



Researchers' Report 2014

Country Profile: Romania



TABLE OF CONTENTS

1. KEY DATA	3
<i>National R&D intensity target.....</i>	<i>3</i>
<i>Key indicators measuring the country's research performance.....</i>	<i>3</i>
<i>Stock of researchers.....</i>	<i>4</i>
2. NATIONAL STRATEGIES.....	4
3. WOMEN IN THE RESEARCH PROFESSION	6
<i>Measures to support women researchers in top-level positions.....</i>	<i>6</i>
<i>Measures to ensure a representative gender balance.....</i>	<i>7</i>
<i>Parental leave</i>	<i>7</i>
4. OPEN, TRANSPARENT AND MERIT-BASED RECRUITMENT	7
<i>Recruitment system</i>	<i>7</i>
<i>Open recruitment in institutions</i>	<i>7</i>
<i>EURAXESS Services Network</i>	<i>8</i>
5. EDUCATION AND TRAINING	9
<i>Measures to attract and train people to become researchers.....</i>	<i>9</i>
<i>Doctoral graduates by gender</i>	<i>9</i>
<i>Measures to increase the quality of doctoral training.....</i>	<i>10</i>
<i>Skills agenda for researchers</i>	<i>11</i>
6. WORKING CONDITIONS.....	12
<i>Measures to improve researchers' funding opportunities</i>	<i>12</i>
<i>Remuneration</i>	<i>12</i>
<i>Researchers' Statute</i>	<i>12</i>
<i>'European Charter for Researchers' & 'Code of Conduct for the Recruitment of Researchers'</i>	<i>13</i>
<i>Autonomy of institutions.....</i>	<i>13</i>
<i>Career development.....</i>	<i>15</i>
<i>Shift from core to project-based funding</i>	<i>16</i>
<i>Social security benefits (sickness, unemployment, old-age)</i>	<i>16</i>
7. COLLABORATION BETWEEN ACADEMIA AND INDUSTRY	16
8. MOBILITY AND INTERNATIONAL ATTRACTIVENESS	17
<i>Inward mobility (funding)</i>	<i>17</i>
<i>Outbound mobility.....</i>	<i>18</i>
<i>Portability of national grants.....</i>	<i>19</i>
<i>Access to cross-border grants</i>	<i>20</i>

1. Key data

National R&D intensity target

“Over the last decade, R&D intensity in Romania increased from 0.37% in 2000 to 0.58% in 2008, unfortunately only to drop back to 0.48% in 2011¹. Romania currently has one of the lowest R&D intensity in the European Union, at a value of less than a quarter of its 2% target for 2020. In absolute terms, public R&D funding reached a peak in 2008, following the adoption of the 2007-2013 Strategy for R&D and Innovation. The Strategy has foreseen a gradual increase of the R&D public budget, but the planned increase of the R&D public budget in 2009 did not take place. In absolute terms, government budget appropriations for R&D decreased by 25.4% in 2009 and by a further 2.6% in 2010 and then increased by 0.5% (provisional value) in 2011. Higher education expenditure on R&D suffered a large decrease of 32.2% in 2009 but increased by 1.4% in 2010. The Government expressed its intention to increase the public budget by 18.6% in 2011 and by an additional 12.7% in 2012 (according to the ERAC Survey, 2012).

In addition, Romania with a value of 0.17% had one of the lowest business R&D intensities in the EU in 2011 (rank 25 out of 27), with an average annual growth rate of -3.4% between 2000 and 2011. No Romanian firm is among the top-1 000 EU R&D investing firms. The recent trends show that the 2% R&D intensity target for 2020 is very ambitious and will be difficult to reach, given both the recent low budgetary commitment and the very low level of business R&D activities. This target could be achieved only if the country prioritises R&I in a context of smart fiscal consolidation, whilst implementing without delay key reforms as outlined in the Action Plan for Research and Innovation adopted by the Government in July 2011.

The total number of Romanian participants in the 7th Framework Programme so far is 704 (out of 4 888 applicants); thereby Romania has received EUR 96 million. The success rate of participants is 14.4%, below the EU average success rate of 21.95%. Romania receives the 19th largest share in the EU of 7th Framework Programme funding and has most collaborative links with Germany, Italy, the United Kingdom, France and Spain.

Private and public R&D investment also receives support by co-funding from the Structural Funds. Currently 13.7% is allocated to research, innovation and entrepreneurship from the total of Structural Funds available to Romania, compared to an overall 25% at the level of EU. A large part of the Structural Funds for R&I has been focussed on programmes for developing R&I infrastructure and human resources which have been developed as complementary to the national R&D programmes. The massive reduction of the R&D budget in 2009 however hampered this complementarity. Whereas the Structural Funds have had an absorption rate of 30% (rate of approved payments) for the R&I sector, the national R&D budget has been indeed severely cut.”²

Key indicators measuring the country's research performance

The figure below presents key indicators measuring Romania's performance on aspects of an open labour market for researchers against a reference group and the EU average³.

¹ In 2012, R&D expenditure was 0.42% (Eurostat, 2014).

² European Commission (2013), “Research and Innovation performance in EU Member States and Associated countries. Innovation Union progress at country level 2013”

³ The values refer to 2013 or the latest year available

Figure 1: Key indicators – Romania



Source: Deloitte

Data: Eurostat, SHE Figures, EURAXESS Jobs Portal, UNESCO OECD Eurostat education survey, Innovation Union Scoreboard 2014, MORE2.

Notes: Based on their average innovation performance across 25 indicators, Bulgaria, Latvia and Romania show a performance well below that of the EU average. These countries are “Modest innovators”⁴.

Stock of researchers

The table below presents the stock of researchers by Head Count (HC) and Full Time Equivalent (FTE) and in relation to the active labour force.

Table 1: Human resources – Stock of researchers

Indicator	Romania	EU Average/Total
Head Count per 1 000 active labour force (2011)	2.58	10.55
Head Count (2011)	25 489	2 545 346
FTE per 1 000 active labour force (2011)	1.63	6.75
Full time equivalent (FTE) (2011)	16 080	1 628 127

Source: Deloitte

Data: Eurostat

2. National strategies

The Romanian Government has put in place a range of measures aimed at training enough researchers to meet its R&D targets and at promoting attractive employment conditions in public research institutions. The table below presents key programmes and initiatives intended to implement the strategic objectives to train enough researchers to fulfil Romania’s R&D targets, to promote attractive working conditions, and to address gender and dual career issues.

