European Commission

DG Research and Innovation

Researchers' Report 2013

Annexes III, IV and V

Deloitte.

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Annex III: Measures supporting women in top-level positions

The table below provides an overview of the countries' measures supporting women in top-level positions. Information is not available for Iceland, Israel, Liechtenstein and Turkey.

Table 1: Measures supporting women in top-level positions –overview

Country	Measures explicitly to improve research funding	Appointment/promotion to decision-making posts at a later stage of researcher career				General support by national authorities for the principle of gender balance
		Gender parity on boards, targets & quotas	Work-life balance	Training / support for high-level positions	Transparency in appointment procedures & results	
AUSTRIA	– fForte Coaching Programme supports women in writing successful grant proposals; – Talents programme[1] of the Ministry of Transport, Innovation and Technology, administered by the Austrian Research Promotion Agency (FFG); – Career Development Programme for Female Researchers: the *Schroedinger* Programme of the Austrian Science	– At least 40% of the staff of universities and members of university boards must be women; – Initiative to lift the proportion of women in highly skilled positions in research, technology and innovation (RTD field), Ministry of Transport, Innovation and Technology (BMVIT); – The Austrian Science Fund (FWF) has introduced a target quota of 30% of female	– Performance Agreements 2010-12[2] support work-life balance by offering child-care facilities, parental leave and flexible working hours; – University Performance Agreement 2010-2012 and 2013-2015[3].	– Task Force Gender & Diversity: coaching prospective women heads of universities; – Media training; – Training of members of university boards (ongoing) by the Ministry of Science and Research: sixty individual trainings courses are offered; – w-fFORTE – *Wissenschaf(f)t Erkenntnis* – knowledge creates insights (including w-fFORTE –		– *Gabriele Possanner-Staatspreis- Gabriele Possanner-Förderungspreise*: The Ministry of Science and Research every two years honours scientific achievements for the promotion of gender equality.

[1] The Talents Programme initiative supports R&D personnel (particularly women and pupils/students) by offering traineeships and providing financial support for (regional) education projects in schools in the fields of mathematics, informatics, science and technology. In particular, it finances traineeships for female students (**FEMtech Traineeships** Initiative and traineeships for pupils), encourages networking (**FEMtech Network**), enhances visibility of women experts (**FEMtech Female Expert Database**), promotes the achievements of successful women in research (**FEMtech Female Expert of the Month**), offers career support (**FEMtech Career Initiative**), supports research projects (**FEMtech Research Projects Initiative**) and seeks to improve women´s career opportunities in science and technology (**FEMtech Dissertations**). In 2012, 1 446 traineeships were funded under the "discover talents" action line. The budget is EUR 1 446 000 per year.

[2] The performance reports for the period 2010-2012 are due to be available in autumn 2013.

[3] The implementation of these measures at university level will be reviewed annually through performance reports.

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	– Fund (FWF) offers to extremely well qualified female scientists the chance of two-stage funding for a total of six years; – L'Oréal Austria (Fellowships in Basic Research for Young Female Scientists): a short term fellowship programme (6-12 months); – *Käthe Leichter* Awards & Government prize.	researchers in the total number of applicants for the Special Research Programme and the Doctoral Programme so as to encourage the participation of female researchers within the excellence programmes. Should the quota not be reached, the FWF asks for further explanations.		– Laura Bassi Centres of Expertise[4] and w-fFORTE – In focus: Career); – Training of members on university boards: the Ministry of Economy and Research (BMWF) strengthens and supports the work of university boards by offering training and individual coaching for new board members.		
BELGIUM		– The Flemish Government Act of 13.07.2007 includes provisions aimed at safeguarding gender balance in advisory bodies and steering committees. For instance, in the Agency for Innovation by Science and Technology, 30% of the internal scientific advisors are women.				– Federal Ministry for the Interior and Equal Opportunities; – Centre for Equal Opportunities and Opposition to Racism; – Federal Public Service for Diversity and Equal Opportunities; – New legislation on research funding through the special research funds (valid from 1 January 2013) pays considerable attention to gender balance in universities[5];

[4] The eight "Laura Bassi Centres of Expertise" have a term of up to seven years with a total funding budget of EUR 15 million. An interim evaluation will be carried out in 2013. If the evaluation is positive, the funding period may be extended for a further three years.

[5] -On of the performance indicators used to calculate the sum per university is a diversity parameter that looks at the number of female researchers at postdoctoral and permanent level.

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						– Flemish Community is preparing an Action Plan on gender equality in academia. In the course of 2013, this action plan will be translated into an interuniversity charter on gender equality, that will contain obligatory clauses; – Women and Sciences standing working group of the Wallonia-Brussels Federation; – Walloon Government's Roadmap on equal opportunities; – Wallonia-Brussels Partnership: finance for associations aiming at equality between men and women in the area of research (action 17) and incorporation of the gender issues into course programmes and its visibility as a research discipline (action 18).
BOSNIA AND HERZEGOVINA						– Data on Research and Development (R&D) in the Republic of Srpska are collected regularly

-As long as there is an underrepresentation of one of the sexes at postdoctoral and permanent level (per faculty), in recruitment procedures with equal candidates priority must be given to the underrepresented sex.

-Administrative boards, research councils and selection juries must be gender balanced.

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						from economic entities, higher education institutions, the state and non-profit organisations, and reported by gender in an annual report (the Statistical Bulletin).
BULGARIA						– The National Strategy for Promotion of Gender Equality 2009-2015 (Objective 3: Promotion of gender equality in governance and decision-making, the equality of women and men in the authorities making decisions in the field of development of science); – The National Strategy for Development of Scientific Research 2020 defines a principle of equal opportunities for all stakeholders in the area of research and development.
CROATIA						– Yearly awards for Women in Science to raise awareness of excellent young women scientists and reward them for their contribution (Ministry of Culture and L'Oréal Adria); – Constitution (articles 14 and 15);

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						– Act on Scientific Activity and Higher Education; – Labour Act; – Gender Equality Act; – Act on Prohibition of Discrimination; – National Policy for Gender Equality 2011-2015.
CYPRUS	– All proposals submitted undergo a preliminary check before their scientific evaluation, and one of the criteria is whether beneficiaries commit themselves to observe national and EU legislation on the environment, gender equality, non-discrimination, employment and provision of information/publicity; – In the proposal submission forms, the host organisation's legal representative must sign a Declaration which includes the statement that "in case of funding of the present project, all participating organisations undertake the responsibility to adhere to the national legislation and EU rules					

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	– on gender equality and avoidance of discrimination"; – During the scientific evaluation of the proposal, evaluators are urged under the criterion "Added Value and Benefit", to take into consideration the degree of positive contribution to gender equality, non-discrimination and the enhancement of conditions for environmental sustainability (where applicable).					
CZECH REPUBLIC			– Ministry of Education, Youth and Sports' programme on work-life balance and reintegration grants after maternity leave.	– *Milada Paulova* Award for lifelong achievement in science for women researchers.		– Government Council for Equal Opportunities for Women and Men; – Ministry of Education, Youth and Sports' annual plan for incorporating the gender equality dimension in curricula, textbooks and methodology materials at all school levels.
DENMARK	– Female Research Leaders instrument (2008-2009) targeted women at minimum associate professor level.	– In December 2012, the Danish Government adopted two new bills to address the issue of gender imbalance in corporate boards.		– Charter for More Women in Public and Private Sector Management (2008) encourages companies to inspire more women to take up management		– 'Female research talents – the unused reserve of Danish research' including best practice examples on recruitment and retention of female talents by the Minister of Science;

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				positions.		– The Act on Gender Equality (2000/2007) and the Act on Equal Treatment of Men and Women (1978/2006) transpose the EU's gender equality Directives in Denmark. They include provisions on gender equality and non-discrimination related to all aspects of the labour market, the research profession included.
ESTONIA						– The Gender Equality Act; – Constitution of the Republic of Estonia (Chapter II Fundamental Rights, Freedoms and Duties, § 12).
FINLAND		– Equality Act: quotas in national and municipal bodies.			– The Academy of Finland promotes equality through an Equality Plan which is applied to people working on Academy funding, to Academy research post holders (Academy Professors and Academy Research Fellows) and to the staff at the Academy's Administration Office.	– Constitution on matters of equality between women and men; – Ombudsman for Equality; – Equality Board; – The Action Plan for Gender Equality 2012-2015 (priority areas include gender equality legislation, working life and reconciliation of work and family life, decision-making and promotion of women's careers and gender equality in education and

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						research).
FRANCE		– The Paris Diderot University's Gender Action Plan (2011): representation of women of 40%; – Quotas are introduced in articles 52, 55 and 56 of a Law of March 12, 2012, relating to various aspects of the civil service, including the fight against discrimination.	– Dual Career Network assists spouses with a university degree or equivalent.	– NCSR organises a series of awareness and capacity-building workshops on gender equality. The target public are Human Resources and Communication Officers as well as research institutes' administrative directors, regional delegates and central department managers; – INTEGER project on improving the career paths of women researchers; – IFREMER uses its internal communication schemes to target women and inform them about the possibilities offered to them to pursue higher level positions.	– Agreement on Professional Equality between Men and Women to promote attractive employment conditions and ensure gender balance in recruitment, promotion, and other committees.	– The Ministry for Higher Education and Research's Office dedicated to equality in science and technology; – The National Centre for Scientific Research' Office fosters gender equality within the organisation and promotes full participation of women in scientific research; – The Paris Diderot University's Equality Centre to promote and favour gender equality by organising training and awareness-raising actions (informing students and academics); – Charter for Equality between men and Women endorsed by the Conference of Schools in Higher Education; – The CNRS each year publishes an inventory of the situation in relation to equality between men and women in R&D; – The Paris Diderot University has published a report on gender statistics in permanent positions over the period

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						2000-09; – The University of Strasbourg has created a permanent conference of equality and diversity officers in higher education and research; – Three reports published by the Ministry for Higher Education and Research provided a statistical view and comparative analysis of women in R&D at national level; – National Gender Action Plan and Charter for Equality of the Ministry of Higher Education and Research (2013).
FORMER YUGOSLAV REPUBLIC OF MACEDONIA		– The Action Plan for Gender Equality 2007-2012 mentions quotas as indicators for the planned activities; however no specific targets are set.				– In the Action Plan for Gender Equality 2007-2012, under the strategic objective for "gender balancing in the choice of educational occupations and profiles in secondary and higher educational institutions", there is an activity planned to "initiate amendments and modifications to the legal and other regulations on enrolment policy from the perspective of gender equality".

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GERMANY	– W2/W3 Programme for outstanding women researchers (HGF).	– *Fraunhofer* has introduced a Fraunhofer-specific cascade model (Kaskadenmodell): the overall share of female scientists at Fraunhofer is to grow from 23% (2012) to 26% in 2017.		– Female Professors Programme promoting outstanding women researchers; – Examples from the *Länder*: the Margarete von Wrangell Postdoctoral Training Programme for Women, the Mathilde Planck Lectureship Programme, the Brigitte Schlieben-Lange Programme and the Mentoring and Training Programme (Baden-Württemberg as well as the Saarland University (UdS) Excellence Programme for Female Researchers; – Examples from German Universities: a) TANDEMplus programme: mentoring programme for women Ph.D. students at the final stage of their doctoral thesis as well as women post-docs from natural science or engineering who are striving for a leading position in academia or economy; b) SciMento programme: group mentoring programme		– Equal Opportunities for Scientists Campaign (2006-2011) to increase the number of women in leading positions in science over the next five years (of German Science Organisations); – 'Women in Science' section of the web EURAXESS portal.

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				– supporting women PhD students and postdocs in the natural, engineering and life sciences with the aim of preparing them for a scientific career path; – Pact for Research and Innovation: four German science organisations (FhG, MPG, HGF and WGL) have agreed to capitalise better on women's scientific potential (including in positions of responsibility); – Taking the Lead Mentoring Programme aiming to prepare motivated candidates to work in high-level (management) positions; – Mentoring Programme for women researchers in Leibniz Institutions.		
GREECE		– The Greek Government encourages gender equality in the research profession by guaranteeing female representation in all top-level positions and decision-making bodies in a ratio of at least to				– Law 1514/85 "Development of Scientific and Technological Research".

