Guidance to facilitate
the implementation of targets
to promote gender equality
in research and innovation

Research and Innovation

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Prepared by

the European Commission and the Helsinki Group on Gender in Research and Innovation, in consultation with the European research area stakeholders' platform

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EXECUTIVE SUMMARY

On 1 December 2015 the Council of the European Union 'invite[d] Member States and institutions to strive for guiding targets for a more even gender balance for professors' and 'invite[d] 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 encourage[d] research funding and performing organisations to reach these targets by 2020' . The Council also 'call[ed] on the 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'[1].

This guidance draws on the national action plans (NAPs) submitted in 2016 and on a survey carried out by the Helsinki Group on Gender in Research and Innovation (HG) on practices adopted at national level by national authorities. 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. Examples of existing national provisions are presented in this guidance.

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 appears 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 the institutional level.

Incentives and, when necessary, 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, national awards schemes for universities and research organisations are used in some countries with a particular impact.

Experience shows that where targets and quotas are adopted and/or promoted at national level, their successful implementation and monitoring are contingent upon active support and commitment of institutional leadership. Transparency, namely in recruitment, promotion and nomination, is necessary and should be an integral element of human resources 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 can draw from a better gender balance and a more equal treatment of men and women.

Other national-level supporting activities, which are applied at the level of universities and research organisations, include initiatives to help women build their skills and capacity for leadership (such as mentoring, shadowing, trainings, coaching, etc.)

This guidance was prepared by the Helsinki Group and the European Commission in consultation with the European Research Area stakeholders.

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[1]   Council of the European Union, *Advancing gender equality in the European Research Area — Council conclusions*, point 15 (adopted on 1.12.2015), available at
http://data.consilium.europa.eu/doc/document/ST-14846-2015-INIT/en/pdf.

STEP-BY-STEP RECOMMENDATIONS

Targets and/or quotas are an element of an overall strategy of cultural and institutional changes at national level. It is useful to provide direct support to women scientists, but it is not enough. Changes must occur in the cultural and institutional conditions that promote fairness, equality and diversity.

Targets and or quotas can be applied gradually, from easier actions to more ambitious and challenging ones, to be defined according to the national policy environments. Targets and quotas must be accompanied by a monitoring and evaluation system to assess the impact of the measures adopted.

It is recommended for national-level authorities to develop a regular and action-oriented dialogue with the universities and research organisations.

The following recommendations apply at national level:

- Collect and publish sex-disaggregated data on the composition of professorship and management/leadership positions.

- Promote gender balance in decision-making positions and professorships with adequate awareness raising and training.

- Institutionalise gender equality plans as an assessment tool in the accreditation of universities and make them 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 incentives for institutions adopting pro-active measures and/or sanctions for non-compliance, as necessary.

You will find below concrete examples of the implementation of the abovementioned recommendations.

INTRODUCTION

In its conclusions on advancing gender equality in the European research area (ERA) adopted on 1 December 2015 [2], the Council stressed the need to strive for gender balance in leadership and decision-making positions by appropriate measures, and 'invited Member States and institutions to strive for guiding targets for a more even gender balance for professors'. It also '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'.

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'[3].

The participation of women in science and technology contributes to increasing the quality, societal relevance and competitiveness of research and innovation. Specifically, gender balance in decision-making contributes to widening the scope of research and innovation policies, and hence to better addressing the needs of all segments of society. This, in turn, addresses both concerns of justice, fairness and equal opportunities for women and men and prevents economic losses from missed opportunities or negative consequences of gender-blind practices.

Gender balance in decision-making roles has been a long-term objective. Recommendations put forth in the European Technology Assessment Network (ETAN) report "Women and Science: Mobilising women to enrich European research" (2000) proposed, amongst other measures, legislative changes in order to request a minimum of 30 % to 40 % of each sex in national boards, including research councils. Following a decision of the European Commission[4] 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[5]. The aims of this group were to identify and review gender equality measures at both 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 actions at the European and national levels. In the following years other reports[6] reiterated the recommendations and formulated additional ones. The number of Member States implementing targets increased[7]. Some progress was recorded in the proportion of women in grade A and among heads of higher education institutions[8].

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[2] Council of the European Union, *Advancing gender equality in the European research area — Council conclusions*, points 6, 14 and 15 (adopted on 1.12.2015), available at http://data.consilium.europa.eu/doc/document/ST-14846-2015-INIT/en/pdf.

[3] Council of the European Union, *Advancing gender equality in the European Research Area — Council conclusions*, Articles 6, 14 and 15 (adopted on 1.12.2015), point 15, available at http://data.consilium.europa.eu/doc/document/ST-14846-2015-INIT/en/pdf.

[4] Commission Decision 2000/407/EC of 19 June 2000 relating to gender balance within the committees and expert groups established by it, available at http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32000D0407&from=EN; Commission Decision of 30.5.2016 establishing horizontal rules on the creation and operation of Commission expert groups, available at http://ec.europa.eu/transparency/regexpert/PDF/C_2016_3301_F1_COMMISSION_DECISION_EN.pdf.

[5] European Commission, *Mapping the maze: getting more women to the top in research*, 2008, 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.

[6] Such as European Commission, *The gender challenge in research funding — Assessing the European national scenes*, 2009, available at https://ec.europa.eu/research/swafs/pdf/pub_gender_equality/gender-challenge-in-research-funding_en.pdf; European Commission, *Structural change in research institutions: enhancing excellence, gender equality and efficiency in research and innovation*, 2012, available at https://ec.europa.eu/research/science-society/document_library/pdf_06/structural-changes-final-report_en.pdf.

