

Integrating gender equality into research and innovation organisations

Analytical paper

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1. Introduction

This paper presents the results of the analysis of the main policies, legislative frameworks and initiatives to support institutional change for gender equality in research and innovation (R&I) organisations in the European Union (EU). The analysis addresses legal and policy initiatives at both EU and Member State level. The paper focuses on factors identified in the Member States to promote the uptake of gender equality initiatives by R&I organisations. The analysis focuses on public research organisations, higher education institutions and research funding bodies, with particular attention given to how those organisations have taken up the challenge of tackling gender inequalities.

The research for this paper took place between July and October 2021. Data was collected at two levels in all EU Member States. Firstly, the data collected in a previous study on national legal and policy frameworks on gender equality in R&I was updated. Secondly, data on promising organisational practices promoting gender equality in R&I organisations was then collected, which represents the main added value of the research. Tools, instruments, videos and reports produced in the framework of work to develop Gender Equality Plans (GEPs) funded under Horizon 2020 (H2020) between 2016 and 2020 were collected through desk research and stored in reference management software. All sources were tagged by type of resource and with content/topic-related keywords. A literature review aimed to identify and analyse relevant studies (2015-2020) on the implementation of gender equality measures and their impacts in Europe and the United States (US).

Covering the period between 2015 and 2020, the scope of the national fieldwork comprised:

- Legal and policy frameworks to promote gender equality in (public) research;
- Other incentive measures (e.g. programmes, awards or other initiatives that are not part of the policy framework nor initiated by public sector actors);
- Examples of organisational practices to promote gender equality, including GEPs in R&I organisations (two or three);
- Examples of organisational practices to promote gender equality in the wake of the COVID-19 pandemic in R&I.

The fieldwork for collecting promising organisational practices carried out by national experts covered R&I organisations, including public research organisations, higher education institutions, research funding bodies and private R&I companies (to the extent possible).

The main reports used for this study are:

- European Commission, She Figures 2021 report;
- European Commission, She Figures 2021 policy briefs;
- Report by the European Research Area and Innovation Committee Standing Working Group on Gender in Research and Innovation (ERAC SWG GRI) on Gender Equality Plans as a catalyst for change (2021);
- GENDERACTION report on Monitoring of European Research Area (ERA) Priority 4 Implementation (2020);
- European Commission, Gender Equality: Achievements in Horizon 2020 and recommendations on the way forward (2020).

The remainder of this paper is structured in three main sections. Section 2 introduces the legal and policy frameworks for mainstreaming gender equality into R&I organisations and research funding bodies at EU and national level. Section 3 focuses on what has been implemented at the

organisational level by and within R&I organisations, with a closer look at existing gender equality measures and the types of approaches, methods and tools implemented within the framework of such measures and GEPs. Finally, Section 4 presents the conclusions of the analysis, outlining key lessons and identifying the main issues to be considered in order to progress.

2. Integration of gender equality into R&I at EU and national level: state of play

2.1. Main policy developments at EU level and initiatives in Member States

The value of gender equality is enshrined in Articles 2 and 3 of the Treaty on European Union (TEU) and Articles 8, 10, 19 and 157 of the Treaty on the Functioning of the European Union (TFEU). It is further implemented through 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 (recast). For more than 20 years, the European Commission has made continuous efforts to strengthen gender equality and to include a gender dimension into research content in the ERA.

The European Commission published its first Communication on Women and Science in 1999, spearheading a change in policy approach. The focus shifted from individual support measures to enhance women's capacity to meet institutional academic requirements, to the institutions, whose organisation and governance may be the means by which gender inequalities and bias are produced and reproduced. This 'structural change' approach has seen specific projects funded under the Seventh Framework Programme for Research (FP7) since 2010. The first projects funded under the FP7 (2012-2012) promoted cooperation between research and higher education institutions. A number of systemic organisational approaches were identified and common actions were suggested to improve the recruitment and career progression of women researchers. The ERA Communication of 2012 provided a definition for GEPs for research and higher education institutions that has become instrumental in developing and broadening this strategic approach to gender equality in R&I. Based on that definition, GEPs should include an impact assessment/audit of procedures and practices to identify gender bias, the implementation of innovative strategies to correct any bias, and targets and indicators to monitor progress.

The FP7 work programme of 2013 built on the ERA Communication of 2012. It developed the idea of structural change by adding objectives, such as improved working conditions for women and men and the integration of a gender dimension in curricula and research content. Under H2020, the focus shifted to supporting research and higher education institutions in order to implement GEPs that removed barriers to recruitment, retention and career progression of women researchers, addressed gender imbalances in decision-making processes, and strengthened the gender dimension in research content. Since 2014, research and higher education institutions and/or research funding organisations are required to promote systemic institutional change, notably through the implementation of GEPs. The European Commission funded the GENDER-NET project to support research funding organisations specifically. GENDER-NET collected good practices and developed tools for research funding organisations to engage in gender equality work. The follow-up project, GENDER-NET Plus, aimed to strengthen transnational collaboration between research funding bodies and research programme managers, as well as to support the promotion of gender equality through structural change. It focused on the integration of sex and gender analysis into research and established a co-funded call on research addressing urgent societal challenges and integrating a sex/gender dimension. As of 2018, H2020 projects aiming to develop and implement GEPs were required to follow the step-by-step approach of the EIGE Gender Equality in Academia and Research (GEAR) Toolbox. Within the framework of H2020, the European Commission also funded several projects to build capacity for GEP implementation, such as the ACT project, the GENDERACTION project and the GE-Academy. Other projects sought to gain more empirical evidence on the

prevalence of gender bias in research funding (GRANteD), on the innovation potential of gender-diverse research teams (GEDII), on a framework to evaluate measures promoting gender equality (EFFORTI), and on gender-based violence and sexual harassment in R&I (UniSAFE)⁽¹⁾.

In parallel, the European Commission has taken action to address gender bias in research content and knowledge production since 2009. These efforts began with the publication of *Toolkit – Gender in EU-funded research* (European Commission, 2009) and the launch of a training programme consisting of a one-day training session on gender equality in research for the European research community. Training activities on the integration of the gender dimension continued in the H2020-funded project, GE-Academy. In 2011, the European Commission set up the Innovation Through Gender expert group to develop the gender dimension in R&I in the EU. To match the global reach of science and technology, case studies and methods of sex and gender analysis were brought together through international collaborations, with a report on gendered innovations published in 2013 ⁽²⁾. In 2020, a new expert group report on the relevance of gendered innovations was published, covering case studies in research fields such as health, climate change, transport, finance and economics, information and communications technology (ICT) and COVID-19 ⁽³⁾. Both reports provide insights into how R&I organisations benefit from integrating a gender dimension into their research approaches and methodologies. The second report provides detailed guidelines for field-specific methods for integrating gender analysis into R&I projects.

Gender equality in the ERA, 2012-2020

These activities in the framework of FP7 and Horizon 2020 were underpinned by the establishment of a reinforced ERA, as set out in the European Commission’s 2012 Communication ⁽⁴⁾. That Communication encouraged Member States to:

- Create a legal and policy environment, and provide incentives to:
 - remove legal and other barriers to recruitment, retention and career progression of women researchers, while fully complying with EU law on gender equality (i.e. Directive 2006/54/EC);
 - address gender imbalances in decision-making processes;
 - strengthen the gender dimension in research programmes;
- Engage in partnerships with funding agencies, research organisations and universities to foster cultural and institutional change regarding gender – charters, performance agreements and awards;
- Ensure that at least 40 % of the underrepresented sex participate in committees involved in recruitment/career progression of staff and in establishing and evaluating research programmes.

⁽¹⁾ European Commission (2020), *Gender Equality. Achievements in Horizon 2020 and recommendations on the way forward*, Publications Office of the European Union, Luxembourg, available at: <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/8cf2353d-cbc9-11ea-adf7-01aa75ed71a1>

⁽²⁾ European Commission (2013), *Gendered Innovations – how gender analysis contributes to research*, available at: http://publications.europa.eu/resource/celellar/d15a85d6-cd2d-4fbc-b998-42e53a73a449.0001.03/DOC_2

⁽³⁾ European Commission (2020), *Gendered Innovations 2. How inclusive analysis contributes to research and innovation*, Publications Office of the European Union, Luxembourg, available at: <https://op.europa.eu/en/publication-detail/-/publication/33b4c99f-2e66-11eb-b27b-01aa75ed71a1/language-en>

⁽⁴⁾ European Commission (2012), *A reinforced European Research Area partnership for excellence and growth*, (COM(2012) 392), available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:52012DC0392>

The ERA Roadmap 2015-2020 was subsequently adopted ⁽⁵⁾. It defined six priorities for the ERA, one of which was gender equality and gender mainstreaming in research (Priority 4). In defining these priorities, the ERA Roadmap also set out three objectives for gender equality:

- Fostering equality in scientific careers;
- Ensuring gender balance in decision-making processes and bodies;
- Integrating the gender dimension into R&I content, i.e. taking the biological characteristics and the social features of women and men into account.

Based on the ERA Roadmap, Member States were asked to develop and implement national ERA Roadmaps or National Action Plans (NAPs). Not all developed and submitted such a NAP, however. As stated in a GENDERACTION report on the implementation of the ERA priority on gender equality, the ERA Roadmap process contributed to the development of some countries' first-ever gender equality strategies in R&I. It noted that the NAP development process provided little incentive for relatively inactive countries to increase their engagement, which contributed to a widening gap between active and inactive countries ⁽⁶⁾. The implementation of the ERA Roadmap and its priorities was monitored through ERA progress reports, which also reported on the implementation of the gender equality priority and its three main objectives.

Another important instrument applied by the European Commission to monitor gender equality in R&I are the She Figures reports published every three years since 2003. She Figures 2021 ⁽⁷⁾ highlights areas where progress towards gender equality has been achieved and provides comparative data on areas where further improvements are needed. She Figures 2021 not only provides comparative data on gender equality in R&I, but also a methodological description of each indicator, which will continue to contribute to improving data comparability in the future.

The development of EU policies promoting gender equality in R&I was supported through the ERAC SWG GRI. This policy committee was composed of representatives of the Member States and Associated Countries, as well as the European Commission. It succeeded the Helsinki Group on Gender in Research and Innovation, which was active from 1999 to 2017. The SWG GRI advised on gender equality in R&I and supports several EU bodies by implementing measures connected with Priority 4 of the ERA Roadmap, on gender equality. It also advanced the policy discourse on gender equality in Europe, through reports, position papers and policy briefs that call attention to topics such as gender-based violence and sexual harassment in R&I, gendered impacts of the COVID-19 pandemic, or tackling gender bias in research evaluations ⁽⁸⁾. Like other ERAC groups, the SWG GRI was discontinued under the new ERA framework, but the Council recommends that its work should inform the ERA Forum if it contributes to the implementation of the new ERA Policy Agenda ⁽⁹⁾.

⁽⁵⁾ ERAC (2015), *European Research Area (ERA) Roadmap 2015-2020*, available at: <https://era.gv.at/era/era-2000-2021/era-roadmap/european-era-roadmap-2015-2020/>

⁽⁶⁾ Wroblewski, A. (2020), *Report on Monitoring of ERA Priority 4 Implementation*, Gender Action, Institute of Sociology of the Czech Academy of Sciences, Prague, available at: https://genderaction.eu/wp-content/uploads/2020/06/D3.2_MonitoringERApriority4implementation.pdf

⁽⁷⁾ European Commission (2021), *She Figures 2021. Gender in Research and Innovation. Statistics and Indicators*, Publications Office of the European Union, Luxembourg, available at: <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/67d5a207-4da1-11ec-91ac-01aa75ed71a1>

⁽⁸⁾ ERAC SWG GRI, available at: <https://genderaction.eu/policy-advice/erac-swggr/>
<https://era.gv.at/governance/swg-on-gender-in-research-and-innovation/>

⁽⁹⁾ Council of the European Union (2021), *Conclusions on the future governance of the European Research Area (ERA)*, available at: <https://data.consilium.europa.eu/doc/document/ST-14126-2021-INIT/en/pdf>

Recent policy developments: gender equality in the new ERA and in Horizon Europe

The European Commission's 2020 Communication 'A new ERA for Research and Innovation' proposed a new approach to strengthening the ERA. The new framework will foster gender equality and diversity in R&I through inclusive GEPs, in coordination with the Member States and stakeholders. It aims to promote a gender-inclusive research culture, enact sustainable change in R&I organisations, and remove barriers to women's career advancement. The new ERA framework is expected to have several important impacts:

- Increased success and innovation performance of organisations, as a result of greater diversity;
- Enhanced understanding of sex and gender specificities;
- Improved work-life balance, equal access to opportunities and well-being.

The 2020 Council Conclusions on the new ERA reiterate that gender equality is paramount if Europe is to tap the full potential of its R&I system. The focus of gender equality and mainstreaming needs to be boosted through the implementation of GEPs and the integration of the gender dimension into R&I content. It also encourages Member States and research funding bodies to ensure that the allocation of research funding is not affected by gender bias.

In the ERA Policy Agenda for 2022-2024, the European Commission emphasises the need to address gender-based violence in academic settings and to open gender equality policies to inclusiveness and intersections with other diversity categories and potential grounds for discrimination, such as ethnicity, disability or sexual orientation. This reflects the emphasis on intersectionality in the overall EU Gender Equality Strategy 2020-2025 ⁽¹⁰⁾.

The ERA Policy Agenda endorses the priority areas for gender equality defined by the Ljubljana Declaration. Approved by 34 Member States and Associated Countries, as well as the European Commission, the Declaration was presented by the Slovenian Presidency in the Competitiveness Council of 28 September 2021 ⁽¹¹⁾. It aims to:

- Ensure fair, open, inclusive and gender-equal career paths in research, and consider intersectional perspectives on gender inequalities;
- Facilitate mutual learning opportunities through robust form-follows-function governance;
- Address and counteract gender-based violence;
- Employ existing and newly developed tools, such as GEPs, to facilitate systemic institutional change and remove institutional barriers;
- Support active monitoring and evaluation to ensure continuous improvement;
- Leverage synergies to enhance gender equality achievements within the ERA and within complementary fields, such as the European Higher Education Area, Cohesion Policy Funds, innovation ecosystems, and in international cooperation;
- Underpinning the above priorities and activities, fully acknowledge gender mainstreaming as a horizontal principle.

⁽¹⁰⁾ Gender Equality Strategy 2020-2025, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0152&from=EN>

⁽¹¹⁾ European Commission (2021), *European Research Area Policy Agenda: Overview of actions for the period 2022-2024*, available at: https://ec.europa.eu/info/sites/default/files/research_and_innovation/strategy_on_research_and_innovation/documents/ec_rtd_era-policy-agenda-2021.pdf

GEPs in Horizon Europe: a new eligibility criterion

The new ERA framework links gender equality more strongly to research quality and innovation performance and mainstreams it more broadly into Horizon Europe, the new framework programme for R&I funding. Gender equality is a cornerstone and cross-cutting principle of Horizon Europe, continuing the policy priorities of the ERA Roadmap 2015-2020 and aligning with the new formulations of these priorities in the framework of the ERA for R&I (2020). Gender is considered at three levels in Horizon Europe:

1. GEPs for public bodies, research organisations and higher education organisations as an eligibility criterion to access Horizon Europe funding;
2. Integration of the gender dimension into R&I content as a requirement by default;
3. Increasing gender balance, with a target of 50 % women throughout the Horizon Europe programme.

Organisations applying for Horizon Europe funds must have a GEP in place. For calls with submission deadlines in 2022 and beyond, the GEP eligibility criterion will apply to all parts of Horizon Europe. The eligibility criterion applies to the following categories of legal entities established in the Member States or Associated Countries ⁽¹²⁾:

- Public bodies, such as research funding bodies, national ministries or other public authorities, including public for-profit organisations;
- Higher education organisations, both public and private;
- Research organisations, both public and private.

The Horizon Europe work programme sets out several requirements for GEPs.

- Four minimum mandatory process-related requirements:
 - Public document: a GEP is a formal document published on the organisation’s website, signed by the top management and actively communicated within the organisation;
 - Dedicated resources: a GEP must include a commitment to equip its implementation with sufficient resources and expertise in gender equality;
 - Data collection and monitoring: a GEP should be informed through collecting and analysing sex/gender-disaggregated data on personnel (and students, for the organisations concerned). Organisations should report their progress annually based on specific indicators;
 - Training: a GEP must include awareness-raising and training activities on gender equality for the whole organisation, as well as training on unconscious gender bias for staff and decision-makers;
- Five recommended content-related requirements:
 - Work-life balance and organisational culture;
 - Gender balance in leadership and decision-making;
 - Gender equality in recruitment and career progression;
 - Integration of the gender dimension into research and teaching content;
 - Measures against gender-based violence, including sexual harassment.

The Horizon Europe Strategic Plan 2021-2024 defines key priorities and emphasises that gender equality and inclusiveness are key issues and cross-cutting priorities. It reiterates the commitment to combating gender inequality and other intersecting inequalities (disability, ethnicity, sexual orientation) in R&I systems. By addressing unconscious bias and systemic structural barriers and

⁽¹²⁾ European Commission (2021), *Horizon Europe guidance on gender equality plans*, available at: <https://op.europa.eu/en/publication-detail/-/publication/ffcb06c3-200a-11ec-bd8e-01aa75ed71a1>

integrating the gender dimension as a default requirement in R&I content across the whole programme, gender inequality and intersecting socioeconomic inequalities should be eliminated. Specific funding will be made available for measures supporting the development of inclusive GEPs in R&I organisations across Member States and Associated Countries.

Mainstreaming gender equality policies into further R&I policy instruments

The European Commission's efforts to promote gender equality in R&I sought not only to engage Member States and research organisations, but to mainstream gender equality issues into the European Research Council (ERC), the European Innovation Council (EIC), and the European Institute of Innovation and Technology (EIT). Integrating gender equality into innovation policies has the potential to broaden innovation policy beyond a narrow focus on technology. It can also promote a wider understanding of innovations, encompassing social or public sector innovation, for example, as well as understand the interplay between soft and hard innovations. In addition to research policies, the European Commission is increasingly tackling gender inequalities through its innovation policies, as evidenced by the examples of the ERC and the EIT, below.

ERC: on the frontiers of gender equality?

The ERC is a core part of Horizon Europe, with one of its working groups solely dedicated to gender equality. It recently published the third ERC Gender Equality Plan for 2021-2027 ⁽¹³⁾. Key areas of the GEP are to raise awareness of the gender policy among applicants, and to increase awareness more broadly at all levels. Other aims target the elimination of gender bias during evaluation and the promotion of gender balance among ERC candidates, peer reviewers and other bodies. It sets the objective of 40 % representation of the underrepresented group in decision-making bodies. For 2022, the ERC Work Programme is requesting GEPs from host institutions applying for grant calls. Those GEPs must cover the mandatory requirements set by Horizon Europe. The ERC has introduced a specific set of measures against gender bias, with training on gender bias provided for all programme officers, management and the ERC Scientific Council since 2016. The genERC study (2014-2016) analysed potential gender bias in ERC evaluation and grant allocation processes.

