

The Researchers Report 2012

Country Profile: Slovenia



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1. Key data

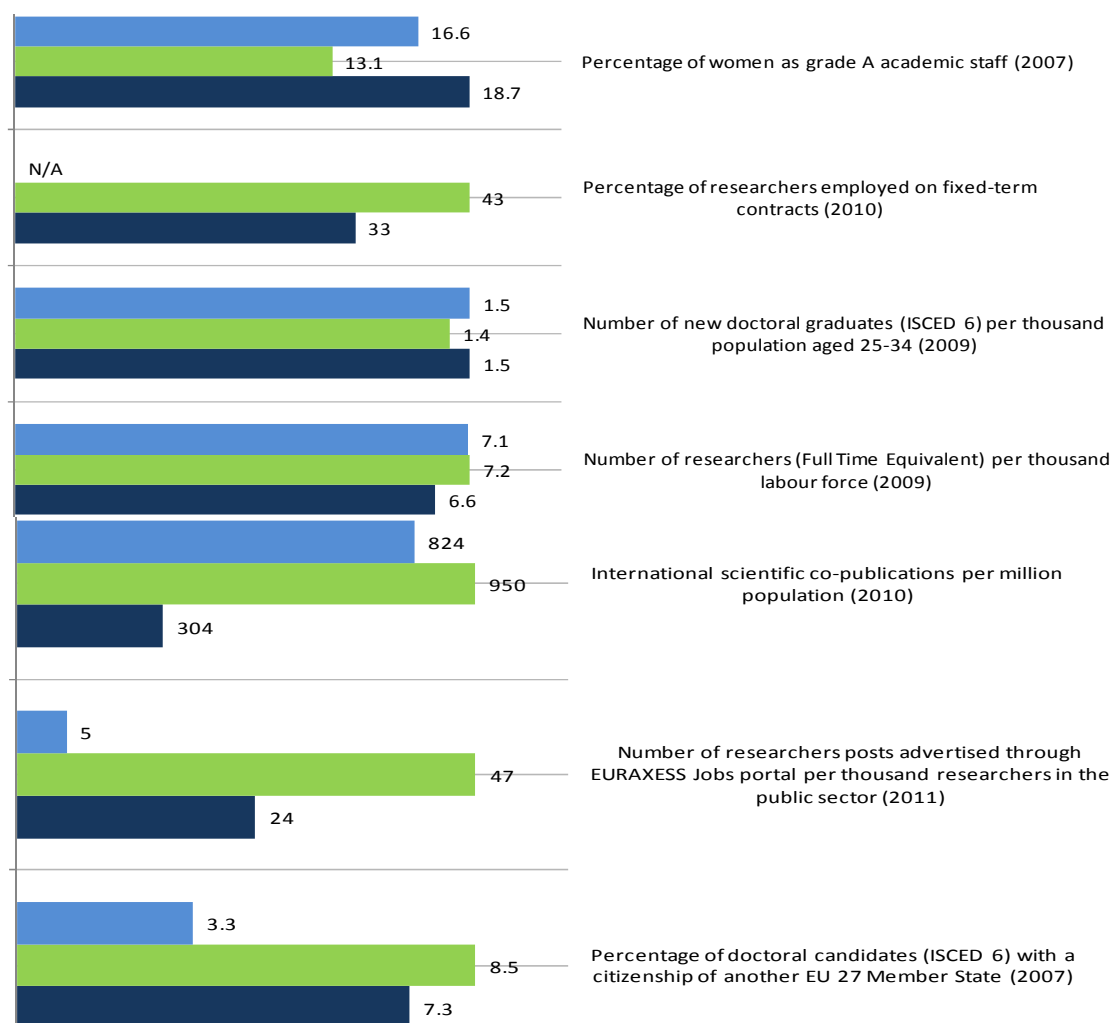
National R&D intensity target

“R&D intensity in Slovenia has fluctuated over the last decade. More precisely, it decreased from 1.50% in 2001 to 1.27% in 2003, increased to 1.56 % in 2006 and slightly decreased to 1.45% in 2007, before increasing to 1.86% in 2009. These fluctuations are mirrored by fluctuations in the R&D intensity of both private and public sectors over the same period, with the exception of the decrease in 2007, which is attributed mainly to the large increase in GDP. In 2009 business enterprise expenditure on R&D as a % of GDP was 1.2% and public sector expenditure was 0.66%, these values being above those in countries with a similar industrial structure and knowledge capacity. In nominal terms in 2009, business expenditure and government funding on R&D increased in Slovenia, which proves that Slovenia regards R&D as a priority for ensuring better and more economic growth in the longer term. Given the trend scenario presented below, Slovenia would still be slightly below the EU average in 2020, at an R&D intensity level of 1.99%. In this context Slovenia has set an ambitious, albeit realistic R&D intensity target of 3% of GDP for 2020.”¹

Key indicators measuring the country’s research performance

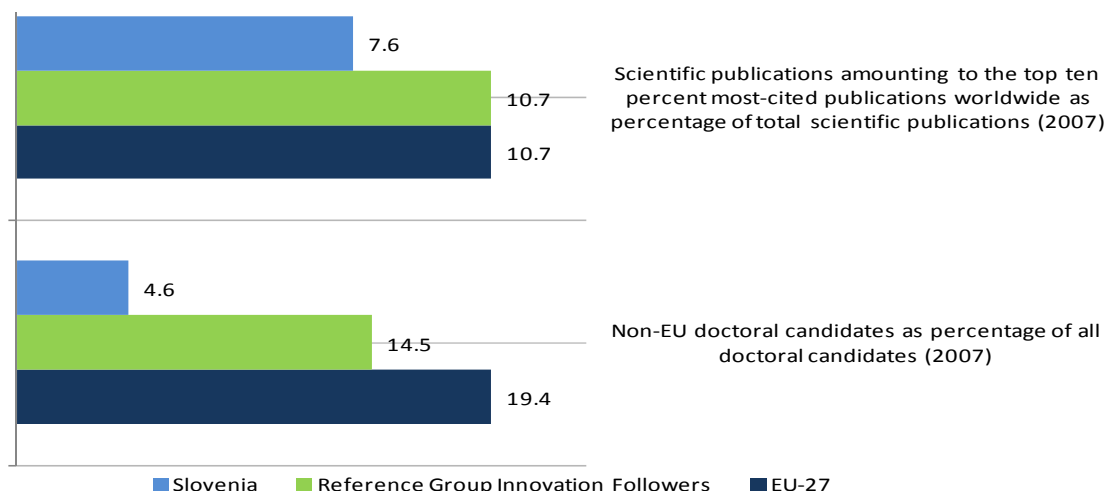
The figure below presents key indicators measuring Slovenia’s research performance against a reference group and the EU27 average².

Figure 1: Key indicators – Slovenia



¹ European Commission (2011), “Innovation Union Competitiveness Report 2011”.

