

1. MORE EFFECTIVE NATIONAL SYSTEMS

1.1. Research and innovation system

In Austria, research and innovation (R&I) policies are the responsibility of the federal level and regional strategies, complement research, technological development and innovation (RTDI) policies and activities on national and EU levels. Coordination between the federal and regional level is done under the RTDI platform Austria ('Plattform FTI-Österreich') in the form of a semi-annual conference. The main policy makers in the public research and development (R&D) domains are: the Ministry of Science, Research and Economy (BMWFW) and the Ministry of Transport, Innovation and Technology (BMVIT). The BMWFW has been taking over the tasks of the former Ministry of Science and Research (BMWF) and the former Ministry of Economy, Family and Youth (BMWFJ) (all references adapted to the new title). The Council for Research and Technology Development (Rat für Forschung und Technologieentwicklung) is the federal government's strategic independent scientific and technological advisory body for questions related to R&D policy. It works with the ministries on recommendations for the medium-to long-term policy orientation.

The main funding agencies are the Austrian Science Fund (FWF), the Austrian Research Promotion Agency (FFG) and the Austria Business Service (AWS). The FWF covers basic research and is under the responsibility of and receives its funding from the BMWFW. The FFG (under BMVIT and BMWFW) provides funds dedicated mainly to applied research and thematic oriented R&D programmes. The FFG partners with regions to complement their funding via Structural Funds. AWS as a State-owned banking institution (under BMWFW and BMVIT) funds mainly innovation projects in companies, supports seed financing and start-ups.

The Austrian Academy of the Sciences (ÖAW) is Austria's largest non-university R&D organisation.

The Austrian Federal Government strategy for research, technology and innovation 'Becoming an Innovation Leader: Realising Potentials, Increasing Dynamics, Creating the Future' was published in March 2011. It introduces a coordinated vision and strategy across all ministries in charge of RTDI and identifies new challenges. Some thematic priorities can also be extracted: climate change, resources and quality of life and demographic change. The strategy has clear links to the European Research Area (ERA) key priorities and plans support measures under all of them. It also mentions international cooperation among Austria's priorities.

In 2011, a Task Force of senior officials was also put in place to coordinate activities from the strategic perspective and monitor the implementation of this strategy. Nine inter-ministerial working groups were established, among those one on European dimension of research agendas, one on research infrastructure, one on knowledge transfer and one on international cooperation. An 'Austrian EU Action Plan' has been developed in cooperation by BMWFW

and BMVIT. The action plan proposes more than 70 measures to optimise Austria's research, technology and innovation (RTI) system regarding Horizon 2020, ERA, the Innovation Union and the overall Europe-2020 strategy. It is formally up to the government to decide which of the proposal will be implemented.

In recent months, Austria established an ERA Observatory to bundle strategic information, advice and coordination under a common roof. A high-level advisory body on European research and innovation policies, called 'ERA Council Forum Austria' under the chair of former ERC President Helga Nowotny, started its work in March 2014. With the aim of improving coordination among ministries and stakeholders, an 'ERA Policy Forum Austria' has been created. It should increase awareness and consistency in the way Austria addresses sectoral policies with high impact on RTI, in particular from a European perspective. The Council for Research and Technology Development has the task of monitoring the progress of the strategy's implementation and reports to the Parliament (National Council) on an annual basis.

In terms of R&I funding, the Government Budget Appropriations or Outlays for Research and Development (GBAORD) in Austria represented EUR 294 per inhabitant in 2012 almost twice as much as the EU28 average (EUR 179). In 2013, GBAORD per inhabitant was EUR302. In 2012, total GBAORD corresponded to 1.6% of total government expenditures and 0.8 % of Gross Domestic Product (Eurostat).

The analysis of the evolution of GBAORD in the period during the economic crisis (2007-2012) shows that in nominal terms, the growth rate of total GBAORD in Austria has been higher than the rate of growth of total EU GBAORD. Finally, GBAORD as a share of GDP has evolved positively in Austria even when it regressed at EU28 level.

1.2. Project-based funding applying the core principles of international peer review

Project-based public R&D funding is organised within thematic and open bottom-up approaches, by both the FWF and the FFG. Competitive structural and thematic R&D programmes have become increasingly important in the last years.

The FWF mainly funds academia. Its total grant portfolio was EUR195.2 million for 2011 and EUR196,4 million for 2012. In 2013, the grant budget was EUR202,6 million. The FFG supports business R&D and cooperative research. More than 60 % of competitive public research funds are performed by Austrian businesses.

In 2011, major steps were taken to simplify the implementation of programme management by Austrian public funding administrations (Ministries, agencies etc.): calls for proposals were integrated into annual schedules; common guidelines for similar types of projects have been issued and an agreement was reached to treat similar projects in the same way (by BMVIT, BMWWF and FFG).

Indicator	Level/clu ster	Value	Year	Source
Share of responding funders' total budget allocated as project-based funding	National level	49 %	2013	ERA survey 2014
Share of responding funders' total budget allocated as project-based funding	EU level	66.2 %	2013	ERA survey 2014

The share of research funders in Austria who responded to the survey and support project-based funding is lower than the EU average.

For the two main funding agencies, FWF and FFG, overall principles for the application, evaluation and selection procedures are detailed in the FTE-Richtlinien (2007). Specific guidelines for the Austrian Research Promotion Agency are regulated in the legal base FFG-Richtlinien (2008). International peer-review principles are not mentioned as such, but results from the implementation of the guidelines by both agencies. The FWF exclusively uses international peer-review for the applications. Project selection criteria and procedures adhere to principles of excellence, impartiality, transparency, appropriateness for purpose, efficiency and speed, confidentiality, and ethical and integrity considerations. The FFG applies specifically-tailored evaluation criteria, according to the needs of the programme. The FFG-law stipulates that all FFG-funding decisions have to be taken upon the principles of transparency, impartiality, and fairness.

