, Hungary, Sweden, Latvia

Starting date of JPI: 2011

State of the art (adoption of SRA, calls for proposals, etc.): SRA was adopted in May 2013

Calls for proposals (year, budget): No call for proposal was launched so far but is to be launched in 2014

RO involvement in JPI – Romania is participating to the JPI since the beginning and from 2012 onward is a partner in the project supporting JPI (acronym CSA WATER), represented by UEFISCDI
a. **Participation to the governing structure of the JPI**
There is one representative of MEN nominated for the Management Board.
b. **Participation in other working groups, relevant for JPIs at EU level** (participation to GPC and to Advisory Board for JPI COWORK – an FP 7 project that aims to improve the framework conditions for JPIs). – It is not the case
c. **Participation to support measures** (FP 7 projects – coordination actions) **to organize the Member States that participate to the JPI:** Romania is participating to the CSA OCEAN (represented by UEFISCDI).

Budget, role in the project:

Project acronym	**Romanian participant**	**Budget (EUR)**	**Role**
CSA WATER	UEFISCDI	34.800	participant

d. Participation to the calls for proposals launched by JPI – It is not the case as no call was launched so far

- **The Joint Programming Initiative on Agriculture, Food Security and Climate Change - FACCE-JPI**

Agriculture, food security and climate change pose key challenges for the world. The 2007-2008 world food crisis was a stark reminder that all countries need to build more resilient food systems in the light of expected (and unexpected) changes ahead. Research must play a leading role in bringing solutions. Europe has and continues to develop knowledge and technologies to underpin sustainable and competitive food production systems.

The Joint Programming Initiative on Agriculture, Food Security and Climate Change (FACCE-JPI) brings together 21 countries that are committed to building an integrated European Research Area addressing the interconnected challenges of sustainable agriculture, food security and impacts of climate change.

FACCE-JPI provides and steers research to support sustainable agricultural production and economic growth, to contribute to a European bio-based economy, while maintaining and restoring ecosystem services under current and future climate change.

It aims to do so with a strong **trans-disciplinary** research base, encompassing economic and social aspects in addition to scientific ones, and with a creative approach towards the alignment of national programmes and the input of multiple actors and stakeholders.

FACCE – JPI VISION: An integrated European Research Area addressing the challenges of Agriculture, Food Security and Climate Change to achieve sustainable growth in agricultural production to meet increasing world food demand and contributing to sustainable economic growth and a European bio-based economy while maintaining and restoring ecosystem services under current and future climate change.

FACCE – JPI MISSION: to achieve, support and promote integration, alignment and joint implementation of national resources under a common research and innovation strategy to address the diverse challenges in agriculture, food security and climate change.

The integrated FACCE-JPI **Strategic Research Agenda** defines 5 core research themes:

1• Sustainable food security under climate change, based on an integrated food systems perspective: modeling, benchmarking and policy research perspective

2• Environmentally sustainable growth and intensification of agricultural systems under current and future climate and resource availability

3• Assessing and reducing trade-offs between food production, biodiversity and ecosystem services

4• Adaptation to climate change throughout the whole food chain, including market repercussions

5• Greenhouse gas mitigation: nitrous oxide and methane mitigation in the agriculture and forestry sector, carbon sequestration, fossil fuel substitution and mitigating GHG emissions induced by indirect land use change.

These core research themes are gradually taken into account by national research agendas in view of aligning national programmes where much research is already undertaken, and inspire pilot joint actions on topics where research is lacking.

The interactions between agriculture, food security and climate change have been envisioned by the Scientific Advisory Board highlighting the intersections, which are at the heart of the FACCE – JPI. The complex system formed by each of these components and by their interactions is under multiple pressures from external drivers. These include the rising food, feed, fuel and fibre demand, globalization and global environmental changes and is moreover constrained by planetary boundaries such as land and water limits.
To meet these challenges, research undertaken should be mission- oriented, with four complementary and interactive goals:

i) Provide new approaches for the sustainable growth and intensification of agriculture in Europe including transformational adaptation and increase the resilience of food systems to deliver European food security, feed, fuel, fibre as well as other ecosystem services under current and future climate and resource availability;

ii) Provide an integrated impact assessment of climate change throughout the whole food chain, including market repercussions;

iii) Contribute to direct reductions of greenhouse gas (GHG) emissions through carbon sequestration, fossil fuel energy substitution and mitigation of N2O and CH4 emissions by the agriculture and forestry sector, while reducing GHG emissions per unit area and per unit product associated with land use change;

iv) Sharply reduce trade-offs between food production and the preservation of biodiversity, ecosystem functions and services.