EIC: innovation through gender equality

Since 2016, the EIC, together with the Small and Medium-Sized Enterprises (SMEs) Executive Agency, has acknowledged the most talented women entrepreneurs associated with Horizon Europe, who founded a successful company and brought innovation to the market. The annual EU Prize for Women Innovators seeks to create role models and raise awareness of the need for more women innovators. From 2019 to 2021, the pilot Advisory Board took over the advisory activity, urging the EIC and all other innovation actors to take immediate action to achieve balanced representation of women and men along the entire innovation chain. Early successes include the prioritisation of women-led companies invited to interviews, introduced in 2020. This stimulated an increase in the share of EIC-funded start-ups with a woman Chief Executive Officer (CEO) (from 8 % to 29 %), with women representing 42 % of all business coaches advising and mentoring EIC-supported start-ups. The EIC Work Programme 2021 stipulates the following actions to improve gender balance and promote women innovators:

- At least 40 % of the EIC Board, the Investment Committee of the EIC Fund, EIC juries and EIC expert evaluators will be women, with the objective to reach 50 %;
- Companies invited to face-to-face interviews with EIC Accelerator juries will be selected on the basis of excellence, while aiming to have 40 % with women CEOs;

⁽¹³⁾ Gender Equality Plan 2021-2027, available at:

https://erc.europa.eu/sites/default/files/document/file/ERC_ScC_Gender_Equality_Plan_2021-2027.pdf.

- Business Accelerator Services will include specific services for women founders.

The Work Programme 2021 also mentions that the gender dimension in research content should be taken into account where relevant, while the GEP eligibility criterion applies to EIC calls and challenges ⁽¹⁴⁾.

In October 2021, the EIC started the Women Leadership Programme to support the role of women in innovation and technology. The programme aims to improve the skills and networking of women entrepreneurs and researchers supported by the EIC. It consists of specific training, networking events, personalised mentorship and a business coaching scheme.

EIT: tackling gender inequalities in entrepreneurship

The EIT engages in gender mainstreaming at all levels. It has begun several projects to enhance gender equality, such as the Women Entrepreneurship Bootcamp. Its Girls Go Circular project develops entrepreneurship skills for schoolgirls, with online training using challenge-based, circular economy exercises seeking to close the digital gender gap. The EIT Alumni Community promotes gender equality through different activities, e.g. the network 'Women@EIT' of EIT women students and alumni. The collaboration with EIT Health's 'WE Health' project offers training and support to promote women entrepreneurs in health innovation, and also advocates for more diversity in this sector.

Since 2018, the EIT has recognised outstanding achievements of women entrepreneurs and leaders from its Innovation Communities with the annual EIT Woman Award. In 2020, it adopted its Gender Mainstreaming Policy and implemented a Gender Action Plan. Part of that is the implementation of gender training for all staff, as well as gender analysis to promote gender equality and women entrepreneurship. The EIT Strategy 2021-2027 has objectives related to closing the entrepreneurial gender gap, and paying attention to gender balance and gender-sensitive approaches, in particular in areas where women remain underrepresented, such as information and communications technology (ICT) and science, technology, engineering and mathematics (STEM).

2.2. Integration of gender equality into Member States' research organisations

Gender equality policies in R&I organisations and their institutionalisation through policy and supporting initiatives are far more complex and heterogeneous at Member State level.

Despite converging factors triggered by Europeanisation and international competition, the organisation of knowledge production in research and academic institutions still varies considerably between national contexts. National models of knowledge production offer different challenges and/or opportunities for gender mainstreaming policies. These conditions are subject to evolution, with national models undergoing considerable changes throughout the EU and moving towards greater autonomy in research management, a reinforced role for research funding bodies, and fierce international competition for reputation, talent and excellence. In this respect, there are significant differences between the structures and performances of national R&I systems. In some countries the private research sector is the main R&I sector in terms of resources and personnel, while in others, the State and higher education sectors are more significant and the private sector is comparatively small. This is reflected in the performance levels of national R&I systems ⁽¹⁵⁾. Some Member States, such as Sweden, Finland, Denmark or Belgium, are labelled as innovation leaders, followed by a

⁽¹⁴⁾ EIC Work Programme 2022, available at: https://eic.ec.europa.eu/document/download/8c9ca0e4-6d66-4d8c-be06-caa02b8d9d2c_en.

⁽¹⁵⁾ European Commission (2021), *European Innovation Scoreboard 2021*, available at: https://ec.europa.eu/info/research-and-innovation/statistics/performance-indicators/european-innovation-scoreboard_en

group of strong innovators (including Germany, the Netherlands and Austria). The groups of moderate and emerging innovators chiefly comprise Member States from southeastern Europe and have innovation performance levels that are somewhat lower than the average of the 27 Member States (EU-27). Most of the countries considered innovation leaders and strong innovators have high scores on the Gender Equality Index. The GENDERACTION assessment report indicates that the higher a country scores on the Gender Equality Index, the higher its innovation potential ⁽¹⁶⁾. A 2018 survey of Member States also identified significant differences between strong and moderate innovators, with strong innovators having more actions and measures in place to promote gender equality ⁽¹⁷⁾.

The development of the share of women researchers has been strongly influenced by contextual factors, namely the relative size of the business enterprise sector (BES) and the share of women among those with tertiary education ⁽¹⁸⁾. A study examined four case studies (Austria, Denmark, Hungary, Spain) and highlighted the different innovation capacities, gender regimes and progress of gender equality in R&I, with a focus on the share of women researchers in the period 2005-2015. It concluded that gender equality interventions need to be more widespread and more effectively designed if they are to be a strong contributing factor to increasing the representation of women in R&I.

Legislative and policy frameworks for integrating gender into research organisations differ considerably between Member States. This is also true for general antidiscrimination and gender equality legislation and policy, as well as provisions and policies regulating science, innovation and higher education. Such diversity of gender equality and antidiscrimination regulations can be partly explained by the interplay of domestic and EU-driven variables. Among the most relevant domestic variables, the State governance system (unitary vs federal or decentralised) plays a crucial role, as multilevel governance offers different conditions to policy transfers and institutional isomorphism ⁽¹⁹⁾. However, this is also the case for ‘policy styles’, which determine how and by whom gender equality policies are planned and implemented ⁽²⁰⁾, as well as the extent to which policies rely on hard and/or soft law ⁽²¹⁾. The domestic impact of EU policies and the role of the private and non-profit sector in stimulating gender policy initiatives constitute other relevant variables explaining this diversity. The overall political environment in Member States also plays a role. In Poland, for example, there is more popular resistance to gender equality measures ⁽²²⁾, with the conservative government involved in mainstreaming anti-gender equality rhetoric ⁽²³⁾. The democratic backsliding in Central and Eastern Europe not only challenges democratic institutions, but can be seen as a form of cultural backlash against the social and political changes of recent decades ⁽²⁴⁾. The

⁽¹⁶⁾ Wroblewski, A. (2021), *Monitoring of ERA priority 4 implementation – update and final assessment*, available at:

https://genderaction.eu/wp-content/uploads/2021/09/GENDERACTION_WP3_final_report.pdf

⁽¹⁷⁾ ERAC (2018), *Report on the Implementation of Council Conclusions on Advancing Gender Equality in the European Research Area*, ERAC 1213/18, 23, available at: <https://data.consilium.europa.eu/doc/document/ST-1213-2018-INIT/en/pdf>

⁽¹⁸⁾ Striebing, C. Schmidt, E.K., Palmén, R., Holzinger, F. and Nagy, B. (2019), ‘Women underrepresentation in R&I: a sector programme assessment of the contribution of gender equality policies to research and innovation’, *Evaluation and Programme Planning*, p. 101749, available at: <https://doi.org/10.1016/j.evalprogplan.2019.101749>

⁽¹⁹⁾ Alonso, A. and Forest, M. (2012), ‘Is gender equality soluble into self-governance? Regionalising and Europeanising gender policies in Spain’, *The Europeanisation of gender equality policies. A discursive-sociological approach*, Basingstoke, Palgrave Macmillan, pp. 192-213.

⁽²⁰⁾ Richardson, J. (2006), *European Union: power and policymaking*, London, Routledge.

⁽²¹⁾ Beveridge, F. and Velluti, S. (2008), *Gender and the open method of coordination - Perspectives on law, governance, and equality in the EU*, Aldershot, England.

⁽²²⁾ Korolczuk, E. (2020), ‘Counteracting challenges to gender equality in the era of anti-gender campaigns: competing gender knowledges and affective solidarity’, *Social Politics*, Vol. 27, No 4, pp. 694-717.

⁽²³⁾ Gaweda, B. (2021), ‘Europeanisation, democratisation and backsliding: trajectories and framings of gender equality institutions in Poland’, *Social Politics: International Studies in Gender, State & Society*, Vol. 28, No 3, pp. 629-655.

⁽²⁴⁾ Krizsan, A. and Roggeband, C. (2019), *Gendering Democratic Backsliding in Central and Eastern Europe. A comparative agenda*, Budapest, Central European University.

process of de-democratisation has affected established gender equality rights in Croatia, Hungary, Poland and Romania, with governments blocking or reversing gender equality policies. This also affects the implementation of GEPs in research organisations in those countries, with resulting low levels of support and encouragement, if not (open) resistance to such projects.

2.2.1. Overview of laws, policies and initiatives promoting gender equality in (public) research

Legislating gender equality in research and higher education

The purpose of Directive 2006/54/EC (recast) is to ensure the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation. The Directive contains provisions to implement the principle of equal treatment in relation to: (a) access to employment, including promotion, and to vocational training; (b) working conditions, including (gender-)equal pay, return from maternity, paternity and adoption leave, and sexual harassment; and (c) occupational social security schemes. It also contains provisions to ensure establishments' effective implementation of appropriate procedures. Although the Directive applies to research and higher education institutions as employers, some EU Member States have developed specific legal and policy frameworks to achieve the overarching objective of mainstreaming gender equality into public research and higher education institutions. This objective is explicitly reflected in the general equality and/or antidiscrimination legislation of 14 Member States ⁽²⁵⁾. In most cases, it is the status of higher education institutions and research organisations as public bodies and employers that determines whether or not they are explicitly covered by the general equality and/or antidiscrimination legislation. These provisions primarily target equality at the workplace, equal access to decision-making positions, and combating sexual harassment and discrimination. The general equality and/or antidiscrimination legislation is often complemented by more specific provisions enshrined in legislation on higher education and research, at either national or subnational level.

Austria has both antidiscrimination legislation and legislation on gender equality in research and higher education. Public universities and private research organisations are legally obliged to implement GEPs containing comprehensive gender equality measures. The Federal Law for Equal Treatment applies to public universities, while the Equal Treatment Act applies to other research-performing organisations.

In **Belgium**, provisions on gender equality in legislation for research and HEIs are in place only at the level of the Flemish and French Communities. There is a focus on gender balance in decision-making bodies through the implementation of quotas at federal and Flemish regional level. The Flemish University has defined balanced participation, gender-based violence, the gender pay gap, and the mainstreaming of gender equality as its main priority areas. The French-speaking universities in Belgium use soft law measures to improve gender balance, enabling a fair recruitment process, providing a social security net and creating better working conditions. There is also a legal provision on integrating gender issues into teaching programmes.

To date, there are no laws promoting gender equality in R&I in **Bulgaria**. However, gender equality monitoring started in 2016. In **Croatia**, the legal framework ensuring the promotion of gender equality has several intertwined parts. Gender equality is first guaranteed by the Constitution, then developed further in the Gender Equality Act. Provisions on gender equality are also present in other laws, such as the Antidiscrimination Act (2009). As of September 2021, however, there were no laws

⁽²⁵⁾ AT, DE, DK, EE, EL, ES, FI, FR, HR, IE, IT, LT, PT, SE (EIGE (n.d.), *Gender Equality in Academia and Research (GEAR)*, available at: <https://eige.europa.eu/gender-mainstreaming/toolkits/gear/legislative-policy-backgrounds>).

explicitly promoting gender equality in the R&I sector. In **Cyprus** and in **Czechia**, there were no regulations explicitly promoting gender equality in research, as of August 2021.

Introduced in 2000, the Gender Equality Act is the legal basis for gender equality in **Denmark**. Public authorities, including universities and other organisations, are obliged to promote gender equality measures such as gender balance in councils and committees. Institutions with more than 50 employees must develop a policy for balanced gender representation. The Act also stipulates that companies may not discriminate against employees based on gender and that all public institutions must report on gender equality initiatives. The Act on Universities (2003, amended in 2011, 2014 and 2015) promotes specific agreements and development contracts with universities. For example, the Technical University of Denmark (DTU) has to take measures to attract more women engineers, while the University of Copenhagen (ITU) agreed to train more women IT specialists and to monitor the dropout rate among women.

Estonia's Gender Equality Act of 2004 (amended in 2014 and 2017) is the legal basis for promoting gender equality in R&I. It contains regulations on education and training, the prevention of gender-based violence and the collection of sex-aggregated statistical data. However, the Organisation and Development Act and Higher Education Act do not contain specific regulations on gender equality.

Finland has no specific legal provisions to promote gender equality in research. However, the Act on Equality between Men and Women (1986), on achieving gender equality in teaching and education refers to research and obliges institutions to prevent gender-based discrimination, promote equality between women and men, and improve working-conditions. The Act on Equality also requires educational institutions and employers with 30+ employees, including universities and public research organisations, to develop plans to adopt GEPs. Those plans must address the following issues: decision-making, employment, reconciliation, studies and teaching, discrimination and harassment. However, the implementation of GEPs is not systematically monitored and their effectiveness is rarely evaluated.

In **France**, specific provisions on higher education and research contribute to aligning the legislation with broader commitments towards gender equality. The Act on Effective Equality between Men and Women (2014) and the Law on Higher Education and Research (2013) mirror one another, building a consistent legislative framework for mainstreaming gender equality in research and higher education institutions. In R&I specifically, Law 2013-660 of 22 July 2013 on higher education and research imposes gender parity for elections to all governing bodies of research organisations. The Law also refers to the nomination of Gender Officers in all universities and research organisations.

In **Germany**, the Framework Act for Higher Education of 2007 makes it compulsory for universities to promote gender equality (in access to decision-making) in order to access public funding. These provisions are detailed and reinforced at regional level, albeit with local specificities (e.g. gender-sensitive job advertisements in some states). The introduction of gender quotas for boards of listed companies – stipulating that at least 30 % of board members must be women – has received a lot of attention. In 2021 a new Federal Equality Foundation was established to strengthen gender equality work by connecting different actors and providing knowledge and services for practitioners. The Federal Equality Law features a similar obligation to develop a GEP.

In **Greece**, the legal framework consists of various laws on gender equality in research and laws directly affecting research organisations. All public decision-making bodies, including universities and research organisations, are required to have one-third gender representation (Law 2839; Law 3653/2008; Law 4386/2016). Higher education institutions are obliged to contribute to gender equality (Law 3549/2007) and to combat gender-based violence (Law 4604/2019). They are also

encouraged to integrate the gender dimension in teaching and research activities. Law 4604/2019 also contains the Gender Equality Badge (GEB) for private companies, rewarding initiatives promoting equal opportunities and the adoption of GEPs. The GEB has yet to be implemented, however. Finally, Article 33 of Law 4589/2019 provides for the establishment of Gender Equality Committees (GECs) at all Greek universities, as consultative bodies to the senate and departments. GECs are composed of unpaid members who participate in different activities, including the development of GEPs. Most universities and some research centres have now established GECs.

The Act on Equal Treatment (2003) is the legal basis for gender equality in **Hungary**, aiming to promote equal opportunities and combat gender-based discrimination. According to Article 63(4), legal entities (including universities) mainly owned by the State and employing more than 50 employees are obliged to draw up equal opportunity plans. Article 63(4) does not apply to research institutions not (primarily) owned by the State.

In **Ireland**, the Employment Equality Acts (1998 to 2015) regulate legal provisions on discrimination, recruitment and promotion, equal pay, working conditions and sexual harassment within higher education institutions. It is complemented by the Institutes of Technology Act and the University Act (1997), which require higher education institutions to develop and implement equality policies. Section 42 of the Irish Human Rights Equality Commission Act 2015 obliges public bodies to integrate equality assessment into their strategic planning processes. Legal provisions on gender equality in research refer to the Higher Education Authority (HEA), which was established in 1971 and has legislative responsibility to promote equality in higher education institutions. It also monitors developments in gender equality.

In **Italy**, the National Code for Equal Opportunities between Women and Men (2006) obliges public administrations, including higher education institutions, to adopt a Positive Action Plan (PAP) every three years, containing provisions on gender balance and work-life balance. It is complemented by Law 240/2010 on the General Reform of University Education, which targets equal opportunities, gender balance in decision-making bodies of research institutions, extended maternity leave, and funds for gender equality measures in public universities.

Latvia has no specific legal provisions on gender equality in the R&I sector. However, the Law on Scientific Activity was introduced in 2005, containing regulations on discrimination. The Labour Law prohibits discrimination against a person on the basis of their gender, race and various other circumstances, but contains no other clauses regulating gender equality. The current law has not been changed or amended since 2005.

Prior to 2020, **Lithuania** had few initiatives to adopt legislation on gender equality in research. In 1998, the Law on Equal Opportunities for Women and Men and the Law on Equal Treatment (2003) were introduced to prohibit discrimination. Article 5 of the Law on Equal Treatment obliges institutions to implement equal rights for women and men and to prevent sexual harassment. The Law on Higher Education and Research (2017) contains the obligation to implement gender equality measures in respect of working conditions, the gender pay gap and sexual harassment.

The legal provisions on gender equality in **Luxembourg** address gender balance in the decision-making bodies and advisory boards of public research centres (Law of 31 May 1999, amended by the Law of 27 August 2014 and Law of 29 December). Article 25 of the Law creating the University of Luxembourg (2003) aims to promote women's careers. The Law of 15 December 2016 incorporates the principle of equal salaries in both the private and public sectors. In 2018, Gender Equality Officers were appointed as chairs of the GECs and tasked with the the creation, revision and implementation of GEPs.

As of June 2021, **Malta** had adopted no national laws promoting gender equality in research. However, the parliament is at an advanced stage of discussion with regards to the Equality Bill, which aims to strengthen legislation on gender equality and discrimination generally. In addition, in 2019, there was a public consultation ‘towards a Gender Equality Mainstreaming Framework’.

The Netherlands published the Higher Education and Scientific Research Act in 1992. It contains several references to discrimination and obliges higher education institutions to monitor the promotion of equal treatment of women and men. However, there are no other policies in place regarding gender equality in research.

In **Poland**, equality is embedded in the Constitution, the Labour Code and the Act on the Promotion of Employment and Labour Market Institutions, which apply to all research performing organisations. Additionally, the Act on Equality prohibits unequal treatment of all employees. Gender equality is rarely mentioned in the legal regulations on higher education. The Act of 20 July 2018 – Law on Higher Education and Science does not address gender equality as a goal or value for higher education institutions and research organisations. Rather, the only measures related to gender equality are those to support parents and pregnant women.