[7] European Commission, *Gender equality policies in public research*, 2014, available at: http://ec.europa.eu/research/pdf/199627_2014%202971_rtd_report.pdf.

[8] European Commission, *She Figures 2015*, 2016, available at https://ec.europa.eu/research/swafs/pdf/pub_gender_equality/she_figures_2015-final.pdf.

Gender balance in decision-making and among professors constitutes one part of a complex mix to achieve cultural and institutional changes. While it is a crucial element, actions taken must address other components of the cultural and institutional changes too (gender balance in research teams, including work–life balance, and the gender dimension in research). Furthermore, gender balance in decision-making will not itself guarantee gender equality in research and innovation. The recommendations made here specifically on gender balance in decision-making must be therefore understood as one element of a comprehensive approach, which is beyond the scope of this report and the task specified in the Council conclusions.

The HG[9] was comprised of representatives of national authorities and in this report focussed on national-level actions and measures. It is at this level where the members can best provide guidance and learn from each other. At the same time, we would like to acknowledge the important work done at institutional level by research-performing and research-funding organisations as well as umbrella organisations in the ERA stakeholder platform.

Furthermore, we wish to acknowledge the gender equality in academia and research tool[10], which was developed by the European Institute for Gender Equality in collaboration with the Directorate-General for Research and Innovation of the European Commission. It provides guidance on setting up gender equality plans with a view to promote structural changes at the institutional level, including actions aimed at achieving gender balance in decision-making. Lastly, an increasing number of research-performing organisations have been applying for the HR Excellence in Research Award[11] with a view to build robust human resources management practices, including gender equality and gender balance.

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 the recommendations presented here seriously in order to move forward.

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 ERA NAPs and its progress report, both from 2016, as well as a survey among HG members conducted in September 2016 and March 2017.

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[9]   The HG was constituted in 1999 as an advisory body to the European Commission and was terminated as of 30 June 2017. The group has been reconstituted as the Standing Working Group on Gender in Research and Innovation of the European Research Area and Innovation Committee as of 1 July 2017.
[10]   See http://eige.europa.eu/gender-mainstreaming/toolkits/gear.
[11]   See https://euraxess.ec.europa.eu/jobs/hrs4r.

1 Gender equality in research and innovation: current situation

1.1 Statistics

Vertical segregation persists across Europe, with women under-represented 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 positions: 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 and 21 % in 2013 to 23.5 % in 2014[12].

Proportion of women as heads of institutions in the higher education sector: within the EU-28 in 2014, 20.1 % of the heads of institutions were women, up from 15.5 % in 2010 (in the EU-27).

Proportion of women as heads of institutions accredited to deliver PhDs: the EU average was 15 % in 2014, 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 countries (against four in 2010)[13] have at least 40 % of board members who are women, 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.

Article 8 of the Treaty on the Functioning of the European Union (TFEU) states that 'In 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 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 occupation14.

In the European Commission's communication for a reinforced European research area15 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 under-represented sex participates in committees involved in recruitment/career progression and in establishing and evaluating research programmes.

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[12] The 2014 figure is taken from the ERA's progress report of 2016. All other figures are taken from *She Figures 2015* and previous editions.

[13] In *She Figures 2015* (p. 144), the definition of boards was slightly revised from previous years so as to include only national-level boards. Figures presented here are not directly comparable with previous editions.

[14] European Commission, Directive 2006/54/EC of the European Parliament and of the Council of 5 July 2006 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.

[15] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — 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.

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

Based on the 29 NAPs submitted in 2016 by 24 Member States and five Cssociated 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. It was later complemented and updated by the HG members.

Fourteen Member States (BE, DK, DE, IE, EL, ES, FR, LU, NL, AT, SI, FI, SE, UK) and three associated countries (CH, IS, NO) reported having quotas or targets[16] 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).

Eight Member States (BE, DK, IE, EL, HR, IT, CY, LV) are planning new initiatives relating to targets or quotas for the period 2017-2020. Four of these Member States (HR, IT, CY, LV) 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 21 (18 Member States and three Associated Countries).

Of the countries implementing quotas or targets (AT, BE, CH, DE, DK, EL, ES, FI, FR, IE, IS, LU, NL, NO, SI, SE, UK), seven are among the innovation leaders (CH, DE, DK, FI, NL, SE) while the rest are mostly among the strong innovators (AT, BE, FR, IE, IS, LU, NO, SI)[17].

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.

Here are a few examples:

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 (40:60 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 Iceland the gender equality law of 2008 stipulates that each board, formal advisory group or the like constituted by a public entity — including universities, university colleges and research

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[16]   Only quantitative targets or quotas have been taken into account.
[17]   European Commission, *2017 European innovation scoreboard*, 2017, available at
http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en.

institutions — shall comprise at least 40 % of each sex. Boards of research funds appointed by a minister should have an equal balance of men and women as well.

In Spain, according to the organic law for effective equality between women and men of 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 committees within 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 and innovation law (No 14/2011) requires gender balance in all research and innovation decision-making bodies.

Within research-funding organisations, all committees, groups and panels appointed by NordForsk[18] 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[19], while Science Foundation Ireland has committed to achieving 40 % of representation of each gender on assessment panels by 2020[20].