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		one-third (1/3) (based on Article 16 of the Greek Constitution).				
HUNGARY		– National Strategy for the Promotion of gender Equality: the proportion of women in leading positions in both the public and private sectors should increase by one third by 2021.				– The National Strategy for the Promotion of Gender Equality – Guidelines and Objectives 2010-2021; – Women in Science Committee: monitored the number of women evaluators in the higher education system and guaranteed the presence of acknowledged women experts at a higher level; – Budapest University of Technology and Economics organises information sessions on engineering and informatics science for high school girls with the aim of increasing the numbers of women students in the departments where males dominate.
IRELAND		– A general government commitment requires the institutions to increase female participation on State Boards to 40%.				– Employment Equality Act of 1998; – Equal Status Act of 2000; – Equality Act of 2004; – The Irish Equality Authority has the over-arching role in promoting equality in the workplace, including the promotion of gender equality for

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						researchers; – Centre for Women in Science & Engineering Research; – Women in Technology and Science Programme (WITS): has since 2008 aimed to facilitate and support women in returning to a career in science and technology.
ITALY	– Italian regional authorities have implemented specific measures to support women students' participation in scientific programmes in universities (mostly at bachelor level) and to support women's careers through scientific training schemes.	– New Law 240/2012 calls for a representative gender balance in the 'Board of trustees' of research institutions.		– Women's careers hitting the target: gender management in scientific and technological research.	– The PRA.G.E.S project collected and described strategies which had been implemented for promoting the representation of women in decision-making bodies in Italian public institutions.	– Memorandum of Understanding on gender equality in the research profession between the Ministry of Education, Universities and Research and the Ministry for Equal Opportunities; – Under the auspices of the European Structural Funds, local administrations participate in 'Twinning Actions' (2007-13) related to gender equality.
LATVIA	– Promotion of gender equality is one of the criteria for the evaluation of grant proposals in the context of the European Social Fun activities within the field of higher education and science.					
LITHUANIA				– Lithuanian Academy of Sciences' LYMOS		– Ministry of Education and Science adopted a

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				project supporting female researchers with access to grants, participation in conferences, summer schools, and short-term visits abroad.		Strategy (2008) for the Implementation of Equal Opportunities for Men and Women in R&D.
LUXEMBOURG		– Luxembourg has introduced a quota in the form of a requirement that a minimum of one third of the board members of public research centres be of the underrepresented sex.			– Gender equality at all scales of the research career and especially for nominations to the board of the research institutions is highlighted in performance contracts signed between the Ministry of Higher Education and Research and the university or the public research centre.	
MALTA						– National Commission for the Promotion of Equality; – Chapter 456 Equality for Men and Women Act; – New National R&I Strategic Plan 2020.
MONTENEGRO						– The Plan for achievement of gender equality 2013-2016 foresees policy measures to promote gender equality by engaging more women in science and to support campaigns for removing

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						cultural and social barriers, and achieving equal opportunities in all research sectors.
NETHERLANDS	– Vidi grants (for experienced researchers); – Vici grants (for researchers of professorial quality).			– Aspasia project to encourage the promotion of female academics to senior lecturer (or professorial) level.		
NORWAY	– The YFF-Young Excellent Researchers award aims to fund young outstanding researchers, especially women.	– Legislation: gender representation >40% of each gender on boards and committees; – The Research Council has established a new initiative called Gender Balance in Senior Positions and Research Management (BALANSE) to increase the share of women in senior and leading positions in research.		– The Norwegian Government strengthened its focus on gender equality by launching a temporary incentive scheme in 2010 to encourage the institutions to appoint women to permanent academic positions (professors and associate professors) in mathematics, natural science and technology.	– The National Committee for Gender Balance in Research (KIF Committee) deals with issues promoting women's' position in research, including recruitment of women to research and top academic posts at higher education institutions; – Governmental research institutions and the Research Council of Norway (RCN) aim to include more women for leading researcher positions; – Annual prize for the institution with the best performance on gender equality.	

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POLAND	– Girls of the Future - in the footsteps of Maria Skłodowska-Curie: supports talented young female researchers and promotes their scientific achievements; – L`Oréal Polska Grants for Women in Science Awards for women PhD and post-doc students.	– The recently amended Law on higher education calls for the Minister for higher education to ensure that at least 30% of the members of the Polish Accreditation Committee are women.	– Parent-Bridge Research Grant: to enable the best researchers raising young children to return to advanced research work and to enable pregnant women to carry out research projects by providing someone to carry out the research activities which could be dangerous for them.			– The Polish government is reforming the structure of its scientific organisations, such as the State Accreditation Committee, the General Council for Science and Higher Education and the Central Commission for Degrees and Titles to guarantee that there are more women in top-level positions.
PORTUGAL						– Quotas or national targets and/or other measures to ensure a representative gender balance for researchers are not promoted by the Portuguese Government since the share of female scientists is relatively high in international terms and is on an upward trend.
ROMANIA				– Training of 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		

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				entrepreneurial culture in women managers in SMEs.		
SERBIA						– Serbia does not have concrete measures to support women in top-level positions in research, technology and innovation.
SLOVAK REPUBLIC						– Gender Equality Strategy for the Years 2009-2013; – Expert Working Group under Ministry of Foreign and European affairs of the Slovak Republic; – Framework Programme on Equal Opportunities (2002).
SLOVENIA	– Young Researcher Programme giving priority to women.	– The Slovenian government has set national targets on the gender composition of expert bodies attached to public research institutions and agencies, requiring that those bodies be constituted in such a way that each gender represents at least 1/3 of all the positions in the body (exceptional cases are natural sciences and technical sciences, where at least 1/5 of the total number of positions is required to				– National Committee on Women in Science and its Work Programme; – National Action Programme on gender equality; – The Research and Innovation Strategy of Slovenia 2011-2020 to strengthen the role of women in science; – The Slovenian Act on Equal Opportunities for Women and Men (2002) balanced representation of gender when forming/establishing different bodies.

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		be held by each gender).				
SPAIN		– Law on Science, Technology and Innovation: gender balance is foreseen in the nomination of evaluation committees, councils and bodies; – Equality Law: gender balance is foreseen in the nomination of evaluation committees, councils and bodies.				– White Paper on the situation of women in Spanish science; – 'Women and Science Unit' of the Spanish government aims to promote gender aspects in science, technology and innovation.
SWEDEN		– In Sweden, quotas-national targets are not mandatory. However, the number of members in boards, committees, panels etc. should be as gender-balanced as possible (Swedish Higher Education Law, 1999).			– VINNOVA the Swedish Governmental Agency for Innovation Systems promotes gender equality in appraisal of funding and within the organisation, and gender mainstreaming within research.	– The government in January 2009 appointed a Delegation for Gender Equality (*Delegationen för Jämställdhet*). The work of the Delegation ended in 2010, but many projects are continuing.
SWITZERLAND	– Swiss Federal Equal Opportunity at Universities Programme (CRUS): the Federal programme for the promotion of equal opportunity for women and men at Swiss universities to promote equal opportunities in the research profession.	– The Swiss Federal Equal Opportunities Programme 2008-11/12 aimed to increase the proportion of women category I Professors from 14% in 2006 to 25% by the end of 2012; – Rectors' Conference of the Swiss Universities will set targets for the	– Swiss Federal Equal Opportunity at Universities Programme: work-life programme for greater balance between academic career and family; – 120% Model (parenting post-doctoral researchers	– Marie Heim-Vögtlin programme: supports with their professional integration at Swiss universities well-qualified women scientists (docs and post-docs) who have interrupted their research career for family-related reasons		– Swiss University Conference programme "Equal Opportunity at Universities"/Gender Studies 2013-2016; – Equal Opportunity at Universities of Applied Sciences Programme: aimed to promote equal opportunities between men and women;

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		– nomination of female Category I professors and assistant professors in the forthcoming Federal Programme for Gender Equality and Gender Studies; – Diversity @CTI Initiative: encourages greater diversity and aims to increase significantly the proportion of women involved in innovative projects and entrepreneurship.	work part-time at 60%).	or have re-located following their (academic) partner.		– Gender Campus is the national platform for gender equality, gender studies and the promotion of gender-sensitive careers in higher education. Between 2013-2016, the platform is financed by the Swiss University Conference (SUC) sub-programme 'Gender Studies' and the new State Secretariat for Education, Research and Innovation (SERI); – GRIPS Gender Report; – Gender and Research Promotion (*GEFO-Studie*): to identify and quantify drop outs of women in the academic career (leaky pipeline) with respect to the role played by the SNSF in the processes of research promotion and access to grants.
UNITED KINGDOM					– The Equality Act 2010 introduced positive action provisions, including voluntary positive action measures in recruitment and promotion.	– The UK's Research Excellence Framework (REF) reflects the need to consider gender balance in all policies and procedures in higher education institution; – BIS (Department for Business, Innovation and

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						Skills) asked the Royal Society and Royal Academy of Engineering to develop a new diversity in STEM programme, including gender; – Higher Education Funding Council for England monitors the proportion of staff at different stages; – Equality Challenge Unit (ECU) works closely with colleges and Universities to build equality of opportunities and outcomes by providing them with expertise, research, advice and leadership; – UK Resource Centre for Women in Science offers advice services and policy consultation on the under-representation of women in science, engineering, technology and the built environment (SET); – The National Framework for the Modernisation of Higher Education Pay Structures was agreed with the Universities and Colleges Employers Association (UCEA) in

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						2004.

Source: Deloitte, 2012 reporting exercise.

Annex IV: Measures supporting education and training

The table below provides an overview of the countries' measures supporting education and training. Information is not available for Iceland, Israel, Liechtenstein and Turkey.

Table 2: Measures to attract young people to science and the research profession, to increase the quality of doctoral training and life-long learning (including the development of a Skills' agenda) and to develop partnerships between academia and industry by fostering doctoral training in cooperation with industry

Country	Attract young people to science and the research profession	Quality of doctoral training and life-long learning	Collaboration between academia and industry
AUSTRIA	– Young People initiative inspires young people to explore technology and innovation with the ultimate aim of attracting students to pursue a technology-related academic career; – Innovation Makes Schools Top-Class Programme and IMST-New (MINDT)[6]; – Mentoring Programme supports mentoring (mainly by women researchers) of young (female) pupils (15-19 years) interested in research, technology and innovation; – Mathematics, Informatics, Science and Technology programme - Information Campaign encourages students to pursue a career in a scientific field; – Talents Programme supports RTD talent (particularly women) by offering traineeships for pupils and providing financial support for (regional) education projects in schools in the field of mathematics, informatics, science and technology; – Young Science programme which includes the Sparkling Science Research Agenda (supports (new) methods of promoting young researchers and artists in Europe and fosters cooperation between experienced scientists and young people; – FIT – Women in Technology Initiative offers (female) pupils information on technical studies	– In order to increase the number of doctoral graduates in (STEM), a number of Austrian universities are establishing new organisational structures for doctoral training (and in particular supervision), e.g. doctoral schools or doctoral centres. In addition, some universities are developing new structural doctoral programmes aimed at supplementing and broadening doctoral training; – Under the Universities Performance Agreement, doctoral training was extended to three years as of the 2009-10 winter terms in order to improve the quality of doctoral training. In addition, Universities have started to implement new doctoral curricula and have introduced additional measures to improve quality, skills and supervision of doctoral training; – Universities Performance Agreement 2013-2015; – The Qualification Framework for Austrian Higher Education Qualifications (planned for 2013) will define key competencies to be acquired during doctoral training; – *Marietta Blau* grant aims to generate internationally competitive PhD diplomas in Austria by offering financial support to highly-qualified doctoral candidates;	– ASAP (National Space Programme) supports research and technological development in the space domain through collective (academia/industry) projects; – COMET programme aims to boost researchers' potential at the interface between science and industry by creating attractive opportunities to develop and use researchers' skills in science and industry; – Christian Doppler Laboratories programme promotes and strengthens application-based research carried out by academia in collaboration with industry partners; – Young Experts programme stimulates (junior) researchers' cross-sector mobility as well as knowledge transfer between research and business by providing funding to junior researchers, post-docs, bachelor-and master's candidates; – Josef Ressel Centres – Research Laboratory for Universities of Applied Sciences supports long-term cooperative relationships with industry and universities; – COIN programme promotes ties between companies (especially SMEs) and universities of applied sciences, as well as non-research institutions; – Research Competences for Industry[7]: the Ministry for Economy, Family and Youth supports industry,

[6] Within MINT, a "D" (*Deutsche Sprachkompetenz*/Proficiency in German) was included in 2013 in order to ensure the necessary German fluency.

[7] All projects are applied and conducted by consortia comprised of enterprises and universities/universities of applied science. Together they design and implement the qualification measures that are customised to the needs of the enterprises and the selected participants.

- *Qualifizierungsseminare* (seminars): 1st Call – total budget: EUR 2.3 million;

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	with the aim of stimulating girls' interest in technology; – Alpbach Summer School on space-related topics is organised each year, offering lectures as well as project-oriented workshops for typically 60 mainly European students; – *Maßnahmenkatalog im Bereich Information, Beratung und Orientierung für Bildung und Beruf* (IBOBB): a master plan and list of measures for information, advice and career guidance for pupils in the 7th and 8th years of school; – Austrian Researchers' Night (since 2005); – Yo!Tech – Lust auf Technik: information /dissemination event for pupils about the various possibilities and opportunities for education in engineering and natural sciences.	– *Doktoratskolleg* facilitates work experience abroad opportunities for researchers and offers training in support of transferable skills development; – *Initiativkolleg* foster researchers' collaboration in research projects and support networking at international and interdisciplinary level; – The Institute of Science and Technology Austria offers an innovative PhD programme combining advanced coursework and research.	primarily SMEs, in establishing and raising the qualifications of its innovation staff. The programme aims to establish industry-relevant research at universities and to promote inter-sector mobility; – BRIDGE programme offers outstanding researchers an opportunity to develop applications (and patents) of economic and/or societal value by entering into successful partnerships with the world of business, medicine, politics, government or other interest groups in Austria and abroad; – Under the Collective Research Programme, businesses or special interest groups (representing the private sector) assign tasks to research organisations with the aim of developing products/services for the private sector; – AplusB programme supports young researchers in the formation of enterprises; – Gen-AU research programme contributes to public-private cooperation through various funding mechanisms; – Intelligent Production Programme supports cooperation between industry and academia to foster highly competitive (intelligent) production; – IV2S Plus Programme supports cooperation between industry and academia to foster the development of intelligent and competitive transport systems. The follow-up programme will be called "Future Mobility" and will touch upon the following research areas: mobility of persons and of goods, transportation infrastructure and vehicle technology; – Nano Initiative supports research and technological development in nanotechnologies through collective (academia/industry) projects; – Take Off Initiative supports collective research and education in the aviation sector; – Laura Bassi Centres of Expertise promote excellence in application-oriented basic research where highly-skilled researchers from academia and private industry work together;

- *Qualifizierungsnetze* (networks): 1st Call – total budget: EUR 4.25 million;
- *Innovationslehrveranstaltungen* (lectures): 1st Call - total budget: EUR 3.45 million.

