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Interim Evaluation: Gender equality as a crosscutting issue in Horizon 2020

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Interim Evaluation: Gender equality as a crosscutting issue in Horizon 2020

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Unit B.7 — Science with and for Society

E-mail *RTD-GENDERINRESEARCH*@ec.europa.eu

RTD-PUBLICATIONS@ec.europa.eu

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Interim Evaluation:

Gender equality as a crosscutting issue in Horizon 2020

Report of the Expert Group on "the Interim Evaluation of Gender Equality as a crosscutting issue in Horizon 2020".

Chairperson: Suzanne de Cheveigné
Rapporteur: Bente Knoll
Members of the expert group:
Maria Bustelo, Eivind Engebretsen and Ulf Sandström

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Science with and for Society

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1. OVERVIEW

This report is a **long version** of the one that was submitted by the "Commission Expert Group[1] on the interim evaluation of Gender equality as a crosscutting issue in Horizon 2020" to contribute to the overall interim evaluation of Horizon 2020 as set in Article 32 of the Horizon 2020 Framework Regulation. This report aims to identify possible improvements in the implementation of gender equality (GE) as a crosscutting issue in Horizon 2020. It assists the European Commission (EC) in assessing gender equality, and – in particular – the gender dimension in research and innovation (R&I) content, as a crosscutting issue at the various stages of the implementation of Horizon 2020 from the Work Programme (WP) definition to the funded projects. It aims to provide a solid evidence base for designing future activities and initiatives, in particular the preparation of the ex-ante impact assessment of the next Framework Programme (FP) for Research and Innovation.

1.1. Context of the evaluation and background information

According to Article 32 (3) of the Horizon 2020 Regulation, "*by 31 December 2017, and taking into account the ex-post evaluation of FP7, […] the Commission shall carry out, with the assistance of independent experts, an interim evaluation of Horizon 2020 and its specific programme, including the ERC and the activities of the EIT"*. The interim evaluation shall assess the progress made in the *"achievements of the Horizon 2020 objectives and the continued relevance of all related measures"*. It should *"also take into consideration aspects relating to access to funding opportunities for participants in all regions, […] as well as the scope for promoting gender balance"*. *"It shall additionally take into account the contribution of the measures to the objectives of the Europe 2020 strategy."*

The "Commission Expert Group on the interim evaluation of Gender equality as a crosscutting issue in Horizon 2020" was set up in autumn 2016 to carry out an interim evaluation. In line with the relevant Commission's standards for evaluation[2], the Expert Group (EG) was asked to assess:

- the relevance of the gender equality specific objectives of Horizon 2020;
- the effectiveness of the gender equality provisions to achieve the specific objectives and the progress towards the expected impacts;
- the efficiency of the resources used in relation to the specific outputs/outcomes/impacts (expected to be) generated;
- the coherence of the gender equality approach in Horizon 2020 with key EU/international policies / instruments;
- the EU-added value of addressing gender equality issues under Horizon 2020.

The EG had access to Horizon 2020 monitoring activities of gender equality as a crosscutting issue that are based on the four following key performance indicators (KPI)[3] developed according to the legal requirement of Horizon 2020.

- KPI 1: Percentage of women participants in Horizon 2020 projects (total workforce);
- KPI 2: Percentage of women project coordinators in Horizon 2020 projects, including Marie Skłodowska-Curie Actions (MSCA) fellows, European Research Council (ERC) principal investigators and scientific coordinators in other Horizon 2020 activities;
- KPI 3: Percentage of women in EC advisory groups, expert groups, evaluation panels, individual experts, etc.;
- KPI 4: Percentage of projects taking into account the gender dimension in R&I content.

The period covered by the evaluation spans from 1st of January 2014 to 31st of October 2016 for the projects and 1st January 2017 for the indicators.

As a preliminary remark, it has to be stated that the EG aims to evaluate systematically and in a holistic way the implementation of gender equality (GE) as a cross cutting issue in Horizon 2020. This includes **analysing key documents**, **monitoring indicators** and **analysing statistics** but also requires **evidence and information on implementation and results through analysing actual projects**. That includes examining how gender is assessed during evaluation and in the evaluation summary reports (ESRs), in descriptions of research, through the presence of gender

[1] See composition of Expert Group (EG) in Annexe 7: "Members of the Expert Group"
[2] http://ec.europa.eu/smart-regulation/guidelines/ug_chap6_en.htm
[3] http://ec.europa.eu/programmes/horizon2020/en/news/horizon-2020-indicators-assessing-results-and-impact-horizon

experts in both evaluation committees and consortia. This report, as will be described in detail below and in Annexe 1: "Methodological approach used for analysis and procedure", is based on this wide approach of these questions.

2. RATIONALE

2.1. Relevance

The European Union (EU) has developed, over the years, a well-established regulatory framework on gender equality. Since the Treaty of Rome in 1957, it has adopted 13 directives in the field of gender equality. Following the Amsterdam Treaty of 1999, which established equality between men and women as a specific task of the Community and as a horizontal objective affecting all Community tasks, the European Commission formalised its commitment to advance gender equality in research in its Communication *Women and Science: mobilising women to enrich European research (COM (99) 76 final)*[4]. Since then, the promotion of gender equality has been part of the European Commission's strategic approach in the field of research and innovation.

This commitment towards GE in research is part of the Commission's Strategic engagement for gender equality[5] in all EU policies for the period 2016-2019. The promotion of gender equality and gender in research content is also a priority of the European Research Area (ERA) which is part of the Europe 2020 strategy, as stated in the European Commission's 2012 ERA communication[6], where Member States were invited to create a legal and policy environment and provide incentives to:

- remove legal and other barriers to the recruitment, retention and career progression of female researchers while fully complying with EU law on gender equality;
- address gender imbalances in decision-making processes;
- strengthen the gender dimension in research programmes.

In the same communication, the Commission committed to foster gender equality and the integration of a gender dimension in Horizon 2020 programmes and projects from inception, through implementation to evaluation, including by using incentives.

Horizon 2020 started on the 1st January 2014. Article 16 of the Framework Regulation states that it "*shall ensure the effective promotion of gender equality and the integration of a gender dimension in research and innovation content. Particular attention shall be paid to ensuring gender balance, subject to the situation in the field of research and innovation concerned, in evaluation panels and in bodies such as advisory groups and expert groups. The gender dimension shall be adequately integrated in research and innovation content in strategies, programmes and projects and followed through at all stages of the research cycle*".

Article 14 on "crosscutting issues" adds that "linkages and interfaces shall be implemented across and within the priorities of Horizon 2020. Particular attention shall be paid in this respect to […] responsible research and innovation including gender".

Gender equality is a crosscutting issue in Horizon 2020. Three main objectives underpin the European Commission's strategy:

1. Fostering equal opportunities and gender balance in projects teams, in order to close the gaps in the participation of women.
2. Ensuring gender balance in decision-making, in order to reach the target of 40% of the under-represented sex in panels and groups and of 50% in advisory groups.
3. Integrating the gender dimension in research and innovation (R&I) content, taking into account as relevant biological characteristics as well as social and cultural features of both women and men in research (sex and gender analysis).

The original objectives of GE as a crosscutting issue in Horizon 2020 continue to be highly relevant given the challenges to address. According to background information on Gender Equality in Horizon 2020 and ERA that have been handed to the experts during the evaluation phase there are at least three reasons why gender equality in research and innovation remains important[7]:

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[4] http://ec.europa.eu/research/swafs/pdf/pub_gender_equality/g_wo_co_en.pdf
[5] http://ec.europa.eu/justice/gender-equality/files/documents/160111_strategic_engagement_en.pdf
[6] http://ec.europa.eu/research/era/era_communication_en.htm
http://ec.europa.eu/research/era/pdf/era-communication/era-communication_en.pdf
[7] Document "Background information on Gender Equality in Horizon 2020 and ERA" RTD-B7 Gender Sector 17/10/2016.

1. Society could benefit from the full potential of all women and men in terms of skills, talents and resources. There are many highly skilled women in Europe who could contribute to Research and Innovation (R&I).
2. The inclusion of the gender dimension at all stages of research and innovations has an enormous potential to enrich results by making them relevant to women as well as men.
3. Gender equality and equal opportunities (non-discrimination) between women and men are fundamental principles in the EU Treaties.

More details on how gender equality is promoted under Horizon 2020 are available in the *Vademecum* on Gender Equality in Horizon 2020.[8]

The need for such policies clearly remains as highlighted by the ex-post evaluation of Framework Programme 7 (FP7)[9], which showed that gender equality in research and innovation is advancing very slowly. During FP7, the percentage of women project coordinators slightly increased from 16-17% in 2006, to 19.2% in 2012. Women represented 38% of the total reported workforce of the projects. However, only 29% of Work Packages leaders and 34% of the experienced researchers were women. Among the PhDs involved in FP7, women represented 45%. This vertical segregation is also combined with a horizontal one, with the proportion of women strongly depending on the scientific field.

Data from She Figures 2015 showed that, although the number of highly qualified women in Europe is higher than ever before (in the EU-28 in 2012, the proportion of women graduates was 47%), the proportion of women researchers in the EU-28 in 2012 was still only 33%. It grew faster than the proportion of men during the period 2005-2011.[10] However, fewer female than male PhD graduates embrace a career in research and women remain vastly under-represented in top level positions, accounting for only 23.5%[11] of top-level researchers (grade A) and 20% of heads of higher education institutions. Not more than 31% of publications had a female corresponding author between 2011 and 2013 according to She Figures 2015 and the annual growth is slow. The figures also underline persisting and wide differences across Europe. These gaps should be further investigated and addressed.

General data as gathered by She Figures 2015[12] are shown below.