Portugal has only statutory provisions aimed at promoting gender equality, with no corresponding laws for higher education institutions and research organisations. However, it is possible to intervene in gender equality issues through the constitutional principles of equality and non-discrimination. Similarly, **Romania** has no specific legal framework to address gender equality in research. However, the Governmental Ordinance (137/2000) against all forms of discrimination and the Equal Opportunities and Equal Treatment of Women and Men Act (2002) oblige public and private research organisations to take action against sex-based discrimination and gender-based violence.

As of September 2021, **Slovakia** has not adopted any specific strategies, laws or regulations promoting gender equality in the field of R&I. As of October 2021, **Slovenia** is preparing a new law on research and development, containing rules and procedures for financing, evaluating, and monitoring research activities to ensure gender equality. It also wants to ensure gender balance in relevant decision-making bodies.

Spain’s legislative framework for R&I aims to increase the participation of women in decision-making bodies, as regulated in the Act on Effective Equality between Men and Women (2007). The framework is complemented by the University Act (2007), which includes legal provisions on the revision of gender bias in recruitment and accreditation procedures and the removal of existing barriers. This concept was broadened to integrate gender issues in research topics by incorporating gender mainstreaming as a guiding principle of the entire R&I system, as stated in the 13th additional clause of the Science, Technology and Innovation Act (2011). In 2019, three additional decrees developed aspects of the Organic Law for Effective Equality (2007), reinforcing the rights of equal salary for equal work, work-life balance, and childbirth leave for both parents. Another decree issued in 2020, on equal pay for women and men, established mechanisms to identify and correct discrimination in remuneration. The most important policy development in Spain obliges all companies and institutions with more than 50 employees to implement GEPs – this applies to research organisations, although it is not a specific regulation for the R&I sector. Finally, a decree issued in 2020 mandated the monitoring of gender equality practices and implementation of the GEP.

In **Sweden**, specific legislative provisions on higher education and research contribute to alignment with broader commitments towards gender equality. Three acts passed by the Swedish Parliament directly affect higher education and research. The Swedish Higher Education Act (1992) requires higher education institutions to promote gender equality. Unlike other countries, the greatest share

of publicly funded research is conducted by these institutions, with research institutes accounting for only a small share. The Parental Leave Act (1995) and the Discrimination Act (2008) regulate equal opportunities and combat discrimination. The Discrimination Act also contains provisions on active measures for the promotion of gender equality in five areas: working conditions (pay), recruitment and promotion, education and training, and work-life balance

Specific provisions requiring research and/or innovation organisations to implement structured GEPs exist in only nine Member States, where they are used as a catalyst for institutional change in gender equality ⁽²⁶⁾. Provisions on GEPs are normally embedded in a comprehensive legislative framework tackling gender equality in research and higher education institutions, both at the level of general gender equality laws and specific legislation on science and higher education. According to the ERAC survey ⁽²⁷⁾, nine Member States have a GEP requirement specifically for higher education institutions at national or regional level ⁽²⁸⁾, with four requiring the adoption of GEPs in public and private higher education institutions and research funding bodies (Denmark, Finland, Germany, Sweden). However, some countries have plans in place that contain typical elements of GEPs. In Hungary, legal entities mainly owned by the State and employing more than 50 employees are obliged to draw up an Equal Opportunity Plan (§ 63, para. 4). Similarly in the Netherlands, universities committed to the goals of the National Action Plan for Greater Diversity and Inclusion in Higher Education and Research are obliged to draw up Diversity Plans encompassing gender equality objectives. In Greece, most universities have established GECs under Article 33 of Law 4589/2019 and initiated the development of GEPs, while private companies that develop GEPs are rewarded with the GEB. In Italy, public administrations, including higher education institutions, are required to adopt three-year PAPs containing provisions on gender balance and work-life balance.

Whether stemming from equality and antidiscrimination legislation or from higher education and research policies, provisions differ in several ways. In Sweden, they require R&I organisations to adopt broader equal opportunity schemes. In Germany, they are rooted in federal law (for research organisations) and regional (*Länder*) legislation (for universities), while in Austria the federal law obligation to adopt a GEP applies to 22 public universities and the Equal Treatment Act covers other research institutes. Some countries, despite having no GEP requirement may nevertheless have incentives (including funding) to implement GEPs. Still others may use support mechanisms (e.g. support centres, gender equality research centres) to promote sustainable institutional change, albeit without the explicit use of the GEP as an instrument, as is the case in Czechia.

There is room for improvement in private higher education institutions' implementation of GEPs, even in those countries where GEP requirements apply. France, Germany and Portugal require GEPs for private companies but not for private higher education institutions ⁽²⁹⁾. In Ireland, GEPs are only required in the R&I field and not in other sectors. Thus, R&I institutions could become role models for other institutions and sectors ⁽³⁰⁾. Another feature of the legal provisions of GEPs in Ireland is that the government provides funding for their implementation.

⁽²⁶⁾ ERAC (2021), *Gender in Research and Innovation on 'Gender Equality Plans as a catalyst of change'*, Brussels, available at: <https://data.consilium.europa.eu/doc/document/ST-1202-2021-INIT/en/pdf>

⁽²⁷⁾ ERAC (2021), *Gender in Research and Innovation on 'Gender Equality Plans as a catalyst of change'*, Brussels, available at: <https://data.consilium.europa.eu/doc/document/ST-1202-2021-INIT/en/pdf>

⁽²⁸⁾ AT, DE, DK, ES, FI, FR, IE, PT, SE.

⁽²⁹⁾ ERAC (2021), *Gender in Research and Innovation on 'Gender Equality Plans as a catalyst of change'*, Brussels, available at: <https://data.consilium.europa.eu/doc/document/ST-1202-2021-INIT/en/pdf>

⁽³⁰⁾ ERAC (2021), *Gender in Research and Innovation on 'Gender Equality Plans as a catalyst of change'*, Brussels, available at: <https://data.consilium.europa.eu/doc/document/ST-1202-2021-INIT/en/pdf>

Member States differ in their monitoring of GEP implementation. In Spain, implementation must be monitored, while Finland makes no such legal provision. Sanctions for non-compliance also vary, with financial sanctions applicable in Spain, Finland, France, Ireland and Sweden. Even without a GEP requirement at national level, some research performing organisations may have a GEP as a result of their participation in H2020 (Croatia, Czechia, Estonia, Italy, Lithuania, Poland) or because there are incentives in place (including funding) for the implementation of GEPs. Geographical coverage may also vary, as in Belgium, where GEPs are not implemented at every university.

Table 1. Legal framework: provisions on gender equality in research and higher education institutions

Country	In legislation on research and higher education	Legal provisions on GEP
AT	Yes	Yes (higher education institutions)
BE	Yes (regional)	No
BG	No	No
CY	No	No
CZ	No	No
DE	Yes (federal and <i>Länder</i>)	Yes (federal for research institutions; <i>Länder</i> for universities)
DK	Yes	Yes
EE	No	No
EL	Yes	No
ES	Yes (national and regional)	Yes (national and regional)
FI	No (not explicitly)	Yes
FR	Yes	Yes (higher education institutions)
HR	No	No
HU	No	No
IE	Yes	Yes (higher education institutions)
IT	Yes (narrow focus)	No
LT	Yes	No
LU	Yes	No
LV	No	No
MT	No	No
NL	No	No
PL	No	No
PT	No	Yes (higher education institutions)
RO	No	No
SE	Yes	Yes
SI	No	No
SK	No	No

Source: EIGE - information collected through study fieldwork and ERAC (2021).

Policies to integrate gender equality in research and higher education institutions

Policies on the integration of gender equality in R&I institutions vary considerably. Policies exist in 21 Member States ⁽³¹⁾ as strategies and/or framework documents, in some cases even where there are no legal provisions on integrating gender (equality) into research (e.g. Czechia, Hungary, Slovenia). As of today, however, no policy strategies or documents are evident in Malta, Poland and Romania. Policies to integrate gender in research and higher education institutions differ in their scope. In 19 of 21 Member States with policies in place ⁽³²⁾, those policies primarily address equality in participation in research activities (from recruitment to appraisal and career management) and gender balance in access to management and decision-making positions. In seven countries ⁽³³⁾, these basic elements are not present. In 2015, policies on the integration of a gender perspective in knowledge production were only present in Czechia, France and Finland, compared to 10 countries in 2022 ⁽³⁴⁾. In addition, policies on the integration of gender in curricula are in place in five countries (Belgium, Croatia, Greece, Portugal, Finland).

Description of policy developments in European Member States

Policy developments in **Austria** are promising. The Agenda for Research, Technology and Innovation (RTI) 2030 includes the intention to increase the proportion of women graduates in technical subjects by 5 %, while the Research Pact for 2021-2023 seeks to promote the advancement of women in research. Existing documents address gender balance in management positions, committees, and among young scientists, as well as integration of the gender dimension in research content, equal opportunities in careers, work-life balance, gender-specific criteria for funding, and increasing the visibility of women in the R&I sector.

In **Belgium**, similar to the legislation on gender equality in research, policy strategies and documents are in place at regional level. In June 2020, the ‘Leaving No One Behind Equality and Inclusion Policy’ was introduced, including a new Gender Policy 2020-2024 that addressed the numbers (gender-balance in career path, e.g. scholarship attribution), the organisation (gender bias; work-life balance; access to decision-making) and the knowledge (gender mainstreaming in research content).

Bulgaria adopted the National Strategy for Research Development 2017-2030 in May 2017. Gender equality is also mentioned in the Strategy for Higher Education Development 2021-2030 in relation to equal participation in decision-making and awareness-raising activities. Despite the absence of legal provisions on gender equality in research, Bulgaria is one of the leading Member States for gender balance.

Croatia’s policies on gender equality in research contain measures to mitigate discrimination, promote the gender dimension in all policy areas, and aim for gender balance in decision-making. The Implementation Plan for the European Research Area Plan 2015-2020 monitored progress. In 2019, the Declaration of Commitment to Women in the Digital World (WiD) was signed, raising awareness and supporting women in R&I. Croatia does not have comprehensive policy support for gender equality measures.

Cyprus has training programmes on gender equality, while gender equality targets are actively promoted and monitored. The most dominant policy scope – gender balance in decision-making – is widespread. In addition, there are documents referring to awareness-raising activities, closing the gender pay gap, career guidance, training on gender mainstreaming and tackling gender-based

⁽³¹⁾ AT, BE, CY, CZ, DE, DK, EE, EL, ES, FI, HR, HU, IE, IT, LT, LU, LV, NL, PT, SE, SI.

⁽³²⁾ AT, BE, CY, CZ, DE, DK, EE, ES, FI, FR, HR, HU, IE, IT, LT, LU, LV, SE, SI.

⁽³³⁾ BG, EL, MT, NL, PL, RO, SK.

⁽³⁴⁾ AT, BE, CZ, ES, FI, FR, HR, HU, LU, PT.

violence. Companies can also apply for a gender equality certificate for best practice in the field of gender equality measures and for adopting a system for promoting gender equality.

Czechia implemented the Strategy for Equality of Women and Men (2014-2020), which aimed to integrate the gender dimension in research content. The promotion of work-life balance was part of the National Research, Development and Innovation Policy (2016-2020). The Gender Equality Strategy 2021-2030 targets working conditions and gender balance in decision-making bodies. A comprehensive Plan for Supporting Gender Equality (2021-2024) has been prepared and is supported by several financial instruments.

In **Denmark**, the Ministry for Higher Education and Science takes part in awareness-raising activities by publishing leaflets on best practice in gender equality. A task force on more women in research was set up in 2014 and reported its findings in 2015. The Ministry for Education has published annual reports on gender balance at Danish Universities since 2017. Outside of awareness-raising activities and monitoring processes, however, the scope of policy documents supporting gender equality is limited.

Estonia's Research and Development Strategy 2014-2020 supports equitable career paths, the monitoring of gender balance in recruitment, grant funding and representation in decision-making bodies. The Research and Development, Innovation and Entrepreneurship Plan 2021-2035, as well as the Welfare Development Plan 2015-2023 include provisions on gender equality, specifically working conditions. The Ministry of Education and Research founded the Estonian Research Council to help to implement GEPs. That Council was also responsible for publishing the Science Communication Strategy 2020-2035.

The Academia of **Finland's** Equality and Non-Discrimination Plan 2019-2020 includes activities reinforcing gender mainstreaming, the integration of the gender perspective in teaching and research, equitable career paths and strengthening the status of gender studies. The Gender Equality Action Plan 2020-2023 directly addresses higher education institutions and the R&I sector. The Report on the Promotion of Gender Equality and Non-Discrimination in Higher Education Institutions addresses shortcoming in GEPs, thereby supporting the Act on Gender Equality, which obliges universities to implement and update GEPs every two years.

In **France**, the policy support focuses mainly on gender-balance in representative bodies, combating gender-based violence and harassment in research, awareness-raising activities, and gender equality training. In 2013, the Charter for Gender Equality in Higher Education was published, encouraging universities to adopt broad gender equality measures. The national research funding agency (ANR) also implemented a programme giving priority to gender in research. The Roadmap for Effective Equality introduced in 2020 provides a template for the implementation of GEPs.

Gender equality policies in **Greece** focus on work-life balance, reinforcing gender mainstreaming in higher education institutions, gender-sensitive communication, awareness-raising and training, funding research on gender issues, monitoring, combating gender-based violence, and the promotion of gender studies. Greece is a useful example of how EU support can facilitate policies on gender equality. The European Economic Area (EEA) funded the programme Diversity, Inequalities and Social Inclusion, implemented by the General Secretariat for Research and Technology (GSRT). The government also funds research on gender issues and monitors gender equality targets.

In **Hungary**, the Strategy for the Promotion of Gender Equality – Guidelines and Objectives 2010-2021 aimed to promote women in science but was never implemented. The National Strategy for Research, Development and Innovation (RDI) 2021-2030 also contains gender equality targets (e.g. gender-balance, career guidance, work-life balance). Again, however, it is unclear whether or not the

objectives have been implemented. In view of the Hungarian government's cancellation of the Gender Studies Master's programme, it seems unlikely that further gender equality measures are/will be implemented.

In **Ireland**, policy documents aim to support research and higher education institutions' involvement in the Athena SWAN initiative ⁽³⁵⁾, as well as creating incentives for women in the STEM area. Since 2019, the Science Foundation, the Irish Research Council and the Health Research Board require higher education institutions to have Athena SWAN Gender Equality Accreditation in order to be eligible for research funding ⁽³⁶⁾. Agencies applying for research funding must adopt the key recommendations of the National Review of Gender Equality in Higher Education Institutions.

In **Italy**, the Department of Equal Opportunities (DPO) issued the National Strategy for Gender Equality 2021. Although not specifically focused on research organisation, it nevertheless has an impact on the R&I sector, including the objective to achieve gender-balance in STEM. The Ministry of Education, University and Research (MIUR) is responsible for the National Research Programme for 2021-2027, which contains the targets for gender balance in recruitment and selection panels and the promotion of the gender dimension in research.

Lithuania's National Programme on Equal Opportunities for Women and Men (2015-2021) seeks to promote equal opportunities and gender balance in decision-making bodies. The Action Plan for implementing the national programme also targets career support. The National Advancement Plan includes the targets for equal opportunities and work-life balance. The gender pay gap at universities is monitored by the State Social Insurance Fund (SODRA).

In **Luxembourg**, the Ministry of Research and Higher Education establishes targets for research organisations in performance contracts. One such target was to ensure gender balance on the boards of organisations. In 2015, the Ministry of Equality between Men and Women (MEGA) implemented gender mainstreaming in universities' political structures, as well as the integration of gender into research content. In 2021, six areas for new measures were defined: awareness-raising (gender bias); monitoring, gender-balance; recruitment and mentoring programme; work-life balance; gender-based violence; gender inclusion in language; and seminars on gender.

Latvia's Plan for the Promotion of Equal Rights and Opportunities for Women and Men for 2018-2020 seeks to promote gender equality in research. The plan was renewed for 2021-2023 and expanded to include the monitoring of policies and the promotion of gender studies. However, there is an overall lack of policy support for gender equality measures.

Interestingly, **the Netherlands** does not treat gender equality as a stand-alone topic, but, rather, integrates it into overall diversity discourse. The National Action Plan for Greater Diversity and Inclusion in Higher Education and Research contains five goals for 2025: diversity and inclusion; monitoring diversity, awards systems to promote diversity; consolidating and supporting diversity plans; and setting up a centre for excellence on diversity and inclusion.

In **Poland**, gender mainstreaming is addressed in the NAP submitted in 2019 in response to the ERA Roadmap (2015-2020) but there is no definition of gender equality nor any objectives, priorities or actions. Nor was the NAP ever implemented. However, since 2011, the Ministry of Family and Social Policy runs the programme Babies+, which offers financial support to universities with childcare

⁽³⁵⁾ The Athena SWAN Charter is an internationally recognised equality mark for gender equality, linking research funding to advancing national gender equality goals. The accreditation is awarded at bronze, silver and gold levels.

⁽³⁶⁾ Science Foundation Ireland, available at: <https://www.sfi.ie/research-news/news/irish-funding-bodies-to-require-athena-swan-gender-equality-accreditation-for-higher-education-institutions/>

centres. The policy scope is very limited, focusing on support structures for mothers and overall work-life balance.

In **Portugal**, policies refer to basic enabling conditions, such as producing sex-disaggregated data, establishing a partnership between equality and research governance bodies, and integrating a gender equality perspective into higher education institutions' curricula. Policy documents include the Action Plan for Equality (PAIMH), the Action Plan to Prevent and Combat Violence Against Women and Domestic Violence (PAVMVD) and the Action Plan to Combat Discrimination on the basis of Sexual Orientation, Gender Identity and Expression, and Sexual Characteristic (PAOIEC). Portugal is on its way to becoming a leader in gender equality policy. The goals for 2030 include the integration of a gender dimension, combating gender-based violence, gender balance in decision-making bodies, and support for implementing GEPs. During the COVID-19-pandemic, the government funded research on gender issues (e.g. gender roles and violence).

In **Romania**, the National Strategy for the Promotion of Equal Opportunities for Women and Men and for the Prevention and Combat of Domestic Violence 2018-2021 are complemented by an operational plan. That plan is implemented by the National Agency for Equal Opportunities for Women and Men and includes targets for awareness-raising activities and the promotion of work-life balance. However, limited financial resources preclude monitoring or public visibility. Other strategies, namely the Strategy for Research, Development and Innovation 2014-2020 and the Strategy for Tertiary Education 2015-2020, do not feature gender-related provisions.

As early as 2001, **Slovenia** established a Commission for Women in Science at the Ministry of Education and Science. A set of measures was subsequently implemented in the early 2000s for research and higher education, as part of the national programme on equal opportunities. The National Programme for Equal Opportunities for Women and Men 2015-2020 included measures to improve the position of women in science and these were implemented to some extent. A new National Research and Innovation Strategy for 2021-2030 is now being prepared.