Table 2: National strategies

Measure	Description
National Plan for R&D and Innovation 2007-2013 (2007)	This Plan (implemented under the National RDI Strategy 2007-2013) aims to: – Improve young researchers’ funding opportunities;

⁴ European Commission (2014), “Innovation Union Scoreboard 2014”

Measure	Description
	– Improve researchers' inbound and outbound mobility; – Restructure doctoral programmes; and – Establish schools of excellence.
National R&D and Innovation (RDI) Strategy 2007-2013 (2007)	The RDI Strategy is Romania's main national RDI funding instrument and aims to consolidate the Romanian Research Area and facilitate Romania's integration into the European Research Area (ERA). It formulates the following objectives: – Provide human resources in RDI; and – Improve the innovative capacity of businesses, especially SMEs. The Strategy is structured into six specific programmes; these carry names similar to those of the EU FP7 programmes: Human Resources, Capacities, Ideas, Partnerships in Priority Domains, Innovation, and Sustaining Institutional Performance. They reflect the nine national priorities: ICT, energy, environment, health, agriculture and food, biotechnologies, innovative materials, processes and goods, space and security, and socio-economic and humanistic research. In particular, the Human Resources programme supports the increase in the number and professional performance of researchers, as well as the attractiveness of scientific careers. The total budget for this programme is about EUR 421 million (9% of the 2007-2013 National Plan). Its successor, the RDI Strategy 2014-2020, is now in place.
The 2009-2015 Strategy 'Education and Research for a Knowledge Society'⁵ (2009)	The strategy was drawn up in 2009 by the Presidential Commission for Education and Research Policy-making and Analysis. One of its priorities is the support for human resources in universities. The document proposes several measures for improving the quality of teaching and research staff.
The Sectoral Operational Programme Human Resources Development (SOP-HRD) (2007-2013)	The SOP-HRD supports the development of human capital and increased competitiveness by linking education, lifelong learning and the labour market as well as providing better opportunities for participation in the labour market. – Priority Axis 1: Education and training in support of growth and development of a knowledge-based society. This promotes doctoral and post-doctoral research programmes; and – Priority Axis 3: Increasing the adaptability of workers and enterprises, which supports the development of entrepreneurial skills and training in new technologies. SOP HRD Priority Axis 1 included three strategic projects for the reform of Romanian higher education implemented by the Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI) between 2008 and 2011: 1) "Quality and leadership for Romanian Higher Education": developed a vision for Romanian higher education in 2025 and was accompanied by a White Book for 2015 based on a broad consultation in society and the economy (total budget of approximately EUR 2.8 million); 2) "Doctoral Studies in Romania - Organising Doctoral Schools": promoted doctoral and post-doctoral programmes and aimed to develop a unitary strategy for reforming the national doctoral system, identifying and developing the institutional infrastructure for implementing doctoral studies as an important part of the integration of the Romanian higher education system in the EHEA and ERA (total budget of approximately EUR 3 million); and 3) "Doctorate in Schools of Excellence": included the evaluation of academic research quality and increased international visibility through scientific publications and aimed at drawing up, testing and validating a methodology for international evaluation of academic research, support for Schools of Excellence, and production of scientific publications (total budget of approximately EUR 4.1 million).
The Sectoral Operational	SOP-IEC Priority Axis 2 has the following general objective: "Increase of R&D

⁵Available at:

http://www.presidency.ro/static/ordine/COMISIA_EDUCATIE/EDUCATION_AND_RESEARCH_FOR_A_KNOWLEDGE_SOCIETY.pdf

Measure	Description
Programme Increase of Economic Competitiveness (SOP-IEC) (2007-2013)	capacity, stimulation of cooperation between RDI institutions and enterprises, and increase of enterprises' access to RDI". One of its measures is entitled "Complex research projects fostering the participation of high-level international experts" and aims to attract young researchers and high-level specialists both to R&D institutions (universities and research institutes) and companies with research departments. The measure supports the creation of teams of high-level scientific and/or technological competence, of European standard, under the leadership of international experts, of any nationality, whose competence is already proven. A total of 41 projects are currently funded, of which 33 are in public universities and institutes, 3 in private research organisations, and 5 in enterprises (total budget around EUR 45 million).

Source: Deloitte

Additional core R&D programmes have also been developed by some national R&D institutes to support their specific medium- and long-term strategies and are financed by the National Authority for Scientific Research (NASR)⁶ as institutional funding. In 2009, NASR supported 46 core R&D programmes, with a total budget of about EUR 83 million. This was about 30% higher than in 2008 and was designed to help them retain R&D personnel, especially young researchers trained abroad. In 2010, NASR funded 47 core R&D Programmes.

The preparation of next planning cycle began in 2012. The general principles for the new cycle include the correlation of the smart specialisation strategies and the 2014-2020 National RDI strategy around a reduced set of priorities to concentrate on increasing the socio-economic impact. For instance, NASR launched a preparatory project for the identification of smart specialisations, which provided the first results in March 2012. In addition, starting in January 2013, a large foresight-based, ten-month project was launched to draw up the National Research, Technological Development and Innovation Strategy 2013-2020 with the associated Plan (which is the framework for public funds for RDI). The project will also provide recommendations for the structural funds axis dedicated to innovation.

3. Women in the research profession

Measures to support women researchers in top-level positions

In 2010, the percentage of women grade A academic staff was 35.6% in Romania compared with 31.2% among the Innovation Union reference group and an EU average of 19.8%⁷.

In general, there are no specific policy measures (strategies, programmes, initiatives, etc.) in place to increase the number of women researchers in high-level positions in research, technology and innovation. Only some actions designed to promote entrepreneurship skills have been carried out by the Agency for the Implementation of Projects and Programmes for SMEs (formerly National Agency for the Promotion of SMEs). They include:

- Training potential new entrepreneurs, especially young people and women (e.g. the START Programme for the training of young entrepreneurs, the 2005-2012 multi-annual programme for the development of entrepreneurial culture in women managers in SMEs)⁸; and
- Support for training and consultancy services for SMEs (the 2006-2012 multi-annual programme supporting SMEs' access to training and consultancy).

⁶ The Government Ordinance of 22.12.2012 on the reorganisation of the public administration generated a series of changes in the RDI institutional framework: the former Ministry of Education, Research, Youth and Sport was reorganised and was split into the Ministry of National Education and the Ministry of Youth and Sport; the National Authority for Scientific Research (NASR) was dissolved, with all attributes taken by the new Ministry of National Education, while there will be a delegate Ministry for Higher Education, Scientific Research and Technological Development. Additionally, the research institutes formerly subordinated to other different ministries became subordinated to the new Ministry of National Education. These measures are expected to improve the representation of RDI in the government and also to reduce fragmentation of the RDI system

⁷ See Figure 1 "Key indicators – Romania"

⁸ Available at: http://www.aippimm.ro/categorie/programe/femei_manager2009/

Measures to ensure a representative gender balance

In Romania, there are no quotas/national targets/measures in place to ensure a representative gender balance for researchers.

Parental leave

Female researchers can interrupt their contract to go on maternity leave, during which time they are paid by the institution.

According to the ERAWATCH Country Report 2012⁹, since 1 January 2011, women have had “the possibility to choose between two packages of measures regarding the duration of the maternity leave and the level of the child allowance associated in each case. The restoration to the same position after maternity leave is theoretically guaranteed by law, but in practice distortions from this provision may frequently occur, e.g., a return to a different position, or with a different salary, etc. Also, the maternity leave reduces women/men’s chances for promotion based on the number of publications”.

4. Open, transparent and merit-based recruitment

Recruitment system

The recruitment system is regulated by the Government Decision on general principles for recruitment in the public sector (HG no.286/2011¹⁰), the Law on the Statute of R&D personnel (Law no. 319/2003¹¹) and the National Education Law (Law 1/2011¹²). HEIs and R&D institutions have their own internal procedures on recruitment that are in accordance with these laws and are generally published on the institutions’ website.

A set of policies has been developed to make the system more open and transparent, such as the Scientific Visa and other admission conditions for foreign researchers.