	Indicator	**Year**	**EU-28[13]**
PhD	Number of **PhD graduates** by sex	2012	**W = 56,652** **M= 63,061**
	Evolution of the **proportion of women PhD** graduates	2004 2012	**43.4%** **47.3%**
	Proportion of **women PhD graduates** Engineering, manufacturing and construction	2012	**28%**
Researchers	Number of **researchers**, by sex, headcount	2011	**W = 834,865** **M =1 693,829**
	Researchers per thousand labour force, by sex	2011	**W = 7.6%** **M = 13%**
	Proportion of **women researchers**	2006 2012	**30%** **33%**
	Compound annual growth rate for **researchers** by sex	2005-2011	**W = 4.8%** **M = 3.3%**

[8] http://ec.europa.eu/research/swafs/pdf/pub_gender_equality/2016-03-21-Vademecum_Gender%20in%20H2020-clean-rev.pdf
[9] http://ec.europa.eu/research/evaluations/index_en.cfm?pg=fp7
[10] The compound annual growth rate for researchers in the period 2005-2011 was 4.8% women and 3.3% men.
[11] ERA Progress Report 2016
[12] Except for proportion of women researchers 2006 (She Figures 2009) and proportion of women in grade A positions 2014 (ERA Progress Report 2016).
[13] Except for Women Heads in Higher Education Institutions in 2010 and the proportion of women researchers in 2006, which is EU-27

	Proportion of **women researchers** in the **Higher Education Sector (HES)**	2009 2012	**40%** **41%**
	Proportion of **women researchers** in the **Government Sector (GOV)**	2009 2012	**40%** **41.6%**
	Proportion of women researchers in the **Business Enterprise Sector (BES)**	2009 2011	**19%** **19.7%**
Careers	Proportion **of women in grade A** positions	2010 2013 2014	**19.5%** **20.9%** **23.5%**
	Women to men ratio of **authorships** (when acting as corresponding author) in all fields of science	2011 2013	**0.5**
	Women to men ratio of **inventorships**, all International Patent Classification (IPC) sections	2010 2013	**0.1**
Research Organisations, including Universities	Proportion of **women heads of institutions** in the **Higher Education Sector**	2010 2014	**15.5%** **20.1%**
	Proportion of **women heads of universities** or **assimilated institutions** based on capacity to deliver PhDs	2010 2014	**10%** **14.8%**
	Proportion of **women board**[14] **leaders at the national level**	2014	**22%**
	Proportion of **women board members at the national level**	2014	**28%**
	Proportion of **Research Performing Organisations** (RPOs) that adopted gender equality plans (total number of responding RPOs to the ERA survey)	2013	**35.8% (1070)**

Table 1: Facts and figures (She Figures 2015[15], She Figures 2009[16] and ERA Progress Report 2016[17])

Given the challenges to address, the original three objectives set for gender equality in Horizon 2020 continue to be highly relevant, and aligned with international and EU policies.

However, these objectives do not take full account of the accumulated gender knowledge and analyses produced in gender and science in the last years, which reveal the structural and systemic nature of gender inequality, the existence of a complex combination of horizontal (fields) and vertical (levels) segregation, and the complexity of implementing gender equality in (research) organisations and of contributing to structural changes in organisations[18]. The objectives of gender balance in research teams and decision making could for instance incorporate more sophisticated targets according to level and field, or consider gender expertise on decision making processes.

Institutional and structural change is known now to be the main impact driver for greater equality in science and innovation since researchers do not act, and research is not developed, in an empty space, but through research institutions and networks. The last decade has been a key one for identifying through specific research on gender and science, the causes of gender inequality and the unequal presence of women in research and innovation. Although structural change has been pointed out as a clear objective for ERA, it is more difficult to find the question fully developed in the three Horizon 2020 GE objectives. As an exercise, it can be assessed whether the intervention logic takes into account the five structural problems identified for facing a real structural gender

[14] Boards are publicly or privately managed and financed groups of elected or appointed experts that exists to support the research agenda in a non-executive function by, amongst other things, administering research activities, consulting and coordinating different actors and taking a general advisory role. Only research boards of national research organisations, as opposed to all research organisations operating in a particular country are considered.

[15] http://ec.europa.eu/research/swafs/pdf/pub_gender_equality/she_figures_2015-final.pdf

[16] https://ec.europa.eu/research/science-society/document_library/pdf_06/she_figures_2009_en.pdf

[17] http://ec.europa.eu/research/era/pdf/era_progress_report2016/era_progress_report_2016_com.pdf

[18] http://ec.europa.eu/research/science-society/document_library/pdf_06/structural-changes-final-report_en.pdf

change in research institutions as presented by the report on "Structural Change in research institutions"[19]: 1) Opaqueness in decision-making; 2) Institutional practices in which unconscious cognitive biases operate in assessing merit, suitability for leadership or evaluation of performance; 3) Unconscious gender biases in the assessment of excellence and the process of peer review; 4) Gender bias present in the content of science itself and 5) A gendered labour organization which also affects research institutions, resulting in a gender pay gap, harassment and concentration of power, as well as in a need to recognize the importance of life work balance and reconciliation. In a general assessment, except for problem number 4, these are not fully taken into account in the present objectives.

2.2. Internal and external coherence

This section deals with how well the gender equality approach of Horizon 2020 corresponds to the needs and challenges to address at the international level, and contributes to the EU wide objectives.

As described above, the EU has developed over the years a well-established regulatory framework on gender equality, including binding directives, which apply widely across the labour market, including the research sector. It is part of the Commission's Strategic engagement for gender equality[20] in all EU policies for the period 2016-2019, with five priority areas (increasing female labour-market participation and the equal economic independence of women and men; reducing the gender pay, earnings and pension gaps and thus fighting poverty among women; promoting equality between women and men in decision-making; combating gender-based violence and protecting and supporting victims; and promoting gender equality and women's rights across the world) in line with Horizon 2020. Gender equality is one of the priorities of a "Reinforced European Research Area Partnership for Excellence and Growth"[21] (ERA). In its 2015 Conclusions on Advancing Gender Equality in the ERA[22], the Council called for institutional changes to address gender imbalances in research institutions, setting targets for gender balance among professors and in decision-making bodies, and for a better integration of the gender dimension in research content. The ERA Roadmap 2015-2020, as adopted by the "Competitiveness" Council on 29 May 2015, called on the Member States and the Commission to start the implementation of the top action priorities. The Member States were invited to create the appropriate legal and policy environment to activate institutional changes at national level. By May 2016, all the Member States had designed their national ERA Roadmaps. By December 2016, 24 Member States had communicated their national action plans and 23 presented actions for the implementation of the ERA priority no. 4 (Gender Equality and Gender Mainstreaming in Research). Those national action plans are the basis of the chapter on gender equality of the ERA Progress Report 2016, which is expected to be published by the end of 2017. Although the approach taken for the ERA lines up with the three Horizon 2020 GE objectives, the fact that the Conclusions on Advancing Gender Equality in the ERA clearly state that the way to address gender imbalances and the integration of a gender perspective in research content is through "cultural and institutional changes" is not fully taken into account in Horizon 2020 objectives that state the targets but do not fully explain or developed the way to reach them.

Indeed, research performing and funding organisations are encouraged to implement institutional changes, in particular through gender equality plans (GEP). These plans are full-fledged strategies including a gender audit of the organisation, measures and targets to address inequalities, and monitoring of progress. Horizon 2020 provides funds to research organisations for GEPs, under one of the topics within Science with and for Society work program (Swafs)[23]. Although this is a very important link to the institutional approach developed for ERA, funding is very low in absolute terms. For the topic "Support to research organisations to implement gender equality plans", the budget was of 14 million for the 2014-2015 Work Programme and it is even lower (10 million) for the 2016-2017 one. Moreover, it is illustrative also to compare the relative share of "Science with and for Society" within the overall Horizon 2020: among the nine sub programmes under the Societal Challenges (seven SCs + SwafS+ Spreading excellence and widening participation), SwafS is the least funded representing only a 1.5% of the total 29,891 Euro million for total funding of Societal Challenges.

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[19] http://ec.europa.eu/research/science-society/document_library/pdf_06/structural-changes-final-report_en.pdf (cf p.10)
[20] http://ec.europa.eu/justice/gender-equality/files/documents/160111_strategic_engagement_en.pdf
[21] http://ec.europa.eu/research/era/era_communication_en.htm
[22] http://data.consilium.europa.eu/doc/document/ST-14846-2015-INIT/en/pdf
[23] In the former section, it has been highlighted that this institutional approach is not fully taken into account in the three gender equality objectives of Horizon 2020 as such.

Under Horizon 2020 six projects and consortia were funded under the 2014-2015 WP[24]. Although very few in numbers, they have been – along with the 12 already funded under FP7[25] –, and still are, crucial for advancing GE in Higher Education and Research, Technology and Innovation structures in member States. Good analyses, data, ideas and different materials and guidelines are being produced in the frame of these projects and *good practices are being identified*. These projects have been an important source for developing the on-line GEAR (Gender Equality in Academia and Research) tool launched by the European Institute for Gender Equality (EIGE) in collaboration with the European Commission in 2016, which is a live tool and will need continued feeding and updates.

The interest and response of universities, research institutes and governmental structures in Members States is already demonstrated by the number of proposals submitted under institutional change topics. Consequently, the success rates in the "Support to research organisations to implement gender equality plans" topic – GERI-4-2014, GERI-4-2015, and SwasfS-03-2016 so far – have been decreasing (19 proposals were submitted for a total budget of 7,000,000 Euro, which was distributed among three consortia in 2014, 23 proposals have been submitted for a budget of 3,900,000 Euro in 2016). This means that the demand has been created for integrating gender as a crosscutting issue in R&I and producing important gender knowledge with a highly potential impact. Consequently, it is unfortunate that precisely the funding scheme which is targeted directly to an important and strategic policy aim – structural gender change in RPOs and RFOs –, already identified as crucial for the integration of gender equality in R&I, remains so low.

Regarding Commissioner Moedas 3 Objectives' Strategy – Open Innovation, Open Science, Open to the World –, GE as a crosscutting issue is in line and could potentially benefit from these priorities, although they should be continuously monitored with a gender lens. For example, Open Science might promote GE objectives but only if it is understood and developed in a large sense, including measures to ensure transparency, transfer and sharing in all parts of the research process (data generation, analyses and results). It is important that the Open Science paradigm is implemented in a way that includes different disciplines, methods and data. It would be problematic, for instance, if Open Science was only applicable to data and analyses that are easily sharable (large quantitative databases) and marginalized local and situated knowledge. Innovation areas frequently show a greater gender imbalance and a lower presence of female innovators (as shown in the figures of a 0,1 proportion of women to men ratio of inventorships, or the 19.7% of women researchers in the Business Enterprise Sector, table 1). This means that the part on Open Innovation should be carefully monitored from a gender perspective.