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[21], 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, quotas or targets are in most cases set at 40 % of the under-represented sex.

Here are a few examples:

In Austria, the 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 defined every 2 years for the personnel categories where women are under-represented (the proportion of women in management positions is significantly below 50 %, especially in mathematics, informatics, natural sciences and technology).

In Denmark gender balance is defined in the gender equality act as a ratio of at least 40:60.

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).

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[18] 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.

[19] Irish Research Council, *Gender strategy and action plan 2013-2020*, available at: http://research.ie/resources/publications/gender-strategy-and-action-plan-2013-2020/

[20] Science Foundation Ireland, *Gender strategy 2016-2020*, 2016, available at: http://www.sfi.ie/resources/SFI-Gender-Strategy-2016-2020.pdf

[21] European Commission, Commission Decision 2000/407/EC of 19 June 2000 relating to gender balance within the committees and expert groups established by it, available at http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32000D0407.

In France the law of 22 July 2013 on higher education and research introduces a quota for balanced representation (50 %) of women and men in the governing bodies of universities, and the follow-up decree of 27 December 2013 specifies that election rolls for all university boards should alternate between women and male candidates.

In Germany, from 1 January 2016 onwards, 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 and respectively maintain it. As of 2018, the obligation is supposed to increase to a gender parity of 50 %.

In Ireland higher education institutions must annually report to the Higher Education Authority on the gender balance of their staff, governing authority, academic council and executive management. In addition, the authority's report[22], 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 % of women and 40 % of men to be full professors by 2024; and for the candidate pool for non-academic positions with a salary of EUR 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 % of women.

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

In Norway the gender equality act of 1978 constitutes the legal basis for the 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 40 %.

In Sweden the government has set individual targets for the proportion of women among newly recruited professors at universities and university colleges. For the ongoing 3-year period (2017-2019), the ambition level was raised, with an average increase of 9 percentage points per institution. In addition, the government has set a national target, namely that at least 50 % of the total number of newly recruited professors should be women by 2030.

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.

In the United Kingdom, the research councils have a stated commitment to 'manage Council appointments to achieve at least 40 % of the under-represented gender on each Council'.

3   Implementing targets/quotas through national-level actions

3.1   Methods, approaches and governance

The implementation of quotas and/or targets is facilitated by a proactive policy approach and actions aimed at cultural and institutional change. According to the information provided in NAPs, eight Member States (CZ, DE, EE, IE, ES, FR, LT, AT) and two Associated Countries (ME, NO) have introduced cultural and institutional change as a key element of their national policy framework on gender equality in research and innovation.

These changes call for a strong and visible commitment from the highest university or research organisation 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 human resources strategies, which in many cases have been prompted by national-level initiatives.

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[22]   Higher Education Authority, *Report of the expert group: HEA review of gender equality in Irish higher education*, 2016, available at:
http://www.hea.ie/sites/default/files/hea_review_of_gender_equality_in_irish_higher_education.pd

Here are some examples:

The Czech Science Foundation and the Government Office for Science, Research and Innovations 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 three Danish research funds), there should be both a male and a female candidate for a newly opened position. Also, as a consequence of the law, universities and other higher institutions must develop a policy for equal gender composition in the upper levels of management and set a specific target for the under-represented 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 organisations involved in the Pact for Research and Innovation adopted by the federal government and the research-oriented standards on gender equality developed by the German Research Foundation (DFG) — the largest research-funding organisation in the country — have put measures in place to increase the proportion of women in leadership positions. 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. Quotas in the model are based on the proportion of women at the career level immediately below. This is on the right track, but further efforts must be made because women remain significantly under-represented in top-tier positions in Germany's science system. In March 2017 the DFG research foundation also established a target of 30 % women for its decision-making bodies and their subgroups.

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, and have done so with a positive impact. Nominations for boards have to include both sexes.

The lack of women candidates may hinder effective implementation and result in non-effective policymaking. Therefore, the pool of women candidates and nominees must be enlarged and several schemes can be put in place to increase gender balance among potential decision-making and professorship positions.

Here are some examples:

In France the National Centre for Scientific Research (CNRS) has since 2013 changed its procedures for awarding its annual medals, setting a target of 50 % women among bronze and silver medallists.

In Poland the Foundation for Polish Science, a non-governmental organisation that is the major off-budget funding source, has been trying to increase the number of women among people who nominate candidates for the foundation's awards (when nominations are required) and review applications.

The Swiss National Science Foundation is implementing since autumn 2017 a new postdoc-funding programme called 'Promoting women in academia' for women only. The programme aims at increasing the number of female professorships in Switzerland.

Furthermore, there are several initiatives at national and European level 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 human resources strategies and policies. The following selected examples show the diversity of measures of this type, put in place by national-level institutions.

In Finland the Academy of Finland has paid special attention to procedures and transparency in building committees/boards in the academy and to the equal evaluation of both genders. The current equality plan was approved for 2017-2018. The plan applies to those working on academy funding, to academy professors, to research fellows and to staff at the 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 implemented at national level[23].

Here are some examples:

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

Here are some examples:

In Ireland higher education institutions applying for funding from the Science Foundation Ireland's starting investigator research grant can double the number of applications they submit (from six to 12) if 50 % of the applicants are female[24].

In the Netherlands tenure track calls at universities and the Aspasia programme of the research council gives funds to universities if they nominate a woman.

In Norway national-level universities are supported in their initiatives by the special programme supporting gender balance in top positions and research management, and seed money.