Open recruitment in institutions

The table below presents information on open recruitment in higher education and public research institutions.

Table 3: Open recruitment in higher education and public research institutions

Do institutions in the country currently have policies to ...?	Yes/No	Description
– publish job vacancies on relevant national online platforms	No	The Government Decision on general principles for recruitment in the public sector (HG no. 286/2011) does not require institutions to publish job vacancies on national online platforms. HEIs and R&D institutions are expected to publish their own recruitment procedures on their own website. These procedures may include the publication of job vacancies on national online platforms. For first-stage researchers – R1, PhDs are published only on the HEIs’ websites.
– publish job vacancies on relevant Europe-wide online platforms (e.g. EURAXESS)	Yes	UEFISCDI requires institutions to publish on www.euraxess.ro vacancies for any research projects in Romania (PN II), which it coordinates. For first-stage researchers – R1, PhDs are published only on the HEIs’ websites.
– publish job vacancies in English	Yes	UEFISCDI requires institutions to publish in English all vacancies for any research projects in Romania (PN II),

⁹ ERAWATCH Country Report 2012

¹⁰ Available at: http://www.avocatnet.ro/content/articles/id_24014/HG-nr-286-2011-aprobarea-Regulamentului-cadru-privind-stabilirea-principiilor-generale-de-ocupare-a-unui-post-vacant-sau-temporar-vacant-corespunzator-functiilor-contractuale-din-sectorul-bugetar.html#axzz2KhDpMRJj

¹¹ Available at: http://www.cdep.ro/pls/legis/legis_pck.htm_act_text?id=49472

¹² Available at: <http://www.edu.ro/index.php/legaldocs/14847>

Do institutions in the country currently have policies to ...?	Yes/No	Description
		which it coordinates. For first-stage researchers – R1, PhDs are published only on the HEIs' websites. Depending on the strategy of the institutions the details may be published in English.
– systematically establish selection panels	Yes	Under Government Decision on general principles for recruitment in the public sector by law (Labour Code no.53/2003, Law ON the Statute of the R&D personnel no.319/2003, Education Law no.1/2011), the establishment of selection panels is mandatory.
– establish clear rules for the composition of selection panels (e.g. number and role of members, inclusion of foreign experts, gender balance, etc.)	Yes	The Government Decision on general principles for recruitment in the public sector (HG no. 286/2011) provides for this. This is also regulated by the law on the statute of R&D personnel, which includes the number of members (president of the panel, members), whether they come from inside the institution or from other institutions, who appoints the panel and who confirms the validity of the panel's results. It is usually stipulated in the internal procedures covering recruitment.
– publish the composition of a selection panel (obliging the recruiting institution)	No	-
– publish the selection criteria together with job advert	Yes	This is provided for in the Government Decision on general principles for recruitment in the public sector (HG no. 286/2011). For first-stage researchers – R1, the criteria for PhD vacancies are published only on the HEIs' websites.
– regulate a minimum time period between vacancy publication and the deadline for applying	Yes	This is provided for in the Government Decision on general principles for recruitment in the public sector (HG no. 286/2011) and is in line with the law regarding the statute of the R&D personnel: 30 days from the moment that the vacancy is published.
– place the burden of proof on the employer to prove that the recruitment procedure was open and transparent	YES	This is provided for in the Government Decision on general principles for recruitment in the public sector (HG no. 286/2011) and the internal procedures.
– offer applicants the right to receive adequate feedback	No	-
– offer applicants the right to appeal	Yes	This is provided for in the Government Decision on general principles for recruitment in the public sector (HG no. 286/2011) and the internal procedures.

Source: Deloitte

Data: Information provided by national authorities

EURAXESS Services Network

In 2013, the number of researcher posts advertised through the EURAXESS Jobs portal per thousand researchers in the public sector was 24.7 in Romania compared with 9.0 among the Innovation Union reference group and an EU average of 43.7¹³.

EURAXESS Romanian portal (www.euraxess.gov.ro) supports national and foreign researchers in finding a job in Romania by also providing information about the visa procedures, residence and labour permits, taxation and intellectual property rights in Romania. In order to increase the visibility of the recruiting system provided by the EURAXESS portal, the publication of research vacancies/openings has been introduced in national competitions under the NP2. In addition, the RDI Strategy 2014-2020 introduced the obligation for public research organisations to publish all research vacancies on the EURAXESS portal.

¹³ See Figure 1 "Key indicators – Romania"

The Romanian Mobility Centres Network (RoMob), which is part of the European Mobility Centres Network, has been operating since 2005 and it currently consists of two Bridgeheads and several local contact points. The local contact points are hosted by universities, research organisations etc. and they assist both incoming and outgoing researchers. They also try to enhance the visibility of and promote Romanian research within the ERA.

5. Education and training

Measures to attract and train people to become researchers

The table below summarises measures aiming to attract and train young people to become researchers.

Table 4: Human Resources – Key programmes and initiatives

Measure	Description
Agency for the Implementation of Projects and Programmes for SMEs	The agency promotes entrepreneurship training schemes for aspiring entrepreneurs (especially young people and women): – START Programme for the training of young entrepreneurs; – The 2005-2012 Programme for the development of entrepreneurial culture for women managers in SMEs; – The 2006-2012 Programme supporting SMEs' access to training and consulting services.
Sectoral Operational Programme Human Resources Development (SOP-HRD) (European Social Fund) (2007-2013)	The programme promotes education and training in support of a knowledge-based economy. It promotes lifelong learning and provides support for doctoral and post-doctoral programmes.

Source: Deloitte

R&D personnel totalled 42 263 at the end of 2011, of whom 25 489 (60.3%) were researchers, and 14 621 PhDs (of whom 46.5% were women). The single largest group were researchers in technical and engineering sciences (10 122 researchers or 39.7%), followed by natural sciences (5 448 researchers or 21.4%). A large majority of R&D employees have been educated to tertiary level (78%).

The Sectoral Operational Programme “Development of Human Resources” provided massive support for doctoral and post-doctoral schools. It targeted 12 000 PhDs and 2 000 Post-docs in order to contribute to the development of potential human resources for RDI. Unfortunately, for the moment, the access of these graduates to the R&D system is quite low, given the scarcity of projects and the restrictions on employment in the public sector. The total budget for this support was EUR 325 million. In 2011, there were 88 projects which supported 9 734 PhDs at a total cost of approximately EUR 24 133 per PhD¹⁴.

Given the drastic reduction in funding for most research programmes, it is reasonable to assume that recent infrastructures are underused, while the prospects of the new PhD graduates embarking on a research career are fuzzy. The long-term underfinancing has already been a determinant of a substantial brain drain, as Romania has one of the largest scientific diaspora of any European country, consisting of an estimated 15 000 researchers¹⁵.

As a new policy measure, Government Ordinance no. 92/ 18.12.2012 changed some provisions of the Education Law (no. 1/2011), drastically reducing some of the restrictions for academic staff. For example, it:

- Eliminates the age limit (e.g. the retirement age for professors and rectors);
- Eliminates the restriction of a maximum 8 PhD students per professor;
- Eliminates the compulsory role of the accreditation procedure for conducting PhD theses.