In **Slovakia**, the National Strategy for Gender Equality 2014-2019 was never realised, despite being implemented by 2018. Gender equality became a topic of polarisation and the term 'gender' was considered controversial. The government is actively involved in anti-gender rhetoric, for example by renaming the Department of Gender Equality and Equal Opportunities the Department of Equality between Women and Men and Equal Opportunities, so as to avoid the word 'gender'. In addition, no openly feminist organisation received funding, while pro-family and pro-life organisations received support.

Gender equality is key to **Spain's** Science, Technology and Innovation Strategy (EECTI) 2021-2027 and the State, Scientific, Technical and Innovation Research Plan (PEICTI) 2021-2023. Most gender equality policies focus on awareness-raising activities and monitoring, providing figures and data on female research in the STEM area. The Public Administration Equality Plan (2020) applies to the Ministry of Science and Innovation and its dependent bodies and focuses on gender mainstreaming, as well as the prevention of gender-based violence.

In **Sweden**, obligations to adopt equal opportunity action plans – notably for public organisations, including research and higher education institutions – are verified through targets for the recruitment of women professors and assessments of GEPs adopted at institutional level. Sweden also funds gender equality initiatives at the level of higher education institutions.

An important element of divergence is whether these policies support the implementation of GEPs. Eight Member States ⁽³⁷⁾ have initiatives to support mainstreaming gender equality through GEPs.

⁽³⁷⁾ AT, BE, CY, DE, FI, FR, IE, SE.

Currently, the dominant policy instrument is promoting institutional change through GEPs as a means of achieving long-term, sustainable advancement towards gender equality in R&I. In view of the reaffirmed policy focus on gender equality by the European Commission and the Council, as well as the new Horizon Europe funding eligibility criterion requirement for applicants to have a GEP in place, more GEPs and policies supporting their implementation are expected. However, there is limited financial support through the European Structural and Investment (ESI) Funds in Portugal, for example, compared to Ireland, which has strong incentives for public organisations to have equality objectives and to adopt GEPs. Similarly in Sweden, the government conducts a general assessment of compulsory equal opportunity plans adopted by public research and higher education institutions.

Finally, beyond gender equality mechanisms and research governance bodies, research funding organisations seem to be increasingly involved in implementing these policies. The architecture of research funding in the EU has undergone significant changes since 2010, with the reinforcement of the project-oriented nature of research funding, the creation of new research funding agencies, and new forms of evaluation and criteria for granting funding. As part of these changes, and within the broader context of the construction of an ERA, gender equality has received more attention. Research funding organisations in 15 Member States ⁽³⁸⁾ have taken measures in this regard, primarily considering gender equality when granting funds to research institutions (Estonia, Finland, Ireland, Luxembourg, Slovenia).

In Ireland, since 2019, the Science Foundation, the Irish Research Council and the Health Research Board have required higher education institutions to have Athena SWAN Gender Equality Accreditation in order to be eligible for research funding ⁽³⁹⁾. Currently, there are 88 award holders (19 institutions, 69 departments) ⁽⁴⁰⁾. By the end of 2023, the institutions will be required to hold intermediate (silver) level accreditation in order to be eligible for research funding. Compliance requires each institution to create, disseminate, implement, evaluate and update their GEPs annually, in line with the 10 goals of the Athena SWAN Charter. They must also submit their findings to the HEA in order to achieve, maintain or renew their award.

In Spain, France and Portugal, research funding organisations show different degrees of support for research on gender, such as integrating women and gender studies as a specific area. Prior to the financial crisis in 2008-2009, Spain had granted significant funds to research on gender. In Germany and Sweden, contributions of research funding organisations have taken different forms: in Sweden, funds have been made available over a short period to support GEP implementation in research and higher education institutions, while in Germany, a programme funding full professorships for women proved successful and highly competitive for universities ⁽⁴¹⁾. In addition, the German Research Foundation (DFG) introduced mandatory statements on the consideration of the gender dimension in research proposals, similar to the approach of the European Commission in H2020. The DFG, as well as the Austrian Science Fund, monitor gender equality in their research funding procedures in annual monitoring reports.

⁽³⁸⁾ AT, CZ, DE, DK, EE, ES, FI, FR, IE, LU, MT, NL, PT, SI, SE.

⁽³⁹⁾ Science Foundation Ireland, available at: <https://www.sfi.ie/research-news/news/irish-funding-bodies-to-require-athena-swan-gender-equality-accreditation-for-higher-education-institutions/>

⁽⁴⁰⁾ Advance HE, available at: <https://www.advance-he.ac.uk/equality-charters/international-charters/athena-swan-ireland>

⁽⁴¹⁾ Löther, Andrea (2019), 'Is it working? An impact evaluation of the German "Women Professors Programme"', *Social Sciences*, Vol. 8, No 4, p. 116; Bühner, S. and Frietsch, R. (2020), 'How do public investments in gender equality initiatives and publication patterns interrelate? The case of Germany', *Evaluation and Programme Planning*, Vol. 79, p. 101752, available at: <https://doi.org/10.1016/j.evalprogplan.2019.101752>

Table 2. Policy framework on gender equality in research and higher education institutions

Country	Policy strategies and documents	Scope of policy strategies and documents	Policy support to GEPs	Gender equality policy in research funding
AT	Yes	Gender balance in management positions, committees and among young scientists; gender pay gap; integration of the gender dimension into research content; equal opportunities in careers; work-life balance; gender-specific criteria for funding; increasing visibility of women in R&I	Yes	Yes
BE	Yes (regional)	Gender balance in decision-making positions; recruitment and career management; gender courses in curricula; equal opportunities in careers (e.g. scholarship attribution); work-life balance; gender mainstreaming in research content, awareness-raising	Yes (Flanders)	No
BG	No	–	No	No
CY	Yes	Training programmes on gender equality; promotion and monitoring of gender equality targets; gender balance in decision-making; awareness-raising; closing the gender pay gap; career guidance; certification of companies; training on gender mainstreaming; tackling gender-based violence	Yes	No
CZ	Yes	Gender balance in decision-making positions and panels; equal opportunities in careers; development of gender knowledge; integration of the gender dimension into research content; funding activities of the Gender and Science Centre; work-life balance	No	Yes
DE	Yes	Gender balance in decision-making positions; equal opportunities in careers; elimination of gender-based discrimination	Yes	Yes (funding of full professorships)
DK	Yes	Gender balance in decision-making positions; equal opportunities in recruitment and careers; retaining women in science; awareness-raising	No	Yes (initiatives on gender equality funded by research funding organisations)
EE	Yes	Gender balance in decision-making positions, panels, committees and reviews; equal opportunities in allocating grants; equal opportunities in careers; monitoring gender balance in recruitment and grant funding; awareness-raising; gender-sensitive communication strategy	No	Yes (access to grants)
EL	Yes (limited)	Work-life balance; reinforcing gender mainstreaming; gender-sensitive communication strategy, awareness-raising and training; funding of research on gender issues; monitoring; tackling gender-based violence; promoting gender studies	No	Yes
ES	Yes	Career development; parity in decision-making positions; training; work-life balance; fighting gender-based violence; promotion of the gender perspective in knowledge production; awareness-	Yes	Yes (funding of research on gender in social sciences and humanities)

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		raising, monitoring		
FI	Yes	Reinforcing gender mainstreaming in higher education and science policy; integration of the gender perspective into teaching and research; promoting women's research careers; strengthening the status of gender studies; supporting and monitoring gender equality efforts	Yes	Yes (gender equality considered for funding)
FR	Yes	Gender-sensitive career development; parity in decision-making positions; training for gender equality officers and managers; work-life balance; combating gender-based violence; integrating the gender perspective into research; awareness-raising; gender equality training	Yes	Yes (gender as one of the priority axes of the ANR for its current programme)
HR	Yes	Gender balance in decision-making positions; introducing courses on gender in curricula; eliminate discrimination against women; monitoring; integrating the gender dimension into research policies, programmes and projects	No	No
HU	Yes	Equal participation of women in science; research on gender equality; mainstreaming gender in discourse and research-related events; career guidance to increase proportions of women in R&I	No	No
IE	Yes	Support to the Athena SWAN Charter and review of gender equality policies in research and higher education institutions; combating gender-based violence; monitoring and progress reports; creating incentives for women in STEM	Yes	Yes
IT	Yes	Equal participation of women in science; promotion of the gender dimension in research; gender balance in recruitment and selection panels; pay gaps	No	No
LT	Yes	Gender equality aspects in all procedures in the institutions; support gender balance in decision-making positions; training and awareness-raising; equal opportunities in careers; monitoring; work-life balance	No	No
LU	Yes	Gender balance in decision-making bodies; integration of the gender dimension into research	No	Yes (gender equality as an indicator for the framework contract with the Ministry of Higher Education and Research)
LV	Yes	Promotion of gender equality in research; monitoring of policies; promotion of gender studies	No	No
MT	No	–	No	Yes (established network for supporting women researchers)
NL	Yes	Diversity and inclusion; monitoring diversity; award system to promote	No	Yes (grants for women's promotions)

		diversity in policy and funding		
PL	No	–	No	Yes
PT	Yes	Production of sex-disaggregated data (monitoring); partnership between equality body and research governance body; integration of the gender perspective into curricula; combating gender-based violence; gender balance	Yes (limited: potential use of ESI Funds for funding GEPs)	Yes (funding of research on gender)
RO	No	–	No	No
SE	Yes	Setting targets for the recruitment of women professors (regulation letters); establishing a committee with a fixed mandate to assess gender equality policies in higher education; gender mainstreaming; gender-equitable career paths; training on gender-based violence	Yes (review of gender equality policies in higher education institutions)	Yes (funding of gender equality policy initiatives at the level of higher education institutions, limited over time)
SI	Yes (low intensity)	Access to decision-making positions; enrolment of women in research; feminist knowledge transfer; awareness-raising; monitoring	No	Yes (rules for (co)financing and monitoring of research, considering gender balance in decision-making positions)
SK	Yes	Training on gender equality; support in preparing GEPs	Yes	No

Source: EIGE - information collected through study fieldwork and ERAC (2021).

Incentive measures supporting the integration of gender into research

The L'Oréal-United Nations Educational, Scientific and Cultural Organization (UNESCO) initiative recognises women senior researchers and issues fellowships for doctoral and post-doctoral researchers. The initiative deserves special attention for its broad coverage and its powerful impact on achieving the gender equality objective in almost all Member States. Support by local institutions in some cases, the initiative is referenced in 24 of the EU-27, with only Cyprus, Luxembourg and Malta yet to participate ⁽⁴²⁾. The programme has received significant media coverage in all countries: in Czechia, Croatia, Hungary, Poland and Romania, it is the most visible initiative to promote women's contribution to knowledge production and raises awareness of gender inequality in scientific careers. The initiative was launched in Poland in 2001, since which time 105 women researchers have been granted scholarships, strongly reducing the gender imbalance in higher education institutions. In Belgium and Croatia, for example, the L'Oréal-UNESCO initiative is the only incentive measure supporting the integration of gender into research. In Bulgaria, Cyprus, Greece and Lithuania, no other incentive measures are reported.

In **France**, the Joliot-Curie Prize has been awarded to senior and promising early-career women scientists since 2001. It is sponsored by the Airbus Group, which contributes to its visibility. **Germany** has numerous stimulus initiatives at State level, with over 35 listed in the GESIS database. There are also incentives and awards at federal level, such as the TOTAL E-QUALITY Award and the 'family-friendly university audit', initiated by the Hertie Foundation. In May 2021, the Federal Equality

⁽⁴²⁾ L'Oréal-UNESCO awards, available at: <https://www.forwomeninscience.com>

Foundation was agreed as a nationwide stimulus for gender equality, with the intention of advancing and accelerating equality of women and men.

In **Ireland**, the Irish Research Council, the Science Foundation Ireland and the Health Research Board fund gender-related research activities. In 2017, all higher education institutions were required to achieve the Athena SWAN Bronze Award by 2019 and the Silver Award by the end of 2023 as a condition of funding. The Irish Research Council provides support for research organisations to achieve gender equality goals, while the Science Foundation offers a Research Professorship Programme. The Gender Enhancement Fund (GEEF) uses HEA award funding to advance gender equality initiatives in higher education institutions. In 2020, the GEEF awarded EUR 286 114 across three areas: research on or advancing gender equality initiatives in Ireland; training programmes specifically addressing gender equality; and Athena SWAN capacity-building activities. The Athena SWAN Charter encourages and recognises commitment to advancing the careers of women in science, technology, engineering, mathematics and medicine (STEMM). In 2015, the Charter was extended to arts, social sciences and humanities, business and law. Charter members can submit applications for Athena SWAN awards at institutional or departmental level. A key part of the award application is the submission of an action plan, which should be aspirational, innovative and consider the results of the self-assessment for the application.

Austria has several awards in addition to the L'Oréal-UNESCO grants for women doctoral and post-doctoral academics. The Ministry of Education, Science and Research (BMBWF) honours gender research with the Gabriele Posanner Award, the Austrian Cooperative Research (ACR) Institute recognises women researchers, and the annual Käthe-Leichter-Preis and annual Diversitas Award also provide incentives for women researchers. In 2021, the Early Stage Programme: Research, Innovation and Training (ESPRIT) was introduced. Aiming to boost the careers of post-doctoral academics conducting independent research, it also has specific provisions to ensure gender equality in the grant-awarding process and its outcomes.

Some incentive measures supporting the integration of gender into research are funded by the European Structural and Investment (ESI) Funds, as is the case in **Czechia**. The funds are used to support research organisations to establish strategic management in accordance with the European Charter for Researchers and the Code of Conduct for Recruitment, and to apply for the Human Resources Excellence in Research Award. In **Hungary** and **Estonia**, incentives are in place for work-life balance in research and development. The Hungarian Government's Family-Friendly Workplaces programme grants financial support to research organisations attempting to become more family-friendly (e.g. providing breastfeeding rooms). **Estonia's** Family-Friendly Employer Label was initiated by the Ministry of Social Affairs in 2016 and is supported by the European Social Fund (ESF). The Association of Hungarian Women in Science also grants an Excellence Award to three women scientists each year in the fields of materials technology, biotechnology and space technology. In Finland, the Women's Science Foundation awards small grants for women doctoral students, as well as a Gender Equality Prize (IGEP).

In 2017, the Ministry of Education, Culture and Science (OCW) in **the Netherlands** provided additional funds for the appointment of 100 women professors in a bid to increase their share among professors. Universities were encouraged to promote women researchers to full professors and were offered compensation for the extra salary incurred. In 2018, 100 women professors were appointed. Additionally, the Dutch Network of Women Professors (LNVH) created the Distinguished Women Scientist Fund for women post-doctoral academics working in the Netherlands within three years of their promotion. In **Portugal**, the *Instituto Superior Técnico* launched the Maria de Lourdes Pintasilgo Award (PMLP) to promote the relevance of gender equality and to recognise the crucial role of women in all areas of engineering. The prize aims to raise awareness among the scientific

community, counteracting stereotypes and combating gendered patterns of segregation in professional positions. Within the scope of ENIND, the Gender Equality in Higher Education Institutions (GE-HEI) project was launched in 2019. The initiative is funded by the EEA Grant Funding Mechanism 2014-2020. In **Slovenia**, the Women Engineer of the Year award was initiated in 2018, awarding three scholarships each year to young women scientists.

Slovakia provides a useful example of how the private sector can contribute to changing institutional cultures in respect of equality practices and policies. In 2019, the ESET Foundation launched the ESET Science Award to publicly recognise exceptional women in science. Similarly, in **Malta**, the Women in STEM category was added to the National STEM Awards in 2021. Also in the field of STEM, in **Poland**, the initiative jointly launched by the Perspektywy Education Foundation and the Conference of Rectors of Polish Technological Universities includes the national campaigns 'Girls as engineers' and 'Girls go science', which promote technical and engineering studies among high school girls. In addition, the 'Lean in STEM' programme supports the creation of a networking culture among women in the technology industry. The Foundation Women Scientists – Polish Women Scientists Network created the Women Experts database to promote women's achievements and expertise. From 2013 to 2019, the Foundation held the competition 'Innovation is a Woman' to promote the innovation achievements of women in scientific research sectors.

In general, the number of incentives supporting the integration of gender equality in R&I in Member States has increased significantly since the first publication of this analytical paper in 2015. The aims of those measures range from awareness-raising activities to acknowledge the contribution of women scientists to research in the field of R&I to the active promotion of women scientists through scholarships (e.g. the L'Oréal-UNESCO award). European funding mechanisms, such as the ESF and ESI Funds, also provide opportunities for Member States to improve the visibility of women in research.

2.2.2 Status of GEPs in the Member States

The 2021 ERAC survey reported that four Member States require the adoption of GEPs in public and private higher education institutions, research funding organisations, the public sector and private companies, while eight countries have a GEP requirement specifically for higher education institutions at national or regional level ⁽⁴³⁾. There is room for improvement in private higher education institutions' GEP implementation, even in Member States with GEP requirements for public and private institutions. For example, France, Germany and Portugal require GEPs for private companies, but not for private higher education institutions. In Germany, the GEP requirement for higher education institutions is established at regional level by the Higher Education Acts of all Länder that oblige universities to issue GEPs, but the designations and characteristics of those plans vary. Ireland is a noteworthy example, as it could be considered a role model for GEPs in the R&I field, yet does not require GEPs in any other sectors. A number of countries impose sanctions for non-compliance with the GEP requirement ⁽⁴⁴⁾, while Ireland has all GEP features and even provides funding for the development of GEPs. Some Member States have yet to institute a GEP requirement at national level. In some cases, research performing organisations have a GEP either because of their participation in H2020 (e.g. Czechia, Estonia, Italy, Croatia), on their own initiative, or as a result of the support provided by their national authorities (e.g. Malta, Poland, Slovakia). The lack of GEP requirements does not necessarily mean that there are no GEPs in practice.

⁽⁴³⁾ ERAC (2021), *Gender in Research and Innovation on 'Gender Equality Plans as a catalyst of change'*, Brussels, available at: <https://data.consilium.europa.eu/doc/document/ST-1202-2021-INIT/en/pdf>

⁽⁴⁴⁾ ES, FI, FR, IE, SE.

Even though the plans do not contain all the features of GEPs required in the Horizon Europe funding programme, there are legal requirements to implement such plans in Hungary, the Netherlands and Italy. In Hungary, legal entities mainly owned by the State and employing more than 50 employees are obliged to draw up an Equal Opportunity Plan (§ 63, para. 4). Similarly, in the Netherlands, universities committed to the goals of the National Action Plan for Greater Diversity and Inclusion in Higher Education and Research are obliged to draw up Diversity Plans encompassing gender equality objectives. Some countries without a legal GEP requirement have laws supporting GEP implementation and incentives. In Greece, most universities have established GECs under Article 33 of Law 4589/2019 and initiated the development of GEPs, while private companies that develop GEPs are rewarded with the GEB. In Italy, the National Code for Equal Opportunities between Women and Men obliges public administrations, including higher education institutions, to adopt PAPs every three years, which contain features of full-fledged GEPs (e.g. gender balance, work-life balance).