1.3. Institutional funding based on institutional assessment

Public funds in Austria are more often distributed via institutional than project-based modes, roughly accounting for two thirds and a third, respectively, of total funding. National public funding for the higher education sector is mostly institutional. It is regulated in the 'Universitätsgesetz 2002' and based on performance agreements at university level and less so for public research institutes. A revision of the universities financing legislation (the University Structural Funds Ordinance) in January 2013 further strengthened the trend towards institutional funding by allocating additional money to it for 2013-2015. Institutional funds destined for universities are a combination of three categories: funds for teaching, for research and for infrastructure. A two-year basis for calculation applies. Funds allocated for research are based on the number of students, a competitively-oriented research indicator (based on, for example the number of PhDs, project volume financed by the FWF, project volume financed by industry or other sources) and a strategic budget depending on the societal objectives of the universities (for example, the share of women in PhD programs, participation in outgoing mobility programs, number of foreign graduate students). Full implementation of the institutional funding model is foreseen for the performance contract

period 2019-2021, for period 2016-2018 up to 60 % of university funding will be based upon this model.

The ÖAW, which underwent structural reforms in 2012, has concluded with BMWFW a multi-annual performance agreement that comprises the period of 2012-2014, with a total budget of EUR224 million for the three-year period.

Higher Education Institutions (HEI) have to undergo external quality assurance every seven years. In March 2012, under the 'Quality Assurance Framework Law' the Agency for Quality Assurance and Accreditation Austria was established. This agency is responsible for external quality assurance for all types of universities. Later in 2012, the Platform Research & Technology Policy Evaluation (FTEVAL) published its new standards for evaluations in the field of research, technology and innovation, with impact on future institutional assessments and general evaluation practice in Austria in medium- and long-term.

Indicator	Level/clu ster	Value	Year	Source
Share of responding funders' total budget allocated as institutional funding based on institutional assessment and/or evaluation	National level	15.3 %	2013	ERA survey 2014
Share of responding funders' total budget allocated as institutional funding based on institutional assessment and/or evaluation	EU level	24 %	2013	ERA survey 2014

The share of research funders in Austria who responded to the survey and support institutional assessment for the allocation of institutional funding is lower than the EU average.

2. TRANSNATIONAL COOPERATION

2.1. Implementing joint research agendas

The country is involved in transnational cooperation. It supports also bilateral and multilateral initiatives.

Austria's trans-national and international priorities are included in the overall Federal Government strategy for research, technology and innovation 'Becoming an Innovation Leader: Realising Potentials, Increasing Dynamics, Creating the Future'.

Austria is also interested in improving the general standards for cross-border research coordination.

The new workprogramme of the Austrian Federal Government for 2013-2018 states under the research chapter the will to strengthen trans-national and international cooperation by establishing of RTI-Attachés and additional Offices of Science and Technology Austria (OSTA) in priority countries in and outside Europe.

Indicator	Level/cluster	Value	Year	Source
Share of responding funders' total budget allocated to transnationally coordinated R&D	National level	2.1 %	2013	ERA survey 2014
Share of responding funders' total budget allocated to transnationally coordinated R&D	EU level	4.1 %	2013	ERA survey 2014
Share of responding funders' research and development budget dedicated to jointly defined research agendas with non-national EU organisations	National level	1.9 %	2013	ERA survey 2014
Share of responding funders' research and development budget dedicated to jointly defined research agendas with non-national EU organisations	EU level	1.7 %	2013	ERA survey 2014

The share of responding funders' total budget in Austria allocated to transnationally coordinated R&D is lower than the EU average.

The share of responding funders' research and development budget in Austria dedicated to jointly defined research agendas with other EU organisations is higher than the EU average.

Cooperation between institutions of Member States, Associated Countries and Third Countries is fostered by the Framework Programme (FP). In the seventh Framework Programme, Austria's total share of participation is 3 % and the country received 3 % of total EC contribution. FP funding represents EUR130 per inhabitant (EU average EUR72 per capita) for the period 2007-2013 and 2,9 % of the Gross Domestic Expenditures on R&D (GERD) for the period 2007-2011 (last available data) (EU average 3 % of GERD for the same period).

Concerning joint programming initiatives, the country participates in eight of the ten on-going initiatives, coordinating one of them. These initiatives are Neurodegenerative diseases (Alzheimer), Food Security, Agriculture and Climate Change (FACCE), Cultural Heritage and global change: a new challenge for Europe, Healthy Diet for Healthy Life, The Demographic change (More Years, Better Life), Connecting Climate Knowledge for Europe

(Clik'EU), Water Challenges for a Changing World and Urban Europe - Global Challenges, Local Solutions.

In the National Reform Programme 2014, Austria states that it plans to 'devote particular effort to the alignment of European and national strategies within the framework of those initiatives.'

In terms of programmes undertaken jointly by several Member States (so called Article 185 initiatives), the country was involved in five programmes. In Horizon 2020, the country is already involved in all the four existing initiatives.

ERA-NETs facilitate the coordination and collaboration of national and regional research programmes, in particular the preparation and implementation of joint calls for transnational research proposals between national and/or regional programmes. The country also participated in a total of 87 ERA-NETs, of which 22 are currently still running. The country also has participated in 11 ERA-NET Plus actions - of which seven are still running - in areas with high European added value and additional EU financial support topping up their joint call for proposals.

Concerning research agreements with EU Member States and/or Associated Countries, Austria has at least 12 bilateral agreements with Albania, Bulgaria, Croatia, Czech Republic, France, Hungary, Poland, Romania, Slovenia, Slovakia, Spain, FYR of Macedonia. Bilateral agreements, whether with MS/AC or third countries do not only include the federal government level, but also cooperation at university or public research organisations (for example ÖAW) levels. Programmes serve to fund bilateral collaborations in cases where the two national subprojects are so closely connected that they may only be performed in conjunction with one another.

Austria participates in the D-A-CH multilateral agreement between Germany, Austria and Switzerland.

Additionally, the country participates in the EU Strategy for the Danube Region (EUSDR), a multilateral (and macro-regional) strategy that has been developed by the Commission in cooperation with 11 countries in the Danube region (Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Moldova, Montenegro, Romania, Serbia, Slovakia, Slovenia and Ukraine). It comprises 11 priority areas (PA), PA 7 pertaining to the knowledge society and PA 2 dealing with sustainable energy issues.