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 investigator positions.

Awards and prizes to organisations also have a motivational potential. Reports to the ministry or other responsible bodies as well as communication on awards attributed and the publication of progress made in organisations have been proved to be effective.

Here are some examples:

The United Kingdom-based 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 one of the awards given by the network, either at bronze, silver or gold level. Each award is valid for 3 years. They commit to adopting 10 principles which focus on promoting and supporting gender equality.

3.2 Supporting measures

There are several types of supporting measures that can be applied at national level to promote balanced gender participation at 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. It has been recognised as a useful and cost-effective way of staff development, for both women and men. 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. Tailored programmes offer mentoring aimed at the empowerment of women 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.

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[23] 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 remain(s) empty.
[24] See http://www.sfi.ie/funding/funding-calls/sirg/2015-07-01-13.02-SIRG-Webinar.wmv, as well as latest call document: http://www.sfi.ie/funding/funding-calls/sirg/2018-SIRG-Call-Document.pdf.

Here are some examples:

Vital Voices in <u>Poland</u> 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 already run two mentoring programmes to support Polish women's progression into leadership positions[25].

Programmes aimed at enhancing women's skills and competencies in higher education/research institutions management and at strengthening their leadership capacities are an important strategy instrument.

In many countries, training programmes are organised for institutions at national level.

Here are some examples:

In <u>Cyprus</u> the Research Promotion Foundation has organised trainings in the framework of its participation in COST Action and EU-funded projects such as Gender-NET. These trainings were targeted to both male and female potential leaders/decision-makers and researchers.

In the <u>United Kingdom</u> and <u>Ireland</u> more than 100 higher education institutions participate in the Aurora leadership development programme for women[26].

In <u>Spain</u> CERCA, which is the government of Catalonia's technical service for supervising, supporting and facilitating the activities of research centres in the centres of excellence system, has made a video on recruitment bias in research institutes to inform selection committees on how to combat gender bias during recruitment[27].

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)[28].

A network of women leaders in higher education is the European Women Rectors Association (EWORA)[29].

In <u>Spain</u> there is a network for women scientists and technologists, la Asociación de Mujeres Investigadoras y Tecnólogas (AMIT), which is very active (for instance by promoting women candidates and gender balance in juries of research and innovation awards). The state secretariat for Research, Development and I asked the association to develop a database of top women experts, which in 2016 was disseminated to relevant units at the secretariat[30].

In <u>Switzerland</u> the gender campus platform[31] is partially funded by the universities — for the time being. It provides different networking services for scientists with expertise in gender studies 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. However, sex-disaggregated data are not always available, as can be seen from *She Figures 2015*, where 10 Member States/Associated Countries did not provide data about

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[25]   See http://vitalvoices.pl/en/mentors/open-mentoring-programme/
[26]   See https://www.lfhe.ac.uk/en/programmes-events/programmes/women-only/aurora/
[27]   See https://www.youtube.com/watch?v=g978T58gELo&feature=youtu.be
[28]   See http://www.epws.org
[29]   See http://www.ewora.org
[30]   See http://www.amit-es.org/
[31]   See https://www.gendercampus.ch/en

female heads of higher education institutions. Data about the percentage of women in grade A positions are unavailable in nine Member States/Associated Countries.

Here are some examples:

In 2010, the Austrian Agency for Quality Assurance published a report on the development of quality in recruitment proceedings for full professors at Austrian public universities[32]. Cooperation between 10 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 three 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 General Secretariat for Gender Equality was set up in 2015 to support gender mainstreaming in public policies. It aims to support evidence-based policymaking 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 secretariat comprises a portal[33] 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, for example by making grant applications more accessible or reviewing the allocation rules[34].

The Irish Research Council monitors the gender balance of its applicants and awardees[35]. Ireland's Higher Education Authority publishes gender-disaggregated data on the staffing, governance and management of higher education institutions; and the implementation of its report of the expert group will be reviewed on a triennial basis[36].

The Polish National Science Centre, a 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 2 years by the Ministry of Economy, Industry and Competitiveness. The last edition started to report on gender balance in top decision-making bodies at universities and national-level public research organisations as well as on evaluation committees of RDI calls under the Spanish national plan for scientific and technical research and innovation[37].

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

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[32]   See https://www.aq.ac.at/de/analysen-berichte/dokumente-analysen-berichte/AQA-Empfehlungen-zur-Gestaltung-der-Berufungsverfahren_2010.pdf
[33]   See http://paratiritirio.isotita.gr/genqua_portal/en/index
[34]   For more information see https://www.rannis.is/media/rannsoknasjodur/IRF-Handbook-2017-ENGLISH.pdf
[35]   Irish Research Council, *Gender strategy and action plan 2013-2020*, available at: http://research.ie/resources/publications/gender-strategy-and-action-plan-2013-2020/
[36]   Higher Education Authority, *Report of the expert group: HEA review of gender equality in Irish higher education institutions*, 2016, available at: http://hea.ie/assets/uploads/2017/04/hea_review_of_gender_equality_in_irish_higher_education.pdf
[37]   Ministry of Economy, Industry and Competitiveness, *Científicas en cifras 2015*, 2016, available at: http://www.idi.mineco.gob.es/stfls/MICINN/Ministerio/FICHEROS/Informe_Cientificas_en_Cifras_2015_con_Anexo.pdf

report on the monitoring of women and men at Swiss universities is published by the Federal Statistical Office and the gender equality programme every 4 years[38].