Doctoral graduates by gender

The table below shows the number of doctoral graduates in Romania by gender as a ratio of the total population.

¹⁴ Available at: http://www.fseromania.ro/images/downdocs/rai_2011.pdf

¹⁵ World Bank 2011, p. 21

Table 5: Doctoral graduates by gender

Indicator	Romania	EU Average
New doctoral graduates (ISCED 6) per 1 000 population aged 25-34 (2011)	1.7	1.7
Graduates (ISCED 6) per 1 000 of the female population aged 25-34 (2011)	1.7	1.6
Graduates (ISCED 6) per 1 000 of the male population aged 25-34 (2011)	1.6	1.8

Source: Deloitte

Data: Eurostat

Funding of doctoral candidates

Education Law no. 1/ 5 January 2011 changed the old system of public university funding based on the number of students to a system based on an internal assessment and performance classification of all departments every five years. The assessment is finalised with an annual report that is a fundamental condition for accessing public funding. One of the most important provisions of the law with regard to university research is the classification of universities into three categories:

- 1) Education universities;
- 2) Education and scientific research universities, or education and arts universities; and
- 3) Advanced research and education universities.

The Law also mentions that the advanced research and education universities will have priority and will receive more doctoral grants from the state budget. Ministerial Decision No. 4970 of 02/08/2012 contains provisions which will see advanced research and education universities receive more doctoral grants than in previous years while education universities will receive fewer grants.

The Law stipulates that the Government should finance research programmes of excellence in all three types of university in order to encourage competition. Data and information collected as part of the evaluation of universities and study programmes for the purpose of classification of universities and hierarchies of the fields of study indicate the following numbers of PhD students enrolled:

Table 6: Number of enrolled PhD students

Academic year	Public HEIs (56)		Private HEIs (33)		TOTAL
	Full-time	Part-time	Full-time	Part-time	
2005 – 2006	6 316	27 898	0	89	34 303
2006 – 2007	7 032	26 677	0	121	33 830
2007 – 2008	8 035	24 567	0	141	32 743
2008 – 2009	8 675	22 422	0	154	31 251
2009 – 2010	10 796	19 362	21	184	30 363

Source: The 2012 data collection process for the classification of universities and ranking of study programs chestionar.uefiscdi.ro/

In 2011, approximately 46% of the PhDs in public HEIs were paying tuition fees. The students received a monthly scholarship of EUR 420 and mandatory mobility abroad was supported through these projects. The scholarship for PhD students not supported through the Structural Funds programme is at the level of the salary for an assistant professor (approximately EUR 165 month). The university receives a fixed lump sum for all state-subsidised PhD students. The amount is increased by a factor of 1 to 7.5 depending on the field of PhD study. Only full-time students are supported by the state.

Measures to increase the quality of doctoral training

According to the Law on Education (2011), each institution offering doctorates is assessed individually for each field of study for accreditation. The assessment is made based on its performance and on the institutional capacity of the institutions able to organise doctoral studies. The assessment of what are known as Doctorate-Organising Schools is carried out by the Romanian Agency for Quality Assurance in Higher Education (ARACIS) or by another national or foreign quality assurance agency registered in EQAR, based on National Council for Scientific Research (CNCS) reports for the quality of the research and on the reports of the National Council for the Recognition of Degrees, Diplomas and Certificates (CNATDCU) on the quality of the human resources. The criteria system and the assessment methodology are set by order of the Ministry of Education, Research, Youth and Sports, based on joint proposals from ARACIS, CNCS and CNATDCU. Each Doctorate-Organising School is assessed periodically every 5 years.

The 2010 Law on Education (Romania) has brought some changes designed to enhance the quality of doctoral training, such as:

- Increases in performance-based funding for doctoral studies;
- Dual statute of students as both doctoral students and research assistants or university assistant for a pre-determined period;
- The mobility of research grants;
- More flexibility in the internal organisation of the doctorate schools and enhanced autonomy for the university;
- A requirement that doctoral programmes be organised only on a full time basis; and
- A national code of doctoral studies of which the objective is to promote and implement procedures for enhancing the quality of the organisation and content of doctoral programmes, rights and obligations of doctoral students, doctorate coordinators and others.

Romania was deeply involved in the evolution of the Bologna Process in order to develop and consolidate the European Higher Education Area (EHEA). As such, Romania organised the Bucharest Ministerial Conference on 26-27 April 2012, hosted the Bologna Follow-Up Group (BFUG) Secretariat in 2010-2012 and is currently involved as a Co-Chair of the EHEA Working Group (WG) on the Third Cycle within the Bologna Process, together with Spain and Italy.

Romania's responsibilities within this WG are linked to the quality and transparency of doctoral education across the 47 EHEA countries:

- Explore quality and quality assurance procedures in doctoral training in cooperation with relevant stakeholders by:
 - Underlining the need for specific criteria to quality assure and accredit third cycle degrees, and set general principles for that purpose in cooperation with the European Association for Quality Assurance in Higher Education (ENQA). In particular, it is thought that it might be beneficial to encourage countries and QA Agencies to take due account of specificities like, for example, internationalisation of curricula or professionally oriented Doctorates;
 - Supporting the successful peer-review approach used by the European Universities Association (EUA) and by the WG on HR of the European Commission; the WG is as well drawing up an overview of the more successful procedures for QA set up by higher education institutions to improve the outcomes of their doctoral education; and
 - Improving understanding on what HEIs do and increasing trust in HE systems with regard to the doctoral cycle, by making use of adequate QA procedures;
- Formulate policy proposals to increase the use of existing transparency tools for third cycle degrees, based on existing good practices in the field, and explore new instruments to increase transparency of third cycle degrees. Possible outcomes could be:
 - A list of possible transparency tools, in addition to qualifications frameworks and QA systems, to promote transparency in the third cycle; and
 - Guidelines for improving transparency in the description of third cycle degrees, in terms of (i) learning outcomes, (ii) pathways to completing doctoral education, (iii) organisation of doctoral education (e.g. doctoral/graduate schools), (iv) assessment procedures.

Skills agenda for researchers

The Human Resources Programme of the 2007-2013 National RDI Plan includes a few mobility schemes allowing PhD students to conduct innovation projects in firms, such as projects supporting the mobility of PhD candidates¹⁶ (by providing funding for three months in a public or private research lab) and post-doctoral research projects¹⁷ for the development of an independent career of young Romanian PhD researchers, especially by granting them access to top research infrastructure.

¹⁶ Available at: <http://www.cncsis.ro/Public/cat/501/Proiecte-de-mobilitate-a-doctoranzilortip-MD.html>

¹⁷ Available at: <http://www.cncsis.ro/articole/1967/Proiecte-de-cercetare-postdoctoralatip-PD.html>

6. Working conditions

Measures to improve researchers' funding opportunities

Massive support for doctoral and post-doctoral schools was possible through the Sectoral Operational Programme "Development of Human Resources" by supporting 12 000 PhDs and 2 000 Post-docs until 2013. The students received a monthly scholarship of EUR 420 and mandatory mobility abroad was supported through the projects. See also chapter 5 "Education and Training".