Country	Attract young people to science and the research profession	Quality of doctoral training and life-long learning	Collaboration between academia and industry
			– The ICT of the Future Programme aims to foster cooperation between academia and the private sector with the objective of boosting development in the ICT sector.
BELGIUM	– Museum Night Fever in Brussels aims to attract young people to access and to involve them in the creative use of the museums' exhibit rooms; – Researchers' Night is organised once per year in collaboration with Belgian Universities with a view to informing and attracting (among others) young people (primary school, secondary school and higher education) to become interested in science and the research profession per se; – The Annual Science Communication Action Plan (Flanders) aims to attract pupils, students and teachers into a research career by promoting science, technology and technological innovation[8]; – The Spring Science Season activities (Wallonia-Brussels Federation) target secondary education pupils and aim to communicate and popularise activities around science and scientific careers; – Awareness-raising actions for scientific careers: the Brussels-Capital Region dedicates a part of its annual budget to measures aimed at increasing children and young people's interest in science and technology.	– Federal Scientific Institutes are to become Centres of Excellence in close partnership with Belgian universities in order to enhance the training of human resources. They will take part in doctoral schools, at Belgian or EU level, in order to be more visible, to enhance their R&D potential and exchange knowledge. They have developed a register ('cadastre') of the participation of their researchers in and their partnerships with the universities. They will aim to foster researchers' outward mobility as well as welcome more Ph.D. students in order to become more attractive to international researchers. Inward mobility for researchers from developing countries to FSIs is also encouraged; – The Support Programme for Young Researchers of the Flemish Community aims to train young researchers, develop careers and open up career prospects, reinforce the international orientation of researchers' careers and cooperate within Flanders; – Wallonia-Brussels Partnership's action 22: "Increase the number of PhDs in the research sector"; – In Wallonia, doctoral schools were established by decree of 31/03/2004. Life-long learning initiatives are undertaken individually by universities and doctoral schools; – The Wallonia-Brussels Partnership (actions 12 & 13) promotes doctoral training programmes and the participation of doctoral students in international doctoral schools. The Partnership encourages the organisation of doctoral training programmes by university academies and promotes the acquisition of cross-cutting competencies for researchers.	– The Federal State has competence to promote partnerships between academia and industry for contracts with the European Space Agency; – The Spin-off in Brussels Programme finances projects targeting the economic exploitation valorisation research results, mainly through the creation of a new marketable product, process or service. Each project must end up with the creation of a new enterprise established on the Brussels territory; – The Doctiris Programme (Brussels Capital Region) encourages young researchers to carry out their PhD in collaboration with a Brussels enterprise; – The Agency for Innovation by Science and Technology (IWT) (Flanders) Innovation Mandates are set up with the objective of connecting the academic and the industrial world, and stimulating postdoctoral researchers to improve their skills in maximising the value of their research and to develop their careers, taking a step towards industry; – The Baekeland Programme funds doctoral projects carried out at a Flemish university in close cooperation with a company; – The Declaration of Community Policy (2009-2014) (Wallonia-Brussels Federation (FWB) and Wallonia) promotes doctoral schools and training for researchers working in research centres and private companies, and encourages the financing of doctoral theses by companies and the private sector; – FIRST Spin-off (Wallonia-Brussels Federation (FWB) and Wallonia) grants support projects aiming to develop a new product, process or service, and carrying out a technical-market feasibility study for the exploitation of the results and a business plan, with the general goal of launching a spin-off in the Walloon Region;

[8] In 2012, the Annual Science Communication Action Plan was replaced by the Communication Policy Plan 2012-2014 (some EUR 9 million for 2012).

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			– The Marshall Plan 2.Green (2009-2014) (Wallonia) aims to encourage enterprise competitiveness and attractiveness and develop synergies with foreign investors; – The PRODOC Programme of the Wallonia-Brussels Federation aims to promote encounters between doctoral candidates, young researchers and economic players via cross-border events, such as the *Doctoriales Franco-belges* and job forums, and foster the employability of young researchers and PhD graduates outside academia; – The FIRST INTERNATIONAL Programme supports and develops partnerships between Walloon companies and the research units of universities and other higher education institutions through the development and the validation of new products, processes or services.
BOSNIA AND HERZEGOVINA	– The Fund Dr Milan Jelić provides financial support to the most talented students at all three levels of higher education; – The Programme for Young Researchers provides financial incentives to researchers to secure their paid full-time participation in science and research projects, in an effort to increase the number of doctorates in science, technology, engineering and mathematics (STEM) subjects; – Scholarships of the Ministry of Education and Culture of Republika Srpska for students of mathematics, natural sciences and technology aim to promote their career in these professions; – Annual Lump-sum Scholarship for Talented Students of Final Years of Studies at the Higher Education Institutions; – Fund for student loans; – Co-funding of research, scientific training and study visits at home and abroad; – Participation in national and international scientific meetings; – Competition for funding/co-funding of scientific research, and research and development projects in the Federation of Bosnia and Herzegovina.	– Guidelines for Conduct of Doctoral Studies by the Council for Development of Higher Education and Quality Assurance of the Republika Srpska (2008): the universities in the territory of the Republika Srpska have developed and adopted their own Rulebooks for Conduct of Doctoral Studies.	– Strategy of Development of Scientific-Research and Research-Development work in Federation of BiH for the period 2012-2022; – Strategy of scientific and technological development of the Republic of Srpska for the period 2012-2016, focused on strengthening collaboration between academia and industry; – Law on Scientific Research Activities and Technological Development providing for, among others, transferring knowledge and technology, and encouraging the application of research results; – The Ministry of Civil Affairs of Bosnia and Herzegovina has participated actively in number of projects dealing with the issue of overcoming the obstacles in industry-academia cooperation, such as FP6-WEBMOB and FP7 ISEEMOB; – The industry sector provides financial resources towards the practical application of the R&D results.
BULGARIA	– The National Young Talents Contest aims to attract young students (between 14 and 21) to	– The "Sciex" Programme with Switzerland: an instrument for increasing the quality of doctoral	– The Science + Business Project provides a platform for researchers to carry out projects in collaboration with

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	draw up competitive scientific projects; – The Science Communication contest, Famelab, aims to boost young people's interest in science. Young scientists are encouraged to present their research ideas in a competitive context; – Sofia Science Festival: young students present science and scientific results to a young audience (including kindergarten children) with the aim of raising young people's interest in science; – Young Researchers Programme supports PhD students in preparing a scientific project; – New University Ranking System (2010); – New Law on Academic Staff encourages young students to pursue a career in research; – New Law on School Education introduces a reform of the Bulgarian school system by defining profiles for a broad spectrum of study disciplines; – Grant Schemes[9].	training in Bulgaria; – Career Development Centres assist young students in choosing a study discipline as well as finding a vocational training place; – The Law on Scientific Research Promotion regulates the management and application of state policy in the field of scientific research by supporting a range of strategic activities like participation of scientific organisations and universities in international programmes and projects, and awards for research excellence and 'chair competence'.	industry. Supported by Universities, research institutes and businesses, the scheme fosters skills and knowledge transfer between the different parties; – The Innovation Fund encourages industrial PhDs and strengthens links between the research community and businesses; – The planned Law on Innovation will stimulate researchers to work for and in small and medium-sized enterprises (SMEs) and also encourage Universities to offer education using innovative programmes; – The National Youth Strategy 2010-2020 and the National Development Programme strengthen the links between education and the labour market; – Operational Programme (OP), "Science and Education for Smart Growth 2014-2020" (2013).
CROATIA		– The University of Zagreb provides additional skills development for doctoral candidates enrolled at the university on a continuing basis; – The University of Zagreb plans to initiate a nationwide project in 2013 to provide all Croatian universities with HR programmes for sustainable skills development. The project is called Modernising Doctoral Education through Implementation of CROQF (Croatian Qualification Framework); – The University of Rijeka in 2012 organised 37 different lectures and workshops for almost 1 500 participants with the goal of enhancing researchers' knowledge in development of entrepreneurial skills, preparation and management of projects funded by the EU and intellectual property rights; – The Central Office of Doctoral Studies and Programmes is in charge of providing the necessary	– The RAZUM programme provides initial funding for newly established knowledge-based companies as well as funding research and development of new products or services in existing companies; – The TEHCRO programme supports commercialisation of research outputs and the transfer of knowledge from universities and scientific institutions to business, and also supports development of Technology Business Centres, Technology Incubators and Research and Development Centres; – The VENCRO programme provides venture capital funds for fast growing small and medium-sized companies based on innovation and advanced technologies; – The IRCRO programme supports cooperation between industry and technology institutions, facilitates maximum usage of infrastructure in scientific research centres, and supports industrial companies to substantially increase their R&D activities;

[9] Grant Scheme "Support for the Development of PhD students and PhD graduates, Post-doctoral students, and Young Scientists", Grant Scheme "Improvement of the management systems in higher education institutions", Grant Scheme "A system for the qualification and career training of lecturers in higher education institutions", Scheme "Creation of system for identification and recognition of informally obtained knowledge, skills and competences", Scheme "Development of electronic forms of distance learning in higher education".

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		tools for the implementation of a skills agenda, and supporting PhD candidates in developing transferable skills; – The University of Split has a Technology Transfer Office (TTO) which aims to increase the commercialisation of University intellectual property and strengthen links between universities and industry; – The Science and Technology Park at the University of Rijeka is very active in organising workshops dedicated to transferable skills.	– The EUREKA programme supports innovative SMEs with their international collaborative market-oriented R&D projects and is open to all technological areas; – The Croatian Science Foundation funds the Partnership in Research Programme, which aims to improve cooperation between research institutions, industry and entrepreneurship, and thus increase budgetary investments in research; – Unity through Knowledge Fund unites scientific and professional potential in Croatia and the Diaspora in development of the knowledge-based society through its 'Young Researchers and Professionals' projects and the '3C Research in Industry and Academia Grants'.
CYPRUS	– The Mera Programme targets elementary and secondary school children (of six to eighteen years old) with the aim of promoting research at school level; – The Teke Programme targets elementary and secondary school children (six to eighteen years old) with the aim of promoting research at school level; – The Foito Programme (Students in Research) targets university students with the aim of promoting the research profession within the educational system.	– The Didaktor Programme (2009-2010) aimed at the immediate integration of young post-doctoral scientists (under the age of 40) in the RTDI system of Cyprus in order to implement high level research projects; – The Single-company Continuing Training Programmes aim to provide in-company training and development to employees in order to meet specific needs of the enterprise for the effective utilisation of its personnel. Universities, research institutes and major industries have access to these programmes; – Single-company Continuing Training Programmes Abroad have as their primary objective the training and development abroad of employees of an enterprise. Universities, research institutes and major industries can be involved in these programmes; – Standard Multi-company Continuing Training Programmes aim at providing continuing training for meeting the training needs of employees through their participation in training programmes implemented by public or private training institutions and organisations; – High-Priority Multi-company Continuing Training Programmes aim at providing continuing training for meeting the training needs of employees through their participation in training programmes implemented by public or private training	– Kinhtikothta Action (2003-2006) targeted doctoral students and supported them in working in an enterprise that funded a research project; – Innovation Clusters Programme (planned) will promote networking between national enterprises and academia and increases in the number of joint proposals to receive funding; – Mediation Agencies aim to strengthen the links between academia and enterprises, leading to projects of joint interest and to the exploitation of the research results by the enterprises; – PENEK – Young Researchers of Cyprus Programme (2009-2010) aimed to prepare the next generation of researchers for employment in the Research, Technological Development and Innovation (RTDI) system of Cyprus. The main objective was to promote the involvement of young scientists in the working environment of research units/laboratories in research centres and enterprises, and their acquisition of experience in modern research methodologies and research project management in cutting-edge scientific and technological fields.

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		institutions and organisations on specific high-priority issues; – Multi-company Continuing Training Programmes Abroad aim at improving and enriching the knowledge and skills of the senior personnel of the enterprises in various aspects of business organisation, administration and technology. Universities, research institutes and major industries may utilise these programmes to address the common training needs for their researchers; – The scheme for job placement and training of unemployed tertiary education graduates aims to strengthen the management capacity of enterprises and organisations through the employment and training of young university and other tertiary education graduates; – The scheme for the promotion of innovation in training and development of human resources aims at encouraging enterprises and organisations to prepare and implement proposals that include research and development of innovative ideas for the training and development of the human resources.	
CZECH REPUBLIC	– Several universities as well as the National Contact Centre for Women and Science at the Institute of Sociology of the Academy of Sciences of the Czech Republic have introduced mentoring programmes to attract women students at secondary education level to follow STEM subjects at university level.		– The Effective Knowledge Transfer project covers systems for intellectual property protection and commercial use, commercialisation of R&D results, and cooperation with industry. The project also involves the development of support methodologies for implementation, the creation of networks for effective knowledge transfer and the training of the target group of users in the methodological materials.
DENMARK	– Elite Programmes at Universities target particularly motivated and talented students in order to nurture graduates able to take on extraordinary challenges in academic research or leading positions in the professional world; – The ISI 2015 Innovation, Science, Integration Programme aims to meet the challenge of recruiting the necessary engineers and scientific researchers to Danish industry. Target groups: school students, teachers and management teams;	– Ministerial Order on the PhD Programme at Universities (2007) develops the Danish PhD programme to provide young researchers with quality skills in order to contribute to a knowledge-based economy and society in Denmark. In Denmark, all PhD programmes have to be organised within a PhD School. Each university establishes a number of PhD Schools at faculty or University level. Courses are either related to teaching and examination of students or to the development of different types of skills, such as	– Application of Science and Languages: the Danish Ministry of Children and Education co-funds a number of collaborative project groups with the participation of upper secondary school teachers, researchers and project managers from universities, museums/science centres and/or private and public companies. The groups develop individual projects and exchange knowledge in a joint project. From 2012 the Programme also includes a number of projects focusing on initiatives for talented students; – The Industrial PhD Programme aims to offer doctoral