➢ JOINT TECHNOLOGY INITIATIVES (JTIs)

1. Presentation of the Joint Undertaking

The Council Decision 2006/971/EC of 19 December 2006 concerning the Specific Programme 'Cooperation' implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 - 2013) underlined the need for ambitious pan-European public-private partnerships to accelerate the

development of major technologies by large research actions at Community level including, in particular, JTIs.
In fact, the Joint Technology Initiatives (JTIs) are the result of European Technology Platforms (ETPs), already established in the framework of the Sixth Framework Programme (2002-2006), covering specific aspects of research in their fields. JTIs combine private sector investment and public funds, including the FP7.

Romania, as an EU member state, contributes to the common European growth and employment jobs and to the increase of cooperation between public and private sector by supporting the participation of Romanian entities existing joint technology initiatives, namely:

- Clean Sky (Aeronautics);
- ENIAC (Nanoelectronics);
- IMI (Innovative Medicines);
- ARTEMIS (Embedded Computing Systems);
- Fuel Cells and Hydrogen (Fuel Cells and Hydrogen)

The Ministry of National Education has decided since 2010 to co-fund Romania's participation, in compliance with the state aid scheme, for the activities of these five joint undertakings (Clean Sky, ENIAC, IMI, Fuel Cells and Hydrogen and ARTEMIS) using a dedicated support scheme under the National Plan II, through the “Partnerships in priority fields” programme.

2. Romania's participation in Joint Technology Initiatives (as of September 1, 2013)

The Joint Technology Initiative on Clean Sky (Clean Sky JTI)

For the implementation of the Joint Technology Initiative on Clean Sky, a Joint Undertaking within the meaning of Article 171 of the Treaty is set up for the period 2008-2017, by the Council Regulation (EC) No 71/2008. The Clean Sky Joint Undertaking contributed to the implementation of the Seventh Framework Programme and in particular Theme 7, Transport (including Aeronautics) of the Specific Programme Cooperation.

The Clean Sky Joint Undertaking aims to address the implementation of innovative, environmentally-friendly technologies in all segments of civil air transport, including large commercial aircraft, regional aircraft and rotorcraft, and in all supporting technologies such as engines, systems and materials life cycle. The Clean Sky Joint Undertaking is delivering full scale demonstrators in all areas of research activities, which should be tested either in flight or on the ground, as a result of a fully integrated approach and monitoring of the technological progress and impact.

Romania's participation in the Clean Sky JTI is the most important Romanian presence in the JTIs.

Romania's Clean Sky JTI collaboration is given by:

a) participation of Romania's associate funding members in two Integrated Technology Demonstrator (ITD) projects: smart fixed wing Aircraft (SFWA - Smart Fixed Wing Aircraft) and Clean Regional Aircraft (GRA - Green Regional Aircraft);

b) participation of Romanian entities in projects selected following calls Clean Sky JTI.

a) Romania's associate members of the individual ITDs.

• A consortium composed by the National Institute for Aerospace Research "Elie Carafoli" - INCAS, STRAERO, ROMAERO and Aircraft Craiova participate as associate member of SFWA ITD.

• The National Institute for Aerospace Research " Elie Carafoli " – INCAS participates as an associate member of GRA ITD.

The budget for Romanian partners in both DTIs projects is approximately 25 million euros for the period 2008-2015, out of which 50% is the Clean Sky Joint Undertaking financial contribution (provided by the European Community) and 50% is the Romanian partners financial contribution (provided by a combination of co-funding from the 2nd National Plan PNII and of their own funding sources).

The support granted through the 2nd National Plan II, Partnerships Programme, is covering up to a maximum of 25 % of the total eligible costs of the Romanian participants (research organizations) in the project.
Romania supports the participation of the associate founding members of DTI by signing contract agreements in the form of co-funding contracts, based on the contract agreements signed with the Clean Sky Joint Undertaking.

b) Selected projects by competitive calls

Participation in Clean Sky as partner is possible through the "Call for Proposals" mechanism.
Selection stages are organized annually by the members within each DTI.

Romania participates so far in 6 projects selected by way of competitive calls for proposals, namely:

- ELTESTSYS- Electrical Test Bench Drive Systems: Mechanical Interfaces,
  coordinator: STRAERO SA, partner: INCD COMOTI,
  total project budget (2010-2014): 646 000 euro

- ELETAD- Electrical Test Bench Drive Systems: Mechanical Interfaces,
  participant: Politehnica University of Bucharest,
  total project budget (2010-2014): 322 660 euro

- HEXENOR- Development of Helicopter Exhaust Engine Noise Reduction Technologies, participant: INCD COMOTI,
  total project budget (2010-2014): 407 755 euro

- ANCORA- Anotec-Compoti Rotorcraft acoustics initiative for preliminary acoustic flight tests for the tuning of simplified rotorcraft noise models
  participant: INCD COMOTI
  total project budget: 58 100 euro

- STARTGENSYS- Adaptation kit design & manufacturing: APU driving system
  participant: INCD COMOTI
  total project budget (2012-2013): 402 600 euro

- OPA- Optimization of air jet pump design for acoustic application
  participant: INCD COMOTI
  total project budget (2013-2015): 198.000 euro

The total budget of the Romanian participants in Clean Sky JTI projects selected by way of competitive calls, is approximately 2 million euro, out of which approx. 1.3 million is the Clean Sky Joint Undertaking financial contribution (provided by the Community).