Remuneration

Government Decision No. 475/2007¹⁸ approving the implementation of the National RDI Plan 2007-2013 (see chapter 2 "National strategies") together with the law for a unique system for salaries in the public sector (Law no. 284/2010¹⁹), on the one hand, and the information package for research projects (PN II)²⁰, as well as the Ministerial Orders approving the lists of eligible expenditure for projects funded by structural funds (SOP-IEC²¹ and SOP-HRD), on the other, establish ceilings for researchers' salaries.

For further information, see the country profile on remuneration of researchers from the MORE2 study on the EURAXESS website.²²

Researchers' Statute

The researcher's statute is regulated by the law on the statute of R&D personnel (Law no.319/2003). The statute covers the general requirements for recruitment in R&D. It describes some rights and obligations specific to R&D in addition to the general rights and obligations of the personnel working in publicly funded institutions. These rights and obligations cover issues such as:

- Access to information resources;
- Participation in drawing up the institution's research and technological development strategy;
- Presenting the results of specific research in various conferences;
- Patenting the research results, with the help of the institution;
- Recognition as author or co-author and receipt of rewards in accordance with the law (including monetary awards);
- Receiving support in their professional development in accordance with the law;
- Being part of professional organisations, national and international scientific organisations, provided that the activity within these structures does not cause a conflict of interest with the institution in which the researcher works;
- Stimulation and recognition of performance in R&D through prizes, diplomas and other incentives;
- Participation in different competitions to receive funding for their own research from public or private funds in accordance with the law;
- Participation as a paid expert, referent, member of evaluating panels, consultant and other at the request of public or private institutions, provided this additional activity does not conflict with the institution in which the researcher works;
- The possibility of there not being a ceiling on monthly income if the researcher – in addition to the state-funded contribution – participates in internationally financed programmes with Romanian co-financing, or if projects lead to technology transfer/exploitation;
- The possibility of there not being a ceiling on monthly income resulting from both internal and international projects;
- Carrying out research, educational or research exploitation activities in accordance with the specific legislation, either in- or outside the institution/research unit, while observing the specific provisions of art. 24, letter c);

¹⁸ Available at: http://fonduristructurale.ancs.ro/uploads/legislatie-nationala/hotarari/hg-475_2007-pn2.doc

¹⁹ Available at: [http://legestart.ro/Legea-284-2010-cadru-salarizarea-unitara-personalului-platit-fonduri-publice-\(MzY2NjA2\).htm](http://legestart.ro/Legea-284-2010-cadru-salarizarea-unitara-personalului-platit-fonduri-publice-(MzY2NjA2).htm)

²⁰ Available at: http://www.uefiscdi.gov.ro/userfiles/file/PN%20II_PCE_Competitia%202012/pachet_informatii_PCE.pdf

²¹ SOP-IEC: <http://fonduristructurale.ancs.ro/ro/content/competitii>

²² <http://ec.europa.eu/euraxess/index.cfm/services/researchPolicies>

- Subject to some legal provisions and provisos in the law on collective agreements, the possibility of benefiting from bonuses to the basic salary to recognise, for example, a PhD, loyalty or confidentiality;
- The right to refuse to take part in scientific research with a negative impact on human beings or the environment for ethical and moral reasons;
- Requesting and receiving priority approval to occupy a lower level position if it is in the best interests of the researcher;
- Respecting the ethics and code of conduct of the R&D activities;
- Respecting the intellectual property and confidentiality rights agreed with the research partners and financing bodies;
- Not creating conflicts of interest or unfair competition across multiple research activities;
- Contributing to training young researchers and passing on knowledge and experience in R&D activity;
- Using technological, scientific and other institutional resources for professional activities only in the best interest of the employer institution;
- Participating in the evaluation of the R&D activity and its specific outcomes;
- Participating in competitions within EU international programmes or other programmes resulting from Romania's bilateral agreements;
- Performing scientific research and innovation activities without the breach of fundamental human rights;
- Continuously developing scientific and technical knowledge to contribute to the dissemination of information and scientific/technology culture as well as raising awareness of the public and decision makers; and
- Taking part in the implementation of specific R&D research results.

Besides the rights and obligations, the statute covers the general principles for professional development and the mobility of R&D personnel.

‘European Charter for Researchers’ & ‘Code of Conduct for the Recruitment of Researchers’

Romania actively promotes the implementation of the principles of the ‘Charter & Code’ through the information package for the recruitment of researcher (PN II)²³. In the publicly financed R&D recruitment procedures, the ‘Charter & Code’ are not specifically mentioned. However, the main principles of this document are reflected in the main policy documents on recruitment.

Autonomy of institutions

National legislation does not impose online advertising of public research positions. However, it is mandatory for research vacancies to be published in the Romanian Official Journal, newspapers and at the universities’ headquarters.

The autonomy of Romanian universities is guaranteed by the Constitution and the Education Law.

Table 7: Autonomy of institutions

Autonomy of institutions
Organisational autonomy
Selection procedure for the executive head: the Education Law stipulates that within Romanian HEIs, the rector is elected by the academic community, or by a special committee appointed by the university senate, which also validates the results. In the case of public R&D institutions, the directors are selected in accordance with the Government Decision on general principles for recruitment in the public sector (HG no.286/2011), with some minimum requirements stipulated in the statute for R&D personnel. Doctorate-Organising Schools within a university are governed by a council of whom at least 50% are appointed by the rector and at least two members are elected by the coordinators and students. Selection criteria for the executive head: these are set by the Education Law, the Government Decision regarding general principles for recruitment in the public sector and the statute for R&D personnel. Specific additional criteria can

²³ Available at: http://www.uefiscdi.gov.ro/userfiles/file/PN%20II_PCE_Competitia%202012/pachet_informatii_PCE.pdf

Autonomy of institutions

be introduced by the institution providing they do not contravene these laws.

Dismissal of the executive head: in the case of HEIs, the Education Law provides that the rector can be dismissed by the Minister of Education and by the senate of the university. Under the Labour Code, the director of public R&D institutions can be dismissed as a result of a performance evaluation.

Term of office of the executive head: rectors can have a maximum of two consecutive mandates of four years, but not more. The directors of public R&D institutions sign an employment contract, which may be for a predetermined period or open-ended.

Inclusion and selection of external members in governing bodies: for HEIs, if the senate decides to elect the rector by special committee, that committee can have members from outside the university. The scientific committee and the executive board of public R&D institutions can include external members if that is in accordance with the official founding documents.

Capacity to decide on academic structures: university structure is regulated by the Law on National Education no.1/2011. HEIs may comprise the following organisational components: faculties, departments, institutes, centres or laboratories, design facilities, consultancy centres, university clinics, artistic studios and workshops, theatres, museums, centres for the continuous learning of human resources, services and micro-production facilities, experimental stations and other entities for production, and know-how and technology transfer. HEIs may, for a defined period and by project, establish independent research units that are self-governing in terms of budget, incomes and expenditures, and with their own autonomy and statutes approved by their senate. The main structures of the public R&D institutions are set in the official founding documents, which can be changed by the Ministry responsible for the activity of the R&D institution.

Capacity to create legal entities: HEIs and R&D institutions can create legal entities.