2.2. Openness for international cooperation with third countries and regions

Concerning international cooperation with third countries and regions, Austria has recently developed the overall Federal Government strategy for research, technology and innovation titled 'Becoming an Innovation Leader: Realising Potentials, Increasing Dynamics, Creating the Future' including the sub-strategy on international cooperation dubbed 'Beyond Europe'. Based on these strategy papers, Austria will inter alia expand its cooperation with innovation front-runners such as the United States, selected Asian nations and the BRICS countries

(Brazil, Russia, India and China and South Africa), as well as continuing its collaboration with Central, Eastern and South-Eastern European countries.

Austria has concluded several intergovernmental bilateral science and technology (S&T) agreements as well as Memoranda of Understanding on S&T cooperation including Argentina, China, India, the Republic of Korea, Vietnam, the Russian Federation and Ukraine.

Additionally, the Commission for Development Research (KEF) at the Austrian Agency for International Cooperation in Education and Research (OeAD) supports numerous research partnerships between Austrian researchers and researchers from developing countries as well as participating in the EU-funded ERAfrica Project. Africa, Asia and Latin America.

Indicator	Level/cluster	Value	Year	Source
Share of responding funders' research and development budget allocated to collaboration programmes carried out with third countries	National level	0.2 %	2013	ERA survey 2014
Share of responding funders' research and development budget allocated to collaboration programmes carried out with third countries	EU level	2.4 %	2013	ERA survey 2014
Share of organisations' research and development budget amongst responding research performing organisations originating from third countries	ERA compliant cluster (EU level)	0.8 %	2013	ERA survey 2014
Share of organisations' research and development budget amongst responding research performing organisations originating from third countries	ERA compliant cluster (national level)	0.7 %	2013	ERA survey 2014
Share of organisations' research and development budget amongst responding research performing organisations originating from third countries	Limited compliance to ERA cluster (national level)	0.4 %	2013	ERA survey 2014

The share of responding funders' research and development budget in Austria allocated to collaboration programmes carried out with third countries is lower than the EU average.

Within the ERA-compliant cluster in Austria, the share of organisations' research and development budget originating from third countries is lower than the EU ERA-compliant cluster.

2.3. Interoperability, mutual recognition of evaluation results and other schemes

Mutual recognition of evaluations that conform to international peer-review standards is supported within the D-A-CH multilateral agreement between Germany, Austria and Switzerland, the German Research Foundation (DFG), the Austrian Science Fund (FWF) and the Swiss National Science Foundation (SNSF). These agencies have agreed to apply the so called 'Lead agency' procedure, which foresees that funding authorities accept the results of the evaluation of international projects done by the 'lead agency' and fund the parts of the project that are being performed in their respective countries (for research projects with participants of at least two of the three countries). It also allows researchers to move to one of those countries following a money-follows-cooperation-line scheme, a scheme which allows small parts of a project funded by one of the participating research councils to be conducted in a different country. Negotiations are on-going to include similar funding agencies from the Netherlands or the UK. Funding agencies do not implement the money-follows researchers scheme.

Indicator	Level/cluster	Value	Year	Source
Share of responding funders which can base their project-based research and development funding decisions on peer reviews carried out by non-national institutions	National level	48.7 %	2013	ERA survey 2014
Share of responding funders which can base their project-based research and development funding decisions on peer reviews carried out by non-national institutions	EU level	38.5 %	2013	ERA survey 2014
Share of responding funders' project-based research and development budget allocated through peer review carried out by institutions outside the country	National level	4.4 %	2013	ERA survey 2014
Share of responding funders' project-based research and development	EU level	0.8 %	2013	ERA survey 2014

budget allocated through peer review carried out by institutions outside the country				
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The share of research funders in Austria who responded to the survey and can base their project-based research and development funding decisions on peer reviews carried out by non-national institutions is higher than the EU average.

The share of responding funders' project-based research and development budget in Austria allocated through peer review carried out by institutions outside the country is higher than the EU average.

3. RESEARCH INFRASTRUCTURES

3.1. Financial commitments for the construction and operation of ESFRI, national and regional research infrastructures of pan-European interest

Austria participates in the following large international research infrastructures (RI): European Space Agency (ESA), Conseil Européen pour la Recherche Nucléaire (CERN), European Fusion Development Agreement (EFDA), the European Molecular Biology Laboratory (EMBL), the European Southern Observatory (ESO), the European Synchrotron Radiation Facility (ESRF) and the Institut Laue-Langevin (ILL). In 2012, the country contributed 1.2 % of GBAORD to the activities carried out by CERN, EMBL, ESO, ESRF, ILL and the European Commission's Joint Research Centre (JRC) (Eurostat).

With regards to participating in the European Research Infrastructure Consortia, Austria is involved in four of the seven consortia that adopted the legal framework designed by the Commission to facilitate the establishment and operation of RI of European interest involving several European countries. Austria is hosting BBMRI-ERIC and is member of SHARE-ERIC, CLARIN ERIC and ESS ERIC.

In terms of support for developing and implementing RIs, one important policy priority outlined in the national RTDI strategy is the improvement of national RI as well as Austria's integration and commitments to international infrastructures (e.g. ESFRI). Thus, this is the focus of one of the inter-ministerial working groups of the Task Force established for its implementation. A tentative national roadmap on research infrastructures, partly depending on future budget availability, is part of the recent Task Force report. In February 2014, the Austrian government released a document called 'Austrian Research Infrastructure – Action Plan 2014-2020'. It outlines the ESFRI infrastructures that are of central importance to the Austrian research environment and the major benefits of participating in these projects for the Austrian research sector which are strengthening competitiveness by ensuring complementarity of national infrastructures, access to equipment, knowledge and technology transfer and the structural improvement (defragmentation) of the humanities and social sciences research landscape.

3.2. Access to research infrastructures of pan-European interest

In terms of access to RIs, at the end of 2011, the Austrian Council for research, technology and development (RTD) has published specific recommendations regarding the further improvement of national infrastructures, which includes among other measures the establishment of a national repository for Austria Ris. A national repository of RI was established and measures were taken to allow its continuous improvement.

Among the research infrastructures coordinated by Austria, access to five of them has been funded by the European Commission.

4. OPEN LABOUR MARKET FOR RESEARCHERS

4.1. Introduction to open labour market for researchers

A detailed report can be found in the country profile for Austria in the Researchers' Report 2014

[http://ec.europa.eu/euraxess/pdf/research_policies/country_files/Austria_Country_Profile_RR2014_FINAL.pdf].