² The values refer to 2011 or the latest year available.



Source: Deloitte

Data: Eurostat, SHE Figures, EURAXESS Jobs Portal, Science Metrix/Scopus (Elsevier), Innovation Union Scoreboard 2010

Notes: Based on their average innovation performance across 24 indicators, Austria, Belgium, Cyprus, Estonia, France, Ireland, Luxembourg, Netherlands, Slovenia and the UK show a performance close to that of the EU-27. These countries are the Innovation followers³.

Stock of researchers

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

Table 1: Human resources – Stock of researchers

Indicator	Slovenia	EU Average
Head Count per 1 000 active labour force (2008)	9.72	9.45
Head Count (2008)	10 124	-
FTE per 1 000 active labour force (2009)	7.15	6.63
Full time equivalent (FTE) (2009)	7 446	-

Source: Deloitte

Data: Eurostat

2. National strategies

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

Table 2: National strategies

Measure	Description
Research and Innovation Strategy of Slovenia 2011-2020 (RISS) (ongoing)	The Strategy deals with researchers' mobility, training and career development and it also promotes scientific excellence. One of its main objectives is to achieve a greater development of human resources by: – increasing the number of researchers and developers in the economy; – increasing the number of doctors of science; – strengthening the qualifications of the personnel; – ensuring effective inter-institutional and interstate mobility for researchers; – improving researchers' career opportunities, and inclusion of the gender equality principle. The implementation of the RISS will be monitored and assessed annually by independent experts over the period 2012-20.

