GUIDANCE TO FACILITATE THE IMPLEMENTATION OF TARGETS TO PROMOTE GENDER EQUALITY IN RESEARCH AND INNOVATION

A guidance prepared by the Helsinki Group and the European Commission in consultation with the ERA stakeholders.

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Executive Summary

On 1 December 2015 the Council of the European Union invited Member States and institutions to set up guiding targets for a more even gender balance for professors and in leadership and decision making positions.

This guidance draws on the National Action Plans submitted in 2016 and on a survey done by the Helsinki Group on Gender in Research and Innovation (the HG) on national practices. It provides recommendations to facilitate the implementation of guiding targets in research institutions and higher education establishments as requested by the Council of the EU.

The HG survey shows that quotas or targets are mostly implemented through law or through wider national strategies for gender equality, and this enhances their effectiveness.

Quotas and targets currently tend to relate to boards of funding agencies, research organisations and universities. Evaluation or recruitment committees, which are important decision-making bodies signalled by the Council, are often not addressed and should also be covered.

Monitoring appeared to be a key driving factor for an effective implementation of quotas or targets. Monitoring mechanisms which comprise at least the collection of sex-disaggregated data should be applied both at the national and institutional level.

Incentives and sanctions are useful tools that can be applied at national level to motivate universities and research organisations to set up and implement guiding targets or quotas. Among them, ranking of universities and research organisations as well as awards are used in some countries with a particular impact.

At the level of universities and research institutions, the active support and commitment of the leadership is essential for introducing, implementing and monitoring quotas or targets. Transparency, namely in recruitment, promotion and nomination, is necessary, and should be an integral element of human resources (HR) strategies.

The successful implementation of targets and/or quotas implies a change in culture which should be accompanied with appropriate awareness raising and training showing the benefits that institutions draw from a better gender balance and a more equal treatment of men and women.

Other supporting activities which are applied at the level of universities and research organisations include mentoring and shadowing to help women engage in decision-making positions.

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Introduction

In its Conclusions on advancing gender equality in the European Research Area (ERA) adopted on 1 December 2015[1] the Council stressed the need to strive for **gender balance in leadership and decision making positions** by appropriate measures, and invited relevant authorities to set up guiding targets, for example quantitative objectives, for better gender balance in decision-making bodies including leading scientific and administrative boards, recruitment and promotion committees as well as evaluation panels, and encouraged research funding and performing organisations to reach these targets by 2020. It also invited Member States and institutions to strive for guiding targets for a more even gender balance for professors.

The Council called on the European Commission, in close cooperation with the Helsinki Group, to provide support for Member States to address policy challenges related to gender balance, including developing guidance to facilitate the implementation of guiding targets.

As the participation of women in science and technology contributes to increasing the quality, societal relevance and competitiveness of research and innovation, gender balance in decision making roles has been a long-term objective. Recommendations put forth in the **ETAN report** (2000) proposed, amongst other measures, legislative changes in order to request a minimum of 30 to 40% of each sex in national boards, including e.g. research councils.

Following a Decision of the European Commission aiming at gender balance in the groups[2] the EU Framework Programmes for Research set targets for the under-represented sex in expert groups and evaluation panels.

In 2007 the European Commission set up **an expert group on Women in Research Decision Making (WIRDEM)[3]**. The aims of this group were to identify and review gender equality measures at institutional and national level to promote women into senior positions in public research. The expert group recommended a mandatory gender balance (40:60) in decision making bodies and that every imbalance should be justified. The report made recommendations for better targeted action at the European and national levels. In the following years other reports[4] reiterated the recommendations and formulated additional ones.

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[1] Council of the European Union: Advancing gender equality in the European Research Area – Council Conclusions, Articles 6, 14 and 15 (adopted on 01/12/2015), available at http://data.consilium.europa.eu/doc/document/ST-14846-2015-INIT/en/pdf.

[2] Commission Decision 2000/407/EC, available at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32000D0407&from=EN; Commission Decision of 30/05/2016, available at http://ec.europa.eu/transparency/regexpert/PDF/C_2016_3301_F1_COMMISSION_DECISION_EN.pdf.

[3] European Commission. 2008. *Mapping the Maze: Getting more women to the top in research*, available at http://ec.europa.eu/research/science-society/document_library/pdf_06/mapping-the-maze-getting-more-women-to-the-top-in-research_en.pdf.

[4] I.e. European Commission 2009: Gender Challenge in Research Funding, available at https://ec.europa.eu/research/swafs/pdf/pub_gender_equality/gender-challenge-in-research-funding_en.pdf; European Commission 2012: Structural Change in Research Institutions, available at https://ec.europa.eu/research/science-society/document_library/pdf_06/structural-changes-final-report_en.pdf.

The number of Member States implementing targets increased. Some progress was recorded in the proportion of women in grade A and among Heads of Higher Education Institutions[5].

There is still room for improvement across Europe and across the fields of science and domains of research. It is vital for European research and innovation to take these recommendations seriously and move forward.

Therefore, this guidance endorses and updates the recommendations already made in the previous reports, presents the current situation in EU Member States and Associated Countries and gives examples of national practices.

The main sources used to prepare this guidance are the National Action Plans submitted in 2016, the ERA Progress Report 2016 and a survey among Helsinki Group members conducted in September 2016 and March 2017.

1. Gender Equality in Research and Innovation: Current Situation

1.1. Statistics

Vertical segregation persists across Europe, with women underrepresented in both top academic research and academic management leadership and decision making positions although there are marked differences among countries.

Proportion of women in Grade A: The proportion of women in Grade A positions has increased gradually by 8.5 percentage points in the EU: from 15% in 2000, 16% in 2002, 18% in 2007, 20% in 2010, 21% in 2013 to 23.5% in 2014.

Proportion of women as heads of institutions in the Higher Education Sector: Within EU-28 in 2014, 20.1% of the heads of institutions were women, up from 15.5% in 2010 (in EU-27).

Proportion of women as heads of institutions accredited to deliver PhD: The EU average in 2014 was 15%, 10% in 2010 and 9% in 2007.

Proportion of women on boards: Overall in the EU, women made up 28% of board members in 2014. Eight (2010: 4) countries have at least 40% women board members, suggesting that women have been included in important decision making processes in a growing number of countries.

For more detailed information on statistics see Annex 1.

1.2. Legal/Policy Framework

There are several documents that shape the legal and policy environment in terms of gender equality in research and innovation.