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	– The NatPLUS project includes four measures for increasing students' interest and achievements in science topics; – Olympiads and Competitions for school students; – Science Talents targets talented young students (between 12 and 20), who are good at science and technology and have a potential to become the best researchers if their talent is nursed; – Talent Initiatives (2011 – 2012): a group of teachers and advisers who have developed materials for exemplary teaching in all disciplines in upper secondary schools; – Talent Initiative (ongoing): a debate on how to support and promote talented students in higher education and how to create a broader and more ambitious talent culture in Denmark; – National Centre for Science and Education concentrates on the interest and learning of science, technology and health in primary schools, the upper secondary education and technical colleges, as well as the problems of transition in the education system; – Students from a non-academic background co-funded a project to develop teaching in certain chosen subjects to ensure that students from a non-academic background get more out of the tuition and hence contribute to a higher completion rate; – Sapere Aude Programme: a comprehensive career programme for excellent research; – Chosen for University/University College (2011-1014); – PhDs in educational research (2011- 2015).	entrepreneurship, management of complex projects and making research accessible to students; – Development of professionally oriented higher education (2013-2015) to enhance the quality of professionally oriented higher education.	training in cooperation with the industry sector; – The Industrial Post-doc Programme (pilot scheme): new doctoral graduates carry out research with financial and technical support from both a university and a company; – The Danish Innovation Consortium (IC) Scheme: collaboration between enterprises, research institutions and non-profit advisory/knowledge dissemination parties; – Clusters-Innovation Network Denmark ensures that smaller enterprises participate in network projects, and that the networks help this target group to make use of other innovation policy initiatives e.g. innovation consortia, innovation vouchers, the Knowledge Pilot scheme and the Industrial PhD scheme; – Danish Technological Service System: The GTS institutes are "approved technological service providers". They are independent not-for-profit organisations, whose purpose is to transfer and disseminate technical know-how, new methods and knowledge to industry and society in order to create and increase development; – Innovation Assistant (Knowledge Pilot) scheme aims at increasing knowledge dispersion throughout the economy by subsidising the employment of University graduates in SMEs; – Innovation Voucher Scheme inspires SMEs to utilise the opportunities and make use of the potential knowledge of Institutions.
ESTONIA	– Science communication programme TeaMe promotes young people's interest in science and technology; – Teeme funds science communication events, science camps, technology days, and get-together activities for university students and high school pupils; – Pupils' Inventor Contest: schools organise science conferences and seminars at which students	– AHHAA Science Centre: the initiative serves to strengthen the scientific excellence of participating researchers; – Doctoral schools were set up in 2005. In 2009, thirteen new Doctoral schools were selected for the period 2009-15. Their aim is to improve the quality of tutoring of doctoral candidates and to increase the efficiency of doctoral studies in Estonia through interdisciplinary, international and	– Joint activities of the Ministry of Economics and Communication and the Ministry of Education and Research to support the development of entrepreneurship, launch mobility schemes to facilitate two-way movement between academia and enterprises; – Product Development Grants are available to entrepreneurs and universities in support of the development of products and services with high

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	present and discuss their work, and meet with scientists; – Gifted and Talented Development Centre and the University of Tartu offer pupils interested in science an opportunity to further develop their scientific knowledge and skills; – Science Bus Suur Vanker ('Big Dipper'): physics students from the University of Tartu and from the Estonian Physical Society demonstrate interesting physical experiments to the general public; – Association of Young Scientists promotes careers in science and technology among secondary school students; – The Primus Programme aims at improving the professional competitiveness of higher education institution graduates.	national cooperation; – Standard of Higher Education, Regulation No 178 of 18 December 2008: doctoral study programmes usually include training in transferable skills to improve researchers' employment skills and competencies; – The Estonian Rectors´ Conference has endorsed the "Quality Agreement" among Estonian universities encouraging the inclusion of transferable skills' training in doctoral studies curricula; – Centres of Excellence: support the development of Estonian research so as to strengthen Estonian competitiveness at European level. Currently, there are 12 Centres of Excellence in Estonia.	added-value; – Technology Competence Centre grants aim to increase Estonia's international competitiveness by strengthening cooperation between entrepreneurs and research establishments; – Innovation Voucher Grants aim to boost the competitiveness of Estonian SMEs through knowledge and technology transfer, expanding cooperation with R&D institutions and increasing the capability to protect intellectual property rights; – The SPINNO Programme promotes cooperation between research and development institutions and enterprises; – The *Ajujaht* Business plan competition is a start-up competition for young entrepreneurs creating innovative businesses; – The DoRa Doctoral Studies and Internationalisation Programme: Activity 3 of the "DoRa" Programme - Training doctoral students in cooperation with businesses – actively assists innovative companies by funding the creation of doctoral student places.
FINLAND	– The Millennium Youth Camp offers young people of 16-19 an overview of Finnish expertise and top-level research in the natural sciences, mathematics and technology; – SciFest is an international science and technology festival, bringing together thousands of schoolchildren, high school students and teachers; – Viksu - the Academy of Finland's science competition for senior secondary students that provides them with an opportunity to try their wings in the field of scientific work; – *Tutki-Kokeile-Kehitä* (Research-Experiment-Development) is a Finnish science and technology competition for young people from 6-20 years old. The competition is held yearly.	– National Guidelines for the Development of Doctoral Training' (2011).	– The LUMA Center umbrella organisation coordinated by the Faculty of Science of the University of Helsinki to bring schools, universities and industry together and to promote the learning, studying and teaching of natural science, mathematics, computer science and technology at all levels; – Academy Project funding is designed to promote the quality of research, the diversity of research and its capacity for renewal, and provides researchers with an opportunity to carry out scientifically ambitious research, to achieve new breakthroughs and to engage in high-risk research, simultaneously encouraging inter-sectoral mobility; – Strategic Centres for Science, Technology and Innovation: cooperation platform for innovative companies and spearheading research.
FRANCE	– Most public research organisations implement policy measures to attract young people to research and help teachers to involve young people in research by means of events, visits to scientific sites, lectures in schools, workshops,	– Investments for the Future Programme offers many opportunities for PhD students in laboratories of excellence or via excellence initiatives in all scientific disciplines, including STEM subjects; – *Irene Joliot-Curie* Prize to propose role models for	– Doctoral training in cooperation with industry and other relevant employment sectors; – The Carnot Institutes Network aims to improve inter-sectoral knowledge circulation through partnership research;

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	conferences, competitions, symposiums in partnerships with several research organisations, etc.; – Annual 'Young female mathematician workshop' in association with 'Women and Mathematics' to create networks, fight self-censorship and detect potential obstacles in career development; – National initiatives have been under way for 10 years on the issue of young female students' career choice. They primarily focus on high school students; – Doctoral Contracts for Disabled Students.	young researchers; – As of September 2010, 285 doctoral schools (*Ecoles Doctorales*) with 70 000 doctoral students were accredited by the Ministry of Higher Education and Research. The doctoral schools are established under an agreement between the State and universities (*contrats d'établissements*). The doctoral schools provide training and development for participants. They offer future PhD holders high-level scientific supervision as well as preparation to enter the labour market; – PRES are joint entities to ensure coordination between doctoral schools. PRES may decide to deal with the coordination of doctoral training; – Jointly supervised international doctoral training (*co-tutelle internationale de thèse*).	– The CIR (*Crédit d'Impôt Recherche*) is a research tax credit which aims to encourage private sector companies to carry out more R&D. To be eligible, companies must hire young PhD holders to carry out research; – Technological research institutes bring together public and private laboratories dedicated to a specific area of technology.
FORMER YUGOSLAV REPUBLIC OF MACEDONIA	– The National Strategy for the Development of Education aims to create opportunities for improving education and training, research, development and promotion of cultural values for young people and adults. It also strengthens the collaboration between industry and academia; – The government developed the 'Higher Education for All' policy as part of the Programme of the Government 2008-2012. The goal was for 25% of the population to be receiving higher education by 2012. To achieve this strategic goal and enable a larger group of students to enrol at universities, the government in 2008 opened a new university in Shtip, as well as new faculties in bigger cities with decreased or no tuition fees; – In 2009, the St. Paul the Apostle University for Information Science & Technology was established in Ohrid, employing staff from Albania, Iran, Italy, Iran, Israel and Ukraine, the UK, the USA and adopting English as its primary teaching language. The university's main focus is on science and research.	– A project entitled 'Equipping Laboratories for Scientific Research and Applicative Activities' (2009-14), aims to advance research at state universities and public scientific organisations by creating and equipping research laboratories.	– A Memorandum for Cooperation between the main universities and chambers encourages them to cooperate via the organisation of mutual training programmes. Enterprises which are members of the chambers provide internships for students; – The National Programme for Scientific and Research Activities (2013-2017) foresees putting activities in place early in the Programme to encourage researchers to move from the public to private sector; – In 2010, the government made a 30-day internship in a company or government institution compulsory for all students in line with the objectives of the 'National Strategy for the Development of Education 2005–2015' for strengthening university-industry collaboration.
GERMANY	– Student Universities (*Schülerunis*): a number of German universities offer excellent students from grammar schools the opportunity to attend lectures and courses, and earn credit points while	– Helmholtz Association provides structured doctoral training in the form of research schools and graduate schools and grants universities access to the Helmholtz Association's laboratories and	– The Robert Bosch Centre for Power Electronics (RBZ), a research and teaching association formed by the Bosch Group, the University of Stuttgart and Reutlingen University, offers Bachelor's and Master's

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	still at school; – Tiny Tots Science Corner (*Haus der kleinen Forscher - HdkF*) Initiative (Helmholtz Association) aims at increasing the interest of young people (three to six years old) in science and technology by giving them an opportunity to conduct experiments and solve problems on their own; – The School Labs Initiative aims to address the impending shortage of researchers in Germany; – *KidsKreativ*! Initiative encourages and trains young people to become researchers; – The Summer Academy raises young people's interest in science and technology; – The *Fraunhofer* Talent Schools Initiative gives young people between the age of 15 and 18 an opportunity to get to know the Fraunhofer research landscape; – The Talent Take Off programme offers different forms of support to young people embarking on a university degree; – The "Strascheg Center for Entrepreneurship" and the long-established "TheoPrax" programmes aim to promote young people's entrepreneurship skills. Pupils from different schools (general secondary schools, intermediate schools, vocational schools and academic secondary schools) work on business and science-related topics; – The Fraunhofer Pilot Project organises workshops for pupils between 10 and 12 years' old aimed at teaching knowledge, methods and interpersonal skills; – Examples from the *Länder* (Baden-Württemberg): the Network Women.Innovation.Technology Baden-Württemberg (F.I.T.) and Dialogue MINT Teaching: More Women in MINT Courses.	research infrastructures. The Helmholtz Research Schools are joint programmes established on the basis of cooperation agreements between Helmholtz Centres and universities with the aim of supporting young researchers. The Research Schools provide structured doctoral training over a period of three years in areas of mutual scientific interest and scientific excellence. The Graduate Schools offer PhD students an interdisciplinary education that teaches them important skills for a career in science or the private sector; – Sixty International Max Planck Research Schools offer special training programmes or events for all career levels; – Taking the Lead: a talent management concept for the continuous scientific and interdisciplinary education of researchers at all levels of their careers. The programme not only includes mentoring, but also training activities (personal presentation, public speaking, individual coaching and networking); – Graduate Academies and Research Schools of universities; – International PhD Programmes in Germany – IPID (DAAD); – Leibniz Association (WGL): Since 2006, 22 Leibniz Graduate Schools; – Graduate Academy at the University of Jena; – Leibniz Qualification Programme – Max Planck Research Programmes (MPG); – Taking the Lead (HGF).	degrees for students specialising in power electronics and microelectronics. Students can also pursue PhDs at the RBZ. The Centre's close cooperation with Robert Bosch GmbH ensures that students receive industry-relevant training; – The *Fraunhofer Gesellschaft* supports application-based research in cooperation with the private sector. Students are offered the possibility of pursuing a PhD in applied research in close collaboration with industry; – Shared Professorship (KIT); – German Research Foundation (DFG): Transfer projects can be proposed in conjunction with many DFG grant programmes and in all DFG-funded scientific disciplines.
GREECE	– POSTDOCS Programme (2010-ongoing) offers fellowship programmes for doctorates and post-doc researchers (Greek or non-nationals) to carry out a 24-36 month research project in universities, technological institutes and public research centres in Greece or abroad (host institution);	– Under Part IV of the law 4009/2011 for higher education institutions, lifelong learning activities are a matter for the concrete regulations of each individual institution. Higher education institutions have the possibility of organising lifelong learning training sessions and increasing the quality of	– The PENED Programme provided funding to young researchers. In addition, it offered research training to young researchers for three years while writing their doctoral thesis. S&T companies (located either in Greece or abroad) co-funded the Programme and thus supported the beneficiary in accomplishing

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	– EXCELLENCE (ARISTEIA) 2011, 2012 addresses young excellent scientists and supports transnational mobility and frontier research meeting high international standards.	doctoral training through collaboration with national and international higher education and research Institutions; – HERACLITUS, THALES, ARCHIMEDES Programmes (2009) under the Education, Training and Lifelong Learning Operational Programme (2007-2013) offer training to researchers, attract high quality researchers from abroad and develop research networks among universities, technological institutes and research centres.	his/her research. The company was allowed to exploit the research results, which could enter the market as scientific products and services; – The Clusters Programme is designed to create public-private partnerships amongst companies, universities, research organisations, associations, and chambers of commerce and crafts in order to boost competitiveness, entrepreneurship and innovation; – COOPERATION 2011 – Partnerships between businesses and research bodies in specific research and technological sectors; – CREATION - Support to new innovative enterprises, notably highly knowledge intensive (spin off and spin out); – Innovation Vouchers for SMEs: fosters exchange of expertise and consultant services between 'innovation agents' (i.e. universities, research centres) and companies; – Action 'Supporting businesses with the aim of employing highly qualified scientific personnel' (under the Human Resources Development Operational Programme).
HUNGARY	– The Research University Programme aims to provide funding for HEI-based research for their proposed research activities and R&D infrastructure development plans; – Support for scientific workshops and schools (2009-2011) aimed to support scientific colleges, PhD schools and scientific student groups to organise scientific workshops and schools; – The Hungarian Talent Programme (2008-2028) aims to cover 20 years and support talents from early childhood until the start of their career; – National Excellence Programme – supporting excellent students, teachers and researchers; and National Excellence Programme – Campus Hungary Programme of the National Excellence Programme (2012-2013).	– Hungarian universities develop and promote their own post-doctoral programmes financed by the State. When an education institution plans to introduce a new PhD curriculum, it needs the approval of the Hungarian Accreditation Committee. The new Act on Higher Education (Act CCIV of 2011, in force since 1 January 2012) further supports the strategic ambition of increasing the quality of doctoral training in Hungarian institutions; – In the new draft national strategy, "Investing in the Future – National Research and Development, Innovation Strategy 2020", there are initiatives related to the improvement of researchers' employment skills and competencies; – The Government Regulation on National Excellence in Higher Education (24/2013. (II.5)).	– The R&D Labour Force Programme (2008-2010) aimed to support R&D projects in order to foster the development of the R&D sector's workforce by creating new workplaces at SMEs, research institutions or non-profit research institutions, and employing highly qualified researchers, who had lost their jobs because of the world economic crisis: ▪ *Dunaújváros* College and Hankook Tire Hungary Ltd; ▪ BME, ELTE – ERICSSON; ▪ *Kecskemét* College, Mercedes-Benz Manufacturing Hungary Ltd. and Knorr-Bremse Ltd; ▪ Robert Bosch Department of Mechatronics – University of Miskolc; and ▪ *Széchenyi István* University and Audi Hungaria Department for Internal Combustion Engines.
ICELAND	– The Science and Technology Policy Council has issued recommendations that institutions and companies be encouraged to apply for funding in	– The Centre of Excellence Programme (2009) was established to create better cooperation and circulation of knowledge between the university,	– The Icelandic Student Innovation Fund aims to provide opportunities for universities, research institutions and companies to recruit graduate and