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

Here is an 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 as well as proposals for the improvement of the situation. Moreover, the federal minister has to annually publish a report on the developments of the composition of university bodies. As an important monitoring instrument, the Austrian Intellectual Capital Report Act for Universities also defines several indicators to be reported annually to the Austrian Federal Ministry of Science, Research and Economy: gender pay gap, gender ratio in procedures for the appointment of professors and women's quota in collegial bodies. These key indicators are very helpful in monitoring gender equality efforts.
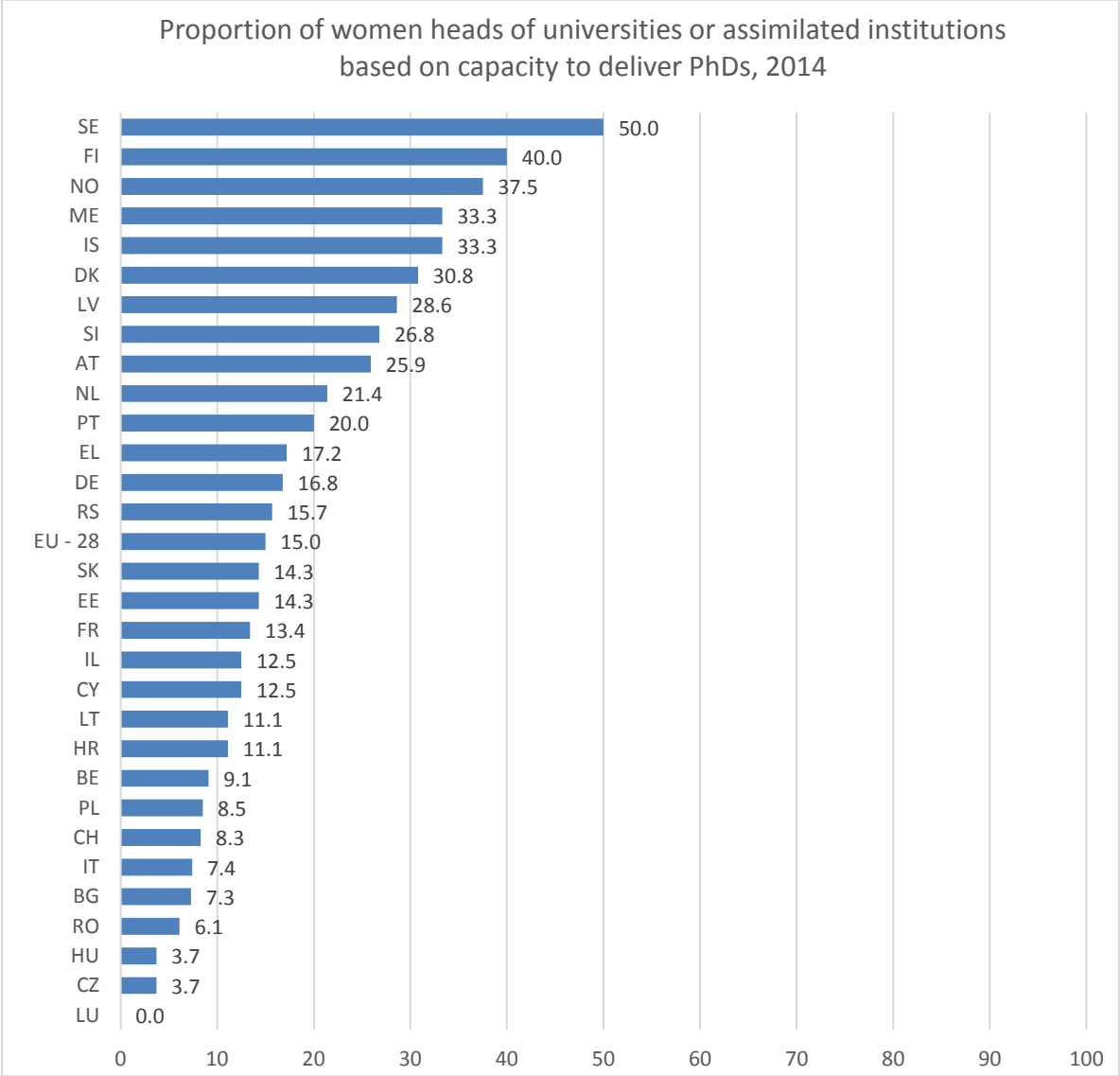
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[38]   For more information see https://www.bfs.admin.ch/bfs/de/home/statistiken/kataloge-datenbanken/publikationen.assetdetail.347895.html.

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 management leadership and decision-making positions, although there are marked country differences.

Heads of institutions accredited to deliver PhDs

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 percentage points, respectively). Overall, a shift towards a reduction of the gender gap has occurred in the majority of countries since 2010[39]. The EU average was 15 % in 2014, 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 the Czech Republic and Hungary, where in each country only one of the 27 heads of institutions is a woman.