[5] cf. *She Figures 2015.*

Article 8 of the **Treaty on European Union and the Treaty on the Functioning of the European Union** (TFEU) states that "[i]n all its activities, the [European] Union shall aim to eliminate inequalities, and to promote equality, between men and women".

All Member States have transposed in their national legislation the EU Directives relating to equality between women and men and in particular the Directive 2006/54/EC on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation[6].

In the **European Commission's Communication for a Reinforced European Research Area**[7] Member States are encouraged to remove legal and other barriers to the recruitment, retention and career progression of female researchers while fully complying with EU law on gender equality; address gender imbalances in decision making processes; and strengthen the gender dimension in research programmes. Member States are invited to build partnerships with funding agencies, research organisations and universities to foster cultural and institutional change on gender. Member States should also ensure that at least 40% of the underrepresented sex participate in committees involved in recruitment/career progression and in establishing and evaluating research programmes.

1.3 Targets and/or quotas in the EU Member States and Associated Countries

Based on the 29 National Action Plans (NAPs), submitted to date by twenty-four Member States and five Associated Countries to the Council of the European Union and the European Commission, an overview was done relating to the reported implementation of quotas and targets in 2016 and to the planned actions.

In 2016, 14 Member States (AT, BE, DE, DK, EL, ES, FI, FR, LU, MT, NL, SI, SE, UK) and one associated country (CH) reported having quotas or targets set at national or regional levels for gender balance in at least some decision making bodies, such as supervisory or executive boards, recruitment committees and evaluation panels (not including targets or quotas which may exist at local level or in individual universities or local research organisations).

11 Member States (BE, BG, CY, EE, EL, HR, IE, IT, LT, LV, PT) and one Associated Country (BA) are planning new initiatives relating to targets or quotas for the period 2017-2020. Four of these Member States (EE, HR, IE, IT) had no targets or quotas before. If the planned actions are implemented, it would bring the number of Member States with quotas or targets to 19 (17 Member States and two Associated Countries).

[6] European Commission: Directive 2006/54/EC on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation, available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:204:0023:0036:en:PDF.

[7] A Reinforced European Research Area Partnership for Excellence and Growth, available at: https://ec.europa.eu/digital-single-market/en/news/reinforced-european-research-area-partnership-excellence-and-growth

Of the countries implementing quotas or targets (AT, BE, DE, DK, EL, ES, FI, FR, LU, MT, NL, SI, SE, UK), some are among the innovation leaders (DE, FI, NL, CH, DK, SE) and the rest are mostly among the strong innovators.[8]

2. Setting Targets/Quotas for Gender Equality

2.1. Legal rationale

The setting up of targets or quotas at the national level supports the implementation of the EU policy objective relating to gender balance in decision making. In a number of countries it is part of a wider policy/legal framework aiming at gender equality. Some laws require a gender equality plan, which in itself should define quotas/targets. In some countries gender equality plans are to be set up voluntarily.

The HG survey showed that quotas or targets are mostly **implemented through law or through national strategies/programmes**. **Having a legal framework is considered as a main factor driving an effective implementation of quotas or targets**, according to the survey.

For example:

In Denmark, the Gender Equality Act has since 2013 stated that companies and public institutions (e.g. universities), with a collective management body (a board), must report gender composition in the highest management body (the board) if the board of the company or institution does not have an equal gender balance (60/40 gender divide). The act also states that boards of public councils (e.g. boards of research funds) that are appointed by a minister should have an equal gender balance of men and women.

In Finland the Equality Act includes a quota provision that applies to state-administration committees, advisory boards, working groups and other similar bodies as well as municipal boards, committees and inter-municipal cooperation bodies. According to this provision, the bodies must have at least 40% of both men and women. The quotas do not apply to bodies chosen via elections.

In France, the decree of 30 April 2012 under section 56 of the Law of 12 March 2012 stipulates that there should be at least 40% of nominations for each gender in senior management functions in 2018. This law applies to research organisations and universities as researchers and professors are civil servants in France. Failure to progressively comply with this obligation is sanctioned by a financial penalty proportional to the deficit of the appointments observed.

In Spain, according to the Organic Law for Effective Equality between Women and Men from 2007, gender balance is 40%-60% of either women or men. Public institutions must promote gender balance in selection and evaluation committees, and it is a must for selection

[8] Ruest-Archambault, E., von, Tunzelmann, N., Iammarino, S., Jagger, N., Miller, L., Kutlaca, D., … Mosurovic, M. (2008). *Benchmarking policy measures for gender equality in science*. Luxembourg: Office for Official Publications of the European Communities.

committees at State Administration and national level institutions assigned to it (including research organisations). The Organic Law for Universities (2007) establishes provisions to achieve gender balance in decision making bodies. The Science, Technology & Innovation Law (14/2011) requires gender balance in all R&I decision making bodies.

Within Research Funding Organisations, all committees, groups and panels appointed by NordForsk[9] must have at least 40% of minority gender.

Likewise the Irish Research Council aims for 40% of each gender to be represented in the membership of all assessment, advisory and management boards, committees, workshops and focus groups.[10] Science Foundation Ireland has committed to achieving 40% of representation of each gender on assessment panels by 2020.[11]

2.2. Scope and Levels of Targets/Quotas

There are two main groups to which the guiding targets provided by the Council Conclusions apply. Firstly, the guiding targets should be applied in decision making bodies, such as leading scientific and administrative boards, recruitment and promotion committees and evaluation panels, to achieve gender balance in leadership and decision making positions. Secondly, the targets should be set to reach more even gender balance among professors in higher education institutions.

Currently, the European Commission has set a 40% target for the under-represented sex in all their committees and expert groups[12], and a higher target of 50% was set for Horizon 2020 advisory groups.

The HG survey shows that quotas and targets are mostly defined for boards and only in some countries for evaluation and recruitment committees.

Concerning gender balance in decision-making, in most cases, quotas or targets are set at 40% of women or the underrepresented sex.

For example:

The Austrian Law sets a 50% quota for women in all university bodies. It also sets a 50% female quota for university personnel categories in which women are under-represented. To achieve this, universities are required to adopt women promotion plans, including targets

[9] Established in 2005, Nordforsk is an organisation under the Nordic Council of Ministers that provides funding for and facilitates Nordic cooperation on research and research infrastructure. Through the financing and administration of research programmes NordForsk brings together national research groups and promotes research activities of the highest scientific quality.