Gender equality can finally be directly related to three of the ten priorities set by President Juncker: Jobs, Growth and Investment; Justice and fundamental rights; and Democratic change. None of these three priorities will be accomplished if a gender perspective is not applied to them, as growth, justice and democracy will only be fully attained with equal participation of women and men in all spheres of life.

The EC gender equality policy is also in line with **international priorities** such as the Beijing Platform of Action adopted in the United Nations (UN) 4th World on Women in 1995, and their revisions[26]. The strategic objective B.3 from the Platform, dealing with the improvement of women's access to science and technology is still valid. Later, awareness was expressed in Beijing+15 (2010) about the complexities of pursuing gender equality perspective in times of crisis, which includes the acknowledgment that women's economic empowerment is necessary for equitable and sustainable economic growth and development, the persistent need to pursue equality in decision-making positions, and a coordination and collaboration between economic and social policy makers and the civil society.

This recognition of the complexities that entangle gender equality can be also seen in the Sustainable Development Goals (SDG)[27] adopted by the UN in September 2015, which emphasise gender equality and the empowerment of women and girls as a main priority, but also go beyond the former Millennium Development Goals (MDG) in two important aspects that are in line with European policies in general and with Horizon 2020 in particular. The first aspect is that SDGs are declared to be universal – MDGs were framed in a closer international development scheme which frequently excluded "developed countries" that entered the picture exclusively through

[24] For 2016-2017 the number of funded projects will be probably lower, as the budget for SwafS-03-2016 is 3,900,000 and 6,100,000 for SwafS-03-2017, and the budget for both GERI-4-2014 and GERI-4-2015 was 7,000,000 each year.
[25] In FP7, there was a total of 12 "structural change" projects, which account only for 22 million of euros of EU funding from the total of 330 in Science in Society (SiS), which was also a small share of CAPACITIES, which represented also a small shared of FP7 (Info extracted from the FP7 Ex-post evaluation).
[26] Beijing+5, +10, and +15
[27] http://www.un.org/sustainabledevelopment/gender-equality

international cooperation. Now, pursuing SDGs is an internal responsibility everywhere: developed countries, including the EU also have problems to solve and should target those SDGs themselves through their policies, beyond international development issues. The second aspect is that the 17 SDGs are interlinked, and gender equality, is not only treated specifically in SDG number 5, but is also a cross cutting issue. This implies that an intersectional approach is needed, taking into account how other inequalities (i.e. age, ethnic origin, class and socio-economic background, functional, sexual and religious diversity) interact with gender to produce concrete and contextual discriminations.

Finally, it is important to mention the G7 Ise-Shima Leaders' Declaration (2016)[28] in which women's empowerment and gender equality are established as a priority, specifically the empowerment of women and girls to realize their full potential and the promotion of an active role of women in STEM fields and careers. This attention to gender equality is captured in the G7 Guiding Principles for Capacity Building of Women & Girls[29], adopted at the 2016 Ise-Shima Summit.

[28] http://www.mofa.go.jp/files/000160266.pdf
[29] http://www.mofa.go.jp/files/000160274.pdf

3. IMPLEMENTATION

Gender equality is implemented as a crosscutting issue in Horizon 2020 through three objectives, as discussed above. Major changes were introduced in Horizon 2020 compared to FP7 in the way GE is mainstreamed as a crosscutting issue, with the following main provisions:

- Gender balance in research teams at all levels: Applicants are asked to indicate the gender of the persons primarily responsible for carrying out the project's activities.[30] The relative gender balance in teams is one of the factors used to rank proposals with the same evaluation scores[31]. By signing their grant agreement, beneficiaries commit to promote equal opportunities and gender balance at all levels of personnel assigned to the action including at supervisory and managerial level[32].
- Gender balance in decision-making: the EC has set two targets: one of 40% of the underrepresented sex in expert groups and evaluation panels and one of 50% of the underrepresented sex in advisory groups.
- Integrating the gender dimension in the content of R&I: Gender issues are mentioned in a number of topics of Horizon 2020 work programme as well as in the general introduction of the WP. When drafting their proposal, under the chapter "Excellence", applicants are asked to "describe, where relevant, how sex and/or gender analysis is taken into account in the project's content". In the evaluation process, the gender dimension is mentioned in the briefing given to evaluators. Evaluators are advised to assess the inclusion of the gender dimension under the excellence criterion. Within the Grant Agreement (GA) the gender dimension can be part of the Description of Action (DoA) and during reporting, gender issues are part of periodic reports.

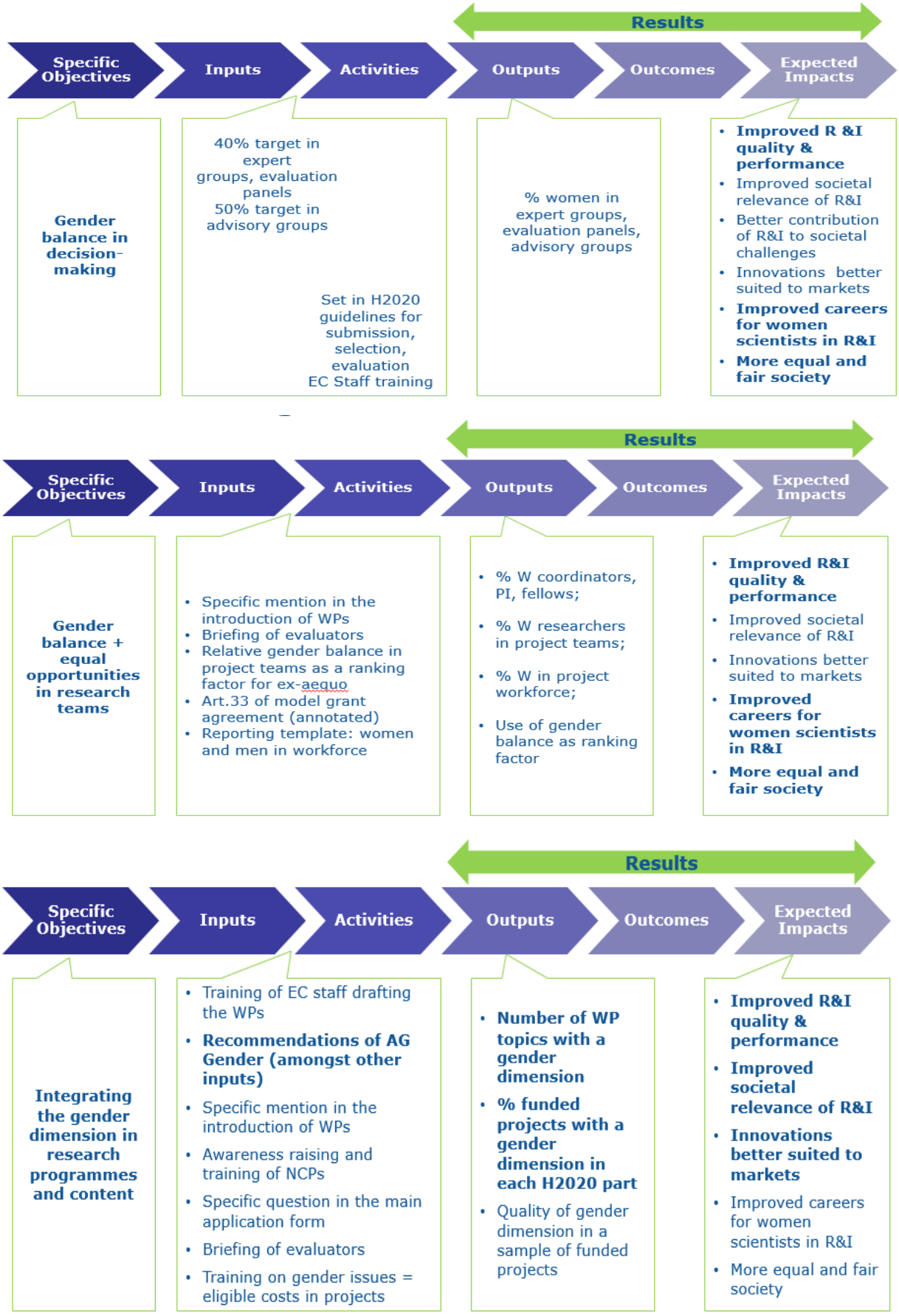
The EC monitors the implementation of GE as a crosscutting issue through four Key Performance indicators (KPI):

- KPI 1: % women participants in Horizon 2020 projects (total workforce)
- KPI 2: % women project coordinators in Horizon 2020 projects, incl. Marie Skłodowska-Curie Actions (MSCA) fellows, ERC principal investigators and scientific coordinators in other Horizon 2020 activities (corresponding to the Principal Contact Person at proposal level);
- KPI 3: % women in EC advisory groups, expert groups, evaluation panels, individual experts, etc.;
- KPI 4: % projects taking into account the gender dimension in R&I content.

The topics with an explicit mention of gender issues are "flagged" on the Participant Portal, on the Participant Portal (PP), i.e. they are listed under the tab "Gender". When preparing grant agreements, project officers tick a box in the System for Grant Management (SyGMA) for the projects which have indicated a gender dimension in their description of Activities (DoA).

The intervention logic, developed by the European Commission (DG RTD), shows how gender equality has been integrated at all stages of the funding process and is represented in the table and in the diagrams below.

[30] The expert group noted that the gender of key staff is not indicated in quite a number of grant agreements.
[31] General Annexe WP 2014-2015
http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/annexes/h2020-wp1415-annex-ga_en.pdf
[32] Art. 33.1 of the mono and multi-beneficiaries Model Grant Agreement



A 4th specific objective is implicit within this strategy, and consists in developing knowledge on GE issues in R&I. The important role of the EC in the production and promotion of this key knowledge has already been mentioned above. The more research is done on gender and science, the better the complexities of gender inequalities in science and innovation can be understood. The probability of developing more effective policies for promoting GE increases as knowledge improves.