The following text provides an overview of the current situation and recent progress made in several key areas.

Stock of researchers

There were 37,114 full time equivalent (FTE) researchers in Austria in 2011. This represents 8.6 researchers per 1000 labour force compared with 7.6 among the Innovation Union reference group (Innovation Followers) and an EU average of 6.7.

4.2. Open, transparent and merit-based recruitment of researchers

In 2013, the number of researcher posts advertised through the EURAXESS Jobs portal per thousand researchers in the public sector was 76.0 in Austria compared to 72.3 among the Innovation Union reference group and an EU average of 43.7.

In 2012, 55 % of university-based researchers were satisfied with the extent to which research job vacancies are publicly advertised and made known by their institution (More2 survey, 2012).

Following an amendment to the Universities Act, Austrian Universities must advertise research job vacancies (for scientific and research staff) internationally, at least EU-wide. University institutions decide autonomously on the instrument for advertising vacancies internationally. The Ministry of Science, Research and Economy actively promotes the EURAXESS Jobs portal via brochures, flyers, and newspaper advertisements in order to raise awareness of the European job database among universities and public research organisations. The Job Exchange is a service provided by the Ministry of Transport, Innovation and Technology and the Austrian Research Promotion Agency, and is available online. As part of the Talents programme, it offers a range of jobs in research and development and innovation

in Austria – from internships and PhD positions to senior posts (some 5 500 job offers in 2013). Information is available at: <http://www.ffg.at/jobboerse>.

4.3. Attractive careers

The promotion of the 'Charter & Code' and broad implementation of their principles at Austrian universities was part of the 2010-12 and 2013-2015 performance agreements with universities. In Austria, 18 universities have signed the 'Charter & Code', as have three funding organisations, three umbrella organisations, four research organisations, three universities of applied sciences, one private university, one representative of industry and the former Austrian Federal Ministry of Science and Research. The implementation of the 'Charter & Code' is part of the National Action Plan for Researchers. The Medical University of Graz was the first Austrian university to receive Human Resources Strategy for Researchers (HRS4R) acknowledgement from the European Commission. It has been followed by the FWF, the University of Natural Resources and Life Sciences (BOKU) and the University of Salzburg.

By May 2014, five Austrian organisations were involved in the Commission's Human Resources Strategy for Researchers of which four had received the 'HR Excellence in Research' logo for their progress in implementing the Charter & Code.

The Austrian database for scholarships and research grants (www.grants.at), Austria's most comprehensive database for scholarships and research grants (in English and German), offers an overview of approximately 1 200 funding opportunities for incoming and outgoing researchers, graduates and students. The Austrian Science Fund runs seminars to explain its funding procedures and thus for researchers to present their own ideas to the reviewers of the FWF programmes. The Austrian Research Promotion Agency (FFG) provides proposal-writing seminars to enhance post-doc student writing skills. The Austrian Agency for International Cooperation in Education and Research (OeAD) provides guidelines, recommendations, and seminars for drafting grant proposals.

4.4. Supporting structured innovative doctoral training programmes

The number of new doctoral graduates per thousand population aged 25-34 was 2.2 in 2011 compared with 1.6 among the Innovation Union reference group and an EU average of 1.7.

In order to increase the number of doctoral graduates in science, technology, engineering and mathematics (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. Following an amendment to the Universities Act, doctoral training was extended to three years as of the 2009-10 winter term in order to improve the quality of doctoral training. In addition, universities have established new doctoral curricula and have introduced additional measures to improve quality, skills and supervision of doctoral training. The Doctoral Programme, a joint initiative led by internationally-recognised scientists, facilitates work experience abroad

for researchers and offers training in support of transferable skill development. In addition to measures aimed at improving researchers' research proposal writing skills, the Austrian Economic Service (Austria Wirtschaftsservice - awsg) offers services to increase researchers' awareness of intellectual property rights.

4.5. International and inter-sectoral mobility

In 2011, the percentage of doctoral candidates with citizenship of another EU27 Member State was 18.5 % in Austria compared to 18.4 % among the Innovation Union reference group and an EU average of 7.7 %. The percentage of non-EU doctoral candidates as a percentage of all doctoral candidates was 8.6 % in Austria compared with 16.9 % among the Innovation Union reference group and an EU average of 24.2 %.

The APART Programme awards fellowships to national and international students in support of a post-doctoral thesis, or the continuation of a scientific project. Third-country applicants must carry out their research project at an Austrian research institution. The percentage of foreign researchers among APART fellows in 2010-2012 was 18 %. In the DOC Programme PhD studies can be conducted at universities or research institutions both in Austria and abroad. In 2011 and 2012, 15 % of the fellows conducted research at universities or research institutions abroad. Similarly, the DOC-team Programme supports teams working on trans-disciplinary research projects in humanities, cultural studies and social sciences. Each team member must spend at least half a year at a research institution abroad. As the largest post-doctoral programme for outbound mobility for basic research in Austria, the Schroedinger Programme aims to enable young scientists normally based in Austria to work abroad at leading research institutions and on leading research programmes in order to gain research experience abroad during their post-doctorat. With the possibility of also applying for a reintegration phase, the programme aims to facilitate the return phase for the researchers in order to reverse the brain drain from Austria.

The BRIDGE Programme focuses specifically on the funding of industrial research-cooperation projects. Funded projects are those expected to build on the basic research of scientific institutes and take them closer to potential commercialisation through collaborative research with businesses. The projects carried out as part of concrete research collaborations are intended to enable an effective exchange of research results and expertise. Another aim is to foster communication between science and industry, opening up new prospects for both partners. The funding of collaborative projects is designed to facilitate mutual access to each other's expertise and help companies overcome their apprehension about (basic) research. The COMET Competence Centre Programme aims to develop international research excellence and expertise, and support the technological leadership of companies to strengthen Austria as a top destination for research. The research carried out in competence centres ranges from medium to long term and meets high standards of quality. The programme's priorities are the applied orientation of top-level research and its actual implementation in the industry sector. COMET is sponsored by the Ministry of Transport, Innovation and Technology (BMVIT) and the Ministry of Science, Research and Economy (BMWFW). It follows on the success of their previous competence centre programmes. The provinces also support COMET with additional

funding. The Austrian Research Promotion Agency is responsible for managing COMET. There are currently (Status 31 December 2013) 21 COMET K-Centres (five K2 Centres and 16 K1 Centres) as well as 24 K-Projects running with federal funding of approximately EUR50 million per year.