[10] Irish Research Council, *Gender Strategy and Action Plan 2013–2020*. Available: http://www.research.ie/sites/default/files/irish_research_council_gender_action_plan_2013_-2020.pdf.

[11] Science Foundation Ireland, *Gender Strategy 2016–2020*, Available: http://www.sfi.ie/assets/files/downloads/Publications/Organisation%20Publications/SFI%20Gender%20Strategy%202016-2020.

[12] Commission Decision 2000/407/EC, available at http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32000D0407.

defined every two years for the personnel categories where women are underrepresented (the proportion of women is significantly below 50%).

In Denmark, gender balance is in the the Gender Equality Act defined as a gender balance ratio of at least 60/40.

In all Flemish universities there are quotas in selection panels and management boards, and a balanced participation in the advisory bodies of the Wallonia-Brussels Federation (a minimum of 33% of each sex).

In Germany from 1 January 2016 on, according to the provisions of the Act on the Participation of the Federation in Appointments to Bodies (BGremBG), additional quota regulations apply to supervisory boards, for which the Federation is entitled to at least three seats as well as for essential bodies to which the Federation is entitled to send members. With regard to these boards and bodies, the government is obliged to gradually reach a gender quota of 30 % in supervisory boards, respectively maintain it. As from 2018, the obligation is supposed to increase to a gender parity of 50 %.

In the Netherlands, a target of 30% for women in board-level positions at universities and research institutions is set by the government.

In Ireland higher education institutions must report annually to the Higher Education Authority on the gender-balance of their staff, governing authority, academic council and executive management. In addition the *Report of the Expert Group: HEA Review of Gender Equality in Irish Higher Education Institutions* (2016), to the implementation of which Ireland's NAP commits, calls for the candidate-pool for the position of president of a higher education institution to be gender-balanced; for key decision-making bodies in institutions to be comprised of 40% of each gender; for 40% of the chairs of such bodies to be of each gender in any given year; for a minimum of 40% women and 40% men to be full professors by 2024; and for the candidate-pool for non-academic positions with a salary of €76,000 or more to comprise an equal number of men and women. The report also calls for research-teams and principal investigators (at aggregate level across an institution) to be comprised of at least 40% of men and 40% women.[13]

In Norway the Gender Equality Act of 1978 constitutes the legal basis for composition of boards at universities, university colleges and research institutes. When a public entity constitutes a board, a formal advisory group or the like, each sex shall be represented by the minimum of 40%.

The Swiss National Science Foundation has introduced a 40% quota for women in its Foundation Council responsible for key regulations and the service agreements with the federal government.

[13] Higher Education Authority, *Report of the Expert Group: HEA Review of Gender Equality in Irish Higher Education Institutions*. Available: http://www.hea.ie/sites/default/files/hea_review_of_gender_equality_in_irish_higher_education.pdf.

3. Implementing Targets/Quotas at the level of research organisations and universities

3.1. Methods, Approaches and Governance

The implementation of quotas and/or targets is facilitated by a pro-active policy approach and actions aimed at cultural and institutional change. According to the information provided in National Action Plans, 8 Member States (AT, CZ, DE, EE, ES, FR, IE, LT) and 2 Associated Countries (ME, NO) have introduced cultural and institutional change as a key element of their national policy framework on gender equality in R&I. These changes call for a strong and visible **commitment from the highest university leadership** that takes full responsibility for the introduction, implementation and monitoring of actions taken towards gender equality.

Many universities have specific recruitment and promotion measures within their Gender Action Plans or HR strategies.

For example:

The Czech Science Foundation and the Office for the Government/Section for Science, Research and Innovation include standard formulations in call texts for nominations ("the gender aspect will be considered").

In Denmark, as part of the legislation for equality it is stated that when authorities and organisations have to propose a member to a board appointed by a minister (e.g. the boards of the 3 Danish research funds), there should be both a male and female candidate for a newly open position. Also, as a consequence of the law, universities (etc.) must develop a policy for equal gender composition in the upper levels of management and set a specific target for the underrepresented gender in the highest management body (the board) and provide a time period, in which the university expects to achieve its target.

In Germany the research organizations involved in the Pact for Research and Innovation have put measures into place in recent years to increase the proportion of women in leadership positions in particular. Specifically, they have set themselves the task of achieving target quotas for the recruitment of young female researchers and executive personnel which are based on a Cascade Model. The quotas in the Cascade Model are based on the proportion of women at the career level immediately below. This has set the right course but further efforts must be made because women remain significantly under-represented in top-tier positions in Germany's science system.

In Norway there are standard formulations in call texts: *women are encouraged to apply*. Some instruments (Centres of Excellence) have implemented more proactive measures as a result of poor gender balance, with a positive impact. Nominations for boards have to include both sexes.

The Swiss National Science Foundation is implementing (autumn 2017) a new postdoc funding program PRIMA (Promoting Women in Academia) for women only. The program aims at increasing the number of female professorships in Switzerland.

The lack of women candidates may hinder effective implementation, as well as non-effective policy making. Therefore **the pool of women candidates** must be enlarged. There are several initiatives at national and European levels to create **databases** of women researchers with their profiles. Their aim is to help institutions when looking for women candidates for an application or appointment process as well as for board membership. When establishing a database of women researchers, it is important to define clear and transparent criteria. Examples of European and National databases can be found in Annex (2).

To enhance the **transparency of procedures** in recruitment, promotion or nomination, numerous measures are in place primarily at the institutional level as part of HR strategies and policies. The following selected examples show the diversity of measures of this type.

In Finland, the Academy of Finland has paid specific attention to procedures and transparency in building committees/boards in the Academy of Finland and the equal evaluation of both genders. The current Equality Plan for the Academy of Finland is approved for 2017-2018. The Academy of Finland Equality Plan is applied to those working on Academy funding, to Academy Professors and Academy Research Fellows, and to the staff at the Academy's Administration Office.

In Portugal, the Public Administration selection process for intermediate civil service managerial positions follows compulsory public tenders and subsequent training courses, with a neutral gender approach. Regulations for hiring and career progression in Higher Education have increasingly evolved towards greater transparency.

The effectiveness of quotas or targets regarding boards, committees and panels can be enhanced by **incentives or sanctions**.[14]

For example:

In France the failure to progressively comply with this 40% obligation is sanctioned by a financial penalty proportional to the deficit of the appointments observed.