Proportion of women heads of universities or assimilated institutions based on capacity to deliver PhDs, 2014

Country	Value
SE	50.0
FI	40.0
NO	37.5
ME	33.3
IS	33.3
DK	30.8
LV	28.6
SI	26.8
AT	25.9
NL	21.4
PT	20.0
EL	17.2
DE	16.8
RS	15.7
EU - 28	15.0
SK	14.3
EE	14.3
FR	13.4
IL	12.5
CY	12.5
LT	11.1
HR	11.1
BE	9.1
PL	8.5
CH	8.3
IT	7.4
BG	7.3
RO	6.1
HU	3.7
CZ	3.7
LU	0.0

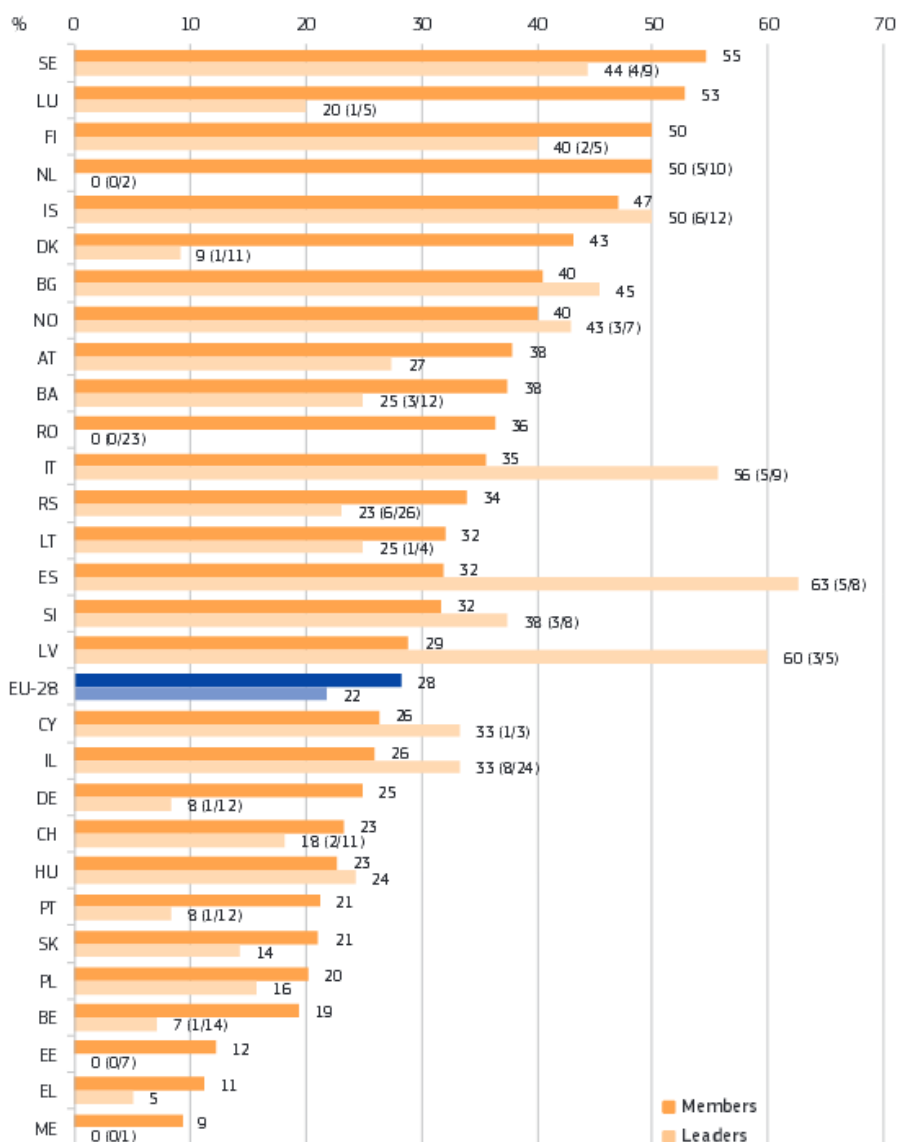[39]   Comparison with *She Figures 2009* shows that this trend is real: between 2007 and 2014 the proportion of women in these positions increased in 17 countries. The largest steps forward were recorded in Denmark, which advanced from 0 % in 2008 to 31 % in 2014; Austria, which moved from 4 % in 2008 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 of the 29 countries for which data are available had at least 40 % of women board members in 2014. In comparison, only four countries had 40 % or more women board members in 2010. The countries with the highest proportion of women board members 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[40], 36 % in 2010, 22 % in 2007 and 24 % 2001 in the EU-15 (22 % in the EU-15 and Associated Countries). Furthermore, in 2014 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, Montenegro, the Netherlands and Romania no women hold leadership positions.

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

	Members	Leaders
SE	55	44 (4/9)
LU	53	20 (1/5)
FI	50	40 (2/5)
NL	50 (5/10)	0 (0/2)
IS	47	50 (6/12)
DK	43	9 (1/11)
BG	40	45
NO	40	43 (3/7)
AT	38	27
BA	38	25 (3/12)
RO	36	0 (0/23)
IT	35	56 (5/9)
RS	34	23 (6/26)
LT	32	25 (1/4)
ES	32	63 (5/8)
SI	32	38 (3/8)
LV	29	60 (3/5)
EU-28	28	22
CY	26	33 (1/3)
IL	26	33 (8/24)
DE	25	8 (1/12)
CH	23	18 (2/11)
HU	23	24
PT	21	8 (1/12)
SK	21	14
PL	20	16
BE	19	7 (1/14)
EE	12	0 (0/7)
EL	11	5
ME	9	0 (0/1)

[41]

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. One may observe that western European countries have a tendency to have a lower proportion of women in grade A; the proportion of women in such positions in Nordic countries and post-socialist countries is slightly higher. This pattern is not, however, marked or universal[42]. The variation among countries is significant, ranging from 11 % in Cyprus to 67 % in the Former Yugoslav Republic of Macedonia[43].