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	the 'People' Programme within the EU 7th Framework Programme (Marie Curie) and should "encourage people to enrol in technical and vocational studies".	Public Research Organisation (PRO) and business sectors, such as the Centre for artificial intelligence and simulation technologies, the Centre for geothermal research or the Centre for gender/equality research; – One of the flagship activities of the Science and Technology Policy Council is "to considerably enhance measures such as lifelong learning on the labour market, guidance and counselling, recognition of real competences and other solutions that may provide further opportunities and motivations for people and companies to strengthen their position".	postgraduate students to undertake research projects during the summer; – Growth Agreements, regional development contracts among national government, local business local authorities and regional development agencies, reflect the government's emphasis on innovation policy, by encouraging R&D at regional level via clusters of local SMEs and other businesses, regional and external universities, and research organisations; – Innovation companies may deduct 15% annually of their annual research and development expenses from income tax liabilities.
IRELAND	– As part of the implementation of the revised primary school curriculum, science was introduced to all primary schools from September 2003 to help children develop scientific skills; – The Irish government has introduced Discover Science and Engineering (DSE) as its national science awareness programme at the primary and secondary level, which in the longer term will feed into the third level, (i.e. universities and Institutes of Technology) and also the PhD level, e.g. MyScienceCareer.ie; – The government in 2003 launched a revised syllabus in Junior Certificate science. The revised syllabus was supported by a comprehensive programme of professional development for teachers, and investment of some EUR 16 million in 2004 in resources and laboratory facilities; – The STEPS Engineers Ireland Programme (2005) encourages primary and post-primary students to explore the world of science and engineering through various initiatives, including an extensive Champions Programme, Engineers Week, student seminars, scholarships, summer camps, videos and career profiles, mathematics tutorials, and a Maths and Music show; – The Deans of Science have established a network promoting science, including science demonstrations at the Young Scientist Festival, school debating and other competitions, the	– The seven Irish Universities together with the Higher Education Authority (HEA) have formed a 'Fourth Level Ireland' Network, to mediate and help direct the changes in doctoral education; – The national funding agencies for research and innovation also provide support for human capital development; – Science Foundation Ireland includes provision for training researchers in line with national targets in its funding programmes; – The Irish Research Council for Science, Engineering and Technology and the Irish Research Council for the Humanities and Social Sciences identify and support excellent early career researchers throughout the research system across all disciplines, with a focus on career development; – The National Academy for Integration of Research and Teaching and Learning (NAIRTL) provides training for academics to develop their supervising and mentoring skills; – Fourth Level Ireland Network has compiled an 'Irish Universities' PhD Graduates' Skills Statement', which is consistent with national descriptors of PhD graduate attributes. Typical PhD programmes enable the students to identify a tailored set of relevant course modules to develop disciplinary, transferable and generic skills; – The Institutes of Technology have also developed structured support programmes in support of	– ELEVATE scheme (2013 to 2018) allows experienced researchers to spend two years at an enterprise/industry host laboratory outside Ireland, followed by a return year at an Irish Higher Education Institution; – The Programme for Research in Third-Level Institutions enhances PhD education and training, so as to enable the system to deliver PhDs with skills sets for working across the spectrum of the public and private sectors; – Through the Research Centres Programme 2012 scientists and engineers are linked in partnerships across academia and industry to address crucial research questions, foster the development of new and existing Irish-based technology companies, and expand educational and career opportunities in Ireland in science and engineering; – The universities and Institutes of Technology have dedicated Technology Transfer Offices (TTOs) to forge close links to industry. Enterprise Ireland, the Irish Government agency tasked with developing indigenous industry, has provided staff for TTOs in ten Higher Education Institutes, including each of the seven universities; – Enterprise Partnership Scheme; – Enterprise Ireland Commercialisation Fund; – Enterprise Ireland Applied Research Enhancement (ARE) Centre Programme; – Enterprise Ireland New Frontiers Programme;

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	– Science Raps Challenge and Science Speak competitions; – A decision was taken by HEIs in 2010 to apply an additional award for attainment in mathematics in entrance criteria for higher education to encourage more students to take maths at a higher level in secondary education; – BT Young Scientist and Technologist Exhibition; – Project Maths syllabus for both Junior and Leaving Certificate Mathematics; – National annual events (such as the Smart Futures Conference, ICT Champions Programme, Engineering Week, Science Week and Maths Week).	postgraduate students. The Graduate Research Alliance project initiated as a pilot project in 2007 was officially launched in 2009; – For Research Profile R2 to R4: a number of HEIs have recently launched programmes to support skills development for post-docs. An example is the Research Careers Framework operated by University College Dublin.	– HRB-SFI Translational Research Awards (TRA); – Industry-led Research Networks Programme; – Innovation Vouchers; – Innovation Partnerships; – IRC Employment-based Postgraduate Programme (2012); – SFI Industry Fellowship (2013 onwards); – SFI Investigators Programme (IvP); – SFI/EI Technology Innovation Development Award (TIDA); – Technology Centres; – The National Research Prioritisation Exercise; – US-Ireland R&D Partnership Programme.
ISRAEL		– Six-Year Plan for the Higher Education System (2010) aims to encourage excellence in research by putting emphasis on the publication of scientific papers.	– The Kamin programme aims to improve academic-industrial cooperation at an early stage by giving grants to university researchers whose ideas might have commercial potential.
ITALY	– The Week of Scientific Culture and the organisation of similar events by Italian institutions during the European Union's 'Researchers' Night' aim to make young people more familiar with and attract them to science; – The National Plan for University Science Degrees introduced an improved approach to teaching to increase the number of enrolments in scientific disciplines at university level.	– Doctoral Programmes are assessed and evaluated at national level by the Ministry of Education, University and Research, on the basis of an evaluation performed by the National Agency for the Evaluation of Universities and Research Institutes (ANVUR); – The new Act on Doctoral Training (2013) includes measures aimed at increasing the quality of doctoral training, and encourages academia-industry collaboration, but it does not fully cover the "Principles for Innovative Doctoral Training"; – Higher education institutions are increasingly providing a variety of training and several skills portfolios on an autonomous basis.	– Law 240/2010 on the General Reform of University Education establishes a legal framework for regulating partnerships between academia and industry. Thanks to their autonomy, Italian universities are free to establish bilateral relations with the business sector; – A high level apprenticeship contract (*contratto di alto apprendistato*) with an enterprise enterprises and other (private) employers can recruit a PhD student (under the age of 29) under a fixed-term contract subsidised by the local (regional) governments; – Decree 297/1999 allocates financial contributions to SMEs where a researcher from a university or a (public) research centre is employed by the company for a period of at most four years, renewable only once (eight years in total).
LATVIA		– In 2009/2010, the University of Latvia and the Riga Technical University set up the first doctoral schools in Latvia; – The report "Development of Science and Technology in Latvia, 2011" calls for measures to improve researchers' employment skills and competencies.	– Indicative activity 1.3.1.9. Attraction of highly qualified employees (ESF): strengthens businesses' competitiveness and promotes research activities in enterprises by attracting qualified employees – both doctoral students and graduates, research personnel of academic institutions and institutes, as well as highly qualified specialists from abroad - for the development of specific technologies and new products;

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			– Indicative Activity 2.1.1.1. Support to science and research (ERDF): facilitates the integration of science and industry in areas such as agro-biotechnology, informatics, biomedicine, pharmaceutics, energy, material science, forest science, medical science and environmental science; – Indicative Activity 2.1.2.1. Commercialisation of science and transfer of technologies (ERDF): boost the commercialisation of science and transfer of technologies by promoting cooperation between research and industry in the implementation of industrial research projects (applied research) and the development of new products and technologies.
LIECHTENSTEIN			– Advisory Council for Research and Technology, organised by the chamber of commerce and industry, operates as a platform on research activities, bringing together national firms.
LITHUANIA	– The Researchers Career Programme contains a set of measures aimed at raising young people's interest in pursuing a research career by offering attractive working conditions and clear career prospects at all career stages; – Promotion of Students' Scientific Activities: designed for Bachelor, Master's students and doctoral candidates, it aims to raise young people's interest in pursuing a career in research; – Post-doc Internship implementation in Lithuania: competition-based Programme supports researchers in taking-up a post-doc position; – Scholarship support for students; – Student Vouchers to the best entrants applying to universities and colleges. Student vouchers are awarded to incoming students based on their secondary education graduation results; – The National Higher Education Programme (2007-13) supports the development of students' and professors' skills and competencies. Moreover, the Programme provides financial support for the development of Lithuania's research infrastructure.	– The Regulation on Doctoral Training (2010) paved the way for a new approach to PhD training in Lithuania. The right to provide doctoral training is granted by the Minister of Education and Science. Universities and research institutes enjoy a joint right to train PhDs; – At least every three years, the Research Council of Lithuania carries out quality and efficiency assessments of the doctoral training; – The Ministry of Education and Science in 2011 allocated EUR 67 101 to support Intellectual Property Rights (IPR) protection (In 2011, the Ministry of Education and Science granted financial support for patent registration to 14 higher education and research institutions). Implemented by the Agency for Science, Innovation and Technology (MITA), the measure aims to encourage universities, research institutes and companies to protect their intellectual property. In addition, it encourages stakeholders to cooperate more closely in the development of innovative and competitive products.	– The Ministry of Education and Science has signed 15 agreements with Lithuanian partners (associations, companies, various institutions and higher education institutions) in support of the provision of incentives for students to gain (work) experience in an enterprise; – State aid for highly qualified persons' employment in enterprises (2010-2013); – High technology development programme (2011-2013): boosts the development of hi-tech trends with scientific potential, which enable the creation of new competitive products; – Industrial biotechnology development programme for Lithuania (2011-2013).
LUXEMBOURG	– The National Research Fund (FNR) finances and organises and/or co-organises the biennial	– The University of Luxembourg has been implementing doctoral schools since 2012;	– Public-Private Partnerships under the AFR supports researchers to carry out their PhD and/or post-doc

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	"Science Festival" and "Researchers' Night" in Luxembourg. In addition, the FNR's very own "Mister Science" promotes science in a regular show on the main national TV channel. The FNR also runs the "Go for Science" network - where participants from the university, secondary schools, primary schools, after-school care, museums and non-profit associations meet to exchange ideas and to get ideas for study workshops, hands-on experiments and school project weeks; – AFR Grant Schemes (PhD and post-doc) aim to attract students to take science to an advanced (doctoral) level by promoting and financing research science; – FNR's Promoting Science to the Public Programme; – FNR's Support for Research Communication.	– The current reform of the FNR law foresees a new funding instrument to support doctoral schools.	training in collaboration with a private company in Luxembourg.
MALTA	– The Malta Government Scholarship Scheme provides scholarships to individuals wishing to pursue undergraduate or postgraduate studies both in Malta as well as overseas; – The Government plans to develop Malta's first National Interactive Science Centre; – 'Researchers' Night' events providing interactive science entertainment for children and the general public; – The Government maintains a Science Centre for secondary school students. The centre is open to visits by both public and private schools; – The Maltese government annually holds several Science Festivals for the general public and related promotional activities; – The Strategic Educational Pathways Scholarships Scheme provides scholarships to individuals wishing to pursue postgraduate studies, both in Malta as well as overseas; – The University of Malta (University of Malta Trust Fund) endeavours to provide junior academic staff (assistant lecturers) with the opportunity and with assistance in obtaining a PhD. Obtaining a doctorate is a prerequisite to promotion to the	– The draft R&I Strategic Plan 2020 takes into consideration and promotes such provisions as: "Formal researcher training (at Master or Doctorate level) should include training on issues such as information seeking and management, entrepreneurship, patenting, networking skills and exposure to the industry world among others"; "Formal education should put strong emphasis on numeracy, literacy and thinking skills as the basic tools needed by the students to progress successfully in their education"; and "Students should be encouraged to participate in national and international science projects and competitions which build their creative and entrepreneurial skills"; – The University of Malta is participating in a European Social Fund project that will result in offering a Masters' course in entrepreneurship as well as in establishing a Business Incubation Centre at the University.	– The National Research and Innovation Programme provides grants to academia and industry to fund research projects; – Loan of Highly Qualified Personnel' Scheme provides SMEs with a cash grant to hire specialised personnel from an academic background on a temporary basis; – Malta's draft National Strategic Plan for Research & Innovation - A Vision for Knowledge-Driven Growth 2020 – aims to help enterprises invest in R&D activities by supporting pre-R&D activities necessary to develop and test the concepts of the envisaged research project.