There are several positive examples of using **financial incentives** for higher education and research institutions if they nominate women.

For example:

In Ireland higher education institutions applying for funding from Science Foundation Ireland's Starting Investigator Grant Scheme can double the number of applications they submit (from 6 to 12) if 50% of the applicants are female.[15]

In the Netherlands, tenure track calls at universities and the *Aspasia programme* of the Research Council in the Netherlands gives funds to universities if they nominate a woman.

[14] One example from the private sector is the "empty chair"-rule in Germany: if there is an insufficient number of women appointed to supervisory boards of stock-listed and fully co-determined enterprises, the chair(s) which should be filled by women according to the quota, remains empty.

[15] See http://www.sfi.ie/funding/funding-calls/closed-calls/sfi-starting-investigator-research-grant-(sirg)-programme-2015.html.

In Norway, universities have gender equality budgets funding different measures and initiatives. At national level these include the *Special programme supporting gender balance in top position and research management*, *Seed money* and others.

In Spain, the Andalusian Government has a financial model for universities with 10% of the research and innovation funding conditioned to results in strategic targets such as the proportion of women in Grade A and Principal Investigators positions.

Also **rankings and prizes** have a motivational potential. Reports to the ministry or other responsible bodies as well as the publication of progress made or rankings of organisations have been proved to be effective.

For example:

Polish National Science Centre promotes female participation in its calls and encourages women to apply for grants. The Foundation for Polish Science, an NGO that is the major off-budget funding source in Poland, has been trying to increase the share of women among people who nominate candidates for the Foundation's awards (when nominations are required) and review applications.

The Athena SWAN (Scientific Women's Academic Network) Charter recognises good practice towards the advancement of gender equality: representation, progression and success for all. Members who sign up to the Charter are expected to apply for an Athena SWAN award, at Bronze, Silver or Gold level. Each award is valid for three years. They commit to adopt 10 principles which focus on promoting and supporting gender equality for women.

3.2. Supporting Measures

There are several types of supporting measures that can be applied to promote balanced gender participation at the institutional level, namely providing mentoring and training for staff at the university or research institution level.

Mentoring is a common and effective way of providing individual professional support for women (and men). It has been recognised as a useful and cost-effective way of staff development. It is based on pairing a more experienced person with a less experienced one with the aim of enhancing competencies of the less experienced person. Good mentoring programmes offer tailored mentoring aimed at the empowerment of female scientists in relation to their own career progression. Reports and research studies provide ample evidence of the positive impact of mentoring programmes on the promotion and improved career opportunities for women.

For example:

Vital Voices Poland is a foundation whose goal is to develop women's leadership potential, support the concept of mentoring, train and educate women in leadership positions and

support their professional and personal development. It has run two mentoring programs to support Polish women's progression into leadership positions.[16]

Programmes aimed at **enhancing women's skills and competencies in higher education/ research institutions management and strengthening their leadership capacities** are an important strategy instrument. They are usually short term and take the form of a workshop, but there are also some full time diploma degree programmes in academic leadership (e.g. at UCL – Institute of Education).

In many countries, **training programmes are organised at institutional level**.

For example:

In Cyprus, the Research Promotion Foundation has organized trainings in the framework of its participation in a COST Action and in EU funded projects (GENDER-NET). These trainings were targeted to both male and female potential leaders/decision makers and researchers.

In Ireland a number of higher education institutions participate in the U.K.'s Aurora Leadership Development Programme for women.[17]

In Spain, the CERCA Institute, which is the Government of Catalonia's technical service for supervising, supporting and facilitating the activities of research centers in the CERCA system, has made a video on *Recruitment Bias in Research Institutes* to inform selection committees on how to combat gender bias.[18]

A wider initiative that can serve as a supporting measure is the creation of **women's networks.** They can encourage women to access top positions and help them to improve leadership capacities. There are numerous support networks at national levels. At the European level the largest network is the European Platform of Women Scientists (EPWS)[19].

A network of women leaders in higher education is the European Women Rectors Association (EWORA).[20]

In Spain, there is a network for women scientist and technologists, la Asociación de Mujeres Investigadoras y Tecnólogas (AMIT), which is very active (for instance promoting women candidates and gender balance in juries of research and innovation awards). The State Secretariat for RDI asked the Association to develop a database of women top experts which in 2016 has been disseminated to relevant units at this State Secretariat.[21]

[16] See http://www.vitalvoices.pl/mentoring/48/artykul.html#menu-wlc-center.
[17] See https://www.lfhe.ac.uk/en/programmes-events/programmes/women-only/aurora/.
[18] Available at https://www.youtube.com/watch?v=g978T58gELo&feature=youtu.be.
[19] See http://www.epws.org.
[20] See http://www.ewora.org.
[21] See http://www.amit-es.org/.

In Switzerland, the platform gendercampus[22] is funded by the Universities and provides different networking-services for gender scientists as well as for gender-equality-representatives.

3.3. Monitoring and Evaluation

Monitoring is a main driving factor for effective implementation of quotas or targets according to the survey.

The first essential step of a monitoring system consists in the collection of **sex-disaggregated statistical data**. That is not always the case as can be seen from She Figures 2015 where 10 Member States/Associated Countries did not provide data about female heads of higher education institutions. Data about the percentage of women in Grade A positions are unavailable in 9 Member States/Associated Countries.

For example:

In 2010, the Austrian Agency for Quality Assurance published a report on the Development of Quality in Recruitment Proceedings at Austrian Public Universities[23]. Cooperation between ten universities and experts resulted in a comprehensive analysis of national and international praxis. Recommendations included the systematic consideration of recruitment proceedings and its strategic significance.

In Denmark, the minister appointing a new member of a specific board (e.g. the boards of the 3 Danish research funds) is required to report on the proposed composition to the gender equality minister before the appointment is confirmed. Universities must report the gender composition in the highest management body (the board) once a year to the Ministry of Higher Education and Science.

In Greece, the Observatory of the General Secretariat for Gender Equality was set up in 2015 to support gender mainstreaming in public policies. It aims to support evidence-based policy making and monitoring as well as to form a key node for the dissemination of statistical information and data related to gender equality. Higher education institutions fall under the scope of its activities. The observatory comprises a portal[24] which allows the collection, analysis, and dissemination of statistical data, metadata, indicators, an e-application which allows monitoring of quotas on the basis of the information provided, special reports and annual reports on the progress of the implementation of gender equality policies.