Financial autonomy

Length and type of public funding: the financing lines of the 2007-2013 Plan are project-based and open for competition for all R&D units and companies. However, institutional funding is also available at national level. The existing Nucleus programme has continued providing institutional support for national R&D institutes (approx. 25% of the NASR budget). The institutes of the Romanian Academy also receive exclusive access to financing under the priority programme of the Romanian Academy. Universities do not receive explicit research financing, but in the new system based on evaluation, research is a dominant indicator.

Ability to keep surplus: under the Law on National Education²⁴ HEIs can retain funds remaining at the end of the year after execution of the budget stipulated in institutional agreements; funds related to scientific research academic and extra-budgetary revenue also remain available to universities and are included in the institution's budget of revenues and expenditures, without amounts being payable to the state budget and without affecting allocations from the state budget for the following year; public R&D institutions are allowed to keep any surplus²⁵.

Ability to borrow money: HEIs and R&D institutions have the ability to borrow money under the Fiscal Code²⁶ and the Education Law²⁷. There are partnerships with different banks for preferential interest rates for research projects. **Ability to own buildings:** HEIs and R&D institutions have the ability to own buildings²⁸.

Ability to charge tuition fees for national/EU students (BA, MA, PhD): HEIs have the ability to charge tuition fees for national/EU students and are also autonomous in deciding the quantum of tuition taxes, including tuition fees (Law on National Education²⁹). The Law requires fees for Romanian and other EU students to be the same.

Ability to charge tuition fees for non-EU students (BA, MA, PhD): HEIs have the ability to charge tuition fees for non-EU students and are also autonomous in deciding the quantum of tuition taxes, including tuition fees (Law on National Education).

Staffing autonomy

Capacity to decide on recruitment procedures (senior academic/senior administrative staff): the general selection

²⁴ Available at: http://keszei.chem.elte.hu/Bologna/Romania_Law_of_National_Education.pdf

²⁵ Government Ordinance 57/ 2002, art. 25

²⁶ Available at: http://static.anaf.ro/static/10/Anaf/Cod_fiscal_norme_2013.htm

²⁷ Available at: http://keszei.chem.elte.hu/Bologna/Romania_Law_of_National_Education.pdf

²⁸ Available at: http://keszei.chem.elte.hu/Bologna/Romania_Law_of_National_Education.pdf

²⁹ Available at: http://keszei.chem.elte.hu/Bologna/Romania_Law_of_National_Education.pdf

Autonomy of institutions

criteria are set by the Government Decision on general principles for recruitment in the public sector (HG no. 286/2011), the statute for R&D personnel, the Education Law and Labour Code. The institutions can introduce additional criteria providing these do not contravene these laws.

Capacity to decide on salaries (senior academic/senior administrative staff): Government Decision No. 475/2007³⁰ approving the implementation of the National RDI Plan 2007-2013 (see chapter 2 “National strategies”) together with the law for a unique system for salaries in the public sector (law no. 284/2010³¹) and the information package for the research projects (PN II)³² establish ceilings on researchers’ salaries. HEIs and R&D institutions may decide between different levels of remuneration (within the national limits as all R&D salaries have legal ceilings).

Capacity to decide on dismissals (senior academic/senior administrative staff): dismissals must comply with the Labour Code, as is the case for all public sector employees.

Capacity to decide on promotions (senior academic/senior administrative staff): on top of the Government Decision on general principles and conditions for recruitment in the public sector (HG no. 286/2011), the statute for R&D personnel, the education law and Labour Code, specific criteria can be introduced by the institution providing they do not contravene these laws.

Academic autonomy

Capacity to decide on overall student numbers: HEIs have the autonomy to decide on the overall number of students, providing they do not exceed the maximum capacity number per field of study set by the national agency for quality assurance in Romania during the most recent accreditation/evaluation of the study programme and depending on the institution’s capacity.

Capacity to select students (BA, MA): there is a general framework for admission of students which sets the broad admission conditions, but HEIs can develop their own procedure providing they do not contravene the general framework.

Capacity to introduce programmes (BA, MA, PhD): for a BA, HEIs can introduce new programmes that need to be evaluated by the national Romanian Agency for Quality Assurance in Higher Education (ARACIS) in order to be first authorised for start-up and then fully accredited. For an MA, once ARACIS has accredited a specific field of study, the university has the autonomy to create/develop different programmes within that field of study. For PhD programmes, each Doctorate-Organising School is assessed individually for each area for accreditation by ARACIS or by another national or foreign agency for quality assurance. The Government, upon consulting the university’s Senate, may found and finance an education programme or a faculty with educational programmes meeting the immediate needs for training and professional qualification in fields of national interest.

Capacity to terminate programmes: programmes can be terminated by the decision of the university senate; as a result of an evaluation, ARACIS can decide to terminate a programme if it does not comply with the minimum requirements of ARACIS in order to be accredited.

Capacity to choose the language of instruction (BA, MA): HEIs can decide the language of instruction, but programmes in foreign languages need to be accredited by ARACIS.

Capacity to select quality assurance mechanisms and providers: external evaluation of the quality assurance system is performed by ARACIS or by another quality assurance agency from Romania or abroad registered with the European Quality Assurance Register (EQAR). Internal quality assurance systems are developed by each university following the national and international guidelines.

Capacity to design content of degree programmes: HEIs have the autonomy to design the content of degree programmes.

Source: National Education Law³³

Career development

According to the ERAWATCH Country report 2012:

³⁰ Available at: http://fonduristructurale.ancs.ro/uploads/legislatie-nationala/hotarari/hg-475_2007-pn2.doc

³¹ Available at: [http://legestart.ro/Legea-284-2010-cadru-salarizarea-unitara-personalului-platit-fonduri-publice-\(MzY2NjA2\).htm](http://legestart.ro/Legea-284-2010-cadru-salarizarea-unitara-personalului-platit-fonduri-publice-(MzY2NjA2).htm)

³² Available at: http://www.uefiscdi.gov.ro/userfiles/file/PN%20II_PCE_Competitia%202012/pachet_informatii_PCE.pdf

³³ Available at: http://keszei.chem.elte.hu/Bologna/Romania_Law_of_National_Education.pdf

- “The entrepreneurial training is underdeveloped in both secondary and tertiary education, and innovation management is quasi-absent;
- Small progress has been made in connecting PhD training and applied research. The doctoral schools remain mostly education-oriented and the objectives of the PhD theses are theoretical. Some efforts have been made for stimulating the involvement of PhDs in the research projects financed by the National RDI Plan; and
- The high investment in PhDs and post-docs is at odds with the latter’s employment opportunities, as the employment in all Public Research Organisations (PROs) and more generally in the public sector has been blocked since 2010, while the private sector dramatically reduced the number of researchers”.

Shift from core to project-based funding

Public funds are mostly competition-based, but part consists of institutional funding, which is based on institutional assessment. Such funds are granted by the Nucleus programme (a continuation of the former Plan, which targets the national R&D institutes) and through the budget of the academies (allocated for their institutes).

In addition, the structural funds for RDI have been concentrated in Axis 2 of the Competitiveness Operational Programme, with a total budget for 2007-2013 of EUR 715 million (excluding ELI-NP³⁴). In the five years of implementation, 1 200 projects have been submitted and 500 selected. Four hundred projects are currently underway for a cumulative amount of EUR 430 million with co-financing reaching EUR 120 million. A total of 44% of these funds have been contracted by organisations from Bucharest and the surrounding area (i.e. Ilfov County). Unfortunately, after a few years of relative interest from the business sector, the number of applications from the business sector has decreased dramatically and contracts for a cumulative amount of EUR 29 million were terminated at the request of the beneficiaries. Currently, while the amounts allocated for public sector organisations have been completely contracted, only 62% of the money dedicated to companies has been contracted and only 18% actually paid (Gheorghe 2012).