Figure 6.3. Evolution of the proportion of women in grade A positions, 2010 and 2013
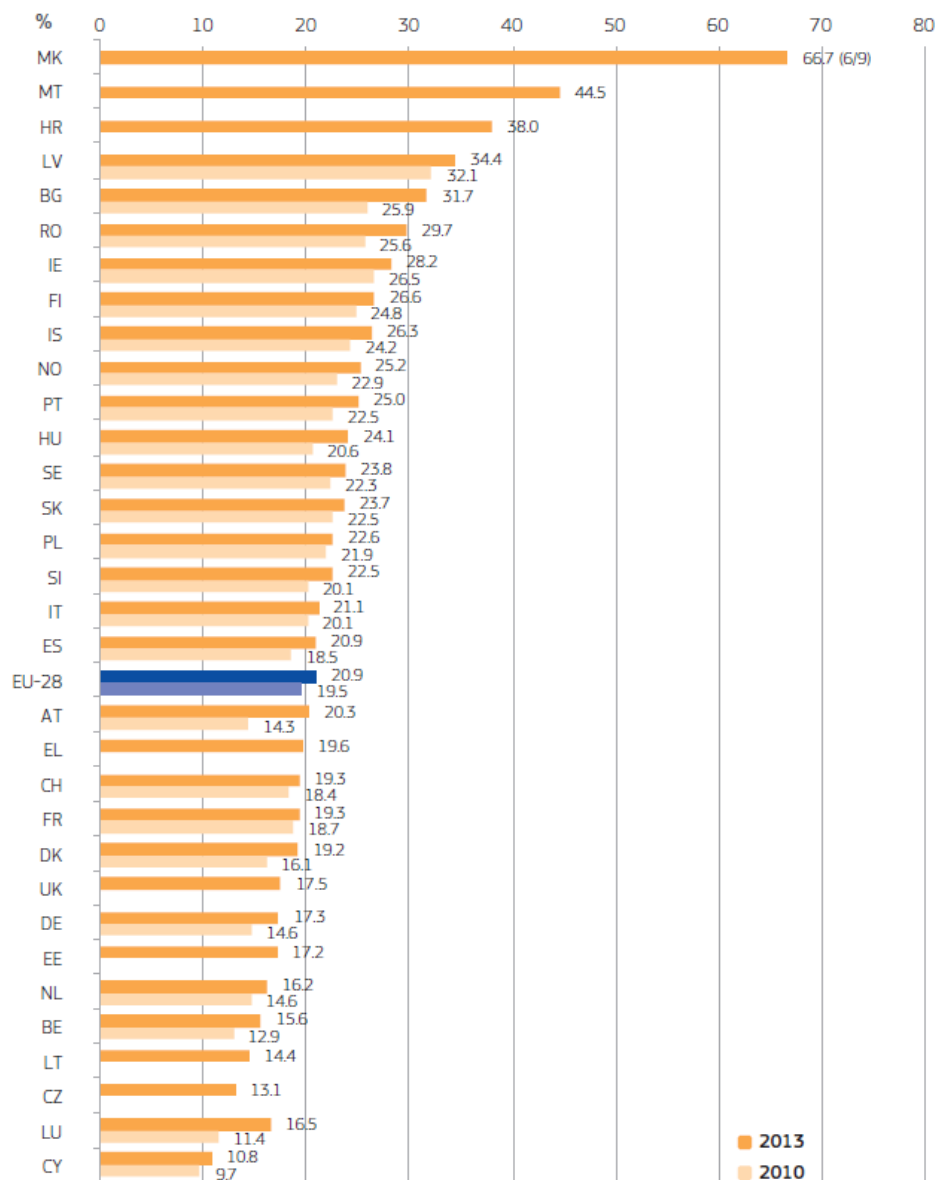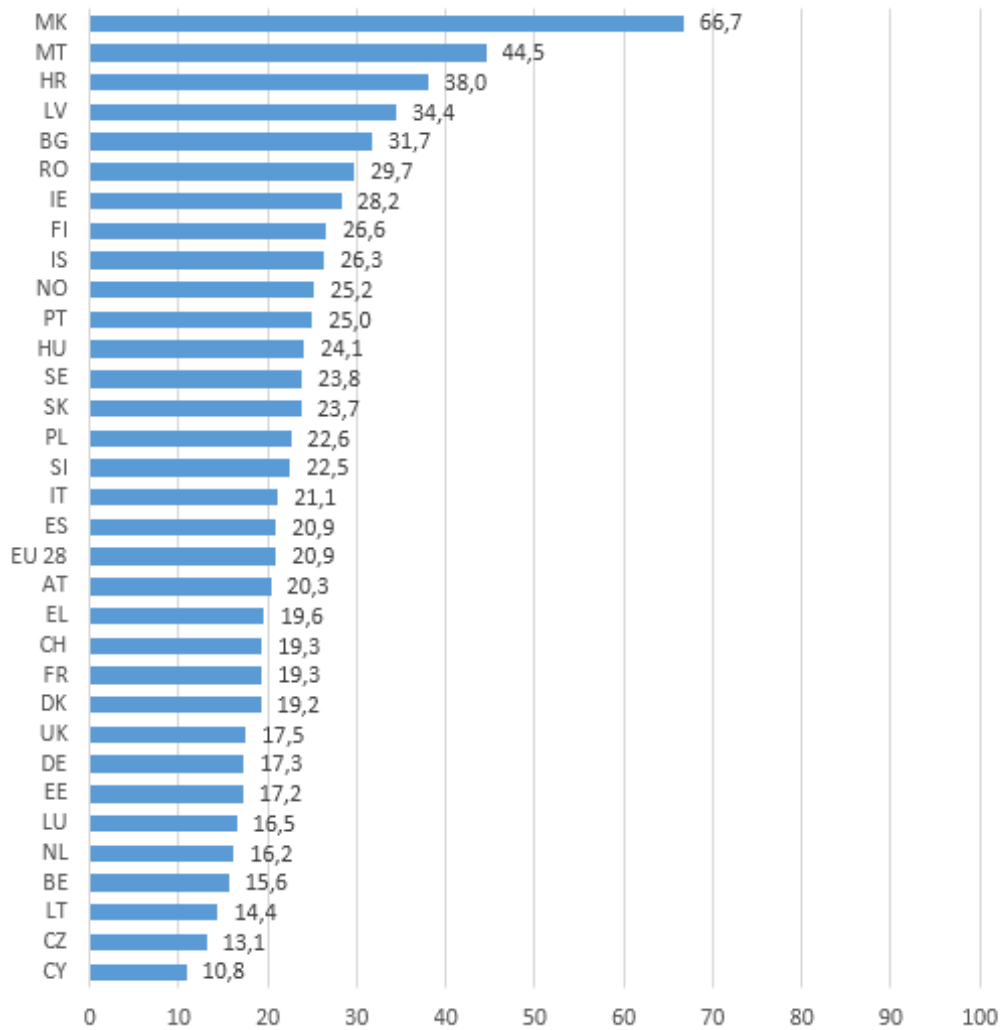
Changes between 2010 and 2013 range between 0.6 and 5.9 percentage points in individual countries; there is no indication of significant progress made toward rectifying the gender gap.