In Iceland, organisations distributing funds for scientific research should systematically collect information on the gender composition of expert councils, applicants and grantees, and grant amounts. If an uneven distribution is found between the grantees of either sex, the organisation is obliged to examine whether action should be taken to correct this inequality,

[22] See https://www.gendercampus.ch/en.
[23] Available at https://www.aq.ac.at/de/analysen-berichte/dokumente-analysen-berichte/AQA-Empfehlungen-zur-Gestaltung-der-Berufungsverfahren_2010.pdf.
[24] See http://paratiritirio.isotita.gr/genqua_portal/en/index.

for example, by making grant applications more accessible, or reviewing the allocation rules.[25]

The Irish Research Council monitors the gender-balance of its applicants and awardees.[26] Ireland's Higher Education Authority publishes gender-disaggregated data on the staffing, governance and management of higher education institutions; and the implementation of the *Report of the Expert Group: HEA National Review of Gender Equality in Irish Higher Education Institutions* will be reviewed on a triennial basis.[27]

The National Science Centre, a Polish funding agency, systematically monitors gender balance in its calls and reviewer panels.

In Spain, the Women & Science Unit at the State Secretariat for RDI coordinates *Científicas en Cifras* (the national series on She Figures for RDI), published every two years by the Ministry of Economy and Competitiveness. The last edition started to report on gender balance in top decision making bodies at universities and national level Public Research Organizations, as well as on evaluation committees of RDI calls under the Spanish National Plan for Scientific and Technical Research and Innovation.[28]

The Swiss National Science Foundation has implemented a systematic gender monitoring of the success rates of women and men applicants in project funding. Most universities publish a yearly or biennial monitoring report on the participation of women and men in their institution. A national report on Monitoring of Women and Men at Swiss Universities is published by The Federal Statistical Office and the Gender Equality Program every four years.[29] A new publication with additional indicators will follow in August 2017.

Regular evaluation is a crucial element of a successful policy implementation process.

For example:

The Austrian University Act includes a provision that all university bodies and boards have to have at least 50% of women. Another provision states that university councils have to report about the implementation status of that quota and also proposals for the improvement of the situation. Moreover, the Federal Minister has to publish a report on the developments of the composition of university bodies annually.

[25] For more information see https://www.rannis.is/media/rannsoknasjodur/IRF-Handbook-2017-ENGLISH.pdf.
[26] Irish Research Council, *Gender Strategy and Action Plan 2013–2020*. Available: http://www.research.ie/sites/default/files/irish_research_council_gender_action_plan_2013_-2020.pdf.
[27] Higher Education Authority, *Report of the Expert Group: HEA Review of Gender Equality in Irish Higher Education Institutions*. Available: http://www.hea.ie/sites/default/files/hea_review_of_gender_equality_in_irish_higher_education.pdf.
[28] For more information see http://www.idi.mineco.gob.es/stfls/MICINN/Ministerio/FICHEROS/Informe_Cientificas_en_Cifras_2015_con_Anexo.pdf.
[29] For more information see (https://www.bfs.admin.ch/bfs/de/home/statistiken/kataloge-datenbanken/publikationen.assetdetail.347895.html,

4. Step-by-step Recommendations

Framework for the Recommendations

- Apply targets or quotas gradually, from easier actions to more ambitious and challenging ones, to be defined according to the national policy environment
- *"Fixing"* the institutions not "*fixing"* the number of women, reflecting the need to focus on the cultural and institutional conditions that promote fairness, equality and diversity

To Member States

- Collect and publish sex-disaggregated data on the composition of professorship and management/ leadership positions
- Institutionalise gender equality plans as an assessment tool in the accreditation of universities and make gender equality plans mandatory for universities and research organisations
- Institutionalise the proportion of women in Grade A/professor positions as an assessment criterion in institutional evaluations (higher education accreditation, performance contracts with universities)
- Set and implement guiding targets and/or quotas through legislation
- Evaluate regularly the implementation of quotas and/or targets
- Introduce sanctions for non-compliance and/or incentives for institutions adopting pro-active measures

To Research and Higher Education Institutions

- Commit to gender balance in decision-making and in Grade A/professor positions
- Promote gender balance in nominations with adequate awareness raising and training
- Recruit and appoint more of the underrepresented sex as professors
- Ensure transparency of nominations and appointment procedures
- Recruit or actively nominate women as board and committee members/leaders
- Implement guiding targets in internal regulations
- Monitor the implementation of targets / quotas and conduct regular impact assessment