³ European Commission (2011), "Innovation Union Scoreboard 2010".

Measure	Description
Resolution on National Higher Education Programme 2011-2020 (adopted by the Parliament in June 2012)	The National Higher Education Programme is based on Slovenia's Development Strategy and Europe 2020, the EU's growth strategy for the coming decade. The Programme presents the entire area of tertiary education, i.e. both higher education institutions and higher vocational colleges. It also makes the link between the economy, science and cultural policy. Its primary goals are to: – arrange researchers' workload, remuneration and transfer; – enhance co-operation between higher education institutions and public research institutes; – enhance co-operation between higher education institutions and the economic and public sectors. The Programme is complementary to the Research and Innovation Strategy 2011-20.

Source: Deloitte

3. Women in the research profession

Measures supporting women researchers in top-level positions

In 2007, the percentage of women grade A academic staff was 16.6% in Slovenia compared with 13.1% among the Innovation Union reference group and an EU average of 18.7%⁴.

The Slovenian Ministry of Higher Education, Science and Technology established a National Committee on Women in Science in 2001. The National Committee is an advisory/expert body with an Annual Work Plan. It reports annually to the Ministry. It has 15 members from different institutions and scientific disciplines. Its main focus is collecting data and raising awareness, networking researchers from different scientific disciplines dealing with gender issues, and cooperation with other relevant organisations in Slovenia.

The Slovenian government is planning to strengthen the role of women in science in 2012 in line with the national Action Programme on gender equality as well as continue implementation of the 'Young Researchers' Programme', which incorporates gender equity aspects.

Quotas to ensure a representative gender balance

The Slovenian government has set national targets on the gender composition of expert bodies attached to the research public institutions and agencies requiring those bodies to be composed of 1/3 of each sex (exceptional cases are natural sciences and technical sciences where 1/5 of each sex is required).

The targets have been set by the Slovenian Research Agency (SRA).

Maternity leave

Female researchers are allowed to interrupt their contracts for maternity leave and continue later. They are paid by the Centre for Social Work (national social care institution) during their leave. The Slovenian Research Agency works on the principle that evaluation periods do not take maternity leave (one year period) into account and that it has no negative implications for promotion. This principle has been introduced into all legislation relevant to the research profession. This principle is strictly followed and respected by the Young Researchers Programme as a national measure for strengthening the research population in Slovenia, while maternity leave issues are subject to individual decisions with other fellowship and grants programmes in Slovenia.

The maternity leave provisions are not automatically applied by all the programmes that offer stipends and grants. Whether a female researcher may undertake a paid maternity leave or not is subject to determination by each individual project or programme offering fellowships.

4. Open, transparent and merit-based recruitment

Open recruitment in institutions

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

⁴ See Figure 1 "Key indicators – Slovenia".

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

Do institutions in the country currently have policies to ...?	Yes/No	Description
– publish job vacancies on relevant national online platforms	Yes	Institutions publish job vacancies on relevant national online platforms.
– publish job vacancies on relevant Europe-wide online platforms (e.g. EURAXESS)	Yes	Institutions publish job vacancies on relevant Europe-wide online platforms, including the EURAXESS portal.
– publish job vacancies in English	No	Institutions do not publish job vacancies in English.
– systematically establish selection panels	Yes	The Slovenian Research Agency has introduced rules for the establishment of selection panels.
– establish clear rules for the composition of selection panels (e.g. number and role of members, inclusion of foreign experts, gender balance, etc.)	Yes	The Slovenian Research Agency ensures gender balance in the composition of selection channels.
– publish the composition of a selection panel (obliging the recruiting institution)	Yes	Institutions publish the composition of a selection panel.
– publish the selection criteria together with job advert	Yes	Institutions publish the selection criteria together with job advert.
– regulate a minimum time period between vacancy publication and the deadline for applying	Yes	Institutions regulate a minimum time period between vacancy publication and the deadline for applying.
– place the burden of proof on the employer to prove that the recruitment procedure was open and transparent	Yes	Institutions place the burden of proof on the employer to prove that the recruitment procedure was open and transparent.
– offer applicants the right to receive adequate feedback	Yes	Institutions offer applicants the right to receive adequate feedback.
– offer applicants the right to appeal	Yes	Institutions offer applicants the right to appeal.