Romania supports the participation in projects selected by way of competitive calls by signing the Clean Sky co-funding contracts, based on contracts signed with the Clean Sky Joint Undertaking by the Romanian partners.

The amount of the national financial contribution (co-funding) per project, supported by the National Plan II for RD&I, Partnership Programme, covers up to a maximum of 25 % of the total eligible costs of the Romanian participants (research organizations), but not exceeding 100% of the eligible costs.

Thereby, in the period 2010-2015, the investment in aeronautics research within the Clean Sky JTI is approximately 27 million euro, out of which:

- Approx. 13.8 million euros is the amount of the financial contribution of the Clean Sky Joint Undertaking by the Community;
- Approx. 5 million euros represents is the amount of the Romania's financial contribution by co-financing from the PN II budget;
- Approx. 8 million is the amount of the financial contribution of the Romanian participants from their own funding sources.

The Joint Technology Initiative on nanoelectronics (ENIAC JTI) and the Joint Technology Initiative on Embedded Computing Systems (ARTEMIS JTI)

For the implementation of the Joint Technology Initiative on nanoelectronics (ENIAC JTI) and the Joint Technology Initiative on Embedded Computing Systems (ARTEMIS JTI), two Joint Undertakings within the meaning of Article 171 of the Treaty are set up for the period 2008-2017, by the Council Regulation (EC) No 72/2008, respectively the Council Regulation (EC) No 74/2008 .

The ENIAC Joint Undertaking and the ARTEMIS Joint Undertaking are contributing to the implementation of the Seventh Framework Programme and the theme 'Information and Communication Technologies' of the Specific Programme 'Cooperation', promoting a public-private partnership aiming at mobilizing and pooling Community, national and private efforts, increasing overall R&D investments in the field of nanoelectronics and embedded systems, and fostering collaboration between the public and private sectors.

Romania's participation in ENIAC to date has resulted in participation in two projects selected in the following ENIAC JTI calls:

- MOTORBRAIN - Nanoelectronics reduced risk intelligent traction electric vehicles - Nanoelectronics intelligent failsafe for electric vehicle powertrain
  participants: INCD for Microtechnology Bucharest and INFINEON
  total project budget : 801 186 euro

- MEMS - Fab Lab for smart sensors and actuators
  participant : UPB - Centre for Surface Science and Nanotechnology
  total project budget : 529 412 euro

Thereby, in the period 2010-2015, the investment in research in nanoelectronics within the ENIAC JTI is approximately 1.3 million euros, of which:

- Approx. 0.2 million euros is the amount of the financial contribution of the ENIAC Joint Undertaking by the Community;
- Approx. 0.9 million euros is the amount of the Romania's financial contribution by co-financing from PN II budget;
- Approx. 0.2 million is the amount of the financial contribution of the Romanian participants from their own funding sources.

The Joint Technology Initiative on Fuel Cells and Hydrogen (FCH JTI)

For the implementation of the Joint Technology Initiative on Fuel Cells and Hydrogen, a Joint Undertaking within the meaning of Article 171 of the Treaty is set up for the period 2008-2017, by the Council Regulation (EC) No 521/2008.

The Fuel Cells and Hydrogen Joint Undertaking is contributing to the implementation of the Seventh Framework Programme and in particular the Specific Programme 'Cooperation' themes for 'Energy', 'Nanosciences, Nanotechnologies, Materials and New Production Technologies', 'Environment (including Climate Change)', and 'Transport (including Aeronautics)'.

Romania's participation in Fuel Cells and Hydrogen JTI has resulted so far in participating in two projects selected within the calls for proposals:

- MCFC - Molten carbonate cells Combustion - Degradation of the catalyst and Components / MCFC Catalyst and Stack Component Degradation and Lifetime : Fuel Gas Contaminant Effects and extractions Strategies
  participant : OVM -ICCPET SA
  total project budget : 154 608 euro

- HYUNDER - Assessment of the potential, the business Cases Actors and relevant for large scale and seasonal storage of Renewable electricity by underground hydrogen storage in Europe
  participant : INCD for Cryogenic and Isotopic Technologies
  total project budget : 158 900 euro

Thereby, in the period 2010-2015, the investment in research on fuel cells and hydrogen within the Fuel Cells and Hydrogen JTI is approximately 0.3 million euro, out of which:

- Approx. 0.2 million euro is the amount of the financial contribution of the Fuel Cells and Hydrogen Joint Undertaking by the Community;
- Approx. 0.07 million euro is the amount of the Romania's financial contribution by co-financing from PN II budget;
- Approx. 0.04 million euro is the amount of the financial contribution of the Romanian participants from their own funding sources.