The presence or absence of legal provisions and policies supporting GEP implementation is the main, but not the only, variable explaining the adoption of GEPs as a core policy instrument for mainstreaming gender into research and higher education institutions. Member States also frequently use action plans containing elements of fully-fledged GEPs. Action plans are categorised as soft policy instruments: even if their adoption is made compulsory by law, their process of adoption and implementation, and the measures they entail, are not binding in the same way as a law or State regulation. In addition to covering one or several years, they have a programmatic dimension and are intended to prompt transformation step-by-step. Soft law and soft policy instruments have played a considerable role in developing gender equality policies, as evidenced by gender mainstreaming itself⁽⁴⁵⁾. Yet the literature shows that the use of soft instruments does not have the same effect across the Member States, as they cannot be equally transposed into all domestic policy frameworks. For example, in Belgium, France and Italy, policy action plans remain alien to domestic policy-making, outside the realm of economic planning, with hard law the sole channel to drive policy change. In Central and Eastern European countries, hard law has long been privileged over soft policy instruments, which were developed mainly as a result of Europeanisation processes. More generally, Europeanisation has been a major driver for the use of GEPs and other soft law instruments, in particular through the use of structural funds. This is the case in Spain, for example, where GEPs constitute the cornerstone for further policy developments anticipating the use of hard law⁽⁴⁶⁾.

It is unsurprising that, beyond the (non-)existence of legal obligations, GEPs are developed at a different pace and to a different extent across the Member States. Due to their internal nature – being adopted and implemented at the level of organisations – gender equality action plans can also be driven by initiatives from outside the policy realm. This may be particularly evident in the field of research and higher education, where organisations often strive for greater autonomy, and in countries where the private sector is granted a greater role in shaping policy developments. The combination of competition for excellence and good reputation and a favourable legislative and policy framework also explains the increasing use of GEPs in Member States such as Belgium (Flanders) and France. Another reason for Member States to promote the implementation of GEPs is the new eligibility requirement for Horizon Europe applicants from 2022. However, the absence of a

⁽⁴⁵⁾ Beveridge, F. and Velluti, S. (2008), *Gender and the open method of coordination – Perspectives on law, governance, and equality in the EU*, Aldershot, England; Beveridge, F. (2012), “‘Going Soft’? Analysing the contribution of soft and hard measures in eu gender law and policy”, In E. Lombardo and M. Forest (Eds.), *The Europeanisation of gender equality policies. A discursive-sociological approach*, Basingstoke: Palgrave Macmillan (Gender and politics), pp. 28-48.

⁽⁴⁶⁾ Alonso, A. and Forest, M. (2012), ‘Is gender equality soluble into self-governance? Regionalising and Europeanising gender policies in Spain’, *The Europeanisation of gender equality policies. A discursive-sociological approach*, Palgrave Macmillan, Basingstoke, pp. 192-213.

legal GEP requirement in a country is not an indicator of quality or absence of activity. In some instances, progress has been achieved through softer measures or more bottom-up approaches, which may be related to differences between countries and the socio-cultural factors that affect gender equality policy design. The advantage of GEP requirements founded in laws and regulations compared to soft law instruments relates to their institutionalised nature. Soft law instruments can be altered or eliminated more easily by newly elected governments, as in the case of Slovakia, where the Women Scientist of the Year award was cancelled in 2017 and the previous National Action Plan containing gender equality objectives was not implemented.

She Figures 2021 ⁽⁴⁷⁾ does not include an indicator on GEP prevalence in the EU and Member States. Instead, a new indicator was added to this latest report, on the proportion (in %) of research organisations that take action or measures towards gender equality, by type of organisation. It shows the percentage of higher education institutions and research performing organisations, as well as the total proportions of research organisations taking measures towards gender equality. In Ireland and Cyprus, 100 % of research performing organisations have taken action, as have 100 % of higher education institutions in Sweden and Malta. The total proportion (higher education institutions and research performing organisations) is highest in Spain (98.78 %), Ireland (96.3 %) and Austria (79.56 %). The Netherlands (23.23 %), Czechia (30.18 %), Poland (30.75 %), Slovenia (33.63 %) and Slovakia (37.97 %) have the lowest overall percentages.

Overall scope and content of GEPs in European research and higher education institutions

The focus and use of GEPs differs between the Member States and, in the case of Belgium and Germany, within the country. In Germany, the requirement for higher education institutions to have GEPs is established at regional level by the Higher Education Acts of all Länder, which mandate that universities must create GEPs, containing various characteristics.

France requires several aspects to be included in the annual report to the Ministry of Labour and Employment. These include salary gaps, professional gender diversity and equal access to responsibilities, the balance between private and professional life, and the fight against gender-based violence and harassment at the workplace. The legislation on GEPs in France also includes one of the least commonly used features, i.e. financial sanctions for non-compliance. Failure to comply incurs a sanction in the amount of 1 % of the total salaries paid by the institution over a year. Spain, Finland, Ireland and Sweden also use direct sanctions for non-compliance.

To date, Ireland is the only Member State to provide funds for the development of GEPs. According to the 2021 ERAC report, it is the only country to use all of the features and can be considered to have the most comprehensive policy. In Ireland, higher education institutions are required to create and adopt a GEP and submit it to the HEA (statutory funding authority). In the case of non-submission of a GEP and/or inaction on gender equality, higher education institutions are considered ineligible for public research funding and are at risk of losing up to 10 % of their core funding.

In Portugal, higher education institutions develop GEPs that include targets for gender balance in decision-making positions, as well as measures to induce organisational change, promote gender studies and mainstream the gender dimension into research. GEPs have been developed on a case-by-case basis at the more proactive universities and, until recently, were not compulsory.

⁽⁴⁷⁾ European Commission (2021), *She Figures 2021. Gender in Research and Innovation. Statistics and Indicators*, Publications Office of the European Union, Luxembourg, available at: <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/67d5a207-4da1-11ec-91ac-01aa75ed71a1>

2.2.3 Europeanisation effects

The results confirm that the landscape of promoting gender equality – and GEP implementation more specifically – in R&I in the EU-27 is quite heterogeneous, with a clear divide between the EU-13 and EU-14⁽⁴⁸⁾. The GENDERACTION assessment report⁽⁴⁹⁾ analysed the implementation of NAPs and identified good practices in gender equality in the Member States. It contains a typology of NAPs and NAP implementation in Member States, categorising countries with a comprehensive and consistent NAP⁽⁵⁰⁾, with a focused NAP⁽⁵¹⁾, with inconsistencies within the NAP or between the NAP and its implementation (Greece and Latvia), with an actionist NAP⁽⁵²⁾, with a focused NAP but without implementation (Latvia and Croatia), and countries without a NAP (Hungary and Slovakia), or with a NAP but without gender equality priorities (Bulgaria and Romania). It is striking that the cluster of countries categorised by GENDERACTION as good practice countries differs significantly from the countries identified as the leading group in the ERA Progress Report (2018)⁽⁵³⁾. According to the ERA Report, Croatia, Lithuania, Latvia and Romania belong to Cluster 1, which contains the best-performing countries in terms of share of women in Grade A positions. However, the GENDERACTION report analysis identifies Austria, Belgium, Germany, the Netherlands, Slovenia, Spain and Sweden as the countries with comprehensive and consistent NAPs. The assessment criteria have an important subsequent impact on the evaluation of innovation leaders. Diverging approaches to gender equality and indicators to measure the implementation of gender equality policies lead to different results. The focus on monitoring one main dimension – share of women in Grade A positions – reduces gender equality to the representation of women. This divide between Member States, however, is not only a measurement problem of selecting the right set of indicators. Rather, the different implementation of NAPs in respect of gender equality in R&I highlight the different perceptions of urgency of gender inequalities in R&I, and the relevance of gender equality policies in the Member States.

The GENDERACTION report also highlights that the NAPs do not only implement the gender equality priority differently, they are also informed by different gender equality discourses, despite being formulated within the same ERA framework. However, the NAPs did not apply this framework consistently and were strongly influenced by national discourse and understandings of gender equality. Furthermore, gender equality was established as a separate priority in most of the NAPs, being linked to at least one other priority in only nine NAPs. Although NAPs should have been an instrument to drive policy coordination and Europeanisation, the effects have been limited. In some countries, such as Cyprus, Luxembourg and Malta, the NAPs provided an opportunity to develop the first-ever gender equality strategy for R&I. Nevertheless, the main learning from the implementation of NAPs is that the process of developing NAPs needs to be coordinated and guided in order to better align the different NAPs to the overarching ERA objectives. More emphasis should also be placed on

⁽⁴⁸⁾ EU-13 comprises the countries who joined the EU after 2004 (BG, CY, CZ, EE, HR, HU, LV, LT, MT, PL, RO, SI, SK); EU-14 comprises the 15 countries who joined the EU prior to 2004 (EU-15), excluding the United Kingdom (UK), which has since left the Union (AT, BE, DE, DK, EL, ES, FI, FR, IE, IT, LU, NL, PT, SE); Linková, M. and Mergaert, L. (2021), 'Research policy', in G. Abels, A. Krizsán, H. MacRae, A. van der Vleuten (Eds.), *The Routledge Handbook of Gender and EU Politics*, Milton (Routledge international handbooks).

⁽⁴⁹⁾ Wroblewski, A. (2020), *Report on Monitoring of ERA Priority 4 Implementation*, Gender Action, Institute of Sociology of the Czech Academy of Sciences, Prague, available at: https://genderaction.eu/wp-content/uploads/2020/06/D3.2_MonitoringERApriority4implementation.pdf

⁽⁵⁰⁾ AT, BE, DE, ES, NL, SI, SE.

⁽⁵¹⁾ CY, DK, FI, IE, LU, MT, PT.

⁽⁵²⁾ CZ, EE, LT, PL.

⁽⁵³⁾ European Commission (2019), *European Research Area Progress Report 2018*, available at: <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/5641328c-33f8-11e9-8d04-01aa75ed71a1>

monitoring the implementation of actions defined in the NAP and on measuring the progress of gender equality in R&I.

EU-funded projects to develop and implement GEP in R&I organisations are another relevant channel for the Europeanisation of gender equality in R&I. These projects engaged different organisations from the EU-27 and established networks or communities of practices connecting gender equality practitioners, developed tools, guidelines and other materials supporting GEP implementation processes, and generated a comprehensive set of measures and practical examples that offer inspiration and learning opportunities for other R&I organisations engaging in gender equality work. The GEAR Action Toolbox developed in 2015 streamlined the GEP development and implementation processes by defining specific steps and standards for organisations to follow. The new Horizon Europe GEP eligibility criterion builds and mainstreams these standards, thereby targeting an even broader group of organisations.

Several Europeanisation effects have resulted from EU-funded structural change projects. On the one hand, these projects have developed a corpus of comprehensive knowledge, experiences and resources that can inspire and support other R&I organisations to promote gender equality. In some countries, GEPs developed by organisations in the framework of EU-funded projects are the only examples of sustainable and comprehensive gender equality work, making them beacons of GEP implementation in respect of the Horizon Europe GEP eligibility criterion. On the other hand, EU-funded projects translate and transfer their knowledge and work into regional and national policies and other types of measures aiming at engaging other organisations and raising awareness and capacity. These activities can be more informal or constitute outreach activities, but projects like CALIPER show how to engage the (regional) R&I ecosystem with structural change projects promoting gender equality.

This is a very light overview of Europeanisation effects. There is a clear need for more research on the effects of EU-funded structural change projects beyond GEP development and implementation activities in specific organisations. Such research would identify how these projects contribute to a convergence of gender equality policies and practices among R&I organisations, as well as in regional and national R&I systems ⁽⁵⁴⁾.

2.2.4 Concluding remarks

In 1999, the European Commission established a framework for gender equality work, which has since been improved, extended and now integrated into the main R&I policies and instruments. The new GEP eligibility criterion in Horizon Europe will be a strong lever for engaging research organisations in gender equality work, and is already contributing to an increasing number of research organisations developing and publishing GEPs. Nevertheless, it is uncertain whether all of these newly created GEPs will be implemented and consequently contribute to structural changes and better gender equality in R&I. There is a need to assess and certify whether GEPs developed by organisations comply with the objectives of Horizon Europe and whether they then implement the objectives and actions as defined in the GEPs. There is also a need to support R&I organisations to develop and implement GEPs. The European Commission has collaborated with EIGE to update the GEAR Action Toolbox and will also provide funding for projects facilitating learning processes between more/less experienced organisations in developing and implementing their GEPs. With respect to implementing GEPs, the European Commission has funded a feasibility study on a European certification and award system for gender equality in R&I - CASPER. This project will develop different scenarios for a certification and award system that could be linked to the Horizon

⁽⁵⁴⁾ Forest, M. (2021), *Europeanisation*, In G. Abels, A. Krizsán, H. MacRae and A. van der Vleuten (Eds.), *The Routledge Handbook of Gender and EU Politics*, Milton (Routledge international handbooks).

Europe GEP eligibility criterion. A certification that assesses whether a GEP is really implemented and contributing to progress towards more gender equality in organisations would strengthen the GEP eligibility criterion and prevent it from becoming a box-ticking exercise for research organisations.

Another important lesson from the analysis of legal and policy frameworks is that research funding bodies are important drivers of gender equality in R&I organisations. They have different levers for motivating, incentivising or engaging organisations to promote gender equality work. Research funding bodies can integrate gender equality measures into their processes and activities, for example including gender equality in their eligibility or assessment criteria, providing training and resources for implementing GEPs, or developing measures to increase the numbers of women applicants. However, not all Member States have research funding bodies that have implemented gender equality measures to reduce gender disparities and gender bias in their funding procedures. The GEAR Action Toolbox provides an overview of different options for research funding bodies to promote gender equality through their funding instruments and programmes.

3. Approaches to mainstreaming gender equality in R&I organisations

3.1. Overview of main features of GEPs

As part of the fieldwork for this study, a number of promising organisational practices promoting gender equality (including GEPs) were analysed, particularly their relationship to national or international legal or policy frameworks, the approaches used, and types of measures implemented. This chapter provides an overview of the implementation of gender equality practices in R&I organisations in the Member States. The results should not be considered representative, as similar numbers of practices were collected in all Member States, irrespective of the number of practices or relevant organisations. Nevertheless, the results provide a picture of the status quo of organisational efforts promoting gender equality in R&I in the EU-27.

3.1.1 Relevance of legal, policy and institutional frameworks to GEP implementation

National legal and policy frameworks for the integration of gender in research differ considerably across the Member States (see Section 2). More specifically, the existence or absence of provisions on gender in research in legal documents on gender equality and/or R&I provides very different grounds for implementing gender mainstreaming in R&I organisations. Other enabling factors include the existence of legal provisions requiring R&I organisations to adopt gender equality policies in the form of strategies or GEPs⁽⁵⁵⁾ and policies supporting the integration of gender equality in R&I organisations (e.g. provisions on recruitment and career promotion of women researchers, gender balance in decision-making positions). Only 10 Member States have put policies in place to promote the integration of a gender dimension into research content and/or teaching⁽⁵⁶⁾.

The existence of legal and policy frameworks promoting research strongly impacts the status of GEP implementation throughout the EU (see Section 2.2). Extensive regulations on GEPs in France, Ireland and Spain provide evidence on how a strong legal and policy framework can stimulate and incentivise R&I organisations to engage in developing and implementing GEPs. For example, the application of the Athena SWAN Gender Equality Accreditation in the Irish higher education system and its endorsement by Irish research funding bodies as an eligibility criterion has contributed to greater effort and increased engagement of Irish universities in promoting gender equality⁽⁵⁷⁾.

Promising practices from Member States with less extensive regulations mention different legal and policy frameworks as important drivers for stimulating and motivating organisations to engage in gender equality work. These frameworks do not always primarily aim to promote gender equality in R&I – some case study examples also refer to larger R&I policies with integrated gender equality objectives. Several practices from Malta, for example, reported that the integration of gender equality as a priority in the National ERA Roadmap 2015-2020 was an important stimulus to engage in gender equality work aiming to contribute to structural and cultural change in R&I organisations. Another example is Poland's grants for academic teachers at the Jagiellonian University, which were implemented within the Excellence Initiative – Research University programme of the Polish Ministry of Science and Higher Education. Other frameworks mentioned include the Human Resource

⁽⁵⁵⁾ AT, DE, DK, ES, FI, FR, IE, PT, SE.

⁽⁵⁶⁾ Wroblewski, A. (2020), *Report on Monitoring of ERA Priority 4 Implementation*, Gender Action, Institute of Sociology of the Czech Academy of Sciences, Prague, available at: https://genderaction.eu/wp-content/uploads/2020/06/D3.2_MonitoringERApriority4implementation.pdf

⁽⁵⁷⁾ Drew, E. (2022), 'Navigating unChartered waters. Anchoring Athena SWAN into Irish HEIs', *Journal of Gender Studies*, Vol. 31, No 1, pp. 23-35, available at: <https://doi.org/10.1080/09589236.2021.1923463>

Strategy for Researchers (HRS4R) and the UN Sustainable Development Goals (SDG). As an SDG university, Sweden's Royal Institute of Technology (KTH) has set sustainability goals in line with those of the UN, encompassing gender equality, diversity and equal opportunities. This supports the implementation of gender equality actions at KTH, but gender equality is not limited to this framework. More recently developed GEPs or gender equality measures point to the fact that the Horizon Europe GEP eligibility criterion is an important driver that contributes to higher levels of legitimacy and urgency for gender equality actions and reduces barriers and resistance.

The GEAR Action Toolbox contains practices unrelated to any concrete legal or policy framework promoting gender equality in R&I. Some were generated within EU-funded projects, such as GEECCO, TARGET, SUPERA, PLOTINA, TRIGGER, GARCIA, SPEAR or R&I PEERS, all of which aim to develop GEPs and promote gender equality in R&I. These practices demonstrate that these projects not only made financial resources available to develop and implement GEPs, but provided equally important opportunities for mutual learning, exchange of experiences and support. They opened a space to develop tailored GEPs and gender equality measures for each participating organisation, while simultaneously creating Communities of Practice (CoP) ⁽⁵⁸⁾.

Outside of the broader legal and policy frameworks, institutional frameworks at the level of R&I organisations also matter. These institutional setups differ in their legal status, autonomy, size, disciplinary scope and management structure. Fieldwork for this study suggests that internal organisational features have a substantial impact on GEP implementation, as they determine resources, top management support and the capacity to mobilise stakeholders or various components of the university, as well as decision-making and potential resistance to change. The actual objectives of gender equality policies implemented in R&I organisations vary according to the organisation's level of experience in gender equality work and the status of the gender equality agenda, but also depend on its funding, national and international profile, recruitment needs, audience and specialisation.