Source: Deloitte

EURAXESS Services Network

In 2011, the number of researcher posts advertised through the EURAXESS Jobs portal per thousand researchers in the public sector was 5 in Slovenia compared with 47 among the innovation reference group and an EU average of 24⁵. Information on entry conditions, transfer of social security and pension contributions, accommodation and administrative assistance is available on national portals as well as through the national EURAXESS Services Network.

5. Education and training

Measures to attract and train young people to become researchers

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

Table 4: Measures to attract and train young people to become researchers

Funding scheme	Description
National Research and Development Programme for the period 2006-2010	The National Research and Development Programme provided opportunities for training graduates to attract them to a research career. It aimed to develop suitable conditions for raising the educational attainment in various forms and through opportunities for education and training at all levels. The impact of the programme was significant. It was evaluated in 2009 and will continue under the Framework Programme for 2012-2013. The programme supported more than 5 000 researchers in their careers and enriched the Slovenian research population both quantitatively as well as qualitatively.
Science Promotion Programme (2011)	The Ministry of Higher Education, Science and Technology ran the 'Special Science Promotion Programme' under annual calls (the target: 10 projects with 10 implementing institutions) till 2011. For 2012, a call for the "Science Promotion Programme" is under consideration.
Young Researcher Programme (Slovenian Research Agency) (1986 - present)	The Young Researcher Programme aims to increase the number of students pursuing PhD studies, and incorporates specific measures to promote research in science, technology, engineering and mathematics (STEM) subjects. Young researchers participate in basic or applied research projects during their postgraduate studies. They also sign regular, fixed-

⁵ See Figure 1 "Key indicators – Slovenia".

Funding scheme	Description
	term employment contracts. The Agency finances their salaries, social contributions, and the material and non-material costs for research and postgraduate study. The Agency has since 2006 (each year) provided financing for more than 1 200 young researchers. Funds for the training of young researchers are allocated for a fixed term of up to a maximum of three years and six months for a PhD programme. The average annual cost of financing one young researcher is approximately EUR 30 000. A postgraduate student who wishes to become a young researcher has to apply for employment with a mentor at a Slovenian research organisation who has been successful in the Call for mentors for young researchers.

Source: Deloitte

Doctoral graduates by gender

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

Table 5: Doctoral graduates by gender

Indicator	Slovenia	EU average
New doctoral graduates (ISCED 6) per 1 000 population aged 25-34 (total) (2009)	1.5	1.5
Female Graduates (ISCED 6) per 1 000 of the female population aged 25-34 (2009)	1.4	1.4
Male Graduates (ISCED 6) per 1 000 of the male population aged 25-34 (2009)	1.6	1.6

Source: Deloitte

Data: Eurostat

Funding of doctoral candidates

The table below presents the three different funding paths accessible to doctoral candidates. See also above-mentioned “Young Researcher Programme (Slovenian Research Agency)”.

Table 6: Funding opportunities for doctoral candidates

Funding scheme	Description
Fellowships	Provided by the Slovene Human Resources and Scholarship Fund ⁶ .
Stipends/grants	Provided by the Slovenian Science Foundation.
Employment contracts	Provided by the Slovenian Research Agency under the Young Researcher Programme. Approximately 80% of the total of the funding opportunities are in the form of employment contracts.