Social security benefits (sickness, unemployment, old-age)

The Labour Code accords social security benefits to all employed researchers living in Romania.

Foreign citizens residing in Romania can benefit from the package of medical services for optionally insured people if they are insured with one of the county or Bucharest health social insurance houses. EU citizens benefit from free of charge emergency care. Otherwise they have to pay the medical services providers.

7. Collaboration between academia and industry

Knowledge circulation between industry and academia is primarily supported by:

- National RDI Plan 2007-2013;
- University in Society Summer Conference (UNISCO);
- Sectoral Operational Programme on Increasing Economic Competitiveness;
- Programmes supporting research collaboration between national and foreign research organisations;
- Programmes supporting participation of national teams in projects involving inter-governmental research infrastructures; and
- Programmes supporting individual mobility of researchers.

In 2012, SOP-IEC Priority Axis 1 launched the first call for support to the development of “Poles of Competitiveness” in Romania. The “Poles of Competitiveness” are described as an association, in a defined geographic area, among undertakings, research centres and educational institutions engaged in collaborative partnership (according to a joint development strategy) in order to generate synergies around a set of innovative projects aimed at one or more markets.

SOP-IEC Priority Axis 2 “Promoting innovation in enterprises” supports the secondment of highly qualified

³⁴ ELI – NP Extreme Light Infrastructure - Nuclear Physics (POSCCE)

personnel from research organisations to SMEs for a period of maximum of 3 years. The seconded personnel must work on RDI activities within the host SME.

In Romania, the creation and development of business incubators, science parks and industrial liaison offices at universities/research centres are supported through two policy instruments:

- 1) Support to the national technology transfer network ReNITT, which in 2012 included 14 technology transfer centres, 21 centres for technological information, 16 technological and business incubators, and 4 scientific and technological parks. NASR supports technology transfer activities through two programmes under the 2007-2013 National RDI Plan ('Innovation' and 'Capacities'): SOP IEC Priority Axis 2 and the core R&D Programmes. In the same context of support to technology transfer activities, NASR organises annual editions of the Open Forum for Innovation and Technology Transfer and coordinates national participation in technology fairs (e.g. the 2010 Hannover Fair, attended by 21 RDI units and all the technology transfer and innovation entities from Romania, which presented over 40 technologies). Efforts are being made to enhance the institutional capacity of ReNITT by a project financed by structural funds³⁵ and the introduction of the profession of innovation manager into the national classification of occupations;
- 2) Regional Operational Programme (ROP) Priority Axis 4 'Strengthening the regional and local business environment' also provides funding for regional and local business support structures (e.g. industrial, business parks, business incubators etc.), especially in the less developed and declining areas, rehabilitation of industrial sites, regional and local entrepreneurial initiatives in order to attract investors, job creation and sustainable economic growth, and technology transfer to micro enterprises.

Technology transfer and entrepreneurship in universities are relatively recent activities and only the major universities have developed their own technology transfer offices³⁶. Technology transfer activities from universities to business firms are relatively limited due to low demand from industry and a relatively weak offer from universities, but many universities are currently actively involved in strengthening their technology transfer capacity.

The Human Resources Programme of the 2007-2013 National RDI Plan has a few mobility schemes allowing PhD students to conduct innovation projects in firms, such as projects supporting the mobility of PhD candidates³⁷ (which provides funding for three months in a public or private research lab) and post-doctoral research projects³⁸ for the development of an independent career for young Romanian PhD researchers, especially by granting them access to top research infrastructure.

8. Mobility and international attractiveness

In 2011, the percentage of doctoral candidates (ISCED 6) who were citizens of another EU-27 Member State was 1.6% in Romania compared to 1.7% among the Innovation Union reference group and an EU average of 7.7%³⁹. In the same year, non-EU doctoral candidates were 2.1% of all doctoral candidates in Romania compared with 2.0% among the Innovation Union reference group and an EU average of 24.2%⁴⁰.

Inward mobility (funding)

Third-country citizens coming to Romania for the purpose of conducting scientific research must apply for a Scientific Visa (under Directive 2005/71/EC) if they are staying for more than three months. The measure is coordinated by NASR and the Romanian Immigration Office.

³⁵ Available at: <http://www.romaniainoveaza.ro/>

³⁶ For example, University of Bucharest has a Department for Research and Technology Transfer which ensures the management of all research contracts, and University Babes-Bolyai has a Department of Research and Programme Management

³⁷ Available at: <http://www.cncsis.ro/Public/cat/501/Proiecte-de-mobilitate-a-doctoranzilortip-MD.html>

³⁸ Available at: <http://www.cncsis.ro/articole/1967/Proiecte-de-cercetare-postdoctoralatip-PD.html>

³⁹ See Figure 1 "Key indicators – Romania"

⁴⁰ Ibid

Researchers from several third countries (Bangladesh, Canada, China, India, Japan, Mexico, Morocco, Republic of Moldova, South Korea, USA etc.) have benefited from this measure, being hosted by the Romanian research organisations authorised in accordance with the Directive 2005/71/EC (23 according to the most recent data available), and working on national or European projects (funded by the FP7 Marie Curie programme or structural funds).

Foreign researchers or academic staff pursuing scientific or academic activities in Romania need an entry visa and a temporary residence permit for short stays of up to 90 days within a period of 6 months, or a long-stay visa from the Romanian Immigration Office for activities that exceed this duration. In the event of recruitment, foreign citizens need a 'work authorisation' (term replacing the previous 'work permit'), which entitles the holder to be employed on the basis of an individual labour contract, or seconded to Romania to a single employer. EU citizens may be employed in accordance with EU rules, i.e. the citizen of any EU Member State working in Romania will enjoy national treatment applicable to Romanian citizens.

Romania has no specific policy to attract its own researchers from abroad. On the other hand, since 2008, UEFISCDI has developed a platform for dialogue and collaboration initiatives between Romanian researchers from abroad. Nevertheless, with a sizeable research diaspora, there are some initiatives aimed at promoting the concept of brain circulation and focusing the strategic efforts in R&D to attracting Romanian researchers back into national universities or research institutes by:

- promoting open recruitment and publishing research position openings on the EURAXESS portal;
- opening research grants to international researchers;
- implementing the researchers' visa (which Romania was one of the first to introduce);
- developing a project and online platform, "Brain Romania", aimed at encouraging collaboration between Romanian researchers inside the country and abroad.

Data and information collected while evaluating universities and study programmes for the purpose of classification of universities and hierarchies of the fields of study, have shown that the number of teaching and scientific research staff attracted from foreign universities for scientific research (for a period corresponding to at least one semester) increased by 122% from 2006 (45) to 2010 (100)⁴¹. In addition, the number of doctoral students coming from higher education institutions from abroad and enrolled temporarily for a period of at least three months was 32 in 2010, four times more than in 2005-2006, when there were eight PhD students.