3.1. Implementation activities in an overview

Gender equality is implemented throughout the whole internal and external Horizon 2020-funding process through the following specific objectives and main provisions:

Phases of Horizon 2020 process	Objective 1 Gender balance in research teams at all levels	Objective 2 Gender balance in decision making	Objective 3 Integrating the gender dimension in the content of research and innovation (R&I)	Accompanying (mainly) internal actions
Legal framework provisions	Article 16 Horizon 2020 regulation • Horizon 2020 shall ensure the effective promotion of gender equality and the gender dimension in research and innovation content. Particular attention shall be paid to ensuring gender balance, subject to the situation in the field of research and innovation concerned, in evaluation panels and in bodies such as advisory groups and expert groups. • The gender dimension shall be adequately integrated in research and innovation content in strategies, programmes and projects and followed through at all stages of the research cycle. Article 14 "crosscutting issues" – "Linkages and interfaces shall be implemented across and within the priorities of Horizon 2020. Particular attention shallbe paid in this respect to …. responsible research and innovation including gender." 40 % under-represented sex in groups set up by the EC[33]			
Work programme			Gender issues are mentioned in the introduction of Horizon 2020 work programme.	Trainings for project officers and for staff involved in Programme management are offered. RTD Gender Sector takes part in various working groups. Internal peer-tutoring is offered by Gender Sector to other services within DG RTD.
Topics			When relevant, gender issues are mentioned in the topic descriptions. The topics where gender is mentioned, are "gender-flagged" in the participant portal. Guidance is produced by the AG for better integration of the gender dimension in topics.	
Proposal			In the application form, applicants are requested to describe, where relevant, how sex and/or gender analysis is taken into account in the project's content. Gender training costs are eligible within the grant.	Gender training is offered to National Contact Points (NCPs). NCPs are encouraged to support applicants in this area.
Evaluation	Relative gender balance in teams is one of the	Evaluation panels are gender balanced (minimum 40% of	At the evaluation level, experts are briefed to consider	Experts listed in Participant Portal were asked to

[33] http://ec.europa.eu/transparency/regexpert/PDF/C_2016_3301_F1_COMMISSION_DECISION_EN.pdf

	ranking factors to distinguish projects with equal scores.	the underrepresented sex). Gender expertise is visible in the expert database.	gender issues (gender balance and the inclusion of gender dimension under the excellence criterion).	update their profiles. Gender training is offered to moderators (as part of general internal training).
Grant Agreement	Beneficiaries commit to promote equal opportunities and gender balance at all levels of personnel assigned to the action including at supervisory and managerial level (article 33 model grant agreement).		If included in the proposal, the gender dimension is included in the Description of Activities (DOA).	Project officers indicate presence of gender content (CCMI).
Project / reporting	Beneficiaries have to report the gender balance of their R&D team by indicating the participants' gender involved in the project.		Gender issues are part of periodic reports.	

Table 2: Overview of the GE Implementation all through the project cycle

3.1.1. Details of awareness raising and trainings activities carried out

- Trainings: A total of 7 Trainings were organised between 2014 and 2016, addressing RTD and Research Agencies staff: a general training on GE in Horizon 2020 and a specific training on the integration of the gender dimension in the content of research.
- "All you need to know on GE in H2020" (3 trainings, internal trainer): 49 participants, (41 women, 8 men). 11 from DG RTD; 23 from REA; 7 from ERCEA; 2 from EASME; 2 from DG JUST; 1 from DG HOME; 1 from OP.[34]
- "Integrating the gender dimension in the content of R&I" (4 trainings, external trainer): 53 participants (46 women, 7 men); 17 from DG RTD; 15 from REA; 7 from ERCEA; 4 from EASME; 2 from DG HOME; 1 from DG CONNECT; 1 from EAC; 1 from DG ENER; 1 from IMI; 1 from DG JUST; 1 from DG AGRI; 1 from CAB.
- NCPs: Presentations on gender done at the NCP info days: SC1 Health / IMI; RICH; SC6 / ICT Info Day, Secure Societies; MCSA; SC5 Climate; LEIT NMBP; SC4 Transport.
- Training at NCP Academy: November 2015 and November 2016, attended by 20 participants each time.

3.1.2. Publicly available documents supporting the implementation of gender equality

- A Vademecum on gender equality in Horizon 2020 that has been widely circulated, which guides potential applicants through the implementation of the gender provisions of Horizon 2020 http://ec.europa.eu/research/swafs/pdf/pub_gender_equality/2016-03-21-Vademecum_Gender%20in%20H2020-clean-rev.pdf
- Advisory Group (AG) Gender Position Paper "For a better integration of the gender dimension in the Horizon 2020 Work Programme 2018-2020" (December 2016): http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=28824&no=1
- Horizon website: A dedicated page on Gender Equality in Horizon 2020 http://ec.europa.eu/programmes/horizon2020/en/h2020-section/promoting-gender-equality-research-and-innovation
- Horizon 2020 Participant Portal: Horizon 2020 Online Manual - chapter on gender http://ec.europa.eu/research/participants/docs/h2020-funding-guide/crosscutting-issues/gender_en.htm

[34] For the full names of the abbreviations see Annexe 8: "List of Abbreviations"

- Horizon 2020 Participant Portal: Specific page for experts on "How should gender be addressed and evaluated in Horizon 2020 proposals?" http://ec.europa.eu/research/participants/portal/desktop/en/support/faqs/faq-977.html
- Evaluators' briefings: in the general presentation, there is one slide on gender- http://ec.europa.eu/research/participants/data/support/expert/h2020_expert-briefing_en.pdf
- Science with and for Society website: A dedicated page on Gender Equality, including Gender Equality as a crosscutting issue in Horizon 2020 http://ec.europa.eu/research/swafs/index.cfm?pg=policy&lib=gender

Monitoring is carried throughout the whole process, via four KPIs.

- Percentage of women participants in Horizon 2020 projects
- Percentage of women project coordinators in Horizon 2020
- Percentage of women in EC advisory groups, expert groups, evaluation panels, individual experts, etc.
- Percentage of projects taking into account the gender dimension in research and innovation content.

4. EFFECTIVENESS

4.1. General

To evaluate effectiveness of gender equality, the EG used various sources and developed a set of quantitative and qualitative methods[35]:

- A quantitative analysis based on a set of data extracted from CORDA, including the 1 437 projects under the Societal Challenges, LEIT-ICT, LEIT-NMBP and Science with and for Society, restricted to projects dated 2014 and 2015, restricted to Innovation Action (IA) and Research and Innovation Action (RIA) only. This database includes the KPIs and – in the following chapters – is called the **large database.**
- An in-depth analysis, both qualitative and quantitative, of 111 out of the 263 projects that correspond to gender-flagged topics, within the set described above (RIA and IA, under the 2014 and 2015 calls, in the seven SCs as well as LEIT-ICT, LEIT-NMBP and SwafS). The documents examined were the projects' Description of Activities (part A and part B) and Evaluation Summary Reports (ESR). The sample thus contains of all projects under gender-flagged topics and – in the following chapters – is called the **small database.**
- A qualitative analysis of various key documents and information, such as parts of work programmes, topic descriptions, descriptions of activities including training and awareness-raising, etc.

When conducting the qualitative analysis of the projects based on the small database, the EG developed a ranking scheme in order to qualify the 111 projects alongside the question "how is the gender dimension, i.e. sex and/or (as relevant) gender analysis integrated in the research content and/or research and project design"?[36]

4.2. Unreliable indicators

The EG has found that a number of important indicators were unreliable. A major issue concerns the **Key Performance indicators** (KPI) that either are not yet available or do not appear to be sufficiently reliable:

KPI 1 (% women participants in Horizon 2020 projects, in total workforce) is not yet available as it is collected in the periodic reports. It should be noted that information which was collected in FP7 (specific workforce statistics[37]) is no longer collected under Horizon 2020. This will not allow monitoring gender balance at different levels (vertical segregation).

KPI 2 (% women project coordinators in Horizon 2020 projects): Apparently, the indicator was not properly constructed (even though it seems to be simple data to collect). This flaw has since been corrected. The problem was discovered by comparison with the "small database" of the sample of 111 projects: the indicator gave 98% women coordinators, a very unlikely figure. The EG's analysis had shown that 25% of the first mentioned key staff members in the first organisation (principal contact person is not indicated per se) are female[38]. In the set of 1,437 projects under gender-flagged and non-gender flagged topics, the result was 78% women, also an unlikely proportion.

KPI 3 (% women in EC advisory groups, expert groups, evaluation panels, individual experts) seems reliable.

KPI 4 (% projects taking into account the gender dimension in R&I content) is problematic, again as observed by comparison with the sample set up by the EG. The evaluation of the presence of gender content in projects (indicator CCMI) is carried out by project officers during the Grant Agreement phase of the projects. The EG again compared indicator values to the result of their detailed analysis of 111 projects. Of the 62 projects considered by project officers at the time of signature as having a gender content (CCMI), only 11 take a gender dimension into account well (rank A) and 31 projects do so partially (rank B). On the other hand, only 11 out of the 17 projects that have been ranked by the EG as integrating a gender dimension well (rank A) were retained by the project officers as having a gender dimension. It is therefore problematic that, based on this

[35] For further informing concerning the methodological approach, see Annexe 1: "Methodological approach used for analysis and procedure".
[36] More details concerning the ranking scheme can be found in Chapter: Effectiveness, subsection Objective 3: Integrating the gender dimension in the content of R&I, page 31
[37] Workforce of the Scientific Staff by gender
[38] The experts did an in-depth check of the names of Principal Contact Persons in CORDA compared with the first mentioned person in the DoAB. The results show that only 7 out of 111 names do not coincide.

indicator, the Horizon 2020 Monitoring Report 2015 indicates "that 36.2% of the signed grants took into account the gender dimension in the research and innovation content" [39].