Source: Deloitte

Measures to increase the number of students taking science to an advanced level

The Slovenian government is planning the establishment of Career Centres at Universities and the implementation of new doctoral programmes for innovation, industry and sustainable development.

Measures to increase the quality of doctoral training

The table below summarises the main programmes introduced by the Slovenian Government to increase of quality of doctoral training.

Table 7: Measures to increase the quality of doctoral training

Measure	Description
National Research and Development Programme for the 2006-2010 period	The Programme provided opportunities for training graduates to attract them to a research career. See chapter 5 “Education and training” for more information.
Research and Innovation Strategy of Slovenia 2011-2020 (RISS) (2011)	The Strategy aims to improve researchers’ mobility, training and career development. For more information, see chapter 2 “National strategies”.
Resolution on National Higher Education Programme 2011-2020	For more information, see chapter 2 “National strategies”.

Source: Deloitte

⁶ The Slovene Human Resources and Scholarship Fund was established at the end of 2006 by the Government of the Republic of Slovenia by adopting the Act, with which it transformed the existing Ad futura, Science and Education Foundation of the Republic of Slovenia, Public Fund into the Slovene Human Resources and Scholarship Fund (Official Gazette of the RS, No. 139/06).

Skills agenda for researchers

In Slovenia, research institutions are obliged to offer training that provides knowledge and develop young researchers' employment skills for the labour market. Universities establish special life-long learning programmes that offer access to special competencies for career development as well as for the daily life of a researcher (communication, management skills, etc).

Under the Research and Development Activities Act, all study programmes must ensure that knowledge and skills are obtained in accordance with the national qualification framework, including innovation, critical thinking, ability to operate in an international environment, etc.

6. Working conditions

Measures to improve researchers' funding opportunities

See also chapter 5 "Education and training".

Researchers' Statute

The Research and Development Activities Act (2001) provides a definition of a researcher. Researchers in Slovenia are civil servants and their statute (including remuneration provisions) is defined in the Amendment to the Act on the Civil Servant Payment System (2010)

'European Charter for Researchers' & the 'Code of Conduct for the Recruitment of Researchers'

The Slovenian Rectors Conference signed the 'Charter & Code' principles in 2008. Slovenian research institutions participate in the European Commission Human Resources Strategy Group activities.

Autonomy of institutions

Universities in Slovenia enjoy autonomy to allow for different profiles and remuneration of their academic staff. Researcher's remuneration is fixed by the Act on the Civil Servant Payment System.

Career development

In 2010, all 23 faculties and three academies in Slovenia had established career counselling centres.

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

The Young Researcher Programme provides beneficiaries with full social coverage. Researchers (including young researchers, post-docs, and researchers at early career stages are considered as all other employees and enjoy all 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. 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.

7. Collaboration between academia and industry

The following table summarises key programmes designed boost collaboration between academia and industry, and to foster doctoral training in cooperation with industry.

Table 8: Collaboration between academia and industry

Measure	Description
Young Researchers in the Economy Programme (Public Agency for Technology of the Republic of Slovenia (TIA) (ongoing)	Young Researchers in the Economy is designed to introduce more highly educated staff in private companies and stimulate companies to hire young graduates to enhance their R&D and innovation activities. The service is mainly financial, providing co-financing for salaries and some materials costs for a young researcher who is employed in a company while pursuing a PhD at the university. Through this support the young researcher engages in research work with mentoring both by the company and university. The programme is run by the TIA in the 2007-2013 financial cycle and is co-financed by the European Social Fund. The beneficiaries are enterprises and technology centres – as employers of young researchers – and research organisations and universities as providers of formal education.

Source: Deloitte

8. Mobility and international attractiveness

Measures aimed at attracting and retaining 'leading' national, EU and third country researchers

In 2007, the percentage of doctoral candidates (ISCED 6) who were citizens of another EU-27 Member State was 3.3% in Slovenia compared with 8.5% among the Innovation Union reference group and an EU average of 7.3%⁷. In the same year, the percentage of non-EU doctoral candidates as a percentage of all doctoral candidates was 4.6% in Slovenia compared with 14.5% among the Innovation Union reference group and an EU average of 19.4%⁸.