➢ EUROPEAN COOPERATION - EUREKA and EUROSTARS

EUREKA is an open European initiative based on the principles of the Hanover Declaration, approved at the Ministerial Conference on 6 November 1985, originally consisting of 18 European countries and a representative of the European Commission. Currently the initiative is made up of 40 Member States, plus the European Commission. In addition to these members Albania, Bosnia and Herzegovina- have information points, and Canada and South Korea – are associated states.
Romania has become a member country on 19 June 1997, at the EUREKA Ministerial Conference in London and the Ministry of Research and Technology has been mandated by the Government

of Romania as the national coordinator and representative of the Romanian interests in this initiative.
EUREKA is an innovative tool designed for the collaboration between companies and research institutes in the field of advanced technologies, in order to help countries in obtaining and exploiting new technologies needed to increase the competitiveness of the economies and the quality of life, which is the main purpose of EUREKA initiative.
Projects are the core of the EUREKA initiative, the participants having the responsibility for the initiation, development and completion of the projects and, if appropriate, those which support the funding of these projects. The basic feature of the projects is the flexibility of the "bottom-up" concept, which leads to the maximum reduction of the bureaucratic factor.

Since the beginning, EUREKA has been aiming to stimulate and support the development of advanced technologies and technological development projects, technology transfer and innovation.
The initiative also aims, in particular, to support small and medium enterprises (SMEs) with innovative and production profile through efficient and sustained services supported before, during and after the execution of projects.
EUREKA is organized on the principle of a European network of governmental type, which provides services to "customers" (legal national entities specialized in research, technology development, technology transfer, innovation and production). According to the initiative philosophy, the goal is to achieve a consensus between member states based on principles, not on rules. Depending on the national legislation, each country should determine - by the national authorities - the procedures, mechanisms and level of financial support from public funds, which it granted to the national participants in their projects.
Through EUREKA initiative, these organizations promote new products, processes and services to market, making Europe economically strong and socially healthy.
EUREKA network consists of EUREKA Secretariat (ESE, located in Brussels) and the EUREKA national secretariats hosted by ministries or departments responsible for research in each Member States.
The Romanian EUREKA Secretariat is hosted by the Ministry of National Education (MEN) and it provides information, advice and links to other national Secretariats.

The funding of the national projects is carried out through the Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI, subordinated to MEN), in the framework of the 2nd National Plan II for RDI, 2007-2013, the Innovation Programme, Subprogramme for European Cooperation EUREKA-EUROSTARS.
EUREKA is open to companies registered in Romania, interested in developing joint proposals for research and development to market, industry driven. In fact, there is a conditionality to receive funding in Romania related to the SMEs and companies: they have to be in the driving seat for the Eureka and Eurostars project proposals.

Projects under this initiative support industrial research and experimental development carried out by companies from Romania in partnership with partners from EUREKA countries and focused on stimulating Romanian companies, especially SMEs, as well as strengthening cooperation between research organizations from Romania (research institutes and universities) and SMEs with similar entities from member states of EUREKA initiative.

Types of projects

The basic condition is that the project must be market oriented and the project participants are from at least two EUREKA Member States, or from a Member State and an associated member.

The EUREKA projects are reviewed, approved and funded by each country based on its own national rules. After the positive evaluation at national level, the project proposal becomes a EUREKA project when it is approved by the regular meetings of the EUREKA National Project Coordinator (NPC), through their support by the National Project Coordinator (NPC) from each country participating in project. These decisions are then approved by the meetings of the EUREKA High Level Group (HLG) meetings which are held simultaneously with NPC meetings.

The projects results are jointly exploited according with the collaborative agreement between participants, which includes a special chapter on intellectual property rights and the use of the project results.

The following types of projects can be run under EUREKA initiative:

1. Traditional (individual) EUREKA projects

An EUREKA individual project is a market-oriented project, which has received the EUREKA label based on bottom-up approach driven by a SME or company.

EUREKA umbrellas are thematic networks inside the EUREKA initiative, which are targeted on a specific technology area or a particular economic sector. The main purpose of an umbrella is to facilitate the generation of EUREKA projects in its specific field. Umbrellas activities are coordinated and implemented by working groups consisting of representatives of the EUREKA Secretariat (ESE) and industry experts.
An umbrella project is a EUREKA individual project created and developed under one of the EUREK umbrellas.

2. EUREKA Cluster Projects

EUREKA 'Clusters' are long-term, strategically significant industrial initiatives. They usually have a large number of participants, and aim to develop generic technologies of key importance for European competitiveness mainly in ICT, energy and more recently in the biotechnology sector.