Although no updated numbers are available to indicate increases in GEP implementation in R&I organisations since the introduction of the Horizon Europe GEP eligibility criterion, fieldwork for this study found some countries with very little GEP work to date. In those cases, existing GEPs were either developed in the framework of an EU-funded project or were recently developed in response to the Horizon Europe GEP eligibility criterion. These are mainly Central and Eastern European Countries (e.g. Bulgaria, Croatia, Romania, Slovakia). The study struggled to identify GEPs in the private R&I sector, with the GEAR Action Toolbox including one example from an Austrian R&D company. This reflects the limited involvement of private sector partners in EU-funded projects promoting the development of GEPs. R&I PEERS is one such project and its results will likely be highly relevant in developing GEPs for private sector organisations in the future.

3.1.2 Gender equality measures implemented by R&I organisations

Although GEPs were increasingly promoted by the European Commission in the frameworks of FP7 and H2020 (as well as in some national frameworks), not all gender equality policies implemented in R&I organisations were part of a GEP. In some cases, organisations developed policies and policy mixes without embedding them in a GEP as a framework or tool. As a result, a high number of organisational practices to combat inequality and promote gender equality were not formalised in GEPs or other strategic documents. Focusing exclusively on GEPs would thus narrow the range of examples and experiences and exclude other measures that can provide relevant insights and learnings for organisations.

⁽⁵⁸⁾ Not all of these projects used this specific term.

R&I organisations have implemented a broad range of measures, covering all recommended areas for GEPs in Horizon Europe (see Section 3.1.3). Measures combating gender-based violence – including sexual harassment, as well as measures on gender balance in decision-making – are likely less common than measures in the other three recommended GEP areas. Measures implemented by R&I organisations, such as quotas ensuring a balanced participation of women and men on committees or boards, are often founded in national legal frameworks, as is the case in Portugal. Law No. 26/2019 stipulates that direct and indirect State administrations (including higher education institutions) need to ensure a minimum threshold of 40 % women in senior leadership positions. Consequently, the University of Coimbra, for example, defined measures in its GEP to ensure balanced participation of women and men in its decision-making bodies. The GEP also encompasses monitoring and training on gender bias in recruitment and promotion processes.

Although more common among R&I organisations, measures promoting the integration of a sex/gender dimension into R&I remain far from widespread. Horizon Europe’s addition of the integration of a gender dimension as an award criterion for R&I proposals may serve to emphasise this area in organisations’ GEPs. In the areas of work-life balance and organisational culture, most examples seek to improve the work-life balance of researchers, especially women researchers, with measures targeting inclusivity more generally are not as widely implemented.

Some measures, particularly in the recommended GEP areas of recruitment and career progression, are so-called affirmative action measures that aim to support the careers of women researchers. For example, the Eindhoven University of Technology opens all academic jobs exclusively to women for a period of six months, while the *Universitat Politècnica de Catalunya* includes a gender coefficient in the final evaluations of women candidates for full professorships. Work-life balance measures are inclusive, often aiming to support employees with care responsibilities regardless of their sex or gender. This serves to engage more men with caring duties. One of the case studies notes, however, that despite targeting all employees, the implicit focus of inclusivity measures (e.g. leave policies, support for people returning from leave) is to support the careers of women researchers.

Diversity is frequently referenced as an additional focus of organisational strategies or units promoting gender equality, but few measures or GEPs explicitly focus on combating intersectional grounds of discrimination. Other R&I organisations have introduced specific diversity strategies, yet these rarely target gender equality or intersectionality. Nevertheless, there are examples of GEPs that have taken intersectionality into account, such as the Strategy for Equal Opportunities of the University of Cologne, the recently updated GEP of the University of Southern Denmark, or the ProGender Project of Greece’s Panteion University of Social and Political Sciences. The case studies do not provide more detail on the intersectional approaches applied, which are typically not yet in place, but set to be implemented in the coming years. Time will tell whether the Gender Equality Strategy 2020-2025 call to strengthen the connection of gender equality work to intersectionality will be reflected in GEPs. A common framework for intersectional GEPs should be developed to support R&I organisations, drawing from the valuable experiences of those already applying such approaches.

Research funding bodies have also started to develop gender equality policies to increase the numbers of women applicants and to ensure a fair and unbiased assessment of research proposals. Some have started to analyse application and assessment data to identify whether gender bias influences women’s and men’s chances of success (e.g. ERC, Swedish Research Council (SRC), Swiss National Science Foundation (SNSF)) ⁽⁵⁹⁾. To date, few research funding bodies have developed a

⁽⁵⁹⁾ Bautista-Puig, N., García-Zorita, C. and Mauleón, E. (2019), ‘European Research Council: excellence and leadership over time from a gender perspective’, *Res. Eval.*, Vol. 28, No 4, pp. 370-382, <https://doi.org/10.1093/reseval/rvz023>;

GEP or similar strategy, with most stemming from EU-funded projects such as Gender Smart or SUPERA. Gender equality strategies have been developed by Science Foundation Ireland, the Austrian Science Fund, France's ANR, Spain's *Agencia Espanola de Investigacion*, Italy's *Regione Autonoma della Sardegna*, the Technological Agency of the Czech Republic, or the SRC. The ACT CoP FORGEN project brought together research funding bodies to engage in mutual learning on developing and implementing a GEP in a research funding body. The Swedish Secretariat for Gender Research recently undertook a global survey of research funding organisations on the gender dimension in R&I. The report concluded that research funding organisations face common challenges when implementing measures to support the integration of a sex/gender dimension into research. On the one hand, it needs to be clear what the integration of a sex/gender dimension into research means and how it is differentiated from gender equality in R&I as a workplace. On the other hand, the implementation of a sex/gender dimension needs to permeate the entire research funding process – not only must applicants describe how they will take gender analysis into account (or, conversely, why they do not consider it relevant), review committees must be trained to assess that integration in research proposals ⁽⁶⁰⁾.

An important challenge for GEPs developed through EU-funded projects is the transition from the project phase, where resources are supplied through the project, to the post-project phase, where resources are provided by the organisation or other sources. Sustainable GEP implementation needs to be taken into account from the first steps of the GEP development process, right through to monitoring and evaluation. This means institutionalising gender equality work within R&I organisations through dedicated resources, a specific group or committee devoted to monitor, develop and implement gender equality measures and capacity-building activities dedicated to raise awareness and expertise among those working in the organisation. However, it is important to anchor gender equality work in the main strategic documents and visions of R&I organisations, as well as in the governance structure in order to define clear responsibilities and conditions for accountability. EU-funded projects developing GEPs not only provide financial resources, they offer formal/informal forms of support for gender equality practitioners through training, exchange of experiences, access to wider networks, etc. After these projects end, practitioners lose these formal and informal support structures, which can hinder the sustainability of gender equality work. The ACT CoPs currently fill this gap, providing the possibility for practitioners to exchange, collaborate and learn from each other. More opportunities and spaces for exchange, collaboration and learning need to be created throughout Europe at regional, national and/or international level to support organisations – especially change agents and practitioners – in their efforts to implement sustainable GEPs within the framework of Horizon Europe.

The structural change projects funded by the European Commission under FP7 and H2020 required an evaluation of the implementation and impact of GEPs, but these evaluations were typically incorporated into the projects themselves. As yet, a critical ex-post assessment of the impacts of these projects on systematic and sustainable gender equality work in R&I organisations remains outstanding. Such an assessment would provide a better understanding of how policies such as the EU funds for GEP implementation can ensure sustainable transition from the project phase to

Ahlqvist, V., Andersson, J., Söderqvist, L. and Tumpane, J. (2015), *A gender-neutral Process? A qualitative study of the evaluation of research grant applications 2014*, Swedish Research Council, Stockholm; Severin, A., Martins, J., Heyard, R., Delavy, F., Jorstad, A. and Egger, M. (2020), 'Gender and other potential biases in peer review. Cross-sectional analysis of 38 250 external peer review reports', *BMJ open*, Vol. 10, No 8, p. e035058, available at: <https://doi.org/10.1136/bmjopen-2019-035058>

⁽⁶⁰⁾ Swedish Secretariat for Gender Research (2021), *The Gender Dimension in Research and Innovation. Results from a global survey on research funding organisations*, University of Gothenburg, Gothenburg, available at: <https://www.gu.se/sites/default/files/2021-04/The%20Gender%20Dimension%20in%20Research%20and%20Innovation.pdf>

institutionalisation, and whether EU-funded GEPs are more advanced or have more learning potential than GEPs developed in other contexts. Another challenge is how the CoPs and networks of mutual learning and support established in these projects can be sustained beyond the project period. These communities or networks are an important resource for gender equality practitioners, allowing them to access advice, expertise, peer mentoring and counselling.

3.1.3 Approaches/methods and tools/instruments for integrating gender in academia and research institutions

The new Horizon Europe GEP eligibility criterion defines several mandatory and recommended requirements for GEPs developed and implemented by R&I organisations. These requirements include five recommended thematic areas for GEPs: (1) work-life balance and organisational culture, (2) gender balance in leadership and decision-making, (3) gender equality in recruitment and career progression, (4) integration of the gender dimension into research and teaching content, and (5) measures against gender-based violence, including sexual harassment. The mandatory requirements specify that a GEP (1) must be a public document, (2) must have dedicated resources and expertise in gender equality, (3) must build on sex-/gender-disaggregated data and continuous monitoring activities, and (4) must include awareness-raising and training actions.

This section discusses the state of play of measures implemented by R&I organisations in these obligatory and recommended areas. It provides an overview of progress in these areas in R&I organisations, including in the context of COVID-19. At the time of data collection for the GEAR Action Toolblox update in summer 2021, the Horizon Europe GEP eligibility criterion had yet to be defined in detail and organisations were in the process of adapting/developing GEPs to meet the new requirements. The results described here thus pre-date changes on foot of the Horizon Europe developments.

Work-life balance and organisational culture

Work-life balance is relevant for all members of staff and contributes to a supportive system whereby everybody has the possibility to advance their career while meeting their personal/caring responsibilities. The whole organisation benefits from a more respectful and inclusive organisational culture, as an attractive employer that can attract and retain the most talented employees. Measures to promote work-life balance range from parental leave policies to flexible working time arrangements and support for care responsibilities. The reintegration of staff after career breaks (e.g. through mentoring, specific support actions) and actions to manage researchers' long working hours are important measures to facilitate a healthier work-life balance.

In France, the National Centre for Scientific Research (CNRS) initiated parenthood measures to support staff members who become parents. Measures include annual information seminars on parenting and connected stereotypes, as well as work-life-balance generally. Other measures providing information on parental leave, as well as (optional) interviews with the Human Resources department before and after parental leave, discussing work-life balance and other social issues, and aiming to increase uptake in parental leave for fathers. Although the measure has yet to be evaluated, it is recognised as a useful bottom-up initiative that can be adapted to meet individual needs.

The *Instituto Superior Técnico* was the first research organisation in Portugal to grant a leave of absence from teaching for one semester after return from parental leave. Women and men who want to quickly resume their research activities after parental leave (at least 100 days of absence) are exempt from teaching duties, allowing them to make up for the research time lost. The measure was

implemented in 2018, but the COVID-19 pandemic meant that few teachers have yet applied for the exemption.

Measures promoting a more inclusive organisational culture are less common in the GEPs of R&I organisations. However, EU-funded projects have recently begun to emphasise guidance for inclusive communication and for reviewing and revising corporate values. Inclusive working cultures are also addressed through measures promoting the active use of inclusive language in relation to gender and other forms of identity. Policies that combat harassment, bullying and exclusionary behaviour at work belong both to this area and to work on preventing gender-based violence, including sexual harassment. Establishing an inclusive culture necessitates addressing the more informal aspects of working cultures, such as social practices as mechanisms of inclusion or marginalisation (e.g. how meals are organised and whether all staff members are able to attend).

In Croatia, the Faculty of Law at the University of Zagreb created a supportive and encouraging space where LGBTIQ+ persons – students, professors, other staff members – feel safe and have the possibility to discuss their topics of interest within the academic context. The student and professor association Za-Pravo LGBTIQ+ comprises LGBTIQ+ persons and heterosexual allies and addresses the problem of structural (academic) invisibility of LGBTIQ+ persons within the Faculty. Meetings of members and sympathisers are planned, as well as events (e.g. summer schools, workshops, guest lectures) for the public. Za-Pravo has expressed its desire to participate in redesigning the curriculum of the Faculty of Law so as to offer courses dedicated to legal aspects of LGBTIQ+ topics.

Gender balance in leadership and decision-making

Efforts have been undertaken to promote gender balance in leadership and decision-making, but women are still underrepresented at management level in most Member States. Various practices can be used to foster gender balance in leadership. Firstly, measures can be implemented to review the selection processes for the composition of committees and other bodies to assess the inclusivity of their practices and outcomes. Similarly, greater transparency can be sought in respect of appointments to committees. Training can help to address the problem from both sides, with leadership programmes put in place for women to increase their self-appraisal and leadership competences. At the same time, gender equality training for all (men) decision-makers and leaders can raise their awareness of the imbalance caused by selection biases.

The Kaunas University of Technology in Lithuania established an Equality Committee that deals with gender balance in leadership and decision-making (among other things). The Committee coordinates the implementation of the University's Equality and Diversity Policy, supports administrative and other staff (e.g. in preparing documents integrating the principle of equal opportunity) and advises managers on equality issues. The key success factor is the commitment and support of the Rector and his team to the issue of gender equality and policy, raising awareness of internal processes and contributing to the external image of the university.

The DFG sought to increase the proportion of women spokespeople for its networks through an uncommitted budget of up to EUR 80 000 per year for individual and subject/project-specific needs arising from spokesperson duties. This is part of the DFG's Qualitative Equality Strategy, which is intended to motivate DFG research clusters to appoint more women as spokespeople/coordinators and thus create more visibility, networking opportunities and reputational gains for women scientists. Women should be relieved of additional work by the provision of adequate and flexible resources for their scientific work. The key success factor was support at management and presidential level, including involvement in the decision-making process (due to the relatively high funding amount). Positive and open communication with applicants was important as a means of dispelling fears around the duties of the roles.

A gender quota and other legal requirements can ensure a balanced gender ratio in leadership and decision-making positions. In order to tackle the minority of women in governing bodies, Portugal's University of Coimbra implements the provisions laid down in Law No. 26/2019 (28 March), establishing a minimum threshold of 40 % women and men as senior leaders of direct and indirect State administrations. Through a specific action in its GEP, the University has extended the measure to all teaching, research and academic units, as well as central management and administrative bodies, thereby targeting a minimum quota of 40 % women and men in all organs of the university. Given the transversal nature of this measure, the Rector is responsible for its implementation, with all Deans required to make the necessary arrangements for its implementation. The measure was launched in 2020 and the monitoring is incomplete as yet. In some academic units, the measure has already been successfully implemented, with the 40 % threshold also reached in the University's General Council.

Gender equality in recruitment and career progression

Gender equality in recruitment, selection and career progression is an important element of numerous action sets. These measures aim to ensure that women and men have equal opportunities in recruitment and selection processes. A critical review of existing selection processes and procedures at all stages, and subsequent elimination of any biases, are elementary steps for ensuring gender equality in academic and research careers. Gender equality in recruitment and career progression should be approached at different levels and comprise various approaches in different parts of the organisation. It should not be treated as an isolated topic, but should be addressed in GEPs in connection with other measures. Intersections should be particularly evident between policy measures on recruitment and career progression and those ensuring gender balance at higher levels and promoting work-life balance and a good organisational culture.

Measures that can improve equality in recruitment and promotion range from defined codes of conduct to standardised CVs (or blind assessment of CVs), as well as public and open procedures. Actions such as unconscious bias training and gender equality officers can be introduced to increase awareness of existing biases. The CNRS in France introduced a gender advisor to reduce possible gender bias in recruitment and promotion committees by raising awareness of that bias in the consulting processes of committees. One or two members of each committee are given the responsibility of monitoring and sharing statistics on candidates with the other committee members. They also point out any possibly biased procedures or behaviour during consulting. The committees – and thus the gender advisors – are in place for five years, ensuring ongoing learning and sustainable success. All committee members (including the gender advisor) receive training on equality and unconscious bias. The measure is set to be extended to the recruitment and promotion of technical and administrative staff. The measure ensures greater fairness in evaluations, both for women and for other socially disadvantaged groups.

Efforts to increase the proportions of women applicants target a broader disciplinary spectrum in recruitment, as well as allowing re-advertising if there are no women among the applicants, and headhunting women in underrepresented fields. It is advisable to rethink the valuation of appraisal criteria, for example accounting for more career breaks and subtracting leave periods when assessing research output, assessing research quality rather than quantity, and emphasising soft skills. In Czechia, the Masaryk University Grant Agency established a Career Restart Grant in a bid to address the substantial leaky pipeline problem that arises, in part, from lengthy parental leave. The grant aims to support women's reintegration after a career interruption and speed up their return to research work. Researchers are eligible if they have worked at the University with at least 0.5 full-time equivalent (FTE) before their career interruption and they can prove that they have completed a

doctoral programme. The main objective is to create the conditions to afford quality care for young children, so that the grantees can focus on their research. From 2021, 10 women can receive the grant each year, with an annual budget of CZK 500 000 and a grant period of two years. A key success factor was the involvement of senior figures - the former Vice Rector for Research and Teaching co-initiated the Grant, while the current Vice Rector for Research and Doctoral Studies instigated the redesign.

Integration of the gender dimension into research and teaching content

Some initiatives in the GEAR Action Toolbox aim to integrate a gender perspective in research. The integration of the gender dimension concerns the inclusion of sex and/or gender analysis in the entire R&I cycle. This ranges from setting research priorities, research questions and methods, to the collection and analysis of sex-disaggregated data, their assessment and presentation, and the translation of results into innovations and products. The integration of the sex/gender dimension is relevant in various R&I areas. Measures that foster the integration of the sex/gender dimension range from awareness-raising actions among researchers and applicants to monitoring research output and programme outcomes (e.g. number of project-related peer-reviewed publications and research projects that include a sex/gender dimension). In the Netherlands, the Organisation for Health Research and Development started a training initiative for young researchers, offering a Gender in Research Fellowship for international PhD students and post-doctoral researchers. In cooperation with the Erasmus Summer Programme, it organises workshops on integrating sex and gender into each phase of the health research process, with gender and health courses to expand knowledge. The project also seeks to build an international network of promising researchers. To that end, it includes a competition where participants work in 'consortia of the future' to win EUR 8 000 to promote the inclusion of sex and gender in research. This motivated participants to form future innovative consortia on the topic of sex and gender in R&I.

Quality assurance and approval procedures should review programmes for a gender dimension. Gender can be institutionalised through a specific department, or interdisciplinary research institution dedicated to gender studies, or through relevant research programmes, licences, Master and doctoral programmes, as well as accreditation procedures. In Sweden, the Kristianstad University developed a model for the distribution of research funds that is linked to the national Gender Mainstreaming in Academia programme. The measure aims to reduce the research fund deficit at the University, as well as to establish a model based on merit. The model focuses on cooperation with external actors and the evaluation of performance based on time commitment. The funding is distributed in two parts: standard distribution according to a model, and the so-called extra performance-based support. Research time is distributed according to a model (125 hours for senior lecturers, 188 hours for assistant professors, 375 hours for professors) and applicants must have actively conducted research in the last three years in order to receive research time. The additional performance-based support rewards researchers who have proved particularly effective (internal and external funds) over the preceding three years. Gender mainstreaming means that the University's research resource allocation model now rewards research achievements transparently and equitably in relation to resources. Not only did gender equality increase as a result, more researchers obtained internal research funding and benefitted from greater flexibility.