5. GENDER

5.1. Foster cultural and institutional change on gender

Austria has set up specific laws and actions to implement gender equality in research.

Tackling discrimination is high on the government agenda. The new Austrian Federal Government workprogramme for 2013-2018, under chapter 03 'Education, science, art and culture, women' considers women careers in research (Science sub-chapter) but also gender pay gap and other general measures (Women sub-chapter). Austria plans to advocate 'an active equality policy at European level with regard to economic gender equality and reconciling of work and family life'.

In the course of the new reform of budget laws, gender budgeting and gender equality were laid down in the Federal Constitutional Act (BV-G) and Federal Budget Act (BHG). The latter provides for a balanced representation in academic leadership positions and boards. On the basis of these laws a gender equality objective was developed by all ministries.

Several acts are in place to ensure gender equality: the Charter on the Compatibility of Family and Career, the National Action Plan (NAP) for Gender Equality in the Labour Market, the Care Allowance Reform Act 2012 and the Care Allowance Act.

Since 2009, objectives to attain gender balance in leadership positions and decision-making bodies in public research organisations and higher education institutions were gradually put in place by the University Act. Concerning gender balance in decision making, the country has set up a female quota for the participation of under-represented sex in decision-making bodies of Research Performing Organisations. The 2009 amendment of the Universities Act stipulates a women quota of 40 % in university committees and boards. Gender specific measures are included in the performance agreements with universities (for example the 40 % mandatory representation of women). Austrian Universities provide statements and figures on gender (and budget) and how they progress on gender equality. BMFWF evaluates progress on an annual basis using performance indicators, including gender indicators.

The Universities Act also contains references to establishing an organisational unit responsible for coordinating activities relating to gender equality and the so-called 'Affirmative Action Plans'. Performance agreements with universities include financial incentives for gender-specific issues and among other things universities commit themselves to support work-life balance by offering childcare facilities, parental leave and flexible working hours.

Additionally, the 2014 National Reform Programme underlines that 'Strategic gender equality targets have also been defined in the universities' performance agreements', and that it will continue to support campaigns for attracting women in scientific careers.

Indicator	Level/cluster	Value	Year	Source
Share of responding funders supporting gender equality in research	National level	95.7 %	2013	ERA survey 2014
Share of responding funders supporting gender equality in research	EU level	82.2 %	2013	ERA survey 2014
Share of responding research performing organisations in the sample which have adopted Gender Equality Plans	ERA compliant cluster (EU level)	64 %	2013	ERA survey 2014
Share of responding research performing organisations in the sample which have adopted Gender Equality Plans	ERA compliant cluster (national level)	81.5 %	2013	ERA survey 2014
Share of responding research performing organisations in the sample which have adopted Gender Equality Plans	Limited compliance to ERA cluster (national level)	5.7 %	2013	ERA survey 2014

The share of research funders in Austria who responded to the survey and support national policies on gender equality in public research is higher than the EU average.

Within the ERA compliant cluster in Austria, the share of research-performing organisations that have adopted Gender Equality Plans is higher than within the EU ERA compliant cluster.

General laws require equal treatment for women and several provisions are included to ensure that: maternity leave is not a discriminating factor; pregnancy automatically freezes temporary contracts; women have the right to return to an equal position to the one held before their maternity leave and to have a part-time position when they end their maternity leave.

The country has measures that support returning to work after parental leave. FWF and ÖAW fellowship programmes allow for interruptions and extensions in case of maternity leave.

Austria has provisions for a balanced participation of women and men in research programmes and/or projects. All FWF programmes provide for a quota of 30 % women scientists/scholars and this target has been achieved.

The country provides incentives for recruiting female researchers and promoting access of female researchers to senior positions in research-performing organisations. The Universities Act provides for the implementation of gender monitoring with respect to recruitment and targeted recruitment in public research organisations and universities.

It has set up awards, fellowships and/or other similar mechanisms to specifically support female researchers. Since 2002, several support schemes have been put in place to support recruitment, retention and career progression of female researchers: under the umbrella of the inter-ministerial action programme 'Women in Research and Technology', fForte: the Excellentia Programme launched in 2005 to support women full professors; the fForte Coaching Programme supports women in writing successful grant proposals; the 'Laura Bassi Centres of Excellence' encourage women to apply for top positions; the FEMtech programme seeks to increase female participation in industry innovation and applied sciences at PROs. The FWF career programmes support women at the start of their careers and to apply for full professors.

The Working Group on Gender and Diversity Management within the BMFWF aims to implement diversity measures as cultural and institutional change initiatives. In this regard, a study that focuses on how to achieve cultural and structural change within the scientific and research community has been commissioned by the BMFWF.

Indicator	Level/cluster	Value	Year	Source
Share of responding research performing organisations implementing recruitment and promotion policies for female researchers	ERA compliant cluster (EU level)	53.5 %	2013	ERA survey 2014
Share of responding research performing organisations implementing recruitment and promotion policies for female researchers	ERA compliant cluster (national level)	69.2 %	2013	ERA survey 2014
Share of responding research performing organisations implementing recruitment and promotion policies for female researchers	Limited compliance to ERA cluster (national	6.9 %	2013	ERA survey 2014

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Within the ERA compliant cluster in Austria, the share of research-performing organisations implementing recruitment and promotion policies for female researchers is higher than within the EU ERA compliant cluster.

The Country has set up provisions to integrate the gender dimension in research programmes and/or projects. FFG and FWF have included gender in research content considerations in grant application and reporting guidelines of specific funding instruments. In 2012 the Gender Studies Association Austria was established to develop gender studies at universities as well as higher education institutions.

Certain FEMtech R&D grants target gender-specific innovation since 2010, e.g. accounts for gender differences and its implications for product design.