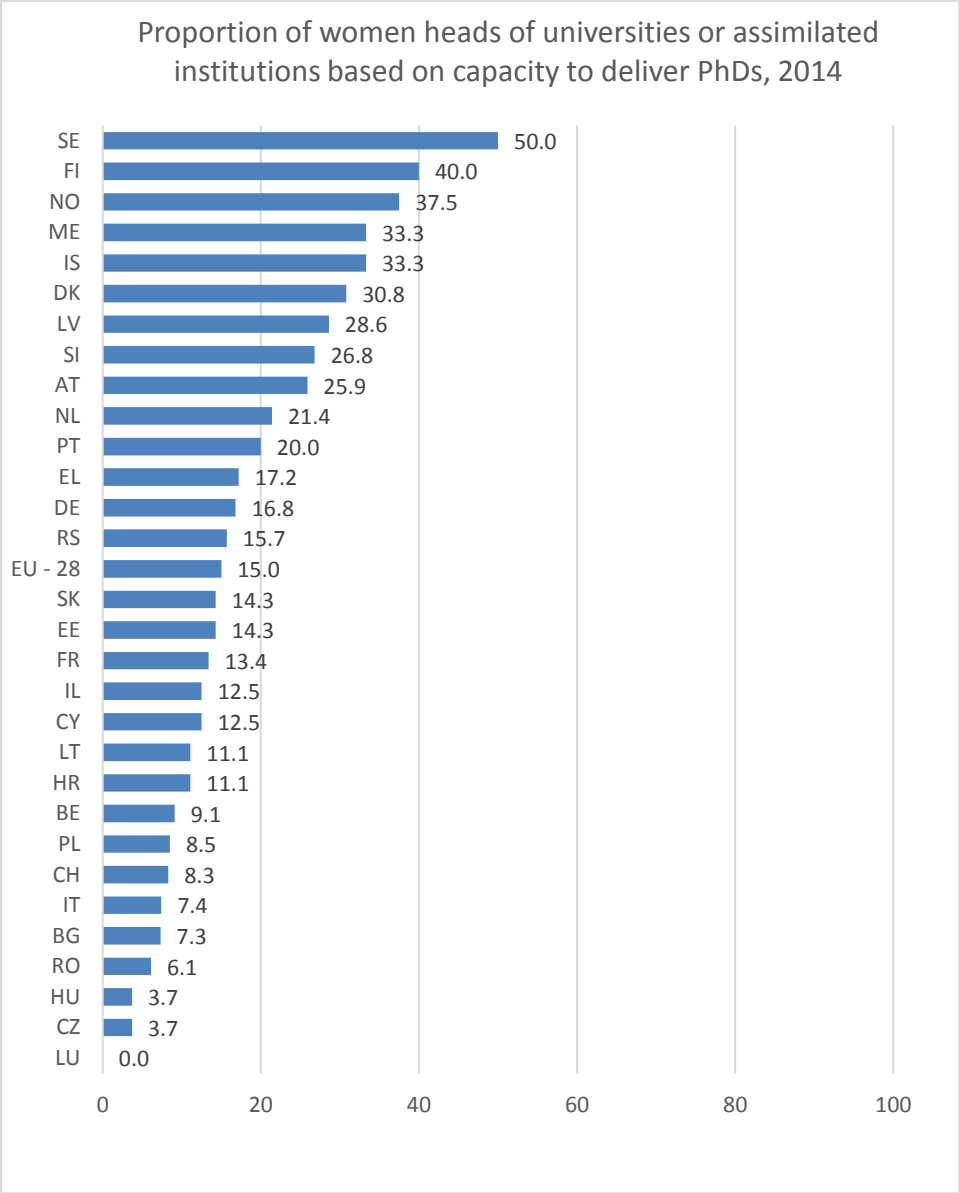
Annex 1 Statistics

Across Europe there is a persistent and significant degree of vertical segregation, with women under-represented in both top academic research and academic management leadership and decision-making positions although there are marked country differences.

Heads of institutions accredited to deliver PhD

She Figures 2015 (European Commission 2015) data show that 17 of the 26 countries for which data were available for 2014 and 2010 have seen an increase in the number of women heads of institutions that are accredited to deliver PhDs, although the proportion of women remains lower than the proportion of men in all but one country (Sweden) for which data are available. Three countries have seen a decrease since 2010 (Bulgaria, Croatia and Israel with 5, 11 and 2 pp respectively). Overall, a shift towards a reduction of the gender gap has occurred in the majority of countries since 2010.[30] The EU average in 2014 was 15%, 10% in 2010 and 9% in 2007. In 2014, the countries with the highest proportion of women in leadership positions tend to be Nordic Countries. The countries with the lowest proportion of women heads of institutions are Hungary and the Czech Republic, where in each country only 1 of the 27 institution heads of is a woman.

[30] Comparison with *She Figures 2009* shows that this trend is real: between 2007 and 2014 the proportion of women in these positions increased in 17 countries (the largest steps forward were recorded in Denmark which advanced from 0% in 2008 to 31% in 2014; Austria which moved from 4% in 2008 to 26% in 2014 and Slovakia which saw a 10 percentage point increase of women in leadership positions.



Proportion of women on boards

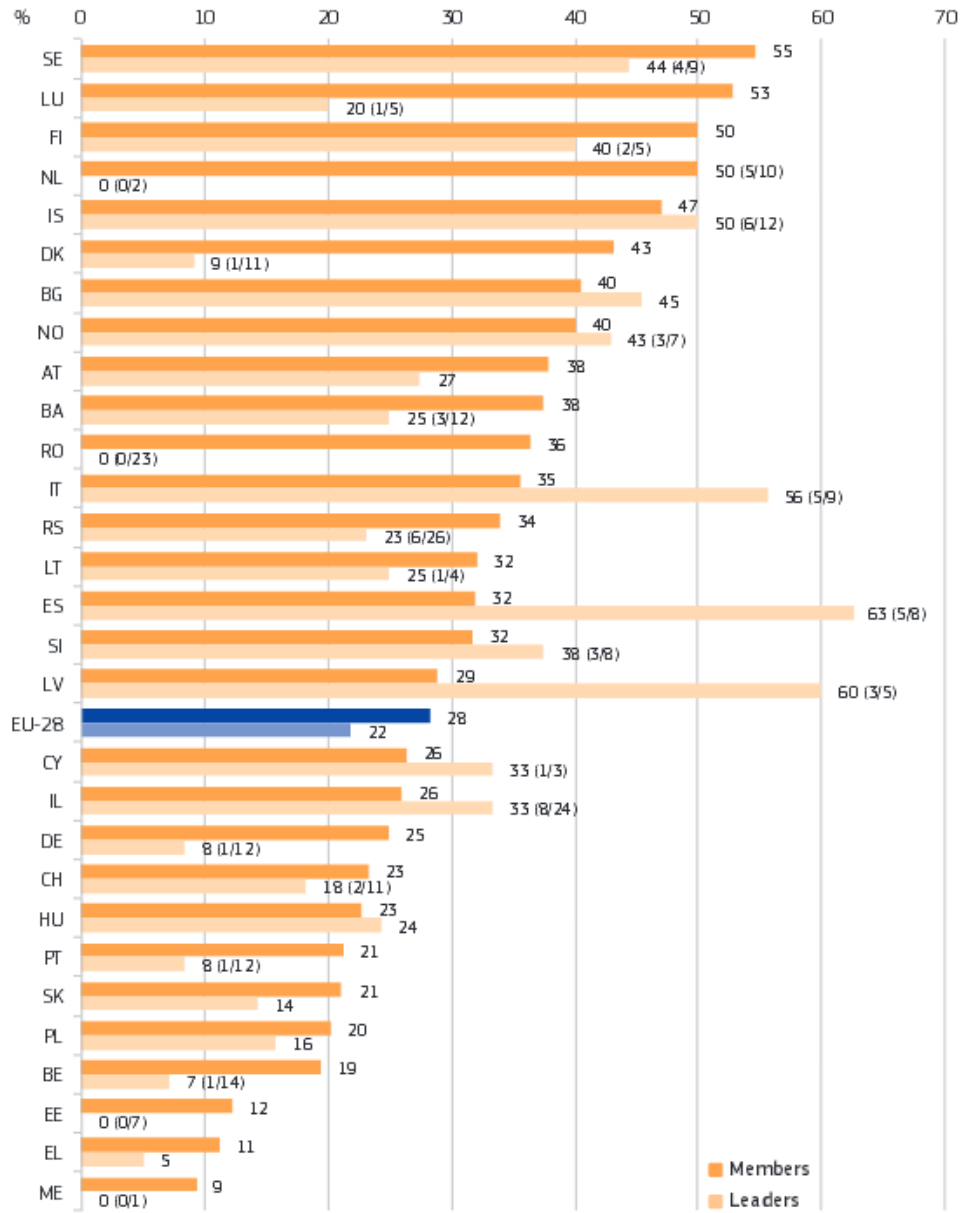
More than a quarter out of the 29 countries for which data are available had at least 40% women board members in 2014. In comparison, only 4 countries had 40% or more women board members in 2010. The countries with the highest proportion of women in board membership are Sweden (55%), Luxembourg (53%), Iceland (52%), Finland (50%) and the Netherlands (50%). At the other end of the spectrum are Montenegro (9%), Greece (11%), Estonia (12%) and Belgium (19%).