Through regular **calls for projects**, Clusters bring together large companies, often competitors, along with SMEs, research institutes and universities, sharing both the risk and benefits of innovation. They focus on developing and commercially exploiting new technologies. Their goal is to ensure that Europe retains its leading position in the world market.

The clusters are initiated by industry in close collaboration with national funding authorities, each Cluster having a technological 'roadmap' defining the most important strategic domains. Clusters roadmaps and projects are continuously adapted in response to the rapidly changing technological environment and market demands.

The consortium coordinator from Romania has to prove its participation in a EUREKA-cluster project proposal by submitting the EUREKA project form, the International Partnership Agreement and the officially notice transmitted to the EUREKA Romanian Secretariat, which mentions that the proposal has been selected following the international call of the respective cluster.

The calendar of EUREKA calls for applications is synchronized with the EUREKA international meetings which approve and grant the EUREKA project labels to those proposals supported by national representatives (NPC and HLG), following the assessments at national level.

3. EUROSTARS Projects

Eurostars Programme is a European Joint Programme dedicated to R&D performing SMEs, and is co-funded by the European Community (by 25% of the public budget contribution of the participating member states) and the 33 Eurostars member states. The R&D performing SMEs are those SMEs who dedicate at least 10% of the turnover or its activity for R&D activities. Through this program, based on Article 185 of the Treaty of Lisbon, there are combined the two goals with bottom-up approach, with a transmission and independent international evaluation centralized, and with the synchronized national funding from the 33 member states. Typically, there are two annual calls. Romania is a member of this program since its start in 2008. Ten calls have been launched during 2008-2013.

The Eurostars projects are collaborative, meaning that they have to involve at least two legal participants from two Eurostars countries. In addition, the project coordinator should be a R&D performing SME from these countries. The SME participants' role has to be significant, i.e at least 50% of the project activities has to be carried out by SMEs. The consortium has to be well

balanced, i.e. a participant can't invest more than 75% of total project costs. The maximum project duration is three years (exception for the biomedical and health projects) and two years after project completion at the latest, the research product has to be ready to be launched on the market. The participants in a Eurostars project will receive after independent international assessment an official letter from the Eurostars Secretariat regarding the evaluation result (approved or not for funding). On the basis of this letter, unless funding is provided to all other partners in the project, the project can be financed by the funding agency, UEFISCDI.

Funding of EUREKA projects

The funding of the EUREKA projects is carried out in each participating country through grants or loans in accordance with the national programs and rules.

In Romania, the national funding is done under the INNOVATION Programme - PN II, through a grant obtained either by selecting the project after a national competition for assessment of the traditional EUREKA projects or by a selection performed by an international jury (evaluation) for calls organized by EUREKA Clusters or by the Eurostars Programme.

The contracting and funding for the traditional EUREKA and Eurostars projects may begin after MEN approves the list and budgets of the projects for which all international partners have secured funding (from the national budget or through self-financing), only after approval by the High Level Group (HLG). EUREKA cluster projects can begin their contract and funding after the communication of the EUREKA project label obtained and awarded by the EUREKA cluster committee (secretariat).

Budget

The financing through the INNOVATION Programme budget for the European cooperation projects is complying with the state aid scheme, but not more than:

- **500.000 lei** (115 k€) / year for **traditional (individual) EUREKA projects**;
- **700.000 lei** (160 k€) / year for **EUREKA cluster projects**;
- **700.000 lei** (160 k€) / year for **Eurostars projects**.

Romanian portfolio of EUREKA/ Eurostars projects

Romanian portfolio of EUREKA projects consists of **121 projects**:

- 72 completed,
- 23 ongoing,
- 32 project proposals evaluated, from which 10 are approved for funding;

The number of contracts concluded between the Romanian participants and the Ministry of National Education (starting from 2011 through UEFISCDI) to support the participation in EUREKA projects since 2000 is 72, amounting to a total budget of approx. 21 million euro and about 130 Romanian participants (SMEs, large companies, research institutes and universities).

For 42 projects and project proposals the coordinator is an entity from Romania (most of them are those submitted in the last 5 years). Since 2008, the basic rule for approval of a proposal by the Romanian side is that the coordinator of the project consortium is an economic partner (SME or large enterprise).

It has to be noted that 20 proposals, out of a total of 26 EUREKA proposals, come from the Multilateral Call launched by Turkey in January-March 2013 with the participation of 13 EUREKA Member States, including Romania. Four of these proposals are with Canada's participation as a partner (Romania being the coordinator), Canada being recent admitted as associated country to the EUREKA initiative. Ten of these proposals have been approved for funding.