Indicator	Level/cluster	Value	Year	Source
Share of responding funders supporting the inclusion of gender dimension in research content	National level	93.7 %	2013	ERA survey 2014
Share of responding funders supporting the inclusion of gender dimension in research content	EU level	48.5 %	2013	ERA survey 2014
Share of responding research performing organisations which include the gender dimension in research content	ERA compliant cluster (EU level)	44 %	2013	ERA survey 2014
Share of responding research performing organisations which include the gender dimension in research content	ERA compliant cluster (national level)	63.3 %	2013	ERA survey 2014
Share of responding research performing organisations which include the gender dimension in research content	Limited compliance to ERA cluster (national level)	4.3 %	2013	ERA survey 2014

The share of research funders in Austria who responded to the survey and support gender dimension in research content/programmes is higher than the EU average.

Within the ERA compliant cluster in Austria, the share of research-performing organisations that include the gender dimension in research content is higher than within the EU ERA compliant cluster.

5.2. Gender balance in the decision-making process

Within the ERA compliant cluster in Austria, the share of gender-balanced recruitment committees for leading researchers in research-performing organisations is lower than within the EU ERA compliant cluster.

The share of gender-balanced research evaluation panels amongst responding research funding organisations in Austria is lower than the EU average.

6. KNOWLEDGE CIRCULATION

6.1. Open access to publications and data resulting from publicly funded research

Austria supports open access in the frame of the performance agreements with universities. Activities concerning open access policies are up to individual research-performing organisations (RPOs) and research funding institutions. In January 2010 the Austrian Rector's Conference (UNIKO) published its recommendations to enhance open access policies in Austria. In 2012, under the organisational umbrella of the Austrian Science Fund (FWF) and UNIKO, research funders and performers have organised themselves into the 'Open Access Network Austria' to coordinate open access activities and make nationwide recommendations in the field. Additionally, since 2007 research and funding institutions from Austria, Switzerland and Germany cooperate in a joint project/online platform to improve information, knowledge and discuss open access.

Open access was enshrined as a topic of the future at national level as the Austrian Council for Research and Technology Development (RFTE) articulated open access in their Strategy 2020, that all public research results in Austria shall be freely accessible on the Internet by 2020.

Open access is one the key priorities of the Austrian Science Fund (FWF), the main funding for basic research in Austria.

FWF has a mandatory policy on open access, including towards data where legally possible, with green and gold open access as equivalent options. Similarly, the Austrian Academy of Sciences (ÖAW) and the University of Graz have developed an institutional open access policy. All other universities will follow.

Indicator	Level/cluster	Value	Year	Source

Share of responding funders supporting open access to publications	National level	64.5 %	2013	ERA survey 2014
Share of responding funders supporting open access to publications	EU level	51 %	2013	ERA survey 2014
Share of publicly funded scientific publications in OA amongst responding research performing organisations	ERA compliant cluster (EU level)	18 %	2013	ERA survey 2014
Share of publicly funded scientific publications in OA amongst responding research performing organisations	ERA compliant cluster (national level)	1 %	2013	ERA survey 2014
Share of publicly funded scientific publications in OA amongst responding research performing organisations	Limited compliance to ERA cluster (national level)	1 %	2013	ERA survey 2014

The share of research funders in Austria who responded to the survey and support open access to publications is higher than the EU average.

Within the ERA compliant cluster in Austria, the share of publicly-funded scientific publications in open access amongst research-performing organisations is lower than within the EU ERA compliant cluster.

Concerning open access to data this is legally included, where possible into open access for publications.

Indicator	Level/cluster	Value	Year	Source
Share of responding funders supporting open access to data	National level	18.6 %	2013	ERA survey 2014
Share of responding funders supporting open access to data	EU level	33.5 %	2013	ERA survey 2014
Share of responding research performing organisations making scientific research data available on-	ERA compliant cluster (EU	54.2 %	2013	ERA survey 2014

line and free of charge	level)			
Share of responding research performing organisations making scientific research data available on-line and free of charge	ERA compliant cluster (national level)	46.1 %	2013	ERA survey 2014
Share of responding research performing organisations making scientific research data available on-line and free of charge	Limited compliance to ERA cluster (national level)	9.7 %	2013	ERA survey 2014

The share of research funders in Austria who responded to the survey and support open access to data is lower than the EU average.

Within the ERA compliant cluster in Austria, the share of research-performing organisations making publicly funded scientific research data systematically available online and free of charge, is lower than within the EU ERA compliant cluster.

With respect to repositories, the Austrian Academy of Sciences (ÖAW), the University of Vienna, the Austrian Library Network LTD have created a repository.

6.2. Open innovation and knowledge transfer between public and private sectors

In relation to Open Innovation and Knowledge Transfer between public and private sectors, Austria has embedded academia-industry cooperation among the objectives of the 2011 Austrian Federal Government strategy for research, technology and innovation 'Becoming an Innovation Leader: Realising Potentials, Increasing Dynamics, Creating the Future'. However, the country has not developed a knowledge transfer strategy. The adoption of the strategy was followed by an inter-ministerial working group 'knowledge transfer and start-ups' and introduced improved tax measures in 2012.

The Austrian RTI strategy aims to improve and stimulate the level of collaboration between universities, public research organisations and the economic sector. For this purpose the Austrian RTI strategy promotes the establishment of knowledge transfer centers. Knowledge transfer between universities, other research organisations and the private sector will be promoted within three virtual regional Knowledge Transfer Centres and within a virtual thematic Knowledge Transfer Centre in the field of life sciences. The new BMWFW funding programme should offer incentives for Austrian state universities and defined research institutes to use strategic partnerships within the framework of the regional and thematic knowledge transfer centres to jointly utilise the potential that has been built up in recent years in the field of knowledge and technology transfer and thus to further increase both quality and

professionalism. Optimised transfer processes should furthermore enable universities in particular to participate to an even greater extent in the innovation process.

The new Austrian Federal Government workprogramme for 2013-2018 states under the research chapter the willingness to safeguard knowledge transfer, increase cooperation between science and business and develop and implement a national strategy for intellectual property.

In the ongoing performance agreements with universities and the ÖAW assurance is given that reliable and sustainable intellectual property and utilisation strategies will be developed to enable partners from the economy to formulate long-term research targets.