Overall in the EU, women made up 28% of board members in 2014[31], 36% in 2010, 22% in 2007 and 24% 2001 in EU15 (22% in EU15 + associated countries). Furthermore, in 2014

[31] In *She Figures 2015*, the definition of boards was revisited from previous years to include only national level boards. It should be therefore noted that the figures presented in this issue are not directly comparable with previous editions.

board leadership lagged behind board membership in the majority of countries. This trend is reversed in the following countries (which generally have a low number of institutions): Italy (56%), Latvia (60%) and Spain (63%). In Estonia, the Netherlands, Romania and Montenegro no women hold leadership positions.

Figure 6.9. Proportion of women on boards, members and leaders, 2014



Notes: Exceptions to the reference year: RS, BA: 2013; Data unavailable for: BE (FL), CZ, IE, FR, HR, MT, UK, LI, MK, AL, TR, FO, MD;
Others: Headcount (leaders and members); Due to important changes in the definition of boards, no data from She Figures 2012 was used to fill gaps in She Figures 2015; For proportions based on low numbers of headcounts (i.e. <30), the numerator and denominator are presented in parentheses in the chart.

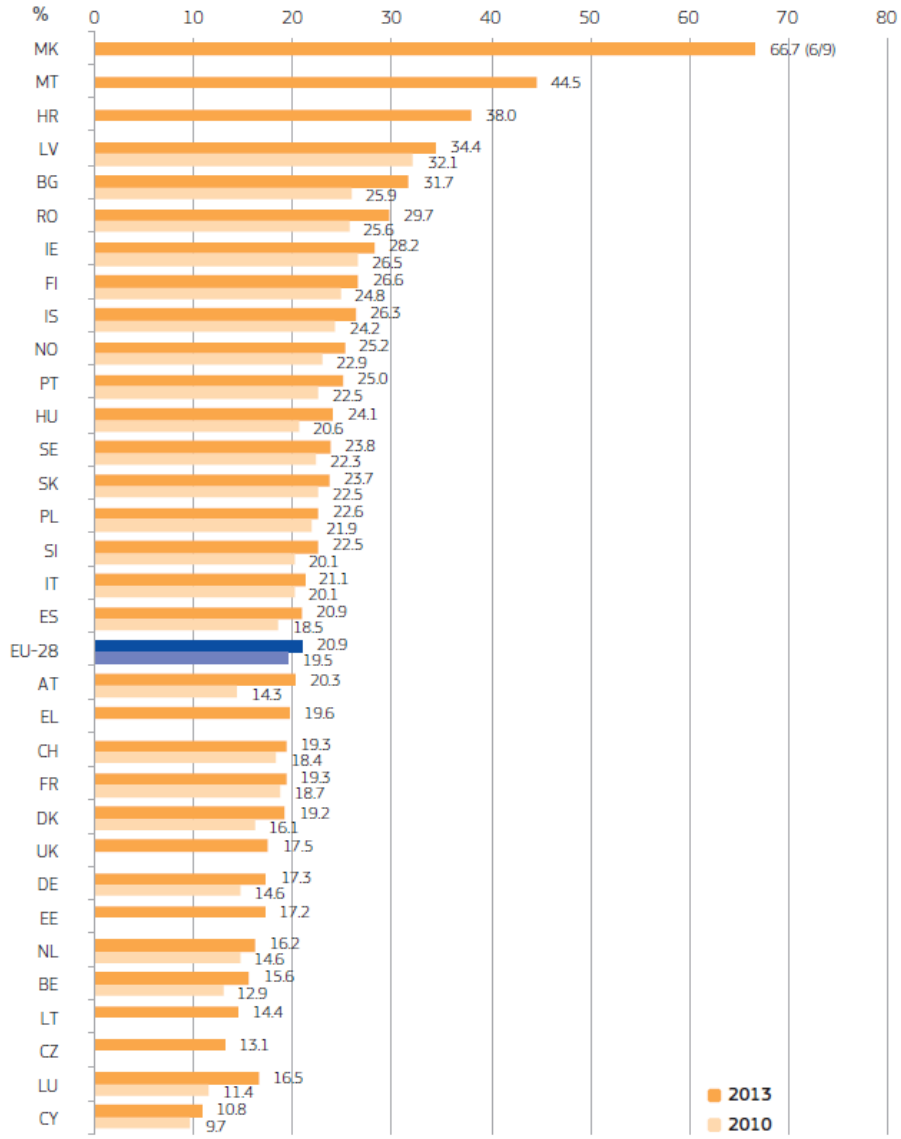
Source: Women in Science database, DG Research and Innovation

Proportion of women at grade A

The proportion of women in Grade A positions has increased gradually by 6 percentage points in the EU: from 15% in 2000, 16% in 2002, 18% in 2007, and 20% in 2010 to 21% in 2013.