A further issue concerns the way topics are gender flagged on the Participant Portal. A topic should be flagged only if a gender dimension is explicitly mentioned in its text[40]. Seven out of the 35 so-called "gender flagged" topics (20%) corresponding to the qualitative sample do not include the word gender (or women, or girls or sex). This is again a large error that renders the variable "gender-flagged" unreliable for further analysis.[41]

4.3. Objective 1: Gender balance in research teams at all levels

The use of gender balance as a ranking factor during the evaluation process cannot be assessed due to the lack of structured data.

4.3.1. Results from the large database concerning project coordinators

Because of the unreliability of the variable Principal Contact Person, the EG has not been able to use the Large Database for this question.

4.3.2. Results from the small database (based on the in-depth analysis of 111 projects)

The project descriptions (DoAA and DoAB) do not explicitly say who will have the scientific leadership of the project. A name check has shown that the "Principal Contact Person" is usually the first mentioned key staff member of the first mentioned organisation (i.e. the coordinating organisation), but this is not always the case. Scientific leadership should be more clearly indicated.

In 83 out of 111 projects, the first mentioned key staff member of the first mentioned organisation (i.e. the coordinating organisation) is a man and in 28 a woman (25%).

Nearly all projects provided a list of key staff and the research teams included 2 398 men and 1 409 (36% women). For 28 names, the gender could not be determined[42], either because the names were not provided or the position has not been filled yet. 3 projects did not provide information concerning their staff at all.

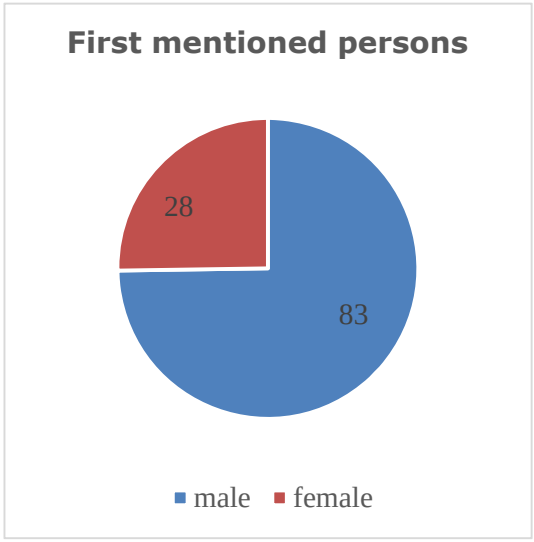


Figure 1: First mentioned persons and their gender

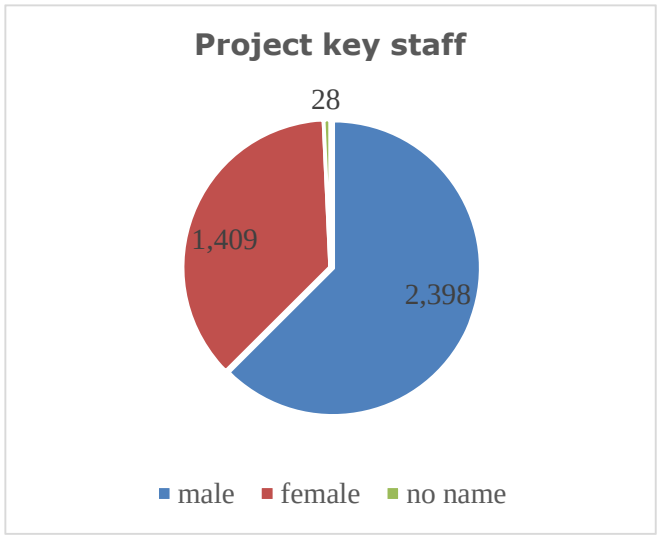


Figure 2: Project key staff and their gender

[39] http://ec.europa.eu/research/evaluations/pdf/archive/h2020_monitoring_reports/second_h2020_annual_monitoring_report.pdf

[40] A topic should be flagged if and only if one or more of the following key words are included: gender, sex, women, girls.

[41] This also implies that the sample of 111 projects does in not in fact correspond only to topics that explicitly mention the gender dimension.

[42] A significant proportion of projects do not indicate the gender of the consortium members, even though this is requested in the proposal template.

32 out of 111 projects (29%) have one or more people with gender expertise in their project team[43], 10 men and 64 women (86%).

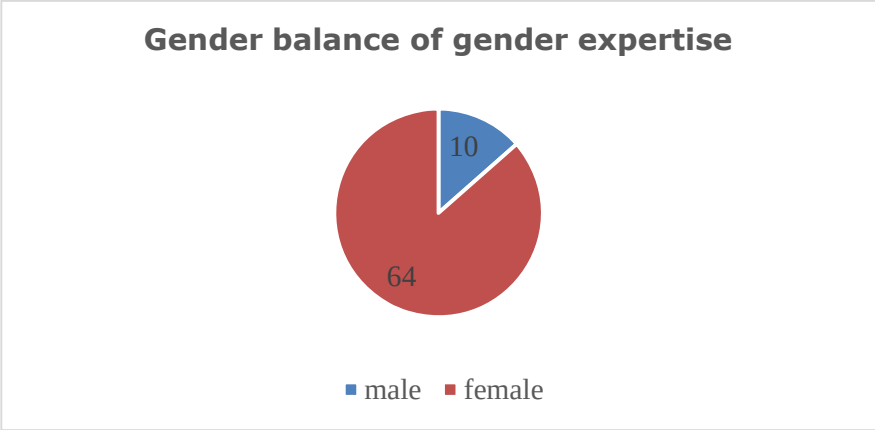


Figure 3: Gender balance of gender expertise

Based on a content analysis of the key documents of each project, the EG did a ranking of the projects to indicate to which extent they integrate the gender perspective (this will be further developed below, in the discussion of objective 3, see page 25). Interestingly, in projects ranked "A" – which means these projects took the gender perspective seriously into account – men and women are represented more equally than in the others.

Regarding the proportion of women among the "coordinators" (identified by the EG as the first person mentioned in the key staff list), the projects ranked "A" and "B" are above average for scientific coordinator (ERC and MSCA excluded) (35% resp. 31%) and the projects ranked "C" are below average (16%). In other words, the projects that do not take a gender perspective into account are massively (84%) led by men.

Regarding the proportion of female key staff involved, the projects ranked "A" are above average (46%), the projects ranked "B" and "C" are below average. Gender balance in the research teams is practically reached in the projects ranked "A".

Gender proportion	First mentioned person (male)	First mentioned person (female)	Key staff (male)	Key staff (female)
All projects	75%	25%	64%	36%
Projects ranked "A"	65%	35%	54%	46%
Projects ranked "B"	69%	31%	66%	34%
Projects ranked "C"	84%	16%	66%	34%

Table 3: Gender proportion in an overview by ranked projects

These proportions are represented graphically below, with absolute numbers of persons first mentioned resp. key staff members on the bars. Men are represented by the blue bars and women by the red ones.

[43] The Expert Group considered key staff members who mentioned the word "gender" in their CV (except for indicating their own gender in the short bio) or publication list as having gender expertise. This is a very minimal criterion.