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definition of boards, no data from *She Figures 2012* were used to fill gaps in *She Figures 2015*; for proportions based on low numbers of headcounts (i.e. < 30), the numerator and the denominator are presented in parentheses in the chart. Source: 'Women in science' database, Directorate-General for Research and Innovation.

[42]   It must be noted that a high degree of caution is necessary when interpreting these statistics because data are 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 a danger of the effect of small numbers.

[43]   The Former Yugoslav Republic of Macedonia has 67 % of women in grade A positions, but this represents six women out of a total of nine staff members in this position.

Proportion of women at grade A (2013)

Country	Value
MK	66,7
MT	44,5
HR	38,0
LV	34,4
BG	31,7
RO	29,7
IE	28,2
FI	26,6
IS	26,3
NO	25,2
PT	25,0
HU	24,1
SE	23,8
SK	23,7
PL	22,6
SI	22,5
IT	21,1
ES	20,9
EU 28	20,9
AT	20,3
EL	19,6
CH	19,3
FR	19,3
DK	19,2
UK	17,5
DE	17,3
EE	17,2
LU	16,5
NL	16,2
BE	15,6
LT	14,4
CZ	13,1
CY	10,8

The proportion of women in grade A positions (out of the total for both sexes) is highest in the humanities and social sciences sectors 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 such positions are least likely to be working in the fields of agricultural sciences, engineering, technology and natural sciences.

Importantly, the highest proportion of women in grade A positions can be found in the 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)

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

- EMBO WiLS Database — A database of expert women in life sciences (http://wils-database.embo.org)

- Arbeitskreis Historische Frauen- und Geschlechterforschung (working group for research on historical women's and gender issues) (http://www.akgeschlechtergeschichte.de)

- /femconsult, Centre of Excellence Women and Science (CEWS)/Leibniz Institute for the Social Sciences, Germany — A database of female scientists from all disciplines in German-speaking countries (http://www.gesis.org/femconsult/home)

- University of Applied Sciences — A database of female academics, Germany (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)

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

- National Commission for the Promotion of Equality — A directory of professional women, Malta (https://ncpe.gov.mt/en/Pages/Directory/Search.aspx)

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

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

- Association of Women Scientists and Technologists — A list of prominent Spanish women scientists and technologists developed by the Association of Women Scientists and Technologists (AMIT), Spain (http://wwww.amit-es.org/cientificas). A larger database has also been developed by AMIT for the internal use of the Spanish State Secretariat for Research, Development and Innovation

- Women's Government of Serbia — A civil-society organisation's database with a mission to promote gender expertise and potential, Serbia

- National Funding Agency for Science and Technology — A database, Portugal

- Expertisa — A database, Luxembourg (http://expertisa.lu)

- Female Board Pool — A database, Luxembourg (http://www.femaleboardpool.eu)

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non-commercial purposes.

In the conclusions of 1 December 2015, the Council invited Member States and research institutions to set up guiding targets for a more even gender balance for professors and in decision-making positions. It called on the European Commission to develop a guidance to facilitate the implementation of these targets in close cooperation with the Helsinki Group on Gender in Research and Innovation.

This guidance draws on the national action plans submitted in 2016 and on a survey done by the Helsinki Group on practices adopted at national level by national authorities. It provides recommendations as well as good practices relating to the implementation of targets in research institutions and higher education establishments.

This guidance was prepared by the European Commission and the Helsinki Group in consultation with the European Research Area stakeholders' platform.

Research and innovation policy