With caution it may be observed that Western European countries have a tendency to have a lower proportion of women in Grade A; the proportion of women in Grade A position in Nordic Countries and post-socialist countries is slightly higher. This pattern is not, however, marked or universal.[32] The variation among countries is significant, ranging from 11% Cyprus to 67% Yugoslav Republic of Macedonia[33]

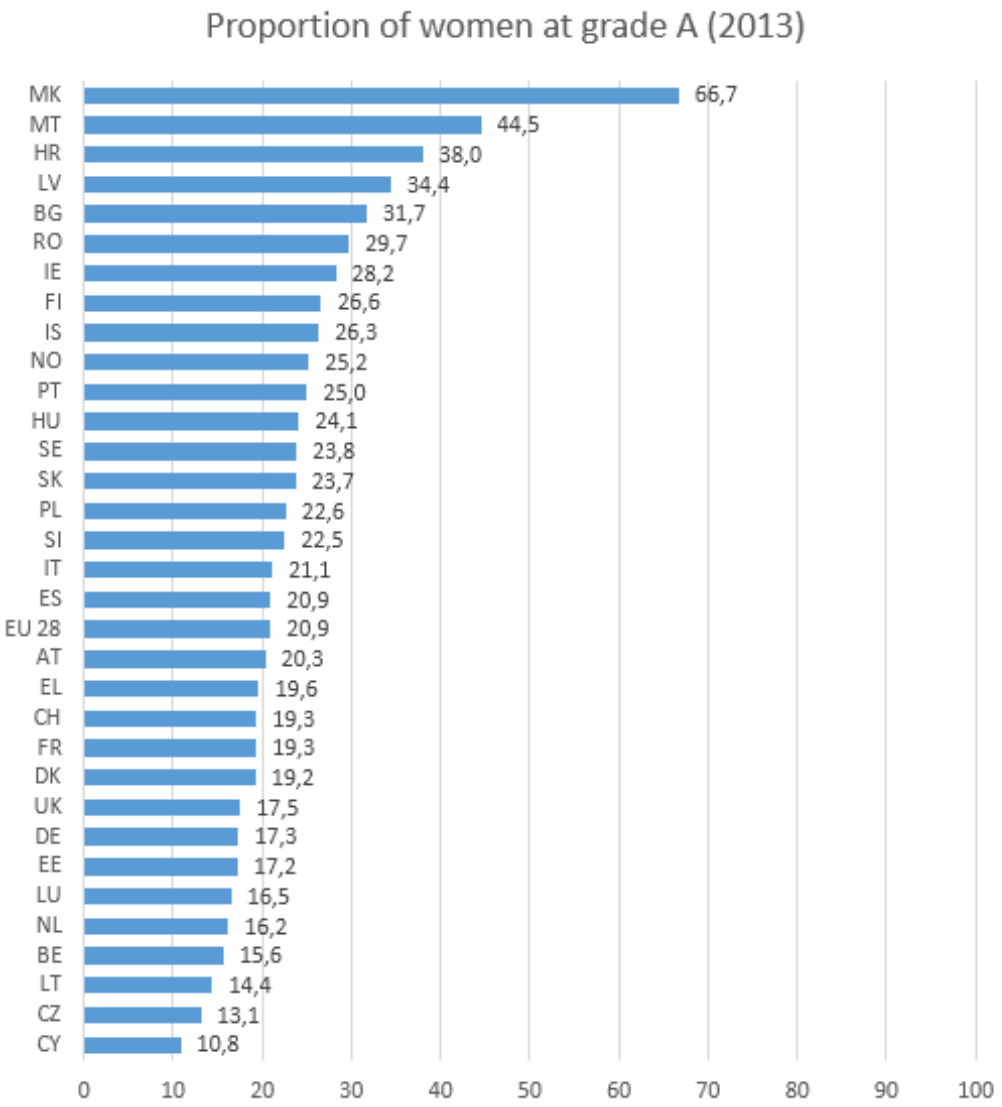
Figure 6.3. Evolution of the proportion of women in grade A positions, 2010 and 2013



Changes between 2010 and 2013 range between 0.6 and 5.9 percentage points in individual countries; there is no indication of significant progress made toward rectifying the gender gap.

[32] It must be noted that a high degree of caution is necessary when interpreting these statistics because data is not available in all countries in a given year; secondly, in some countries the number of people in Grade A positions is extremely small, and there is the danger of the effect of small numbers.

[33] Yugoslav Republic of Macedonia has 67% of women but this represents six women out of a total of nine Grade A staff members.



The proportion of women in Grade A positions (out of the total for both sexes) is highest in the humanities and social sciences and lowest in engineering and technology. There is no field of science in which the proportion of women in Grade A positions is consistently higher than that of men across countries. Women holding Grade A positions are least likely to be working in the fields of agricultural sciences, engineering and technology and natural sciences.

Importantly, the highest proportion of women in Grade A positions can be found under-35 age group, suggesting that the situation is improving amongst younger generations of scientists.

Annex 2 Examples of selected national and European databases

AcademiaNet (http://www.academia-net.de)

Arbeitskreis Historische Frauen- und Geschlechterforschung (Working Group for Research on Historical Women's and Gender Issues) (http://www.akgeschlechtergeschichte.de)

FemConsult, Germany, Center of Excellence Women and Science (CEWS)/ Leibniz Institute for Social Sciences – a database of female scientists from German-speaking countries from all discipline (http://www.gesis.org/femconsult/home)

Database of Female Academics, Germany (HTW Berlin) (http://www.htw-berlin.de)

Dawn, Germany (http://www.dawn.uni-hannover.de)

Femdat, Switzerland (http://www.femdat.ch)

FEMtech, Austria (http://www.femtech.at)

GEPRIS – Project Database of the German Research Foundation DFG, Germany (http://gepris.dfg.de/gepris)

Gender Expert Database, Hungary (http://nokatud.hu/hasznos-tartalmak/gender-szakertoi-adatbazis)

Women's Engineering Society, United Kingdom (http://www.wes.org.uk)

The Dutch Network of Female Professors, the Netherlands (https://www.lnvh.nl/)

The National Commission for the Promotion of Equality/Directory of Professional Women, Malta (https://ncpe.gov.mt/en/Pages/Directory/Search.aspx)

Polish Women Scientists Network, Poland (http://ekspertki.org/ekspertki)

Polish National Science Centre (NCN) – for women academics, Poland (http://www.academia-net.org/artikel/1212615)

Association of Women Scientists and Technologists (AMIT), Spain

Database managed by the Women's Government of Serbian, a CSO with a mission to promote gender expertise and potential

Database managed by the Portugal Funding Agency for Science and Technology

Databases in Luxembourg (http://expertisa.lu; http://www.femaleboardpool.eu)

ELSO Database of Female Experts in Molecular Life Sciences (http://elso-cdc.org)

European Platform of Women Scientists (http://www.epws.org)