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	grade of lecturer and to further promotion.		
MONTENEGRO	– The Amended Higher Education Act (2010) introduces the integrated university, the three-cycle system, the European Credit Transfer System (ECTS), the Diploma Supplement and the Council of Higher Education and Quality Assurance (internal and external); – The Government has developed a number of activities and programmes, targeting pupils from elementary schools through to university students, by engaging them in the regular teaching programmes as well as in national competitions on different topics, camps and visits to great European and world research institutions.	– The new Law on scientific research activities introduces international quality standards; – The Ministry of Science of Montenegro plays a significant role in improving the quality of doctoral studies, through national Calls for national scientific research projects, i.e. particularly by supporting the involvement of PhD students in these projects.	– Action Plan on Increasing Researchers' Mobility (2011-12) on strengthening inter-sectoral mobility; – Joint bilateral calls; – 72 applied research projects financed by the Ministry of Science; – The establishment of the first Scientific Technological Park in Montenegro which is expected to stimulate the development of knowledge-based entrepreneurship by integrating and connecting small and medium-sized enterprises which will cooperate with scientific research institutions to facilitate technology transfer, produce innovations and foster economic development (planned); – The implementation of a grant scheme for knowledge transfer between the academic and private sector is envisaged under the Operational Programme for the 4th Instrument for Pre-Accession Assistance (planned).
NETHERLANDS	– The Ministry of Education, Culture and Science funds the Netherlands Centre for Science and Technology and its NEMO Science Centre to implement policies for science communication; – The National Platform Science & Technology ensures sufficient availability of people who have a background in scientific or technical education. The Platform continues to target schools, universities, businesses, ministries, municipalities, regions and sectors to ensure that the future supply of knowledge workers will meet future demand; – *Deltaplan Bèta Techniek*: a memorandum on preventing shortages in education. The memorandum aimed to achieve by 2010 a structural increase of 15% more pupils and students in scientific and technical education and to use existing talent more effectively in businesses and research institutes – Specific schemes at the Netherlands Organisation for Scientific Research and at universities stimulate talented students to enter science and	– Netherlands Organisation for Scientific Research's graduate school programme: a structural programme that offers schools a funding opportunity for the appointment of four PhD students.	– Universities, research institutions and industrial partners cooperate closely to create or support different tools to develop partnerships between academia and industry; – Dutch government's 'Top sector policy' aims to boost the innovation climate through the creation of and collaboration in public-private partnerships.

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	research careers; – Sirius Programme since 2008.		
NORWAY	– Many secondary schools have established agreements with nearby universities and university colleges enabling gifted pupils in natural sciences to substitute classes at tertiary level for classes at secondary level; – Science Centres are popular scientific recreation and learning centres of technology, natural sciences and mathematics for children and adults. The Science Centres do not focus on disseminating the results of research, but on sharing with the public the sheer excitement of scientific work and experiments; – Norwegian HEIs organise annual student recruitment weeks; – The Act relating to Universities and University Colleges (2005) requires all Norwegian masters' programmes to include a thesis (or other independent work in disciplines where that is relevant) evaluated by external examiners. In the National Qualifications Framework for higher education (2009), the learning outcome descriptors at the bachelor's, master's and PhD levels are designed so as to assure training for research as part of the qualification; – The Research Council of Norway has launched several initiatives to attract people to become researchers, including Researchers' Night events, the Nysgjerrigper Science Knowledge Project for children, the Proscientia project (promoting interest in research and science among young people aged 12-21 years old) and an Annual Science Week; – The Norwegian Contest for Young Scientists: a writing competition on freedom of expression; – Maths and science Olympiads; – The KappAbel competition (Nordic competition in mathematics for school classes); – The FIRST LEGO League; – Applicants for higher education who have 'in-depth' science courses at the upper secondary	– Doctoral schools operate either at institutional or at national level (e.g. the Norwegian National Graduate School in Teacher Education, Climate Dynamics, Business Economics and Administration); – Leading universities and research institutions offer various training programmes in doctoral schools to improve researchers' employment skills and competencies. The type of training involves methods, statistics, ethics, intellectual property rights awareness as well as management; – Life-long learning is provided to researchers to favour their professional and academic development, including at the highest academic level; – The Research Council has designated 10 new national research schools for the next eight years.	– The Centres for Research-based Innovation (SFI) scheme seeks to promote innovation by providing funding for long-term research conducted in close cooperation between R&D-performing companies and prominent research groups. The scheme is designed to enhance technology transfer, internationalisation and researcher training; – The FORNY Programme provides funding for the development of business ideas based on R&D results from universities and university colleges; – The Industrial PhD scheme provides support to companies operating in Norway hiring an employee seeking to pursue an ordinary doctoral degree at a degree-conferring university or university college; – The SkatteFUNN tax deduction scheme for companies is flexible and easy-to-use for costs related to research and development. All companies subject to taxation in Norway are eligible to apply for a deduction, regardless of the industrial sector, size or geographic location; – Professors and associate professors have the opportunity to hold a part time (20%) position (Professor II/ Associate professor II) in one institution in addition to their full-time permanent position in another institution. Qualified personnel from other sectors and countries and between institutions across disciplines and countries may also take up part-time positions in the Higher Education Sector.

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	level (in Mathematics, Chemistry, Physics, Biology and Information Technology) obtain more competitive points than applicants with other subject combinations; – All female applicants to engineering studies (with the exception of chemistry, where there is no shortage of female students) are awarded two additional competitive points compared to male applicants.		
POLAND	– The Act on the National Science Centre guarantees that at least 20% of all Centre funds are earmarked for research conducted by junior scientists; – The Diamond Grant is a special career path for one hundred of the most talented students in Poland. Beneficiaries can start scientific research leading to a doctoral degree immediately after getting a bachelor's or engineering degree, without needing to take a master's; – The Iuventus Plus Programme is designed to increase the interest of young scientists in conducting research at the highest level and encourage them to publish their results; – The MISTRZ Programme supports distinguished scholars by awarding them grants designed either to intensify the research they are already conducting or to explore new fields of research; – The special doctoral grants target 30% of the best doctoral students. Thanks to this financial support, the best Polish scientists will be able to focus even more on scientific work, also taking advantage of other, additional forms of the grant system for doctoral students; – In 2008, the government introduced the academic programme 'Increasing the number of graduates of degree programmes of key importance for a knowledge-based economy' to stimulate young students' interest in science, technology, engineering and mathematics (STEM) studies.	– Measures to improve researchers' competencies and skills, particularly those of young researchers, are included in the long-term Poland 2030 Strategy, the National Development Strategy 2020 as well as in the draft of the Human Capital Development Strategy (in consultation with all relevant ministries as of early 2013); – The Human Capital Operational Programme (in relation to EU funding) aims to support institutions' staff training activities. Funds available under this programme should help scientists prepare themselves to commercialise their research results.	– The LIDER Programme aims to encourage scientists to cooperate with businesses while performing economically valuable and implementable studies, and research, and enhancing mobility and exchange between research sectors, universities and research units; – The Ministry of Science and Higher Education has developed 'A Guide. R&D Commercialisation for Practitioners' which provides information to practitioners on the commercialisation of research results; – The Higher Education Act facilitates cooperation between academia and industry, and requires institutions to adapt the curriculum to actual market needs; – The AGH University of Science and Technology aims to create closer links between the worlds of science and business, and support the integration of the knowledge triangle, i.e. higher education, research and innovation; – The INNOTECH Programme aims to help research entities and businesses carry out innovative projects in various scientific areas and industrial sectors (In-Tech programme path), with a special focus on advanced technologies (Hi-Tech programme path); – The Innovation Creator Programme motivates researchers financially to raise their qualifications in the areas of enterprise, intellectual property management and commercialisation of research results. It also encourages the establishment of a dialogue and improved standards of communication between science and the commercial economy; – The National Centre for Research and Development is

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			an intermediary between the worlds of business and science; – Top 500 Innovators Science – Management – Commercialisation Programme targets researchers and technology transfer employees working at Polish HEIs, research institutions, Polish Academy of Science institutes and the Academic Centre for Technology Transfer by giving them the opportunity to take part in training sessions and internships relating to commercialisation of research results at the best universities in the USA; – Ventures Programme: supports the projects of students, graduates and PhD students which have potential for a practical economic application. The 10th edition was held in 2013. Successful projects receive funding for 1-3 years; – Higher education and science reforms for improvements in moving towards close collaboration between academia and industry include: a. the possibility of involving business representatives in teaching, shaping curricula and evaluating teaching outcomes and the establishment of a council with representatives of local or regional employers and public authorities in the public universities, b. university quality assessment systems at universities which will take into account the degree to which a university is embedded into the socio-economic environment, and c. intellectual property rights management regimes as well as commercialisation rules are a 'must' for public universities.
PORTUGAL	– The *Fundação para a Ciência e a Tecnologia* is implementing a major fellowship programme, including five year contracts for PhD holders and post-docs, and PhD grants in an effort to increase the number of students taking science to a doctoral level.	– All PhD programmes promoted by Portuguese Universities are accredited and evaluated by the National Evaluation and Assessment Agency (A3ES) which guarantees their quality. The Agency also has the mandate to provide the Portuguese State with expertise in matters of higher education quality assurance, participate in the European quality assurance system (EQAR), and coordinate assessment and accreditation activities in Portugal with international institutions; – The *Fundação para a Ciência e a Tecnologia* supports several doctoral programmes	– Doctoral degree grants in a company in Portugal (Article 30 §1 of Decree Law No 74/2006, of 24 March 2006) for the purpose of carrying out doctoral degree work in the business environment on subjects of interest to that enterprise, as long as this work is accepted by the university that confers the respective doctoral degree.

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		implemented by Portuguese universities, as well as international doctoral programmes that involve collaboration between Portuguese and foreign universities.	
ROMANIA	- Research grants for PhD students, post-docs and young research teams funded by the Programme "Human Resources" of the National Plan for R&D and Innovation 2007-2013 and by the Sectoral Operational Programme "Human Resources Development" (European Social Fund 2007-2013)	– START Programme for the training of young entrepreneurs; – 2005-2012 Programme for the development of entrepreneurial culture for women managers in SMEs; – 2006-2012 Programme supporting SMEs' access to training and consulting services; – National Plan for R&D and Innovation 2007-2013 aims to restructure doctoral programmes and establish schools of excellence; – Sectoral Operational Programme Human Resources Development (SOP-HRD) to promote lifelong learning, and provide support for doctoral and post-doctoral programmes; – Government Ordinance no. 92/ 18.12.2012 for the compulsory role of the accreditation procedure for conducting PhD theses; – According to the Law on Education (2011), each institution offering doctorates is assessed individually for each field of study for accreditation 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.	– Programmes supporting research collaboration between national and foreign research organisations; – Programmes supporting participation of national teams in projects involving inter-governmental research infrastructures; – Projects supporting the mobility of PhD candidates by providing funding for three months in a public or private research lab; – Creation and development of business incubators, science parks and industrial liaison offices at universities/research centres are supported through two policy instruments: a) Support to the national technology transfer network ReNITT and b) Romanian Operational Programme (ROP) Priority Axis 4 'Strengthening regional and local business environment'. – Programme "Partnerships" of the National RDI Plan 2007-2013 funding collaborative R&D between research organisations and enterprises, – The Sectoral Operational Programme "Increase of Economic Competitiveness" funding research activities carried out by research organisations on behalf of industry (contractual research), – The Sectoral Operational Programme "Increase of Economic Competitiveness" supporting also loan of highly qualified personnel seconded from research organisations to enterprises.
SERBIA	– The Mathematics High School campus in Belgrade enrols the most talented young mathematicians and others interested in natural sciences from across Serbia; – The new science and innovation centre in Belgrade promotes popularisation of science in the general public, including young people; – Programme of Ministry of Education, Science and	– Centres of Excellence; – The Petnica research centre which welcomes young trainees, many of whom become leaders of science research in Serbia; – Strategy on Development of Vocational Education in the Republic of Serbia.	– Mini-grants programme aims to stimulate the creation of innovative enterprises and expand employment opportunities for young graduates.

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	Technological Development for participation of young researchers in the Knowledge Olympiads and other forms of competition; – Science Festival, held in Belgrade and Novi Sad; – Traditional Science Festival for students of secondary schools 'Science is not a bogey' in *Niš*.		
SLOVAK REPUBLIC	– Measure 4.1.2 in the Long-Term Plan of the State Science and Technology Policy aims to raise young people's interest in research and development; – The Strategy for the Popularisation in Society of Science and Technology encourages talented students and young researchers to pursue the research profession, and it supports the development of new research departments in institutions and companies; – The establishment of the National Centre for Science and Technology in Society will support the Government in its efforts to popularise science and technology. The prime objective of the National Centre is to "popularise science and technology across the Slovak Republic and looking abroad"; – Workshops and lectures: the Scientific Hour; – Workshops and lectures: the Scientific Café – Science in Centre; – Workshops and lectures: the Scientific Patisserie; – The Slovak Research and Development Agency (SRDA) offers a grant under a programme called 'Programme for Human Resources in Research and Development and Popularisation' aiming to increase R&D job opportunities and improve researchers' working conditions at a post-doc level while promoting international collaboration between the national and foreign R&D institutions; – In 2007, the Ministry of Education, Research, Science and Sport established the National Centre for the Popularisation of Science and Technology in Society (NCP S&T), a department of the Slovak Centre of Scientific and Technical Information (SCSTI), to raise awareness of science and technology (S&T) across Slovakia as well as	– The Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic for the Structural Funds of EU (ASFEÚ) is responsible for managing the Operational Programme (OP) Education: one of the priority axes under the Operational Programme Education is Axis 2 'Life-long Learning as the Basic Principle of a Knowledge Society' with the aim of supporting life-long learning in different R&D sectors and increasing the quality of education; – The update of the Long-Term Plan of the State Science and Technology Policy by 2015 (Phoenix Strategy) promotes life-long learning activities by supporting joint doctoral programmes in English, developing life-long learning training courses at a post-doc level and encouraging international cooperation schemes between Slovak and foreign institutions.	– The Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic for the Structural Funds of the EU (ASFEÚ) encourages knowledge transfer between academia and industry; – The Slovak Research and Development Agency encourages research collaboration between university departments and institutes, and the business sector to increase private sector investment in research and education: a) VMSP 2007 and 2009 - Programme for Research and Development SMEs to promote technical and technological development and innovation in SMEs, with special attention to micro-enterprises, spin-offs and start-up firms, and b) SUSPP 2007 and 2009 - Programme for the Cooperation of Universities and the Slovak Academy of Sciences with Entrepreneurship to boost investments from the private sphere in research and education; – The Slovak Innovation and Energy Agency aims to strengthen the links between industry and research through the creation of regional innovation structures involving municipalities, universities, academy institutes and firms.