There are specific programmes for transferring knowledge, creating and supporting spin-offs and supporting intellectual property rights (IPRs) at the level of universities and research organisations, and specific placement schemes for young researchers in industry. The general programme of the FFG has remained Austria's most important source of public funding for R&D carried out by industry in terms of funding budget, efforts to promote R&D in all economic sectors and industries, areas of technology, and sizes of companies. Some examples of FFG programmes fostering academia-industry cooperation are COMET, COIN, BRIDGE, AplusB or uni:invent. The Christian Doppler Research Association provides also for academia-business cooperation within its programmes. Knowledge transfer measures are considered effective as they have led to a high level of transfer activities and Austria ranks third among Organisation for Economic Co-operation and Development (OECD) countries in this respect.

In 2010, a national contact point (NCP) was designated at the BMWFW. The NCP's tasks include coordinating measures regarding knowledge transfer between public research organisations and the private sector, including tackling trans-national issues, in liaison with similar contact points in other Member States. The project Intellectual Property Agreement Guide (IPAG) is funded by the NCP. The aim of IPAG is to support universities, public research institutions and also enterprises in the professional handling of intellectual properties (IP) by drafting model agreements. A set of model contracts is made available helping the most appropriate model contracts to be selected. The use of these model contracts is voluntary (www.ipag.at). The project is an important contribution to enhance trust and confidence between all relevant stakeholders and should simplify the legal and administrative processes. As part of efforts to generate greater public awareness of the link between science and industry, the Phönix Award of the BMWFW is given to young university spin-offs from universities and public research organisations. It aims to enhance the visibility of the excellent scientific outcomes of Austrian universities.

Strategic partnerships between academia and industry are supported by funding organisations in Austria, for example the FFG funds the Laura Bassi Centres of Expertise and the thematic programme "Leuchttürme eMobilität" (Lighthouses of E-mobility).

Indicator	Level/cluste	Value	Year	Source
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Share of responding funders supporting the implementation of knowledge transfer as part of its institutional and/or project-based funding	National level	82.4 %	2013	ERA survey 2014
Share of responding funders supporting the implementation of knowledge transfer as part of its institutional and/or project-based funding	EU level	82.9 %	2013	ERA survey 2014
Share of responding research performing organisations' research and development budget financed by the private sector	ERA compliant cluster (EU level)	6.8 %	2013	ERA survey 2014
Share of responding research performing organisations' research and development budget financed by the private sector	ERA compliant cluster (national level)	8.6 %	2013	ERA survey 2014
Share of responding research performing organisations' research and development budget financed by the private sector	Limited compliance to ERA cluster (national level)	2.1 %	2013	ERA survey 2014
Share of responding research performing organisations having or using a structure for knowledge transfer activities	ERA compliant cluster (EU level)	75 %	2013	ERA survey 2014
Share of responding research performing organisations having or using a structure for knowledge transfer activities	ERA compliant cluster (national level)	85.2 %	2013	ERA survey 2014
Share of responding research performing organisations having or using a structure for knowledge	Limited compliance to ERA	1 %	2013	ERA survey 2014

transfer activities	cluster (national level)			
Share of responding research performing organisations having dedicated staff employed in knowledge transfer activities	ERA compliant cluster (EU level)	66.3 %	2013	ERA survey 2014
Share of responding research performing organisations having dedicated staff employed in knowledge transfer activities	ERA compliant cluster (national level)	51.2 %	2013	ERA survey 2014
Share of responding research performing organisations having dedicated staff employed in knowledge transfer activities	Limited compliance to ERA cluster (national level)	0.7 %	2013	ERA survey 2014
Share of research personnel whose primary occupation is in the private sector (in headcount)	ERA compliant cluster (EU level)	2.9 %	2013	ERA survey 2014
Share of research personnel whose primary occupation is in the private sector (in headcount)	ERA compliant cluster (national level)	3.9 %	2013	ERA survey 2014
Share of research personnel whose primary occupation is in the private sector (in headcount)	Limited compliance to ERA cluster (national level)	2.9 %	2013	ERA survey 2014

The share of research funders in Austria who responded to the survey and support KT and OI, TTOs and Private Public interaction is similar to the EU average.

Within the ERA compliant cluster in Austria, the share of research performing organisations having funding originating from the private sector is higher than within the EU ERA compliant cluster.

Within the ERA compliant cluster in Austria, the share of research-performing organisations having or using a structure for knowledge transfer activities is higher than within the EU ERA compliant cluster.

Within the ERA compliant cluster in Austria, the share of research-performing organisations having dedicated staff employed in knowledge transfer activities is lower than within the EU ERA compliant cluster.

Within the ERA compliant cluster in Austria, the share of research personnel whose primary occupation is in the private sector (in FTE) is higher than within the EU ERA compliant cluster.

6.3. Harmonise policies for public e-infrastructures and associated digital research services

With regards to access and usage of e-infrastructures and digital research services, most Austrian academic institutions (more than 80 %) are part of the Austrian Academic Computer Network (ACOnet -'Österreichisches akademisches Computernetz') which is the National Research and Education Network (NREN) run by the University of Vienna. This is essential to make digital services possible. However, Austria does not have a strategy for implementating the Digital European Research Area (ERA).

Concerning digital services, the country provides federated services.

Indicator	Level/cluster	Value	Year	Source
Share of responding research performing organisations providing digital research services (i.e. cloud services, research collaboration platform, etc.)	ERA compliant cluster (EU level)	80.8 %	2013	ERA survey 2014
Share of responding research performing organisations providing digital research services (i.e. cloud services, research collaboration platform, etc.)	ERA compliant cluster (national level)	86 %	2013	ERA survey 2014
Share of responding research performing organisations providing digital research services (i.e. cloud services, research collaboration	Limited compliance to ERA cluster	8.5 %	2013	ERA survey 2014

platform, etc.)	(national level)			
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Within the ERA compliant cluster in Austria, the share of research-performing organisations providing digital research services (i.e. cloud services, research collaboration platform, etc.) is higher than within the EU ERA compliant cluster.

6.4. Uptake of federated electronic identities

Austria was a member of an identity federation in 2011. The country is member of eduGAIN, a service intended to enable the trustworthy exchange of information related to identity, authentication and authorisation between the GÉANT (GN3plus) Partners' federations, through AConet, which offers its members high-performance access and support services.