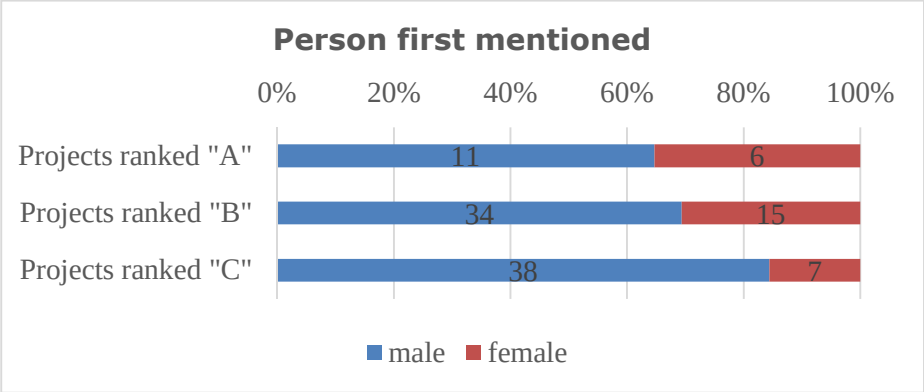


Figure 4: Gender proportion - person first mentioned by ranked projects

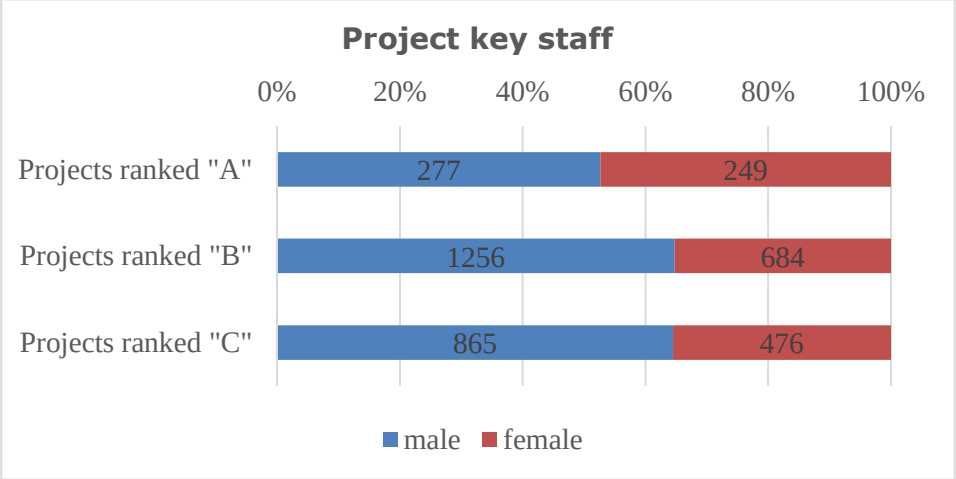


Figure 5: Gender proportion - key staff by ranked projects

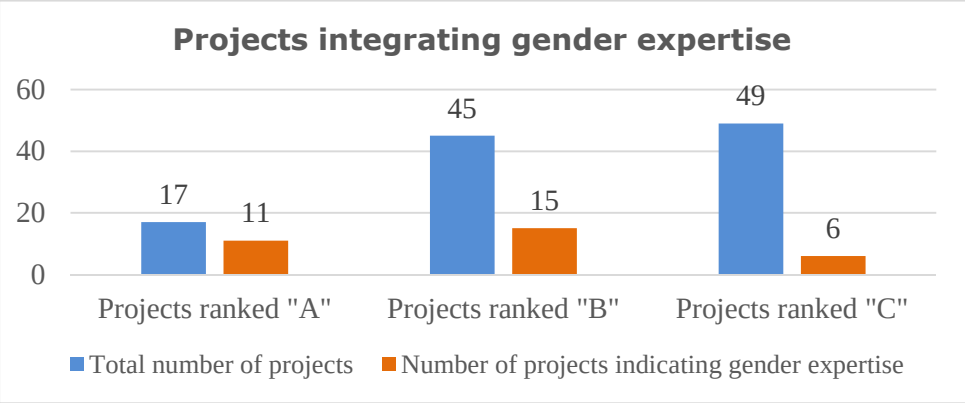


Figure 6: Projects integrating gender expertise by project ranking

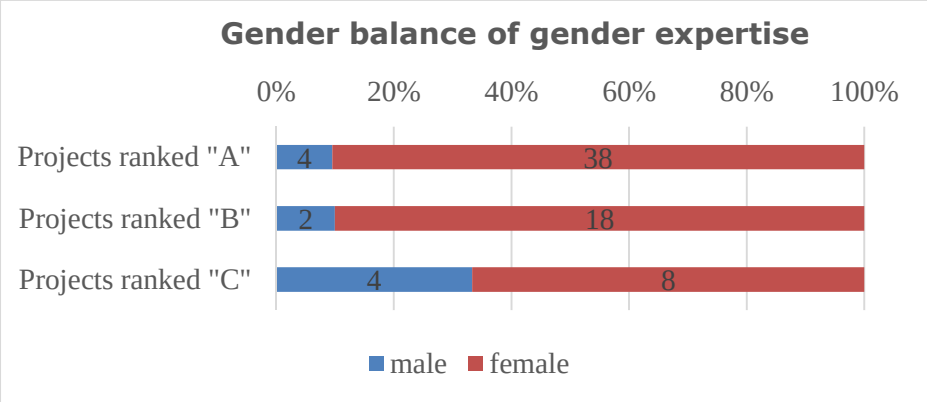


Figure 7: Gender balance of gender expertise by ranked projects

When analysing the key documents (DoAAs, DoABs and ESRs) of the projects, the EG met several challenges:

- Since there is no information in the database concerning the numbers of personnel including their gender, and academic status, the EG had to count the lists of key staff involved. Gender is not always provided – applicants often do not put in the information requested in the project template. Therefore, the EG had to check the gender of first names.
- The information concerning the key staff was quite diverse, as there is no standardised way to provide such information (e.g. no template for CVs, etc.). In some projects the foreseen position of project leader was indicated, in others not.

4.4. Objective 2: Gender balance in decision making

For 2014, the Horizon 2020 monitoring report indicated that among the total of 19,336 experts registered in the expert database for evaluation panels and expert groups, the proportion of women is 35.56%. In terms of actual expert contracts signed, the proportion of women experts participating in evaluation panels and expert groups is 36.27%. Regarding gender balance in Horizon 2020 advisory groups in 2014, women's participation was 52%.

For 2015, the Horizon 2020 monitoring report indicates that 31.1% of the experts registered in the expert database were women. (No reason for the sudden drop of 5 percent points is provided in the report.) The share of contracts signed with women experts participating in evaluation panels was 36.7%. Concerning advisory groups, the share of women was 51.9%.

December 2015	Full Profile Experts	Potential Full Profile Experts with gender expertise	% of Potential Full Profile Experts with gender expertise	Total Expert Profile	Potential Total Experts with gender expertise	% of Potential Total Experts with gender expertise
Women	28,077	3,064	10.91%	**32,750**	**3,064**	**9.36%**
Men	65,844	1,658	2.52%	**74,567**	**1,658**	**2.22%**
Gender not specified	0	0	0%	**7,766**	**0**	**0%**
Total by profile	**93,921**	**4,722**	**5.03%**	**115,083**	**4,722**	**4.1%**

Table 4: Experts and experts with gender expertise (2015); Source: Data extracted from CORDA - 2015

December 2016	Full Profile Experts	Potential Full Profile Experts with Gender expertise	% of Potential Full Profile Experts with Gender expertise	Total Expert Profile	Potential Total Experts with Gender expertise	% of Potential Total Experts with Gender expertise
Women	33,808	3,904	11.55%	**39,292**	**3,906**	**9.94%**
Men	76,836	2,118	2.76%	**86,713**	**2,118**	**2.44%**
Gender not specified	0	0	0%	**7 926**	**0**	**0%**
Total by profile	**110,644**	**6,024**	**5.44%**	**133,931**	**6,024**	**4.5%**

Table 5: Experts and experts with gender expertise (2016); Source: Data extracted from CORDA - 2016

A message was posted in January 2016 on the expert database inviting the experts to indicate their gender expertise, additionally experts were informed via e-mail. The number of experts with gender expertise has increased at a higher rate (+28%) compared to the overall growth rate in the Database (+18%) between 2015 and 2016. There are no significant differences in growth rate between men and women for experts with gender expertise (+ 28% and +27 % respectively), but in the overall database the number of women increased at a higher rate (20%) than men (17%). There is an increase in the number and proportion of experts with gender expertise between before and after the letter (i.e. between December 2015 and December 2016).

The growth rates are represented in the table below:

Evolution of experts (growth rates)	Full Profile Experts	Potential Full Profile Experts with Gender expertise
Women	20%	27%
Men	17%	28%
Total by profile	18%	28%

Table 6: Growth rates of experts and experts with gender expertise

4.5. Objective 3: Integrating the gender dimension in the content of R&I

4.5.1. Topic analysis

The EG examined the wording of five parts of the 2014-2015 and 2016-2017 work programme (SC1 Health, SC4 Transport, SC5 Climate, SC6 Inclusive Societies and LEIT-ICT). The results are shown in Annexe 3: "Topic formulation".

The quality of wording varies a lot. A simple sentence may call for a gender dimension: "The gender dimension of these issues should be also considered" or, clearly less convinced, "If relevant, gender aspects in relation to the services may be addressed". Gender may be listed among a very diverse list of issues to be taken on board: "The analysis should consider the gender dimension, the historical-cultural traditions of leadership, and the historical contexts of different crisis situations". In a more coherent manner, gender may be listed among other sources of inequality. A demonstration of the importance of gender for the issue is very rarely well developed. Some topics however refer to gender at various points, in scope, in impact, etc. Such wordings that fully integrate gender into the topic logic, explaining its importance are more likely to have an impact on the applicants.

4.5.2. Quantitative analysis of the large database

In the following, the distribution of "gender-flagged" topics per programme part, according to CORDA database, is presented. It must be kept in mind that **this indication is quite unreliable** (20% error, cf. page 21). **These tables are only meant to be descriptive of the content of the database but are not based on high quality data**.

The first table shows the number of **topics** that have been flagged under the tab "gender" on the participant portal, according to work programme part for 2014-2015. Only 16% of topics have a gender flag. Flags are more frequent in SC1 Health and SC6 Inclusive Societies, less frequent in technical areas, such as LEIT, SC2 Food, SC3 Energy and SC4 Transport, but dominant in SwafS.

Part	Number of Topics – total	Gender flagged topic among them (number)	Gender flagged topic among them (percentage)
LEIT-ICT	53	2	3.8%
LEIT-NMBP	37	2	5.4%
SC1 Health	33	22	66.7%
SC2 Food	52	4	7.7%
SC3 Energy	40	4	10%
SC4 Transport	91	6	6.6%
SC5 Climate	24	3	12.5%
SC6 Inclusive Societies	37	19	51.4%
SC7 Secure Societies	21	7	33.3%
SwafS	6	6	100%
Sum	**394**	**75**	**16%**

Table 7: Topics and gender-flagged topics

When analysing numbers and percentages of **projects** funded under gender-flagged and non gender-flagged topics, the distribution is similar, as shown in the table below.

Projects funded programmes/actions	Gender Flag?			% Gender Flag?		
	No	**Yes**	**Total**	**No**	**Yes**	**Total**
LEIT-ICT	**362**	**23**	**385**	**94%**	**6%**	**100%**
RIA	263	11	274	96%	4%	100%
IA	99	12	111	89.2%	10.8%	100%
LEIT-NMBP	**149**	**2**	**151**	**98.7%**	**1.3%**	**100%**
RIA	84	2	86	97.7%	2.3%	100%
IA	65	0	65	100%	0%	100%
SC1 Health	**64**	**126**	**190**	**33.7%**	**66.3%**	**100%**
RIA	64	122	186	34.4%	65.6%	100%
IA	0	4	4	0%	100%	100%
SC2 Food	**94**	**4**	**98**	**95.9%**	**4.1%**	**100%**
RIA	74	4	78	94.9%	5.1%	100%

IA	20	0	20	100%	0%	100%
SC3 Energy	**135**	**6**	**141**	**95.7%**	**4.3%**	**100%**
RIA	84	6	90	93.3%	6.7%	100%
IA	51	0	51	100%	0%	100%
SC4 Transport	**220**	**16**	**236**	**93.2%**	**6.8%**	**100%**
RIA	151	13	164	92.1%	7.9%	100%
IA	69	3	72	95.8%	4.2%	100%
SC5 Climate	**67**	**20**	**87**	**77%**	**23%**	**100%**
RIA	42	11	53	79.2%	20.8%	100%
IA	25	9	34	73.5%	26.5%	100%
SC6 Inclusive Societies	**36**	**35**	**71**	**50.7%**	**49.3%**	**100%**
RIA	23	33	56	41.1%	58.9%	100%
IA	13	2	15	86.7%	13.3%	100%
SC7 Secure Societies	**47**	**19**	**66**	**71.2%**	**28.8%**	**100%**
RIA	16	17	33	48.5%	51.5%	100%
IA	31	2	33	93.9%	6.1%	100%
SwafS	**0**	**12**	**12**	**0%**	**100%**	**100%**
RIA	0	12	12	0%	100%	100%
Total	**1,174**	**263**	**1,437**	**81.7%**	**18.3%**	**100%**

Table 8: Projects funded under non gender-flagged topics and under gender-flagged topics

In the table below, the distribution of projects, according to the gender-flagging of their topic and according to CCMI value (which is the KPI 4 that indicates whether the project officer considered that the project has a gender content or not, at the time of grant agreement signature), is provided. (**Note that this variable was also found to be quite unreliable**, cf. page 21.)