The Romanian state has a number of policies to encourage ethnic Romanians to study in Romania, but the number of foreign PhD students enrolled in doctoral programmes supported by government programmes for ethnic Romanians (e.g. Bulgaria, Republic of Moldova, Ukraine, etc.) decreased in 2010 (205) by 24% compared to 2005-2006 (271)⁴². Another category is that of foreign PhD students coming to Romania. The number of foreign PhD students enrolled in doctoral programmes was 499 in 2010, 27% fewer than in 2005-2006 (684)⁴³.

Outbound mobility

In Romania, the balance between inward and outward flows of researchers is severely tilted towards the outward flows, as Romania is one of the EU countries with the highest losses of qualified R&D personnel. This situation is caused by several factors, including low market demand for researchers, low salaries in the S&T/RDI system, low political importance attached to the role of science, research and innovation for economic growth, in spite of government rhetoric, insufficient/inadequate research infrastructure, insufficient funding of programmes meant to increase the attractiveness of S&T/R&D careers and, more recently, significant additional cuts brought about by the economic crisis.

The mobility of scientists, and the attractiveness and consolidation of scientific careers is supported by several funding schemes under the Human Resources Programme of the 2007-2013 National RDI Plan, but most of them were discontinued after the sharp budget cuts of 2009 and have not been reactivated so far:

⁴¹ In details: 2006 (45); 2007 (58); 2008 (78); 2009 (115); and 2010 (100)

⁴² In details: 2005-2006 (271); 2006-2007 (264); 2007-2008 (227); 2008-2009 (227); and 2009-2010 (205)

⁴³ In details: 2005-2006 (684); 2006-2007 (658); 2007-2008 (589); 2008-2009 (549); and 2009-2010 (499)

- Projects supporting the mobility of researchers⁴⁴ (participation in international conferences): discontinued since 2009;
- Projects supporting the mobility of PhD candidates⁴⁵ (three months in a public or private research lab): discontinued since 2009;
- Post-doctoral research projects:⁴⁶ for the development of an independent career for young Romanian PhD researchers, especially by granting them access to top research infrastructure in the country – active in 2011 and 2012;
- Research projects to stimulate the formation of young independent research teams:⁴⁷ for young Romanian PhD researchers in the early stages in the formation or consolidation of a research team, after having established an independent research programme and obtained significant research results in that field, including those who wish to return to Romanian research institutions – active in 2011 and 2012;
- Research projects to stimulate the return to the country of researchers working abroad:⁴⁸ for Romanian researchers with international experience and prestigious research results wishing to return to Romanian research institutions – discontinued since 2010;
- Complex projects for the reintegration of researchers:⁴⁹ for established Romanian researchers working abroad who wish to set up their own research team in Romania – discontinued since 2009;
- Research projects for young PhD candidates:⁵⁰ for young PhD candidates employed in higher education institutions or in R&D institutes for finalising the research started within their PhD programme – discontinued since 2009;
- Research Awards⁵¹: to encourage the production of ISI-indexed publications and patents, both national and international (EPO, USPTO, WIPO);
- Innovation and Creativity Awards⁵²: to encourage the creativity of young Romanian students by supporting their participation in final phases of international competitions/contests of innovation and creativity – discontinued since 2009; and
- ‘Stefan Odobleja’ research scholarships: for young Romanian PhD candidates participating in internationally recognised research programmes. Scholarships were granted on a competitive basis – discontinued since 2009.

The Ideas Programme of the 2007-2013 National R&D&I Plan also supports individual mobility of researchers through the ‘Exploratory Research Projects’⁵³ and ‘Complex Exploratory Research Projects’⁵⁴ funding schemes, while the bilateral cooperation programmes support short stays of researchers in the context of a joint project. The possibility of covering a part of the researcher’s salary from research grants is also a measure which increases the attractiveness of research careers, but the impact of this measure has been drastically reduced since 2009 because of the budgetary cuts to public sector R&D funds.

Portability of national grants

The Education Law (1/2011 art.191 (2) guarantees researchers’ inter-institutional mobility and the portability of grants for grants administered by the Ministry of National Education and NASR, thus applying the ‘money follows researcher’ principle. According to the information package for the research projects (PN II)⁵⁵, European-funded grants are portable within Europe.

⁴⁴ Available at: <http://www.cncsis.ro/Public/cat/498/Proiecte%20MC.html>

⁴⁵ Available at: <http://www.cncsis.ro/Public/cat/501/Proiecte-de-mobilitate-a-doctoranzilortip-MD.html>

⁴⁶ Available at: <http://www.cncsis.ro/articole/1967/Proiecte-de-cercetare-postdoctoralatip-PD.html>

⁴⁷ Available at: <http://www.cncsis.ro/articole/1966/Proiecte-de-cercetare-pentru-stimularea-constituirii-de-tinere-echipe-de-cercetare-independenteti.html>

⁴⁸ Available at: <http://www.cncsis.ro/articole/1613/Proiecte-de-cercetare-pentru-stimularea-revenirii-in-tara-a-cercetatorilortip-RP.html>

⁴⁹ Available at: <http://www.cncsis.ro/Public/cat/508/Proiecte%20RC.html>

⁵⁰ Available at: <http://www.cncsis.ro/Public/cat/464/Proiecte%20TD.html>

⁵¹ Available at: <http://www.cncsis.ro/Public/cat/471/Premierea%20rezultatelor%20cercetarii.html>

⁵² Available at: <http://www.cncsis.ro/Public/cat/479/@@@.html>

⁵³ Available at: <http://www.cncsis.ro/articole/1559/SCOP.html>

⁵⁴ Available at: <http://www.cncsis.ro/articole/1560/SCOP.html>

⁵⁵ Available at: http://www.uefiscdi.gov.ro/userfiles/file/PN%20II_PCE_Competitia%202012/pachet_informatii_PCE.pdf

Romania does not yet have a system of portable loans and educational grants for any level of higher education, including the PhD.

Access to cross-border grants

In 2011, Romania opened its research grants to international researchers (EU and non-EU) through the approval of information packages by the President of the National Authority of Scientific Research (ANCS). Almost all grants are open to international researchers (e.g. Ideas – Exploratory Research projects⁵⁶; Human Resources – Young teams and Postdoctoral research⁵⁷ and Partnerships – Collaborative project and applied research)⁵⁸.

⁵⁶ Available at: http://uefiscdi.gov.ro/articole/2359/Program-IDEI_Proiecte-de-Cercetare-Exploratorie-Competitie-2011.html ; http://uefiscdi.gov.ro/articole/2588/Program-IDEI_Proiecte-Complexe-de-Cercetare-Exploratorie-Competitie-2011.html

⁵⁷ Available at: http://uefiscdi.gov.ro/articole/2626/Program-PARTENERIATE_Proiecte-colaborative-de-cercetare-aplicativa-Competitia-2011.html ; http://uefiscdi.gov.ro/articole/2368/Program-RESURSE-UMANE_Proiecte-de-Cercetare-Postdoctorala-Competitie-2011.html

⁵⁸ Available at: <http://uefiscdi.gov.ro/articole/2850/Program-RESURSE-UMANE-Proiecte-de-cercetare-pentru-stimularea-constituirii-de-tinere-echipe-de-ce.html>