Training is one of the most frequently used approaches to support initiatives to integrate a gender perspective in research. EU-funded structural change projects address the issue to a greater extent, as they commit to the three objectives of the European Commission. These projects have resulted in dedicated conferences or workshops, databases of good practices, and a business case for integrating gender in research and curricula.

Measures against gender-based violence including sexual harassment

The prevalence of gender-based violence and sexual harassment in public institutions and universities is underestimated. Recent analyses and reviews carried out in the framework of EU-funded structural change projects show an urgent need for action on this issue. Competence-raising programmes and training on gender-based violence and sexual harassment have proven effective preventive measures and can be part of a broader organisational culture of zero tolerance. The Active Consent Programme is a practical measure to tackle the issue of sexual consent in Irish higher education institutions. The National University of Ireland, Galway provides a toolkit and e-learning modules for employees and students to create awareness of what constitutes sexual consent and to provide information on legal definitions and supports for victims of gender-based violence and sexual harassment. The project aims to spread the programme to all Irish higher education institutions via student unions, student services, equality, diversity and inclusion (EDI) departments and health education programmes.

Numerous universities and organisations have developed documents to combat gender-based violence and sexual harassment. These range from codes of conduct determining relationships between different authorities and students, to ensuring that witnesses of harassment are not discouraged from reporting incidents. Reporting policies are important measures, describing how an incident of sexual harassment can be reported and how potential barriers for victims can be eliminated. Similarly, investigation policies outline the investigatory and decision-making process in a transparent and comprehensible way for all employees and students.

Measures to support victims of violence and sexual harassment are an important part of organisational gender equality policies. Information on reporting an incident and the process afterwards can be offered alongside pastoral support and psychosocial counselling. These could be complemented by disciplinary measures for perpetrators, as well as a guideline for reporting to the police. In Spain, the Basque Country University established a protocol against gender-based violence in order to create a safe environment at the university. It also implemented mechanisms to identify and address gender-based violence at the university and/or for individuals who are part of the university and who experience violence outside or at the university, in both online and physical spaces. The protocol is accompanied by annual presentations and gender equality training, and applies to all university and research staff, administrative staff and students. To counteract reporting inhibitions, the protocol does not require prior police or judicial notification. One special feature is that the protocol is only initiated if the victim agrees, while the support process can also be initiated by the victim or by others. University security staff cooperate with the police, easing the process of filing a report. The protocol has a strong deterrent function, with widespread community awareness that sexual harassment is prohibited. Women students now feel more empowered and supported, and the number of reports has increased considerably.

Measures mitigating the effects of COVID-19

The global COVID-19 pandemic had a far-reaching impact on the life and work of each individual. The ensuing disruption has also had implications for gender equality and the implementation of GEPs. Education and research activities were interrupted, and gender equality goals and measures were sidelined or seemed less important under the new circumstances. Women, in particular, have been burdened by additional family care and child-rearing responsibilities, which in turn has undermined their own work, including research and publishing.

Organisations should assess the impact of COVID-19 on gender equality as part of the development or review of their GEP. For example, a survey or participatory workshop could be used to identify

necessary steps or actions. This could take the form of an evaluation of the impacts of COVID-19 on working practices and outcomes, or measures to ensure the visibility and prioritisation of the GEP (especially at management level) and to adjust the monitoring of key objectives. Steps could also be taken to improve arrangements within the funding and approval processes of research funding bodies and research performing organisations, so as to ensure that sex and gender analysis are considered in research on COVID-19. Consideration should be given to whether additional sections are needed in the GEP to address specific issues related to COVID-19. Organisations should also review their policies and provide support for emerging needs. These measures could range from policies on remote working and care responsibilities, to fair workload arrangements and assessment procedures for career progression so as to ensure that unequal burdens are taken into account.

Several institutions have developed and implemented measures in response to the changes brought about by the COVID-19 pandemic. For example, ProGender: A Digital Hub on Gender, the COVID-19 crisis and its Aftermath was established by the Centre for Gender Studies at Panteion University in Greece. The project seeks to exchange know-how between Iceland, Norway and Greece on gender equality during COVID-19, as well as opening cross-cultural debate between academics, policymakers and stakeholders. Thematic areas covered by the project include: gender; care and labour; gender-based violence; women and gender in science; gender and communities; and women in governance. Possible responses to the gendered impact on post-pandemic European societies will be developed, including workshops, seminars and online resources (e.g. podcasts, videos, reports) targeting specific groups and policy areas where exchanges between gender experts, stakeholders and policymakers from Iceland, Greece and Norway can make a difference. The measure is accompanied by seminars to educate students on gender inequalities stemming from COVID-19.

In Poland, the Jagiellonian University in Kraków initiated mini grants for academic teachers who worked or taught classes and cared for children during the pandemic, as a means of ensuring equal opportunities in research and publication. The measure allows researchers to produce single-author publications, which should take no longer than six months to complete from the date of application. These mini grants allow researchers to cover the costs of delegating tasks to others, allowing them to focus on the results that will be given special consideration in the academic evaluation process. The funding can be spent on additional salaries (e.g. for assistants) or external services (e.g. translations, proofreading, data analysis). A key success factor was making the application and evaluation process transparent and simple, and offering individual support. The measure will increase equal opportunities in research careers.

Training: awareness-raising and capacity-building

Awareness of gender inequalities and a broader knowledge of gender issues are key to ensuring gender equality and structural change in an organisation. Awareness-raising activities aim to generate and stimulate sensitivity to issues related to gender inequality, while capacity-building aims to strengthen people's knowledge and skills. Indeed, the two types of efforts often overlap, as learning begins with awareness but is a continuous process. Awareness-raising and training activities on gender equality and unconscious gender biases for staff and decision-makers are part of the GEP eligibility criterion for Horizon Europe.

Measures for awareness-raising and capacity-building training on gender equality can range from campaigns and introductory sessions to seminars and training for specific groups to lectures or courses. Participatory workshops are one way to reach and engage staff and management with gender equality. Training on integrating the sex/gender dimension into research and teaching is another good way to increase awareness. Several other gender equality training activities may focus

on specific topics or target groups via events, online courses and/or networks. In Luxembourg, the project GENDER4STEM supports teachers, school psychologists and counsellors to improve their gender-responsive teaching practice through useful tools (collected on a platform) to inspire schoolgirls for STEM. Teachers also gain awareness of their existing biases through the Gender4STEM hands-on blended training and can use various tools provided to overcome those biases. A self-assessment tool checks their teaching style, with recommended materials available based on their results. Teachers who used the GENDER4STEM platform particularly valued the hands-on methodology and the opportunity to share experiences and network with other teachers.

The Academy of Finland initiated the eOppiva online training on gender equality and non-discrimination to increase awareness of gender equality and diversity issues among all staff, as part of GEP implementation. In Poland, the University of Warsaw organised workshops to design the overall GEP for the university. The implementation of the GEP was supported by initiatives such as installing pink boxes against menstrual exclusion and providing courses on gender equality for students and staff.

The GenderLAB project at Copenhagen Business School (CBS), in cooperation with KVINFO, Hanken School of Economics, the GODESS Institute and KTH, aims to support the questioning of gendered assumptions and organisational norms, as well as the joint development of informed solutions to the lack of diversity and inclusion. Participants at co-creating workshops develop concrete solutions for social challenges where gender and diversity play a key role. The process uses design thinking to bring together people with different knowledge and viewpoints, seeking to find solutions through structured conversations and exercises about gender and diversity and by engaging emotions alongside facts. The project tries to contribute to structural and cultural change, with solutions that are easy to implement and primarily designed by people who themselves work in the field in question.

Data collection and monitoring

Any GEP or gender equality action needs to be grounded in evidence. Before measures can be designed and implemented, information must be obtained on the status quo of the institution in relation to gender equality. Collecting and publishing disaggregated data on the sex and/or gender of personnel (and students, where relevant) and annual reports based on indicators are obligatory in order to be eligible for Horizon Europe funding. That requirement includes a statistical analysis of sex-/gender-disaggregated data, interviews or focus groups (qualitative methods) to gain understanding, analysis of national legal and policy documents, and a review of the organisation's strategic and operational documents. Monitoring and evaluation actions are crucial for accountability and visibility of gender equality measures and should be carried out and communicated regularly.

Little is known about organisations' practices in relation to monitoring methods implemented through GEPs. In Lithuania, the Vilnius Academy of Arts collects data on salaries and compares the salaries of women and men working in the same position. It aims to establish the principles of fairness and social justice and, in concrete terms, to pay the same salary for the same work. The Rector reviews the salaries herself and decides which to increase, and asks the heads of departments to review their current staff positions. The measure is thus closely linked to all ongoing processes in the organisation, which is a key success factor.

Monitoring mechanisms can be put in place for the follow-up of specific measures or as part of protocols, such as issue-specific monitoring units for sexual harassment. These are more evident in GEPs supported by EU-funded projects, and typically consist of a set of quantitative and qualitative

indicators to measure the impact of actions taken to increase women's access to certain positions, to enhance work-life balance and women's career management, to train staff in gender equality issues or to integrate gender into curricula. The data collection and monitoring systems developed and established in EU-funded projects are usually permanent and contribute to the sustainability of gender equality work in these organisations.

In Austria, the Science Fund collects and monitors data from its dashboard, including proposals and applications from women and men, funded projects by gender, and applications by subject. The Fund then publishes an annual gender monitoring report in order to make changes more understandable and to all attention to facts that would otherwise remain hidden. The results are also used internally to raise awareness among new employees of gender inequality, and the data are discussed by managers every year. Together with national organisations, the Fund is part of a gender working group that discusses the data and exchanges views. This monitoring has smoothed the implementation of new regulations addressing gender equality at the organisation (e.g. a gender quota in a career development programme).

Public document

The Horizon Europe GEP eligibility criterion requires the GEP to be a formal document, published on the organisation website, and showing clear commitment of top management to its objectives and measures (demonstrated by their official signature). The GEP should also be visible internally and communicated to all staff members and organisational units. Most of the GEPs collected for the GEAR Action Toolbox update do not provide information on the status or publication of the document. It can be assumed, however, that the latest generation of GEPs developed in EU-funded structural change projects meet this criterion. As a formal document signed by the senior management is mandatory for all Horizon Europe calls since 2022, higher education institutions and research organisations will presumably make their GEPs available to the public.

She Figures 2021 surveyed the numbers of research organisations providing information on their websites about their gender equality measures. More than 50 % of higher education institutions in the EU-27 and Associated Countries mentioned actions towards gender equality on their websites⁽⁶¹⁾. The proportions were significantly lower among research performing organisations, ranging from 15.0 % (Bosnia-Herzegovina) to 78.1 % (Sweden). Among the countries with more than 30 research performing organisations and higher education institutions that listed their gender equality measures online, the range was between 26.0 % (Slovenia) and 100.0 % (Sweden). In Lithuania, Vilnius University published the faculties' plans on its website, which are in the process of being translated to English in order to reach a wider audience. In addition to its GEP, Denmark's SDU publishes an annual Gender Equality Action Plan, based on the implemented process plan and involving all aspects of its management and equality organisation.

Dedicated resources

A GEP must be backed by dedicated resources and expertise on gender equality in order to facilitate its implementation. This also shows the commitment of top management to implementing the GEP, including providing the resources necessary. Otherwise, implementation efforts often rely on voluntary work by committed staff members (mostly women) in addition to their already high workload. The majority of the GEPs collected for this study have accompanying and supporting

⁽⁶¹⁾ European Commission (2021), *She Figures 2021. Gender in Research and Innovation. Statistics and Indicators*, Publications Office of the European Union, Luxembourg, available at: <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/67d5a207-4da1-11ec-91ac-01aa75ed71a1>

measures to increase knowledge and expertise. Successful GEP implementation has institutionalised gender equality work through a formally anchored gender equality office or committee, and is recognised as an internal policy document both in its own right and in relation to other important organisational policy agendas. As GEPs were developed in the framework of EU-funded projects, the resources typically formed part of the project budget. Other organisations reported receiving financial support from other external national or regional sources to implement gender equality measures. Nevertheless, the availability of financial resources remains an issue in some cases.

Gender-sensitive funding procedures

Similar to research performing organisations, research funding bodies' GEPs should address internal stakeholders and processes. However, they should also address external stakeholders and the whole cycle of research funding from a gender perspective. Gender equality measures can be implemented in various steps along the funding cycle, from planning through to evaluation, in order to pursue a comprehensive gender strategy covering internal and external processes.

A status quo assessment should collect information on planning and defining the objectives of a call, recent data on the proportion of women and men among applicants and grantees, and the proportion of women and men on evaluation panels and among evaluators. As the inclusion of the gender dimension in R&I has become mandatory in Horizon Europe, this should also be required in all funding programmes. When launching calls, various research funding bodies should design calls in a gender-responsive way or use gender-sensitive language in order to engage more women. Research funding bodies should also establish diverse and gender-balanced evaluation panels. Most funding bodies provide training for panel members to raise awareness of gender inequalities and biases.

Funding bodies try to increase the proportion of women applicants in different ways. Science Foundation Ireland has allowed a higher number of applications from one institution in cases where women lead the projects (up to six additional applications per organisation). Individual supports, such as mentoring programmes, are implemented by various institutions to motivate more women to apply for grants.

The assessment process is crucial to promote gender equality in R&I. Assessment criteria should be clear and transparent in order to reduce (unconscious) gender bias. They should also be gender-sensitive, because women often have slower career progression and publish less, due to their caring responsibilities. To counteract these inequalities, some funding bodies have limited the number of publications that can be listed in an application. Alternative assessment policies and practices (e.g. narrative CVs, blind assessment) are increasingly applied by research funding bodies. In Denmark, the Villum Foundation commissions a three-member panel with blind evaluation of proposals to ensure that research funds are distributed in a gender-equitable manner and to avoid evaluation panels deciding quickly solely based on academic profiles. First, the Foundation's Secretariat and the Working Group on Technical and Scientific Research review whether the applications meet the requirements. The subject-specific review panels then decide based on anonymous applications that are not accompanied by a CV or cover letter. The Foundation uses this process in a bid to fund more unconventional research ideas and increase the share of women applicants.

Research funding bodies may use gender equality observers during the assessment process to evaluate the discussion and ensure a fair process. The final decision-making phase involves several steps and should also take gender into account. Some research institutions apply a gender quota for funding women (e.g. at least 40 %, or the same proportion of women grantees as women applicants).

Science Foundation Ireland introduced an equal opportunities approach, where women applicants are preferred, if they have the same score as the men applicants.

In the final monitoring and evaluation phase of funding programmes, research funding bodies assess their progress on gender equality. The European Commission's GEP criterion requires them to submit data annually, e.g. the number of participants in training programmes. This data can be used to check the extent to which gender-specific goals have been achieved, or whether adjustments are necessary. With intersectionality increasingly relevant, research funding bodies have begun to expand their monitoring systems accordingly. The analysis of all granted and non-granted applications in the context of gender is essential to the evaluation of the funding cycle. Funding bodies also evaluate qualitative data on gender, such as the occurrence of biased language in application and assessment processes.

3.2. Success factors versus risk factors

3.2.1 Key success factors

Although not a guarantee of effective implementation, **a comprehensive legal and policy setting** undoubtedly creates a more favourable background for developing and implementing GEPs. Ideally, it legitimises gender and gender equality as matters relevant to society, and to R&I institutions in particular. This provides legal, instrumental and discursive resources for equality advocates to take action where appropriate. If there are impulses for gender equality, the national or international frameworks and frameworks of other countries can be drivers of organisational gender equality work and serve as a basis for argumentation, legitimacy and inspiration. This is especially the case in Member States where provisions on GEPs are set out in law. Despite varying implementation between research and higher education institutions and between one Member State and the next, the higher number of GEPs typical of these countries contributes to creating awareness and to benchmarking. Nevertheless, resistance can appear despite efforts to meet formal requirements. Paradoxically, the mere existence of a legal framework and policy background can generate the perception that enough is already being done and no more effort are needed.

Well-equipped supporting structures are needed to implement complex sets of measures, collect and analyse multivariate data, train staff, raise awareness and build effective instruments. Time and gender expertise are necessary, but not sufficient. While implementing GEPs does not require huge funds, some actions (e.g. childcare facilities, fellowships, chairs with preferential recruitment or wage compensation programmes) require money. If GEPs are to be sustainable, they need appropriate funding, a clear permanent mandate from top management structures, a fixed location in the governance of the organisation, and strong communication with other stakeholders. If responsibility for GEP implementation is shared with other actors (e.g. faculties, departments, Human Resources departments), the necessary financial resources must also be planned at this level. Implementation of the GEP and its accompanying measures should not be the responsibility of one person, but, rather, a team of motivated people, with broad knowledge (including on sex/gender-disaggregated data) and expertise, who can support each other and share the responsibility and workload. These gender equality bodies should take some leadership in implementing gender mainstreaming and, at the same time, receive support from executive bodies. It is important to institutionalise these supporting structures so that they are less dependent on changes in the composition of management or in contextual framework conditions.

Explicit and clearly communicated **commitment from senior management** is a success factor for transformative action, lending legitimacy to gender equality work and enabling sustainable change in organisational culture. Senior management support signals the importance of gender equality to

the organisation, facilitates access to financial and human resources, and reduces the likelihood of gender equality initiatives being rejected. However, evidence from the fieldwork for this study shows the potential for lip service or purely opportunistic support, with reports that top management may show a certain degree of commitment for the GEP, but disrupt its implementation in practice. In those cases, leaders appeared to believe that a GEP could be implemented without engagement, effort or negotiation. It is extremely difficult to design and implement a GEP in a research performing and research funding institution without the explicit support of the top leadership. Nevertheless, the value of that support is subject to the following conditions:

- Support must be public and reiterated: ideally, equality discourse by top management should feature as part of the general profiling of the institution and be reflected in all communications (e.g. in appropriate sections of a website, on institutional documentation, in framework contracts with funding authorities, in long-term strategic framework documents).
- Support should serve institutionalisation so that policies and their supporting structures and instruments can survive and develop even after initial support has faded away.
- Support from senior management should be used as a strategic resource to secure the engagement of intermediate management, which is often the location of major resistance. Support can also reduce researchers' reservations that they might harm their scientific reputation by engaging with gender equality work.