A number of 48 projects have been funded during 2009-2013, from which 12 are Eurostars projects (for which EC returns 25% of the amount received from the public budget), 6 cluster projects, and the remaining 30 projects are EUREKA traditional (individual). The annual amount allocated from the public budget for these projects is the following:

- 7.087.151 lei (1.69 M€) in 2011;
- 7.457.310 lei (1.70 M€) in 2012;
- 6.513.382 lei (1.48 M€) in 2013.

For the period 2009-2012 the funding agency (UFISCDI) received the amount of **352 568 Euros** from EC (25% of co-financing from the public budget) for projects funded under the Eurostars programme, which MEN has returned to the state budget.

Average values for a EUREKA project are: duration: 2-3 years, budget: 1-2 million Euros, no. of partners 2-3. The annual rate of new projects: 10.

The main scientific areas with Romanian participation, ranked by interest for the partnership between research and industry are the following:

- Information technology;
- New materials;
- Environment;
- Food;
- Biotechnology.

It can be noticed that in the recent years (2012-2013), the interest in this program has doubled, taking into account the number of proposals for new projects. In 2013 there were 32 projects submitted for evaluation, compared to the previous annual rate of only 18-20 projects.

Other benefits of Romania's participation in the EUREKA initiative and Eurostars program:

- EUREKA Network has the best reputation being dedicated to supporting the companies and research organizations to develop business based on RDI;
- EUREKA Network represents the most advanced model of European research funding by connecting all research funding organizations and by providing financial support from the national RDI funding programmes;
- Romanian companies, research organizations and scientific communities are permanently connected with their counterpart entities in Europe and worldwide, and are able to develop common business activities based on RDI, through regional and pan-European cooperation with EUREKA Member States and associated states (South Korea, Canada).

➢ COST

COST – European Cooperation in the field of Scientific and Technical Research – was the first and is the widest European network for the coordination of nationally funded research activities. It is based on an inter-governmental framework for cooperation agreed following a Ministerial Conference in 1971.

The mission of COST is to strengthen Europe in scientific and technical research through the support of European cooperation and interaction between European researchers. It aims to maximize European synergy and added value in non-competitive and pre-normative research.

COST organization

Domain Committee (DC) - consist of experts from the respective domain and are nominated by the CNC. The DC reports to the CSO and is responsible for the quality control of the allocated Actions (assessment, monitoring, evaluation). The DC also supervises the strategic development of their respective domains;

Executive Group of the CSO (JAF) - The Executive Group of the CSO, referred to as JAF, prepares the CSO meetings and some every day decisions delegated by the CSO. The group consists of the President and the Vice-President of the CSO as well as five other delegates from the CSO chosen to represent different COST countries for a maximum duration of three years;

Committee of Senior Officials (CSO) - The Committee of Senior Officials (CSO) is the main decision-making body responsible for the strategic development of COST. It decides, amongst other things, on the proposed new Actions following the Open Call. Each COST Member State appoints two representatives to the CSO, one of whom is usually the COST National Coordinator (CNC);

COST Ministerial Conferences - Key decisions are taken at COST Ministerial Conferences, which are held on average every five years.

The Romanian Government through the Ministry of National Education has nominated a national coordinator for COST and its representatives to CSO.

Starting from a limited number of countries and Scientific Domains, COST has now grown into a system for research collaboration covering 35 European Member States (Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, Serbia, Former Yugoslav Republic of Macedonia) plus one cooperating state (Israel).
COST increases the mobility of researchers across Europe and fosters the establishment of scientific excellence in 9 Scientific Domains:

- Biomedicine and Molecular Biosciences (BMBS);
- Chemistry and Molecular Sciences and Technologies (CMST);
- Earth System Science and Environmental Management (ESSEM);
- Food and Agriculture (FA);
- Forests, their Products and Services (FPS);
- Individuals, Societies, Cultures and Health (ISCH);
- Information and Communication Technologies (ICT);
- Materials, Physics and Nanosciences (MPNS);
- Transport and Urban Development (TUD).

The funds provided by COST support the coordination costs of the research networks (Actions), while the research is funded nationally.

Romania's participation in COST Actions

Romania became member of COST in 1997 at the Ministerial Conference in Prague. Since the start of COST, the European Commission had a special role in the development and coordination of the European framework.

Out of the total 770 COST Actions carried on during the period 1997-2013, Romania took part in a number of 440 COST Actions, with a success rate of 60,3%.

The distribution of COST Actions with Romanian participation per scientific domain is shown in the table and has also a graphical representation in the chart, both presented below.
The largest interest of the Romanian academia as a share of total COST Actions is for the area of "Forests, their Products and Services", followed by "Individuals, Societies, Cultures and Health"

and “Food and Agriculture”. According to our data, the area of “Biomedicine and Molecular Biosciences” seems to raise the smallest interest for our R&D organizations.