Country	Attract young people to science and the research profession	Quality of doctoral training and life-long learning	Collaboration between academia and industry
	abroad;		
SLOVENIA	– The National Research and Development Programme (2006-2010) provided opportunities for training graduates to attract them to a research career; – The 'Young Researchers' Programme aims to increase the number of students following PhD studies, incorporating specific measures to promote research in science, technology, engineering and mathematics (STEM) subjects; – The Science Promotion Programme to raise general awareness of scientific knowledge and technological innovation, particularly in primary and secondary education; – The Research and Innovation Strategy of Slovenia 2011-2020: budget for promotional purposes to increase from EUR 1 million in 2010 to EUR 2 million in 2014, and an increase in the number of practical creativity and entrepreneurship programmes for primary and secondary schools – establishing a network of model creative schools, such as eco-schools.	– The Resolution on the National Higher Education Programme 2011-2020 includes the entire area of tertiary education, which in addition to higher education institutions, also includes higher vocational colleges; – Universities establish special lifelong learning programmes that offer access to special competencies for career development as well as for the daily life of a researcher (e.g. University of Ljubljana's Doctoral school); – The *Jožef Stefan* International Postgraduate School (IPS): doctoral study has since 2004 been supported by industry and an international network of cooperating universities and research institutes from the EU, the US, Japan, and a number of other countries; – The Research and Innovation Strategy of Slovenia 2011-2020 encourages the strengthening of the qualifications of research personnel so as to be systematic and based on the principle of lifelong learning.	– 'Young Researchers in the Economy' (Slovenian Technology Agency) aims to introduce more highly educated staff in private companies and stimulate companies to hire young graduates to enhance their R&D and innovation activities; – Innovative Scholarship Scheme for Funding Doctoral Studies (2011); – Applied research projects funded by the Slovenian Research Agency; – Centres of Excellence (CoE) programmes and Competence Centres (CC's) led by industry; – The Research and Innovation Strategy of Slovenia 2011-2020 as well as the National Higher Education Programme 2011-2020 stress the importance of enhancing cooperation between institutions of knowledge and the business sector.
SPAIN	– National Olympics in Physics and Mathematics as well as Spanish Olympics in Informatics targeting secondary school children; – Summer campuses on university campuses under the auspices of the International Campus of Excellence (CEI) Programme; – Master Plan for Mentoring and Guidance of Students; – The JAE-intro programme, run by the Spanish National Research Council (CSIC), aims to introduce undergraduate students to research methods. The JAE-Predoc is a programme aimed at doctoral students, while the JAE-doc programme is aimed at doctoral graduates; – FPU Programme (Ministry of Education): train future university professors, including the presentation of a doctoral thesis; – FPI programme (Ministry of the Economy and	– The Spanish Framework of Qualifications for Education (MECES) aims at structuring learning qualifications throughout the different levels of education. The framework is based on the Dublin Descriptors, which define the level of learning required for each stage of the higher education system (Bachelor, Master, and Doctorate); – International Campus of Excellence Programme; – At regional levels, training initiatives have also been developed to improve researchers' employment skills and competencies, e.g. the Future Researchers' Workshops and the Project Management Workshops implemented by the Autonomous Community of Catalonia.	– Innpronta Programme: offers grants to promote stable public-private cooperation in R&D; – Feder-Innterconecta Programme: finances large-scale integrated experimental development projects in forward-looking technological areas; – CENIT Programme: stimulates cooperation in R&D&I among businesses, universities, public or private research and technology centres; – INNPACTO sub-programme; fosters steady cooperation between research organisations and firms supporting collaborative R&D&I projects focused on market demand; – INNFLUYE sub-programme: funds the creation and strengthening of Spanish Technology Platforms, i.e. public-private groups which work on developing and updating R&D agendas and innovation priorities for their particular sector; – INNCORPORA sub-programme: funds hiring of R&D

Country	Attract young people to science and the research profession	Quality of doctoral training and life-long learning	Collaboration between academia and industry
	Competitiveness): train researchers, including the presentation of a doctoral thesis. In addition, the programme funds visiting fellowships for a period of between two and six months, including tuition fees.		personnel by the private sector (companies, technology centres, support centres of technological innovation, business associations, and science and technology parks) and subsidises their training in Innovation Management; – Torres Quevedo Programme; – The Science, Technology and Innovation Law includes a section focusing on human resources dedicated to research. Its main new features include the ambitious task of regulating mobility between public entities and the private sector, creating specific employment contracts for researchers and the undertaking in a clearly defined manner, and performance evaluations for career professionals in the public research entities of the General State Administration.
SWEDEN	– 'Science in society' initiative that involves several stakeholders in promoting interest in science.	– Since 2001, the Swedish National Agency for Higher Education has had the responsibility for the quality of the higher education system. Its duties includes evaluations of the study programmes and their subject areas; – Some Swedish universities offer research communication skills, IPR-awareness, career management and entrepreneurship training in their effort to improve researchers' employment skills and competencies.	– A Boost to Research and Innovation (Government Bill of 2008) establishes technology transfer offices at eight universities promoting innovation and the use and transfer of knowledge in order to facilitate commercialisation of research results; – The governmental agency VINNOVA also promotes sustainable growth by financing RTD within areas as technology, transport, communication and working life, and developing effective innovation systems. VINNOVA was granted EUR 10 million by the government for doctoral candidates in order to increase the number of industry-based doctoral students; – The VINN Excellence Centres (2004-15) are developed by the Swedish Competence Centres Programme (Centres of Excellence in Research and Innovation) and aim to strengthen the crucial link in the Swedish National Innovation System between academic research groups and industrial R&D; – The Swedish Higher Education Ordinance provides for a position of 'adjunct professor' of up to six years part-time (20-50%). The adjunct professor should be an expert from industry given the opportunity to work within a university for a certain period of time.
SWITZERLAND	– The Swiss Youth Science Foundation, an independent non-profit organisation, aims to stimulate young people's interest in science;	– Swiss National Science Foundation Programmes strongly promote researchers' education at all stages of their careers in assisting doctoral theses,	– The Commission for Technology and Innovation (CTI) supports R&D projects, entrepreneurship and the development of start-up companies and helps

Country	Attract young people to science and the research profession	Quality of doctoral training and life-long learning	Collaboration between academia and industry
	– The Confederation supports a plethora of measures aimed at attracting (young) people into a researcher career, such as the so-called 'matching platform', providing information on activities related to Science, Technology, Engineering and Mathematics (STEM) subjects; – Starting Doc Programme: Swiss universities invest substantially in the recruitment and training of future researchers. Future doctoral candidates are identified already at the Bachelor and Master's level; – "More women in STEM" Initiative.	training of researchers and supporting scientific publications; – The *Ambizione* Programme supports excellent (foreign) post-doc researchers in conducting, managing and leading an independently planned project at a Swiss university; – The Strategic Planning Programme for 2012-16 aims to improve researchers' working conditions and their career prospects; – The Doctoral Programme provides financial support to inter-institution programmes aiming to support research networking and improve integration of doctoral students; – Swiss Universities and Swiss Universities of Applied Sciences offer continuing education to researchers. Researchers acquire transferable skills by conducting independent research. At the same time, the skills and competencies of researchers are increasingly becoming an explicit part of doctoral training. This aspect is given special consideration in the development of new doctoral programmes; – The mentoring programmes of the Federal Programme for Equal Opportunity offered structural courses to improve the necessary skills of young (women) academics; – Swiss University Conference sub-programme "Equal Opportunity at Universities" 2013-2016.	optimise knowledge and technology transfer; – KTT Initiative: fosters the transfer of Knowledge and Technology Transfer (KTT) between the universities and regional businesses; – BREF Programme (Gebert Rüf Foundation + KFH): promotes collaboration between Switzerland's business sector and the Universities of Applied Sciences; – The National Research Programmes promote innovative solutions aimed at solving Switzerland's most pressing problems in collaboration with industrial partners; – Researchers working in the Universities of Applied Sciences have gained experience in higher education teaching and in the private sector ('double profile').
TURKEY		– The 'Quality Management Standards for HEIs' issued by the Council of Higher Education (YOK). The YOK approved the fields of education and programmes under National Qualifications Framework in January 2011 as part of the Bologna process.	– The Engineering Research Grant Committee funds national scientists to generate information and technology, and transform the results into services and/or products for public use in connection with universal developments and national priorities; – The Technology and Innovation Funding Programmes Directorate facilitates cooperation between industry and academia to encourage active involvement in technology development and innovation activities; – The Science and Technology Human Resources Coordination Committee encourages university-industry collaboration.
UNITED KINGDOM	– The Department for Business, Innovation and Skills and the Department for Education (DfE)	– Centres for Doctoral Training (CDT) and Doctoral Training Centres (DTC);	– Collaborative Awards in Science and Engineering (CASE) studentships promote collaboration between

Country	Attract young people to science and the research profession	Quality of doctoral training and life-long learning	Collaboration between academia and industry
	work closely on the students' qualification agenda to ensure that the needs of the research market are met, the science curriculum is sufficiently challenging and attractive to young people, and that good enrichment and enhancement activities are part of science education in the UK; – The Science Technology Engineering and Mathematics network (STEMNET), a UK-wide organisation exists to ensure that all young people, regardless of background, are encouraged to understand the importance of science; – The UK Government asked the Royal Academy of Engineering to develop a diversity programme for the engineering industry. The aim of the Academy's Diversity Programme is to increase diversity and improve access to science, engineering and technology (SET) professions; – The Big Bang Fair; – The National Science and Engineering Competition; – Women are encouraged to pursue a STEM career through the UKRC's Women into Science, Engineering and Construction (WISE) campaign; – Research Councils UK (RCUK) are committed to a public engagement strategy which, as one of its aims, encourages links between schools and the UK research community in order to secure and sustain a supply of future UK researchers; – Programme of Teacher CPD entitled 'Bringing Cutting-edge Science into the Classroom'; – The Nuffield Research Placement Scheme offers up to 1 000 bursaries a year for students to work alongside professional scientists, technologists, engineers and mathematicians on their own research projects, many of which also receive the British Science Association's Gold CREST awards.	– Industrial Doctorate Centres; – Seven UK Research Councils; – The UK Government has a well-defined and long term skills agenda for researchers; – Higher education institutions in the UK can also develop their individual training and development programmes, covering a range of domains included in new the Researcher Development Framework; – The Vitae programme supports knowledge exchange and the development of a strategic agenda to train and support high level researchers to further improve their skills competencies.	the research community and the end-users of research; – Innovation Vouchers for SMEs to purchase academic support by employing researchers in the field of technology and innovation; – Knowledge Transfer Partnerships (KTPs): recently qualified graduate students are employed by a business partner to support knowledge and expertise transfer via a strategic project launched together with the higher education or research institution; – The UK government has announced new plans to strengthen collaboration. This will include promotion of a new framework for business and universities to work together and support the Council for Industry and Higher Education (CIHE) to create a National Centre for Universities and Business.

Source: Deloitte, 2012 reporting exercise

Annex V: Social security benefits (sickness, unemployment and old-age)

The table below provides an overview of the countries' social security provisions for researchers. The information is based on the 2012 reporting exercise with the participating countries within the scope of this study. Information is not available for Bulgaria, Iceland, Israel and Liechtenstein.

Table 3: Social security benefits for researchers - To what extent do publicly-funded fellowships, stipends, grants or equivalent provide sickness, unemployment and old-age (pensions) benefits for researchers compared to researchers on more stable employment

Country	Social security benefits (sickness, unemployment and old-age)
AUSTRIA	In Austria, grant beneficiaries' access to social benefits (sickness, unemployment and old-age benefits) is based on the following provisions: – Grants offered by the main funding agencies provide social security coverage. Some programmes offer fixed-term contracts (grants) with full social coverage or with self-insurance; – Anyone receiving a grant from the Austrian Science Fund (FWF) is financed via an employment contract. This applies to doctoral students and incoming scholars as well. The FWF had already begun to avoid funding researchers by means of stipends even before it signed the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers in 2006. The FWF supports researchers with employment contracts, which include social insurance (contributions to pension funds, health and accident insurance, parental leave, etc.). Stipends for researchers going abroad are the only exception. In this case, there is no employment contract and only pension cover is provided; – Fellowship programmes for doctoral candidates and post-docs administered by the Austrian Academy of Sciences (APART, DOC, DOC-team programmes[10]) offer fixed-term contracts (fellowships) with full social coverage or with self-insurance.
BELGIUM	– Under the Belgian social security system, researchers (both doctoral candidates and post-doctorate researchers) are covered with full social security benefits, regardless of their nationality, as they are considered to be publicly funded researchers. The Belgian general social security scheme covers sickness, maternity, disability, pension insurance, unemployment, accidents, occupational diseases and family benefits. There is no difference whether the researcher has an employment contract or receives a stipend. The general scheme applies to nationals of countries of the European Economic Area (EEA) and Switzerland, or a country tied to Belgium by a bilateral agreement on social security[11]; – All scholarship recipients from a country that is not linked with Belgium by a bilateral agreement on social security or which is not part of the EEA are entitled to the Belgian limited social security scheme[12].
BOSNIA AND HERZEGOVIA	– In BiH, researchers (both doctoral candidates and post-doctorates) are fully covered by social security benefits if they are employed under the corresponding laws and regardless of their nationality; – The health and social security scheme covers sickness, maternity, disability, pensions, unemployment, accidents, occupational diseases and family benefits.
BULGARIA	–
CROATIA	– In Croatia, sickness benefits depend entirely on each institution's individual policies and not on the Croatian Science Foundation's fellowships and grants schemes; – The grants of the Croatian Science Foundation do not provide any old-age benefits (pensions) for researchers, regardless of their employment status; – Doctoral and postdoctoral grants from the Croatian Science Foundation only cover the short-term stay of researchers (3 to 12 months) in foreign academic institutions while employed at their home institutions.