Stakeholder involvement in planning and further cooperation for implementing the GEP:

Inequalities may arise at all levels and in all components of this community and gender equality should therefore be pursued at all levels. Bringing together different stakeholders (including senior and middle management), with all their diverse expertise and knowledge, and involving them in planning and implementing the GEP creates an important sense of togetherness and shared responsibility. This requires the engagement of community members beyond stakeholders in the frontline of GEP implementation (e.g. low-intermediate managers, faculty members, Human Resources management, students in higher education institutions). Appropriate participation channels and methods are necessary, for example through a network of focal points. A team with a mix of organisational positions, genders, seniority, sexual orientation or disciplinary backgrounds can provide more diverse impulses and create more holistic strategies. Pilot experiences – notably for GEPs supported through the EU-funded structural change programmes – create broader engagement through awareness-raising, training and communication. Constant communication and dissemination both during and after GEP development (e.g. presentations, seminars, newsletter) ensures that stakeholders are provided with the necessary information and continue to feel involved.

Existence of successful leading initiatives: Although not a precondition, the existence of leading initiatives provides a strong incentive for R&I institutions to take action and implement GEPs. As the example of Ireland shows, the Athena SWAN Charter is currently the most successful means of stimulating higher education institutions to adopt GEPs and engage in serious gender equality work. As R&I institutions frequently compete for funds, reputation and talent, linking academic excellence with gender equality and equal opportunities encourages them to adopt measures and provide appropriate resources. As most GEPs lack proper monitoring and evaluation mechanisms, applying for award renewal entails automatic evaluation and incentivises good performers. This initiative encourages other actors, such as research funding bodies, to actually integrate gender equality performance as part of their operational frameworks. There is a high potential to learn from other projects and other organisations' implementation of GEPs, with (inter)national networks particularly supportive and useful (as evidenced by participation in structural change projects in FP7 and H2020). Other initiatives similarly prompt action by others, such as the German programme that funds full professorships for women, or the French Charter for Gender Equality in Higher Education and

Research, which urges French universities and *grandes écoles* to create a gender policy framework. Especially in Member States where GEPs are scarce, EU-funded projects act as leading initiatives, helping to generate and disseminate good practices.

Other enabling factors exist, albeit with less evidence at national level. All involved an evidence-based gender equality work approach. This includes the availability of sex-/gender-disaggregated data to assess the status quo, as well as monitoring and evaluation tools to evaluate achievements and create future strategies. Successful implementation of gender equality measures requires a balance between clearly defined objectives and planned actions, and the ability to remain flexible, creative and persistent.

3.2.2 Main risk factors

Several of the risks described here mirror the key success factors identified above. National researchers highlighted the **lack of support from top leadership** as a major risk, especially when GEPs are at an early stage and internal gender equality mechanisms are not sufficiently institutionalised. Lack of leadership support undermines the legitimacy of the policy and its relevance to the institution and the disciplines it represents. It favours the status quo and hinders the mobilisation of stakeholders. It also considerably limits the visibility of the policy, both internally and externally.

Lack of funding places the responsibility for the gender equality policy at the feet of ill-equipped structures with little or no autonomy. Not only does it prevent the implementation of GEPs' work-life balance schemes or facilities, fellowships and training actions, it can also hinder the institutionalisation and sustainability of planned actions. This is particularly relevant given that the **lack of continuity** of gender equality policies in R&I institutions is also perceived as a major risk factor. The lack of resources and proper evaluation instruments converge to limit the duration and continuity of implemented measures. As a consequence, potential successes are not achieved and progress is rarely measured, while capacity and knowledge are lost. The literature highlights that, due to their contentious nature and to the fact that there is no fixed meaning to 'gender equality', gender equality policies have been subject to disruption and required more time to achieve full institutionalisation. In countries such as Bulgaria, Slovakia and Hungary, the lack of commitment to gender equality at political level has created less favourable conditions for mainstreaming gender in R&I institutions. The COVID-19 pandemic has also impacted the status quo of gender equality in R&I, with evidence of decreased attention in light of the challenges posed by the pandemic. By contrast, the Horizon Europe GEP eligibility criterion has put the issue firmly back on the agenda.

Within R&I institutions, gender equality advocates meet **resistance at intermediate level** on a daily basis. Although this resistance can be mitigated by strong support from leadership, it also embodies traditional organisational culture through long-established procedures and ways of doing things, gender-blind processes, schemes and indicators that structural changes will challenge.

The **gendered character of scientific culture** remains one of the main risk factors and constitutes the core challenge for gender mainstreaming in research. The gendered structure of knowledge production remains subject to controversy, as it challenges the fundamental premise of scientific neutrality — that science produces observer-independent knowledge of an objective world. For this reason, gender bias and gender blindness remain widespread in research.

4. Conclusions

4.1. Key lessons

The main findings are summarised below.

- Gender equality was firmly anchored in the European Commission's R&I policies in the reinforced ERA and H2020. This has been continued and strengthened in the new ERA and Horizon Europe, although some issues remain unclear while the new ERA is evolving. Gender equality is integrated as a main value underlining R&I in the Council recommendation on a Pact for Research and Innovation in Europe, and has been taken up by the EIC and EIT. The new GEP eligibility criterion in Horizon Europe has mobilised many research organisations to develop GEPs. Advisory groups such as the ERAC SWG GRI have played an important role in steering policy discourse on gender (in)equality in Europe and flagging important topics for research and policy interventions. Projects funded by the European Commission in H2020 (such as ACT, GE-Academy or GENDERACTION) increased stakeholders' capacities to engage in developing GEPs and promoting gender equality.
- Integrating gender equality in research and contributing to gender knowledge production are explicit policy aims in 23 Member States. More binding provisions can be identified in the legislation on research and higher education in 11 Member States. Four Member States do not address any of the EU objectives for promoting gender equality in research through their legal and policy instruments.
- Gender equality action plans are institutionalised in the form of binding legal provisions in only eight Member States. Due to highly varied policy and legislative contexts and differences in how research is organised, these GEPs differ in their scope, resources and degree of implementation. Additionally, comprehensive institutionalisation does not equal effective implementation, as control mechanisms, internal resistance and support are also brought to bear.
- The EIGE GEAR Action Toolbox was used for GEPs developed within EU-funded projects in H2020 calls. It has contributed to GEPs that meet specific quality standards and follow a common development and implementation process. The Horizon Europe GEP eligibility criterion will further strengthen the harmonisation of GEPs along certain criteria, while leaving room to tailor GEPs to specific organisational setup and context. It is expected that there will be a strong pull factor to align organisational and national policies with these GEP criteria in the near future. However, this will depend on the enforcement of effective monitoring and evaluation mechanisms to assess compliance with GEP criteria.
- Although legislative and institutional frameworks – as well as GEPs – were mainly focused on Objectives 1 and 2 of the European Commission (fostering the participation of women in research activities and promoting equal opportunities for advancement in research careers; increasing the participation of women in research decision-making), Objective 3 (integrating gender issues into research content) was pursued to a far lesser extent and only occasionally through GEPs. However, it has gained prominence in the wake of the COVID-19 pandemic, among other reasons. Research funding bodies and research publishers have increasingly contributed to the latter objective as they require an indication of the relevance of the gender dimension in research proposals, or reporting on sex-/gender-disaggregated data in research papers. Innovative actions have been designed and implemented as part of EU-funded institutional change projects, such as GARCIA, EGERA, SUPERA, GEECCO, Gender Smart or GENDER-NET.
- The EU-funded structural change projects deliver comprehensive resources to promote gender equality in R&I, beyond the drafting of GEPs. Their shared goal is to design innovative and effective measures, generate knowledge on gender in research and higher education

institutions, and support gender equality policies in R&I organisations. Institutional change projects funded by the European Commission typically encompass a broader range of issues, intend to tackle institutional practices and processes, generate more data about gender in research and higher education institutions than ‘standard’ GEPs, set up monitoring and evaluation mechanisms, and bring valuable contributions in the form of guidelines, toolkits, training concepts, etc.

- Institutionalisation of gender equality work is key to ensure sustainability beyond a single GEP implementation cycle. Institutionalisation is facilitated through a gender equality body (office, committee, group) with clearly defined responsibilities and resources, that is clearly anchored in the organisational governance structure. A clear commitment to gender equality in mission statements, corporate social responsibility strategies, and other strategic issues and documents similarly promotes institutionalisation. Gender equality work needs to be accompanied by a clear capacity-building strategy, for example through integrating training on gender bias and gender inequalities in R&I into mandatory training for staff and leadership. Finally, institutionalisation is important not only at the organisational level, but at regional, national and international level. Here, GEP implementation should be supported by the institutionalisation of capacity-building activities and networking opportunities.
- The introduction of Athena SWAN in Ireland’s higher education system shows the potential for change and the importance of support by different stakeholders. The location of Athena SWAN in the HEA (which distributes resources to the higher education sector) seems particularly strong, as is the fact that Irish research funding bodies have made an Athena SWAN award a precondition for individual research funding applications. Learnings from the Irish case could support the transfer of Athena SWAN or similar certifications to other Member States or to the EU as a whole.

4.2. Way forward

Several issues are particularly relevant to progressing support for the integration of gender in R&I in the EU.

Strengthening the Horizon Europe GEP criterion: the introduction of the Horizon Europe GEP eligibility criterion is likely the most important policy development at European level in 2021. Nevertheless, there are concerns that this will not lead to the intended structural change in research organisations and will not contribute to reducing the gap between Member States. It will be important to detail how the GEP criterion in Horizon Europe is assessed in the future in order to avoid becoming a box-ticking exercise, with paper compliance but effective implementation. An approach like the implementation of Athena SWAN in Ireland, which combines a clear framework, support and incentives for universities to engage in gender equality work, could inspire the improvement of the Horizon Europe GEP criterion. In addition, the CASPER project will provide input for different options to strengthen the criterion. Certifications such as Athena SWAN would not only assess the efforts and progress of organisations in promoting gender equality, they could also support organisations to ensure effective and efficient GEP implementation. Establishing strong monitoring of GEP implementation activities in research organisations (public research organisations, higher education institutions, research funding bodies, private R&I companies) in all Member States would also support policy-making and effectively address those organisations not engaged through existing policy measures.

Supporting research organisations and research funding bodies through capacity-building and mutual learning to develop GEPs that are effective and sustainable should be a focus for both the European Commission and Member States. The resources and experiences of projects such as ACT

or GE-Academy constitute a starting point to support research organisations to develop and implement GEPs. In order to be fully effective, capacity-building needs to comply with quality standards, as proposed by the GE-Academy: it should build on experienced-based and innovative participatory methods, engage with intersecting inequalities and area/context-specific features (e.g. specificities of widening countries or disciplinary areas). These activities should be comprehensive and holistic, rather than one-time programmes⁽⁶²⁾. The upcoming Centre of Excellence on inclusive gender equality in R&I and the GENDERACTION Plus project will provide tools to support research organisations and research funding bodies. Member States need to build on these activities and increase their scale at regional or national level in order to reach more research organisations and ensure their effective engagement in gender equality work. Member States may also need to develop legal regulations or policies to motivate more resistant R&I organisations to develop GEPs in the future.

Engaging the private sector: the new Horizon Europe eligibility criterion only applies to a part of the R&I environment, as private R&I companies are excluded. Although the GEP eligibility criterion is applied for EIC grants, private businesses are exempt. In addition, the legal and policy frameworks of Member States rarely address the private R&I sector, with policies primarily focused on higher education institutions and public research organisations. Examples of such actions for the private sector are Spain’s legal provisions for organisations and companies with more than 50 employees to implement GEPs, or Austria’s FEMtech programme, which aims to promote equal opportunities in industrial and non-university research. It is not only policies promoting gender equality in the private sector that are lacking; there is a similar lack of data that would allow assessment of the status quo of gender equality in private R&I companies. Data collection on gender equality topics should be mainstreamed into major R&I surveys, such as the Community Innovation Survey (CIS). Doing so would provide opportunities to gain insights into gender equality in R&I companies, as well as testing the nexus between gender diversity and innovation performance more broadly.

Intersectionality: European Commission strategies and policies in the ERA framework and in FP7 and H2020 focused on promoting gender equality and establishing GEPs as tools for structural and sustainable change. As a result, intersectionality has not been a focus either in policy or in the EU-funded GEPs developed to date. This is now changing, with recent policy developments frequently noting intersectionality as an issue to consider in efforts to promote gender equality (e.g. in the Gender Equality Strategy 2020-2025⁽⁶³⁾ or in the new ERA action on gender equality⁽⁶⁴⁾). Nevertheless, there is no clear framework for combating intersectional inequalities that builds on experiences of early adopters and defines clear objectives and indicators. This needs to be developed to guide R&I organisations to adapt and broaden their GEPs towards intersectionality.

Ecosystem approach: Achieving gender equality in R&I will only be possible if all R&I sectors – from the public to the private sector, from basic research to innovation organisations, from research funding bodies to research publishers – are addressed and included. An ecosystem approach that engages all actors is needed to enable sustainable change towards a more equal R&I system.

⁽⁶²⁾ GE Academy (2021), *Leaving no one behind: harmonising capacities for Gender Equality Plans in the ERA*, Policy Brief 1, For EU-level stakeholders, available at: https://ge-academy.eu/ge-uploads/2022/01/GE-Academy_Policy-brief-01_v03.pdf

⁽⁶³⁾ European Commission (2020), *A Union of Equality: Gender Equality Strategy 2020-2025*, Brussels, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0152&from=EN>

⁽⁶⁴⁾ European Commission (2021), *European Research Area Policy Agenda: Overview of actions for the period 2022-2024*, Brussels, available at:

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ANNEX

1998	Fifth Framework Programme for Research (FP5) Gender watch system: aims to achieve a 40 % representation of women on panels and in advisory groups, collect sex-disaggregated data, encourage gender research within the framework programmes and conduct gender impact assessment studies on FP5.
1999	European Commission Communication on Women and Science: mobilising women to enrich European research: formalisation of the Commission's commitment to advance gender equality in research. (Available at: ftp://ftp.cordis.europa.eu/pub/improving/docs/g_wo_co_en.pdf)
1999	Creation of Helsinki Group on Gender in Research and Innovation: the group is established to promote equality between women and men in R&I and to embed the gender dimension in science, R&I content and programmes. It is co-chaired by the European Commission and the Member State holding the EU Presidency. The Helsinki Group works closely with ERAC, the committee responsible for monitoring the development of ERA. (Available at: http://ec.europa.eu/research/swafs/pdf/pub_gender_equality/new_mandate_helsinki_group_FIN_25%2004%202013.pdf#view=fit&pagemode=none)
2000	Lisbon strategy objective to make Europe the most competitive and knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion. To this end, women should represent at least 25 % of positions in the public research sector by 2015, so as to ensure better representation of women in decision-making bodies.
2000	European Technology Assessment Network (ETAN) report describes the current situation of women scientists in universities, research institutes and academies, and points to the scarce information available for women in the industry. (Available at: ftp://ftp.cordis.europa.eu/pub/improving/docs/g_wo_etan_en_200101.pdf)
2002	Sixth Framework Programme for Research (FP6): gender mainstreaming is formally integrated into the Framework Programme. Gender monitoring studies are planned and implemented so that the results can feed into the next framework programme. Gender action plans made mandatory for networks of excellence and integrated projects.
2005	Council Conclusions on reinforcing human resources in science and technology in the ERA invite Member States to formulate targets for the participation of women, in particular by increasing the numbers of women in leading positions significantly, with the aim of initially reaching the goal of 25 % in the public sector, as well as boosting their participation in industrial research and technology. (Available at: https://ec.europa.eu/research/science-society/women/wssi/pdf/st08194.en05.pdf)
2007	FP7: gender mainstreaming is formally integrated into the framework programme. FP7 aims to increase women's representation in science and to

	promote gender research. Funding is made available for structural change projects in favour of gender equality in institutions.
2008	European Parliament resolution on women and science (Available at: P6_TA-PROV(2008)0000 (europa.eu))
2008	Council Conclusions on family-friendly scientific careers - towards an integrated model invites the Commission and Member States to develop an integrated model of scientific careers based on an appropriate policy mix ensuring a family-friendly environment for researchers. (Available at: http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/intm/103059.pdf)
2010	Europa 2020 presents its flagship initiatives to improve framework conditions and access to finance for R&I, in order to secure Europe's global competitiveness. (Available at: http://ec.europa.eu/research/innovation-union/index_en.cfm)
2013	Launch of H2020 , the EU framework programme for R&I between 2014 and 2020. It is the most comprehensive EU R&I programme ever, with nearly EUR 80 billion of funding available over seven years. The programme presents three key objectives: gender balance in decision-making and in research teams at all levels; gender dimension in research; innovation content. (Available at: http://ec.europa.eu/programmes/horizon2020/)
2013	High-level conference on 'Structural Change Promoting Gender Equality in Research Organisations' is organised under the auspices of the Lithuanian Presidency of the EU, with the financial support of the European Commission (21 and 22 November 2013).
2015	Council Conclusions on advancing gender equality in the European Research Area (Available at: http://data.consilium.europa.eu/doc/document/ST-14846-2015-INIT/en/pdf)
2015	European Parliament resolution on progress on equality between women and men in the EU in 2013, in which the Parliament 'calls on the Commission and the Member States to implement proactive policies to encourage women to embrace careers in science and to promote, through information and awareness-raising campaigns in particular, entry by women into sectors traditionally viewed as <i>male</i> , notably the sciences and new technologies, with a view to benefiting fully from the human capital represented by European women'. (Available at: http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2015-0050+0+DOC+XML+V0//EN)
2015	European Parliament resolution on women's careers in science and universities, and glass ceilings encountered (Available at: Procedure File: 2014/2251(INI) Legislative Observatory European Parliament (europa.eu))
2016	GEAR Action Toolbox is initiated by EIGE and the Directorate-General for Research and Innovation.
2016-	ERC specifically introduces a set of measures against gender bias, e.g. training on gender bias for all programme officers, management and the ERC Scientific Council.
2017	ERAC SWG GRI advises the Council and the European Commission on policies and initiatives on gender equality in R&I.

2017	GENDER-NET Plus ERA-NET Cofund: transnational consortium is set up to support gender equality.
2018	She Figures
2018	ERAC SWG GRI publishes a report on the implementation of the 2015 Council Conclusions on gender equality in the ERA.
2018	ERA progress report focuses on gender equality and gender mainstreaming in research.
2018	EIT recognises women entrepreneurs and leaders from innovation communities for outstanding achievements, with the EIT Woman Award on an annual basis
2019	The European Commission supports the Helsinki Conference Research and Innovation Excellence through gender equality: new pathways and challenges (focusing on structural and institutional change in R&I, intersectionality or broader concepts of equality in R&I, gender equality in digitisation and artificial intelligence (AI) and women in innovation).
2019	Helsinki Call for Action (outcome of the conference)
2020	The European Commission organises a workshop on ‘fostering institutional change through Gender Equality Plans (GEPs) and the way forward towards Horizon Europe’.
2020	European Commission launches Gender Equality Strategy for the EU 2020-2025 (to strengthen gender equality in Horizon Europe).
2020	EIT adopts its Gender Mainstreaming Policy and implements a Gender Action Plan.
2021	Horizon Europe 2021-2027.
2021	Horizon Europe Strategic Plan 2021-2024.
2021	ERC Gender Equality Plan for 2021-2027.
2021	In October, EIC starts the Women Leadership Programme to support the role of women in innovation and technology.