Projects funded Programme/CCMI	**Gender Flag**			**% Gender Flag**		
	No	**Yes**	**Total**	**No**	**Yes**	**Total**
LEIT-ICT	**362**	**23**	**385**	**94%**	**6%**	**100%**
Yes	88	3	91	96.7%	3.3%	100%
No	220	8	228	96.5%	3.5%	100%
N/A	2	0	2	100%	0%	100%
Missing	52	12	64	81.3%	18.8%	100%
LEIT-NMBP	**149**	**2**	**151**	**98.7%**	**1.3%**	**100%**
Yes	36	1	37	97.3%	2.7%	100%
No	8	1	9	88.9%	11.1%	100%
N/A	99	0	99	100%	0%	100%
Missing	6	0	6	100%	0%	100%
SC1 Health	**64**	**126**	**190**	**33.7%**	**66.3%**	**100%**
Yes	45	102	147	30.6%	69.4%	100%
No	2	1	3	66.7%	33.3%	100%
N/A	16	23	39	41%	59%	100%
Missing	1	0	1	100%	0%	100%
SC2 Food	**94**	**4**	**98**	**95.9%**	**4.1%**	**100%**
Yes	12	1	13	92.3%	7.7%	100%
No	68	1	69	98.6%	1.4%	100%
N/A	0	1	1	0%	100%	100%
Missing	14	1	15	93.3%	6.7%	100%
SC3 Energy	**135**	**6**	**141**	**95.7%**	**4.3%**	**100%**

Yes	28	5	33	84.8%	15.2%	100%
No	80	0	80	100%	0%	100%
N/A	8	0	8	100%	0%	100%
Missing	19	1	20	95%	5%	100%
SC4 Transport	**220**	**16**	**236**	**93.2%**	**6.8%**	**100%**
Yes	22	3	25	88%	12%	100%
No	171	12	183	93.4%	6.6%	100%
N/A	3	0	3	100%	0%	100%
Missing	24	1	25	96%	4%	100%
SC5 Climate	**67**	**20**	**87**	**77%**	**23%**	**100%**
Yes	24	17	41	58.5%	41.5%	100%
No	39	3	42	92.9%	7.1%	100%
Missing	4	0	4	100%	0%	100%
SC6 Inclusive Societies	**36**	**35**	**71**	**50.7%**	**49.3%**	**100%**
Yes	21	23	44	47.7%	52.3%	100%
No	13	5	18	72.2%	27.8%	100%
Missing	2	7	9	22.2%	77.8%	100%
SC7 Secure Societies	**47**	**19**	**66**	**71.2%**	**28.8%**	**100%**
Yes	3	11	14	21.4%	78.6%	100%
No	43	5	48	89.6%	10.4%	100%
Missing	1	3	4	25%	75%	100%
SwafS	**0**	**12**	**12**	**0%**	**100%**	**100%**
Yes	0	10	10	0%	100%	100%
No	0	1	1	0%	100%	100%
Missing	0	1	1	0%	100%	100%
Total	**1,174**	**263**	**1,437**	**81.7%**	**18.3%**	**100%**

Table 9: Projects and their CCMI under non gender-flagged topics and under gender-flagged topics

How gender flagging developed over the short period of 2014-2015 is shown in the table below. Once again, it should be remembered that the indication "gender-flagged" is not very reliable (20% error, see text). In a number of areas, the proportion of gender-flagged topics decreased.

Projects Programme/Year	**Gender Flag**			**% Gender Flag**		
	No	**Yes**	**Total**	**No**	**Yes**	**Total**
LEIT-ICT	**362**	**23**	**385**	**94%**	**6%**	**100%**
2014	205	11	216	94.9%	5.1%	100%
2015	157	12	169	92.9%	7.1%	100%
LEIT-NMBP	**149**	**2**	**151**	**98.7%**	**1.3%**	**100%**
2014	73	0	73	100%	0%	100%
2015	76	2	78	97.4%	2.6%	100%
SC1 Health	**64**	**126**	**190**	**33.7%**	**66.3%**	**100%**
2014	23	77	100	23.0%	77.0%	100%
2015	41	49	90	45.6%	54.4%	100%
SC2 Food	**94**	**4**	**98**	**95.9%**	**4.1%**	**100%**
2014	51	3	54	94.4%	5.6%	100%
2015	43	1	44	97.7%	2.3%	100%
SC3 Energy	**135**	**6**	**141**	**95.7%**	**4.3%**	**100%**
2014	69	6	75	92%	8%	100%
2015	66	0	66	100%	0%	100%
SC4 Transport	**220**	**16**	**236**	**93.2%**	**6.8%**	**100%**

2014	72	6	78	92.3%	7.7%	100%
2015	148	10	158	93.7%	6.3%	100%
SC5 Climate	**67**	**20**	**87**	**77%**	**23%**	**100%**
2014	33	7	40	82.5%	17.5%	100%
2015	34	13	47	72.3%	27.7%	100%
SC6 Inclusive Societies	**36**	**35**	**71**	**50.7%**	**49.3%**	**100%**
2014	10	27	37	27%	73%	100%
2015	26	8	34	76.5%	23.5%	100%
SC7 Secure Societies	**47**	**19**	**66**	**71.2%**	**28.8%**	**100%**
2014	22	14	36	61.1%	38.9%	100%
2015	25	5	30	83.3%	16.7%	100%
SwafS	**0**	**12**	**12**	**0%**	**100%**	**100%**
2014	0	7	7	0%	100%	100%
2015	0	5	5	0%	100%	100%
Total	**1,174**	**263**	**1,437**	**81.7%**	**18.3%**	**100%**

Table 10: Projects by Programme part and gender-flagged topics – development from 2014-2015

4.5.3. Qualitative analysis of 111 projects (small database)

As mentioned above, the EG carried out a qualitative analysis of 111 projects (see Annexe 1: "Methodological approach used for analysis and procedure"), looking for the way in which the gender dimension, i.e. sex and/or (as relevant) gender analysis was integrated into them. In Annexe 2: "Case Studies (short version)" selected projects provide illustrations of what was found, among the better projects.

This sample of 111 projects was initially built only to include topics with an explicit mention of gender. Annexe 1: "Methodological approach used for analysis and procedure" gives a list of the topics corresponding to the projects that have been examined. In spite of the topics being gender-flagged, the EG discovered that all did not explicitly refer to gender (cf. page 21).

When conducting the qualitative analysis, the EG developed a ranking scheme in order to qualify the 111 projects.

Rank	Evidence	Number of projects
A	Projects carry out a full gender analysis and a sex analysis here appropriate, take the gender dimension seriously into account and integrate gender in a good sense throughout the whole project. They integrate the gender dimension into a significant part of their activities, at various levels, such as in theoretical background, methodology, the impact and dissemination sections. The result is a clear vision of how the gender dimension will be integrated into the research content, and good internal coherence within the project. These projects tend to include good gender expertise and, more generally, social science expertise in the teams.	17 (13.5%)
B	Projects discuss gender dimension in a few lines, with no further development. Some of these projects develop to some extent a sex analysis but miss the gender analysis while it is relevant.	49 (39.6%)
C	Projects only mention (generally rapidly) gender balance in the team and completely miss any gender dimension in their research.	45 (46.8%)

Table 11: Ranking scheme

The table below gives the distribution of the ranked projects by work programme part, in absolute numbers.

Part	Projects ranked "A"	Projects ranked "B"	Projects ranked "C"	Sum
LEIT-NMBP	0	2	0	2
LEIT-ICT	1	3	7	11
SC1 Health	2	10	6	18
SC2 Food	0	3	1	4

SC3 Energy	1	0	5	6
SC4 Transport	1	7	2	10
SC5 Climate	2	8	5	15
SC6 Inclusive Societies	9	8	10	27
SC7 Secure Societies	0	4	5	9
SwafS	1	4	4	9
Total numbers (Proportion)	**17 (13.5%)**	**49 (39.6%)**	**45 (46.8%)**	**111 (100%)**

Table 12: Distribution of the ranked projects by work program part

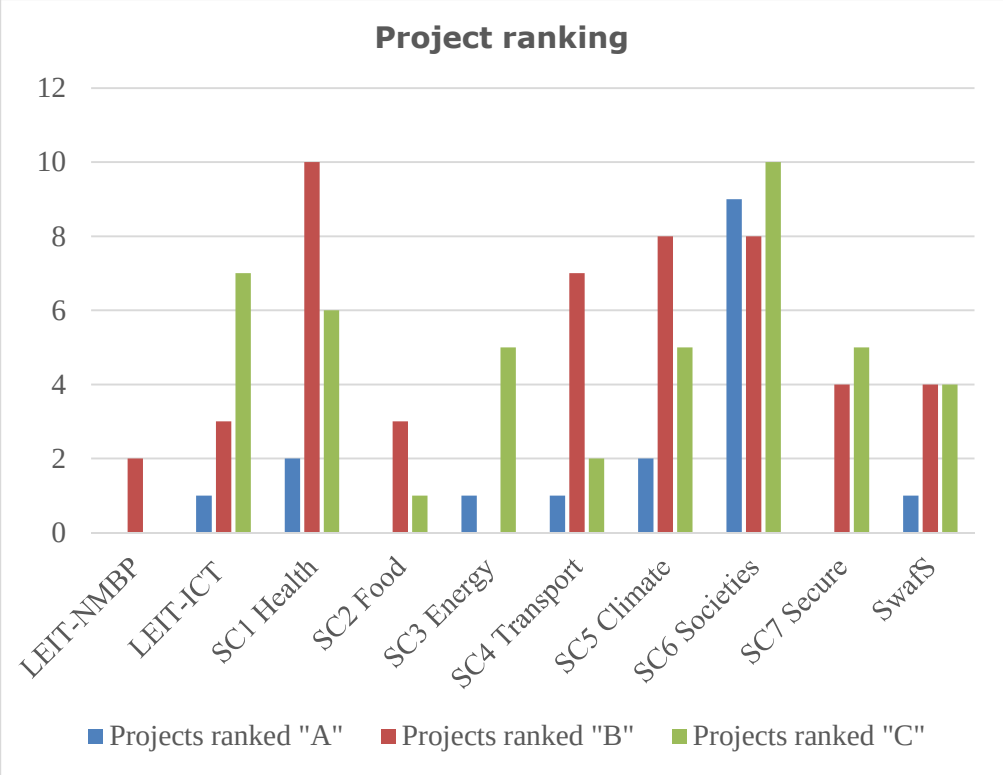


Figure 8: Distribution of the ranked projects by work program part (diagram)

The EG also evaluated whether these projects were liable to increase gender knowledge specifically. This was the case for most of the A ranked projects and in a lesser extent, for some of the B ranked ones.