The Research and Innovation Strategy of Slovenia 2011-2020 includes measures to change the payment system for researchers in an effort to attract and retain national, EU and third-country researchers. With this in mind, the Amendment to the Law 2010 allows for foreign researchers to be exempted from the Slovenian payment system for civil servants.

The table below summarises key measures aimed at attracting and retaining leading national, EU and third-country researchers.

Table 9: Measures to attract and retain leading national, EU, and third-country researchers

Measure	Description
Ambassador of Science of the Republic of Slovenia, Certificate of Recognition (ongoing)	The award is dedicated to important achievements in research activities and targets Slovenians who live in neighbouring countries as well as those who are or were active abroad. The award is granted by the Ministry of Higher Education, Science and Technology.
Slovenian Science Foundation grants (ongoing)	The foundation offers independent financial support to researchers and young people in education for their personal growth into competent researchers, as well as for their development within the international scientific community. The foundation also aims to connect researchers at home with their compatriots operating abroad and with researchers from other countries. Slovenian researchers receive financial support for their personal growth by means of advanced scientific study abroad, active co-operation at scientific meetings or within the framework of European Science Foundation projects. Usually, 6-10 fellowships (or grants) are awarded on an annual basis.

Source: Deloitte

Insecure career prospects and personal reasons (salary is not enough to raise a family) are the main obstacles to inward mobility of Slovenian researchers. For foreign researchers, unattractive pay (salaries were those paid to civil servants) has been the main obstacle to moving to Slovenia to work.

Public Research Institutes in Slovenia require international experience (a stay abroad of at least three months) for researchers signing an employment contract with them. Moreover, promotion up the academic ladder in Slovenia requires transnational (or international mobility).

Outbound mobility

The table below summarises key measures encouraging researchers to spend some time in another country.

Table 10: Measures supporting researchers' outbound mobility

Measure	Description
Cmepius grants (ongoing)	The Centre of the Republic of Slovenia for Mobility and European Educational and Training Programmes (CMEPIUS) funds students to study abroad under the CEEPUS (Central European Exchange Programme for University Studies). The Programme supports scholarships to individuals within an approved network of major higher education institutions from different participating countries, which then exchange students and professors. In 2010-2011, Slovenia hosted around 50 foreign post-graduate students (plus 14 on bilateral basis) and 25 foreign university professors.
Office of the Government of the Republic of Slovenia for Slovenians Abroad (ongoing)	The Office provides financial support for young scientists and experts of Slovenian origin living abroad. The Office has also adopted the Action Plan on 'cooperation with Slovenian scientists and other top experts abroad'.

⁷ See Figure 1 "Key indicators – Slovenia".

⁸ Ibid.

Measure	Description
	The Office supports activities that stimulate networking of scientists and establishment of project teams lead by a top-quality scientist ("Satellite groups"), with the objective of stimulating brain circulation at a global level. The Office does not provide special scholarships or grants to researchers.
Slovene Human Resources and Scholarship Fund (ongoing)	The Slovene Human Resources and Scholarship Fund grants scholarships for Slovenian and foreign students to study abroad. In the years of 2010 and 2011, 81 foreign researchers benefited from the grants (AD Futura). Following two public calls for the award of grants to doctoral students for 2010 and 2011, 99 Slovenes were beneficiaries of those grants.
Young Researchers Programme (ongoing)	The Young Researchers Programme stimulates international mobility of doctoral candidates.

Source: Deloitte

Portability of national grants

Publicly funded grants or fellowships are portable to other EU countries only if a short-term stay in another EU country is part of a research project.

Cross-border access to grants

Young Researcher and Young Researchers for Economy programmes are open to foreign candidates.

Measures encouraging inter-sectoral mobility

The Slovenian government grants special incentives (including tax reductions) to enterprises that employ doctoral candidates and young researchers.