[10] The APART and DOC Programmes offer fellowships to post-docs and doctoral candidates in all disciplines. Applicants must submit a career plan stipulating the fellowship's relevance for the development for their research career.

[11] Belgium has concluded agreements on social security with several countries. For more information, see: https://www.socialsecurity.be/CMS/en/coming_to_belgium/content/coming_to_belgium/themas/spfssfodsz/FODSZ_Convention.xml

[12] For more information, see: http://www.coming2belgium.be/

Country	Social security benefits (sickness, unemployment and old-age)
CYPRUS	– In the Republic of Cyprus, researchers are entitled by law to receive fully paid sick leave for 42 calendar days for each year of continuous research work. When a researcher is on sick leave for a considerable period of time during the implementation of a nationally funded project, the project is put on hold and an extension of its duration is granted; – Employed researchers may apply for unemployment benefits, provided that they have worked for a minimum of 26 weeks and have contributed to the Social Insurance Fund during the previous year; – The self-employed are not entitled to unemployment benefits.
CZECH REPUBLIC	– In the Czech Republic, there is no legislation dealing exclusively with researchers' social security and supplementary old-age benefits; – Researchers receive social security benefits depending on the type of grant agreement. Generally speaking, if the contracts are defined as employment, social security and health insurance contributions are automatically taken off the wage, regardless of the nationality of the researcher.
DENMARK	– In Denmark, all publicly funded researchers (including employed PhD students) receive full pay when sick. This is governed by collective agreements. Universities may ask for a refund from municipalities of sums paid; – Unemployment insurance is voluntary and researchers are not automatically insured against unemployment. Similarly to all other employees, researchers must be a member of an unemployment fund (known as an "A-kasse") in order to gain access to unemployment insurance. These are private associations that are connected with trade unions and other professional organisations; – Under the Collective Agreement for Academics in the State (2008), a pension contribution of 17.1% of the salary is compulsory, split two thirds/one third between employer and employee. Publicly funded grants and equivalent can provide pension cover, depending on the specific collective agreement between the researcher and the employer.
ESTONIA	– In Estonia, all researchers are considered as employees and are entitled to full social security coverage, including health insurance and sickness benefits. The Estonian Health Insurance Fund pays the benefit to the insured person based on the certificate of incapacity for work. Benefits for temporary incapacity for work include sickness benefits, care allowance, maternity benefits and adoption allowance; – Doctoral candidates have access to health insurance, but are not eligible for sickness and unemployment benefits or pensions, unless they are hired by the university under an employment contract. In that case, they enjoy full social security coverage. Since 2012, the state has encouraged and supported universities in hiring doctoral students as early-stage researchers despite the fact that most of the doctoral candidates are already working, not necessarily as researchers, and receive full social security coverage as employees; – Under the Universities Act, students (including doctoral candidates) have the right to take a sabbatical of up to one year once at each academic level. In addition, students are granted the right to take additional academic leave (of up to two years) for health reasons. Students can interrupt their academic career (by up to one year) to serve in the Defence Forces and can take parental leave at any time up to the child's third birthday.
FINLAND	– In Finland, publicly funded fellowships, stipends, grants or equivalent provide sickness, unemployment and old-age benefits for researchers.
FRANCE	– In France, all researchers with employment contracts have the right to receive full social security coverage (including sickness, unemployment and pension benefits); – All ANR (National Research Agency) fellows are recruited under doctoral contracts. Both doctoral and post-doctoral candidates working under doctoral contracts enjoy sickness and unemployment rights.
FORMER YUGOSLAV REPUBLIC OF MACEDONIA	– Only researchers who are full time employees of institutions are entitled to receive social security benefits.
GERMANY	– In Germany, unlike employment contracts, which are subject to social insurance contributions, scholarships from German science organisations are flexible funding instruments; to a certain extent, they can be adapted by the scholarship provider and used to provide unbureaucratic support in unexpected (emergency) situations or in specific circumstances: i. Grants (scholarships/stipends) offered by the *Alexander von Humboldt* Foundation (AvH)

Country	Social security benefits (sickness, unemployment and old-age)
	are not considered as earned income and are therefore not subject to social insurance contributions. Social benefits are provided in the form of ancillary benefits. Health insurance has to be paid for from the fellowship grant; the AvH can provide a grant of EUR 50 per month for the duration of the funding period towards the costs of health and personal liability insurance for fellows, and their spouses and dependent children (up to the age of 18) who accompany them to Germany for a period of at least three months. Fellows are responsible for making sure that they have sufficient health coverage. Fellows and accompanying family members have to be covered by a health insurer providing sufficient coverage in Germany from the first day onwards and for the entire duration of their stay in Germany; ii. No health insurance grants are provided under the Feodor Lynen Research Fellowship Programme for German post-docs and experienced researchers going abroad to conduct research; iii. German Research Foundation (DFG) fellowship holders are responsible for their own health insurance; it has to be financed from the fellowship provided. Should the recipient fall seriously ill, and should a fellowship interruption or a part-time solution not be possible, the fellowship can – in individual cases and subject to the provision of medical proof – continue to be paid. In addition, the fellowship period can be extended so that the recipient can complete his or her work and remain in the science system; iv. Grants offered by the Max Planck Society (MPG) continue to be paid for six weeks if the recipient falls ill. Beyond this period, the Max Planck Institute in question decides whether and to what extent payments will continue. Funding is extended beyond the maximum funding period in case of illness. Grants also continue to be paid during maternity leave; any state benefits received are taken into account when calculating the grant payments; v. Funds offered by the German Academy of Sciences Leopoldina are provided in the form of full personal scholarships covering living expenses in the place of residence. Leopoldina does not provide contributions to (social) insurance. – Unemployment insurance in Germany is not provided under scholarship programmes. For instance, the AvH aims to balance out the existing social security disadvantages for research fellows by providing a suitable grant enabling recipients to make provision for the future (particularly in the form of pensions, care insurance and occupational disability insurance); – In principle, grant recipients are free to make voluntary payments into the statutory pension insurance scheme (DRV), foregoing the employer contribution (and taking into account the minimum limits). The German science organisations as well as the public and private funding institutions offer additional pension insurance and other social benefits in order to maintain the attractiveness of funding instruments and reduce the risk of old-age poverty among researchers who start paying social security contributions at a later stage in life. Organisations promoting mobility are increasingly considering the provision of additional grants for post-docs to enable them to set up private pension schemes.
GREECE	– In Greece, researchers on stipends/grants are generally covered by social security even though provisions on social security coverage and supplementary pension benefits for researchers are not specifically included in national legislation. In practice, the type of benefits researchers receive depends on the type of grant agreement with the host institution; – Generally, researchers receiving stipends/grants are covered by social security.
HUNGARY	– In Hungary, researchers working under employment contracts are entitled to full social security benefits. PhD students, when receiving state fellowships, are not eligible for old-age benefits; they have to sign a specific contract with the Central Administration of National Pension Insurance individually, in case they wish to be covered for this period.
ICELAND	–
IRELAND	– Post-doctorates (R2-R4) are treated as employees and therefore covered for social security purposes, whereas the majority of pre-doctorates (doctoral candidates, R1) are treated as students and do not come under the Social (Welfare) Security code. Approximately 90% of PhD candidates in Ireland are full-time registered students and not employees. Therefore, they are not covered by employment-related social security; – Students are not entitled to receive social welfare payments such as unemployment, supplementary welfare or illness payments while attending a full-time course of study. The Fixed Term Workers Act 2003 ensures researchers employed on fixed term contracts (non-tenured) are eligible for the same entitlements as comparable permanent employees, in

Country	Social security benefits (sickness, unemployment and old-age)
	contrast to doctoral candidates who are regarded as students. Hence, all non-tenured researchers have the same sick leave entitlements as permanent employees; – The Programme for Research in Third-Level Institutions (PRTLI), and IRC grants for post-doctoral researchers include provision for an employer's Pay Related Social Insurance (PRSI) contribution, which can entitle employees to benefits such as maternity and illness benefits, and jobseekers (unemployment) allowance; – All funding awards for non-tenured researchers include an employer and employee pension contribution.
ISRAEL	–
ITALY	– In Italy, researchers under publicly funded fellowships/grants or under employment contracts are entitled to sickness benefits, but do not have an automatic right to maternity leave; – Old-age benefits are only foreseen for employees (permanent and fixed-term contracts), in the same way that pension contributions are collected in a separate track (*gestione separata*) of the National Social Security Institute.
LATVIA	– In Latvia, researchers employed under permanent or temporary contracts receive a salary, pay mandatory social security contributions, and are entitled to social security benefits (including sickness, unemployment and old-age benefits).
LIECHTENSTEIN	–
LITHUANIA	– In Lithuania, publicly-funded fellowships provide health insurance while pension contributions are not covered; – All PhD students working under employment contracts enjoy social security benefits; – The Law on Pensions for Researchers provides a pension scheme for researchers who have been employed in the research profession for at least ten years.
LUXEMBOURG	– All beneficiaries of FNR projects or institutional funding, including AFR fellows, are taken on under employment contracts with the host institution. These employment contracts offer researchers full social security coverage, including health and pension insurance, during the research training period.
MALTA	– In Malta, all publicly funded fellowships, stipends, grants or equivalent provide sickness benefits (for temporary illness) for researchers in the case of normal employment[13]; – The Malta Government Scholarship Scheme (MGSS) and Strategic Educational Pathways Scholarships (STEPS) grant schemes provide funding for the beneficiary to enrol at a University as a student for a limited period (normally for a maximum of three years). However, they do not include explicit provision for contribution to social security (including unemployment and old-age benefits). Any unemployment benefits that a researcher qualifies for would depend on employment history rather than on the grant scheme.
MONTENEGRO	– Social security issues are determined by the general Labour Law; – All employed researchers (full time, or part time, paid from core or project funding) are entitled to receive full social benefits.
NETHERLANDS	– In the Netherlands, researchers with employment contracts are entitled to social security coverage, including health insurance, unemployment benefits and supplementary pensions, and old-age benefits. Contributions are automatically deducted from researchers' pay, regardless of their nationality; – PhD candidates receiving a grant have minimum or no social security rights (including no pension benefits).
NORWAY	– In Norway, researchers are on employment contracts (except the 5-7% PhD candidates on development grants) and receive full social security coverage; – The State Education Loan Fund provides sickness benefits for the 5-7% of PhD candidates receiving development grants. Research Council funding for short-term mobility (1-12 months) for doctoral candidates/post-docs/others does not carry sickness benefits. However, in both cases, health insurance is normally provided for through the Norwegian Labour and Welfare Service (NAV); – All employees in Norway, including researchers, enjoy the same right to unemployment benefit. The size of the benefit depends on their previous income level; – Researchers, like all employees in Norway, are entitled to old-age benefits.
POLAND	– In Poland there is no legislation dealing exclusively with the social security and supplementary pensions of researchers;

[13] Normal employment has been defined and ruled by the 'Employment and Industrial Relations Act' and related legislation.

Country	Social security benefits (sickness, unemployment and old-age)
	– Social security benefits depend on the type of grant agreement, but in general, if the contract between a researcher and the host institution is defined as an employment contract, social security and health insurance contributions are automatically deducted from the wage of the researcher, regardless of nationality.
PORTUGAL	– In Portugal, researchers are eligible to receive sickness benefits only if they have signed employment contracts with the host institution; – Fellowship beneficiaries subscribe to old-age (pension) benefits on a voluntary basis; – The common practice is for the host institution to pay the minimum contribution; the fellowship student tops this up at his/her own expense.
ROMANIA	– 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.
SERBIA	– All researchers, regardless of the type of contract or age, are entitled to sickness benefits; – Researchers receiving stipends do not enjoy health cover; – Only researchers with permanent contracts have access to unemployment benefits.
SLOVAK REPUBLIC	– In the Slovak Republic, social security coverage and health insurance are directly deducted from researchers' wages; – Legislation on extra social security schemes and/or pension provisions for researchers has not yet been developed.
SLOVENIA	– Researchers (including young researchers, post-docs, and researchers at early career stages) are considered to be like any other employees and enjoy all the benefits related to sick leave or maternity. Contributions to pension and health insurance are normally automatic if the research work is supported by an employment contract; – The Young Researcher Programme provides beneficiaries with full social coverage; – Social benefits for other young researchers (i.e. those on stipends from different funds and foundations) are subject to conditions specified by each individual programme or project.
SPAIN	– In Spain, researchers under employment contracts or receiving funding are granted social security coverage, including sickness and unemployment benefits; – Old-age benefits are only available for PhD students under employment contracts, but not for pre-doctoral students receiving grants.
SWEDEN	– In Sweden, stipends and doctoral grants do not provide sickness benefits; – Unemployment benefits are only granted to employed researchers; – Old-age benefits are regulated by collective agreement between employers and unions. Stipends carry no pension benefits; – Doctoral grants carry entitlement to the national retirement pension and all kinds of employment carry an entitlement to an occupational pension.
SWITZERLAND	– Generally, fellows (e.g. *Ambizione* stipend beneficiaries, SNSF professorships) are employed by the Swiss Universities and therefore enjoy standard employee benefits. However, this is not the case for fellows going abroad; – Fellows (doctoral and post-doc) funded by SNFS or the Scientific Exchange NMSch Sciex Programme enjoy the same social security benefits (accident, unemployment, sickness, old-age) as researchers employed by universities under employment contracts. (Note: in Switzerland health insurance is private, but compulsory).
TURKEY	– Turkey has bilateral social security agreements with 21 countries. Citizens of countries which have signed social security agreements with Turkey based on the principle of reciprocity can certify that they are subject to insurance in their own country.
UNITED KINGDOM	– In the UK, provisions on sickness benefits for researchers depend on the context of the grant agreement. Contractual arrangements defined as 'employment' provide researchers with sickness payments and other benefits, including maternity leave, paternity leave, adoptive leave**,** extended jury service and holidays; – Additional funding may be granted by the Research Councils UK (RCUK); – Each pension scheme includes different provisions.

Source: Deloitte, 2012 reporting exercise