Domain	BMBS	FA	FPS	CMST	ESSEM	MPNS	ISCH	ICT	TUD	TOTAL
Total approved Actions	81	90	93	89	67	101	79	57	73	730
Romanian participation	37	58	65	48	42	58	52	34	46	440
Share (%)	45,6	64,4	69,9	53,9	62,7	57,4	65,8	59,6	63	60,3

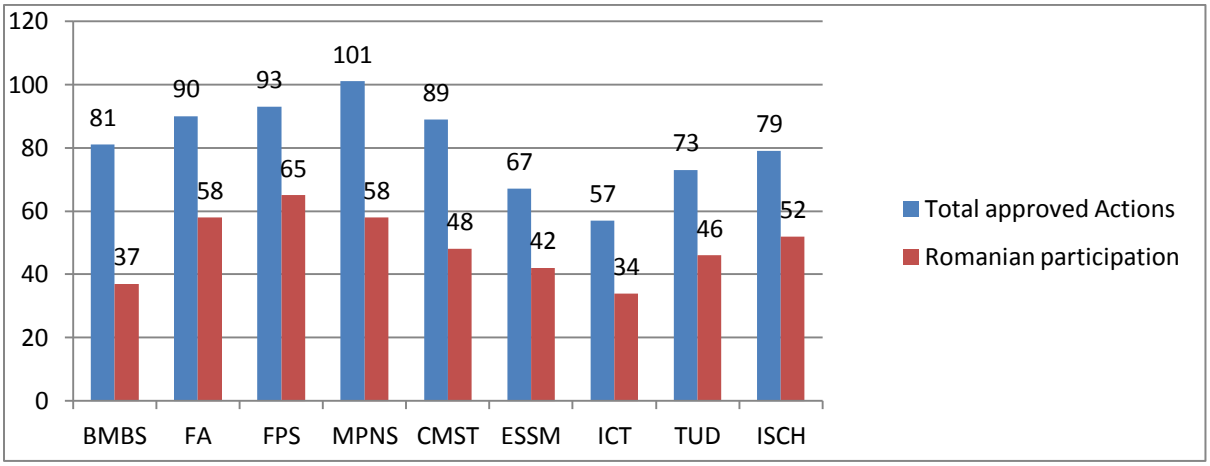


Chart – Distribution of COST Actions with Romania per scientific domain

As for the type of organization, universities have the largest share in their representation to the COST Actions, followed by R&D institutes (see the chart below).

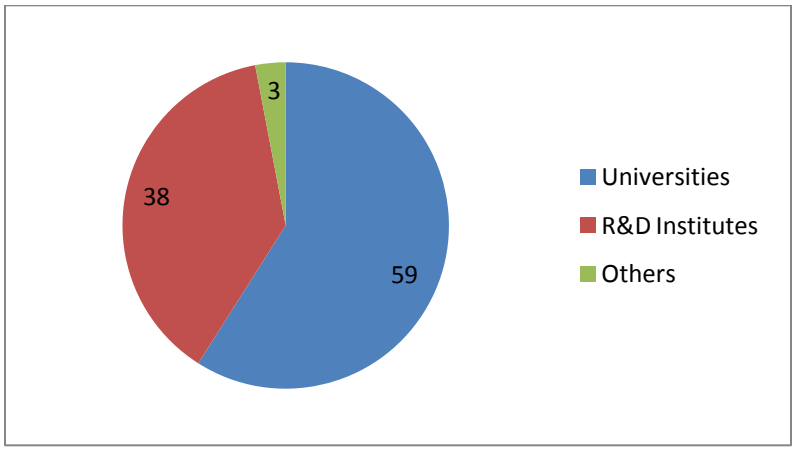


Chart - Approved COST Actions per type of organization

The main advantages of participation in COST Actions are the following:

- promotion of the Romanian RDI system;
- match-making and facilitating links with European partners;
- facilitating the connections between the European institutions & bodies and national institutions and organizations;
- recommendations to the Romanian RDI system based on European best-practices;
- dissemination and promotion activities

➢ THE "SCIENTIFIC VISA" DIRECTIVE

On March 16th, 2004 the European Commission has proposed a legislative package of three instruments (one Directive and two Recommendations) having the goal to facilitate the administrative procedures for third-country researchers entering the European Community.

The 2005/71/EC Directive or the "Scientific Visa" Directive is one of the community instruments created to accelerate the admission and mobility of third country researchers entering the European Union.

The "Researchers' Visa" is a familiar term used to define the permission to enter, stay and work in Europe for the purpose of carrying out scientific research, within a research project of more than three months, developed with the previous agreement of a research organization from Romania.