Indicator	Level/cluster	Value	Year	Source
Share of responding research performing organisations in the sample providing federated electronic identities for their researchers	ERA compliant cluster (EU level)	38.5 %	2013	ERA survey 2014
Share of responding research performing organisations in the sample providing federated electronic identities for their researchers	ERA compliant cluster (national level)	28.4 %	2013	ERA survey 2014
Share of responding research performing organisations in the sample providing federated electronic identities for their researchers	Limited compliance to ERA cluster (national level)	5 %	2013	ERA survey 2014

Within the ERA compliant cluster in Austria, the share of research-performing organisations providing federated electronic identities for their researchers is lower than within the EU ERA compliant cluster.

7. NOTES ON THE 2014 ERA SURVEY RESULTS

7.1. Comments

A total of 94 research performing organisations in Austria answered the 2014 ERA survey, which represents 40.1% of the total number of researchers in the country (total number of researchers in the country as of 2011). One important research performing organisation is not included.

The principal component and clustering analysis of research performing organisations in Austria shows that 21.1 % of them are in the 'ERA compliant' cluster, 51.1 % can be classified in the 'limited compliance to ERA' cluster and 27.8 % of organisations in the 'ERA principles are not applicable' cluster. However, when the organisations are weighted by the number of researchers in each organisation, the results significantly vary. Indeed, the shares of 'weighted' organisations are 85.7 % for the 'ERA compliant' cluster, 10.6 % for the 'ERA limited compliant' cluster and 3.7 % for those organisations where ERA principles are not applicable.

For the indicator 'Share of total budget allocated as project based funding' it should be noted that part of the funding of RPO's is directly by some of the ministries without intervention by any funding organisation. As a consequence the percentage is relatively high compared to official figures. Moreover one of the big funding organisations in Austria could not make a distinction between project based or institutional funding.

For the indicators on Open Access the non-response rate was high, while a high percentage of organisations that did reply perform applied research. These factors explain the relatively low scores on Open Access.

Policy measures in support of ERA implementation

Initiative	Adopted in	Adopted since 2012	New measure since 2013
Research and innovation system			
Austrian EU Action Plan	2013	X	X
Project-based funding applying the core principles of international peer review			
Reform of the Austrian Academy of Sciences (ÖAW)	2012	X	
Quality Assurance Framework Law establishing the Agency for Quality Assurance and Accreditation Austria	2012	X	
The Austrian Research, Technological Development and Innovation Strategy "Becoming an Innovation Leader: Realising Potentials, Increasing Dynamics, Creating the Future"	2013	X	X

Institutional funding based on institutional assessment			
Updated evaluation standard published by the semi-public Platform Research & Technology Policy Evaluation (FTEVAL)	2012	X	
Revision of the Federal law on the organisation of universities and their studies (Austrian Universities Act) Revised university financing provisions	2013	X	X
Implementing joint research agendas			
Support for European initiatives e.g. the European Strategic Energy Technology (SET) Plan (national representatives level) and for the participation of national researchers	2013	X	X
Openness for international cooperation with third countries and regions			
Establishment of FTI-Attachés and additional Offices of Science and Technology Austria (OSTA)	2014	X	X
Beyond Europe Die Internationalisierung Österreichs in Forschung, Technologie und Innovation über Europa hinaus	2013	X	X
Interoperability, mutual recognition of evaluation results and other schemes			
Joint Programming Initiatives - Austria is leading the JPI Urban Europe and is participating in 7 more JPis	2013	X	X
Article 185, ERA-nets and ERA-nets plus	2013	X	X
New scientific clusters launched and evaluation exercise passed in the Danube strategy	2014	X	X
Financial commitments for the construction and operation of ESFRI, national and regional			

research infrastructures of pan-European interest			
Establishment of a repository of research infrastructures in Austria	2011		
Draft national roadmap for for the building of new infrastructures and link to ESFRI.	2011		
Participation in ESFRI Initiatives	2013	X	X
Austrian Research Infrastructure – Action Plan 2014-2020	2014	X	X
Open, transparent and merit-based recruitment of researchers			
National EURAXESS portal			
Attractive careers			
Implementation of the provision of the Scientific Visa Directive 2005/71/EC and recommendations 2005/762/EC and 2005/761/EC			
Recognition ("Nostrifizierung") of foreign diploma or training qualifications	2011		
The brainpower austria programme; the Career Grants Programme; various grants and scholarships			
Revision of the Federal law on the organisation of universities and their studies (Austrian Universities Act) (revision of/amendment to the original 2002 law, Bundesgesetz BGBl. I Nr. 81/2009)	2009		
Gender balance in the decision-making process			
FWF structured doctoral programmes			
Hertha Finberg Programme and Elise Richter Programme			
Revision of the Federal law on the organisation of universities and their studies (Austrian Universities Act)	2011		

(revision of/amendment to the original 2002 law)			
Federal Constitutional Act (BV-G) and Federal Budget Act (BHG)	2013	X	X
Federal Equal Treatment Act and equivalents at regional level			
The Charter on the Compatibility of Family and Career, The National Action Plan (NAP) for Gender Equality in the Labour Market, The Care Allowance Reform Act 2012 and The Care Allowance Act National policy on gender equality	2013	X	X
Working Group on Gender and Diversity Management	2013	X	X
inter-ministerial action umbrella programme fForte (Women in Research and Technology), industry and PROs branch (FEMtech)	2002		
Inter-ministerial action umbrella programme fForte (Women in Research and Technology), industry and PROs branch (FEMtech)	2002		
inter-ministerial action umbrella programme fForte (Women in Research and Technology), schooling branch Educational gender initiatives by BMWF			
Open access to publications and data resulting from publicly funded research			
Open Access Network Austria	2012	X	
Open innovation and knowledge transfer between public and private sectors			
Overarching laws on the research system			
Inter-ministerial working group			

“knowledge transfer and start-ups”			
Tax incentives for research	2012	X	
Christian Doppler Research Association			
General Programme of the Austrian Research Promotion Agency (FFG) - support of KT and OI	2011		
Establishment of a national contact point (NCP) for IP management	2010		
Harmonise policies for public e-infrastructures and associated digital research services			
ACOnet “Österreichisches akademisches Computernetz” - member of GÉANT			
Uptake of federated electronic identities			
eduGAIN	213		