Romania is one of the first Member States that has fully transposed the Directive into the national legislation. After the consultation process within the inter-ministerial group of experts set up for this purpose, consisting of representatives of the Ministry of National Education and of the Ministry of Internal Affairs- Romanian office for Immigration, the Directive has been transposed into national legislation by modifying and completing the Government Emergency Ordinance OUG 194/2002, on the regime of foreign citizens in Romania and the Order no. 2414/October 2007 of the minister of education, research and youth on the approval procedure of the hosting agreement for third-country researchers carrying on research activities in Romania. The public bodies having responsibilities specific to the field of implementation are the Ministry of National Education and the General Inspectorate for Immigration.

The Ministry of National Education certifies the hosting agreements referred to in the Order no. 2414/October 2007 of the minister of education, research and youth above mentioned in order to enable the employment of foreign researchers coming from third countries in Romania with the purpose of a research project.

Currently there are 21 research organizations authorized according to the Scientific Visa Directive to host foreign researchers at their premises and a number of 60 researchers coming from the following third countries: Republic of Moldova, China, South Korea, Japan, Australia, USA, Guatemala, Canada, Mexico, Marocco, India, Republic of Algeria, Egypt, Republic of Serbia, Iran, Turkey, Georgia, Ethiopia, Russia (FP7 projects, National Plan II, structural funds).

➢ EURAXESS ROMANIA

EURAXESS-Researchers in motion is a pan- European initiative supported by 40 participating countries offering free and personalized assistance to mobile researchers and their families.

With the help of the European Commission, each member state set up a national network operating at different level, as follows:
1. bridgehead organizations (BHO) –nominated by the research authority of a given member state, they coordinate the national network and liaise with European Commission and other BHOs and communication networks (NCP network, Enterprise Europe Network) and all other institutions of the European, national and regional level;
2. service centers (ESC) – subordinated to BHOs and representing a region of a country;
3. local contact points (LoCP) – located in universities/research organizations/SMEs etc and supporting researchers from their institution.

The EURAXESS mission is to support the foreign researchers coming to European Union by providing personal assistance on the following issues occurred while being mobile: accommodation, daily life, health/medical care, info about country/city, intellectual property rights, language courses, recognition of qualifications, social security, taxation, visa formalities, work permits.

The Romanian EURAXESS network has been established in 2005 under a project funded by the 6th EU Framework Programme (Romanian Mobility Centre, 2005-2008) and it consists of two bridgehead organizations: the Ministry of National Education and the Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI).
The national coordinator of EURAXESS Romania is a representative of the ministry, whilst the portal for EURAXESS Romania is administered by UEFISCDI.

All the countries participating in the EURAXESS initiative have a national portal dedicated to scientific mobility, which is connected to the European EURAXESS Portal (http://ec.europa.eu/euraxess), a very useful tool consisting of four main sections devoted to four specific initiatives for researchers:

- EURAXESS Jobs – a stress-free recruitment tool where no charges apply. Researchers can find a wealth of constantly updated information on job vacancies, funding opportunities and fellowships throughout Europe. Posting their CV will allow recruiters to find them.
- EURAXESS Services - a network of more than two hundred Service Centers located in 40 European countries, helping researchers helps researchers tackle issues such as accommodation, visa and work permits, language lessons, schools for their children, social security and medical care.
- EURAXESS Rights - provides all information regarding the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers. The Romanian research organizations undersigning the Charter and Code are: Alexandru Ioan Cuza University of Iaşi, Banat's University of Agricultural Sciences and Veterinary Medicine, the National Institute of Research and Development for Biological Sciences, National Research and Development Institute for Chemistry and petro-chemistry (ICECHIM), Spiru Haret University of Bucharest, The National R&D Institute for Texile and Leather (INCDTP),The University of Agricultural Sciences and Veterinary Medicine – Bucharest, The University of Medicine and Pharmacy "Victor Babes", Timisoara, University of Medicine and Pharmacy "Grigore T. Popa" .
- EURAXESS Links – one can find extensive information about research in Europe, European research policies, career opportunities in Europe, international collaboration and trans-national mobility. EURAXESS Links is established in the ASEAN, USA, Japan, North America, Brazil, China and India.

There are currently more than 49.000 registered visitors of EURAXESS Romania portal and a number of 58 research jobs displayed, which is a very fast increase compared to the previous years, due to the fact that, starting 2011, jobs posting in EURAXESS became mandatory in research all competitions under National Plan II for RDI.

In order to increase the visibility of the EURAXESS network, the Ministry of National Education has been involved in three projects funded under the Framework Programmes 6 and 7:

- Romanian Mobility Centre (2005-2008), setting up EURAXESS network in Romania;
- Discover Europe (2009-2011), strengthening the cooperation between the mobility centers from France, Poland, Romania and Bulgaria, by best practice and exchange in order to improve the services provided to foreign researcher;
- EURAXESS TOP (2010- 2011), making Romania more visible and attractive for foreign researchers by optimizing the EURAXESS portal parameters according to the standards requested by the European Commission.