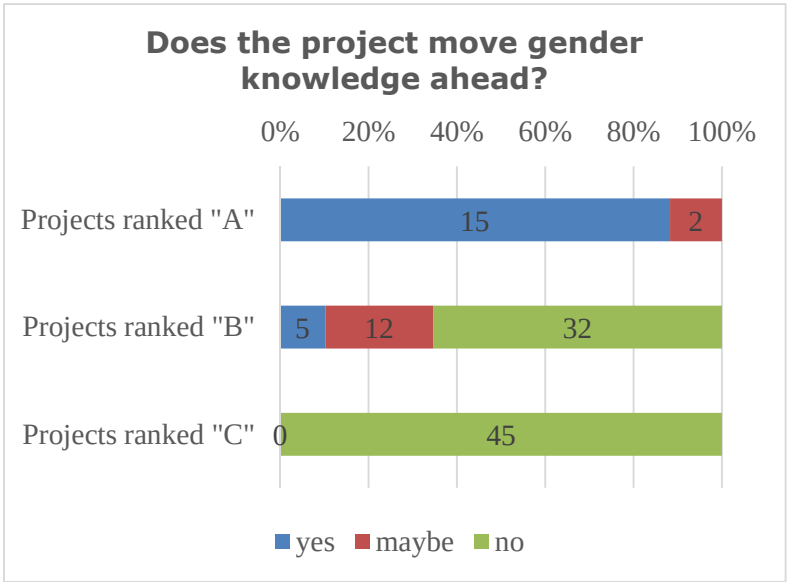


Figure 9: Gender knowledge in the projects

4.5.3.1. Lack of gender training within funded projects

The qualitative analysis shows an absence of training on gender issues in the projects, even among the projects ranked "A" and even though costs related to training on gender issues are made eligible. If gender training is an incentive to integrate a gender dimension in research, it should also be considered by evaluators assessing proposals.

4.5.3.2. Analysis of Evaluation Summary Reports (ESRs)

The evaluation reports are not always consistent and seem to be dependent on the presence of experts with a gender expertise or evaluators more aware of gender. A key issue is the training of evaluators and moderators on basic gender evaluation issues and, especially, on unconscious bias in peer review[44]. The qualitative analysis shows that in the ESRs there is inconsistency when evaluating the gender dimension. From the 111 ESRs in the small database, only 40 of them (36%) included a comment related to gender of any type (both gender dimension or gender balance in teams). This means that 71 (64%) of the ESRs did not receive any type of comment related to gender. An analysis in relation to the gender expertise in panels was done:

	Evaluated by panels with gender expertise	**Evaluated by panels without gender expertise**	**Sum**
ESRs with gender comments	28 (70%) *(42%)*	12 (30%) *(28%)*	40 (100%) *(36%)*
ESRs with NO gender comments	39 (55%) *(58%)*	32 (45%) *(72%)*	71 (100%) *(64%)*
Sum	67 (60%) *(100%)*	44 (40%) *(100%)*	111 (100%) *(100%)*

Note: the integer numbers are the numbers of ESR in the respective category. Percentage figures in the first line provide the summands of the horizontal axis; percentage figures in italic letters and in the second line are the summands of the vertical axis.

Table 13: ESRs by integration of gender comments and by type of panel (with or without Gender expertise)

In the table above, it is shown that 70% of the ESRs with gender comments were written by panels with experts with a gender expertise, although more than half (58%) of the ESRs evaluated by panels with experts with a gender expertise did not include a comment on gender. However, a clear difference can be observed: gender comments are significantly more frequently done by panels where there is gender expertise.

It is also interesting to relate the ESRs with gender comments or no gender comments to the ranking of projects (A, B, C) done by the EG, and both measures to scores given in those ESRs. The following table shows the number of ESRs that got gender comments classified following the ABC ranking, as well as the mean score received in each group:

No. of ESRs (Mean Scores)	**Comments on gender**	**NO comments on gender**	**Sum**
Projects ranked "A"	12 (14.2)	5 (13.6)	17 (14)
Projects ranked "B"	20 (14.1)	29 (13.4)	49 (13.7)
Projects ranked "C"	18 (14.1)	37 (13.1)	45 (13.3)
Sum	**40 (14.1)**	**71 (13.3)**	**111 (13.6)**

Table 14: ESRs and mean scores by gender comments and ranking of projects. In brackets the mean score (maximum 15 points) received by each group.

The statistical analysis showed that there are no significant differences among the scores received by proposals that were ranked as A, B and C (analysis of variance to test differences among means). The results indicate that there is no relation between the scores given by evaluators and the "good gender proposal" ranking by the EG, i.e. that the quality of the gender dimension does not influence the scores.

[44] Unconscious Bias or Implicit Bias (https://perception.org/research/implicit-bias/) is social behaviour driven by learned stereotypes that operate automatically, and therefore unconsciously, when we interact with other people. See also: Wennerås, Christine; Wold, Agnes (1997): Nepotism and sexism in peer-review. In Nature 22 (387), pp. 341–343.

However, the difference between the mean score obtained by the proposals that have gender comments in their ESR (14.1, whereas the maximum score is 15) and the ones with no gender comments (13.3, whereas the maximum score is 15) is statistically significant (t test at 95%). Thus, gender comments are associated with better scores. In other words, the proposals that "provoke" gender comments by evaluators (the immense majority of these comments are positive) are considered of higher quality. This is an interesting finding since, in spite of the inconsistencies found in the evaluation process, a link between integration of a gender dimension and quality of the proposal can be found. It could be further promoted among evaluators for improving the quality and consistency of the evaluation process.

Quality of gender comments: an analysis by evaluation criteria and gender expertise in panels

In Horizon 2020 Participant Portal, there is a specific page for experts on "How should gender be addressed and evaluated in Horizon 2020 proposals?"[45] These guidelines say that **"in these cases, evaluators will check how sex and/or gender analysis is taken into account in the proposal and consider this while giving a score under the "excellence" and/or the "impact" criteria. There is also another section explaining the importance of assessing gender balance in research teams.**

Forty ESRs have some gender comment in their assessment. These comments can appear under the three different criteria used in the evaluation:

- Criterion 1 (excellence): 25 proposals have a comment
- Criterion 2 (impact): 10 proposals have a comment
- Criterion 3 (quality and efficiency of the implementation): 15 proposals have a comment, **most of the comments are on team gender balance.**

It is also interesting to note that among the 40 ESRs with comments on gender, the majority of them – 31 – have only one comment in only one of the three criteria, and only nine of them commented in more than one criterion. From these nine, only one has a gender comment in all the three evaluation criteria. The least "gender commented" evaluation criterion is impact (criterion 2). The figures are:

- 16 ESRs comment only in criterion 1 (excellence)
- 7 ESRs comment only in criterion 2 (impact)
- 8 ESRs comment only in criterion 3 (implementation)
- 2 ESRs comment in criterion 1 (excellence) + criterion 2 (impact)
- 6 ESRs comment in criterion 1 (excellence) + criterion 3 (implementation)
- 1 ESR comments in criterion 1 (excellence) + criterion 2 (impact) + criterion 3 (implementation)

Most of the ESRs evaluated by panels with no gender expertise comment in only one criterion (from 12 of them, 4 in excellence, 3 in impact and 4 in implementation). On the contrary, except by one (there is one ESR evaluated by a panel with no gender expertise which has comments on excellence + implementation), all the ESRs in which there is a combination of comments in two or three criteria are from panels with gender expertise. This means that panels with gender expertise tend to assess gender more thoroughly and that **comprehensiveness** in using evaluation criteria is clearly related to gender expertise in evaluation panels. In the same way that the EG found a better integration of gender content in research if it was comprehensively taken into account in the different parts of a proposal, it can be concluded that a better evaluation of the gender dimension is done if addressed under the three criteria. However, this has only been done in 8.2% of the ESRs analysed (9 out of 111).

In the qualitative analysis of the "gender comments"[46] done in the ESRs, the ones done by panels with no gender expertise tend to be shorter and/or simpler –more general in their relation to gender- (for instance, "Gender issues are addressed" – no gender expertise in panel- vs. "The project clearly takes the gender dimension extremely seriously, with a number of methodological, representational and administrative elements woven into the design and execution of the project. This attempt to mainstream gender is a distinguishing feature and backed up by the strong records of individual researchers" – gender expertise in panel).

There are only five comments which are negative, where it is highlighted that the proposal does not cover well gender aspects. This might be certainly expected, as the ESRs analysed are from the

[45] http://ec.europa.eu/research/participants/portal/desktop/en/support/faqs/faq-977.html and http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/ftaqs/gender.html

[46] The complete list of gender comments can be found in Annexe 5: "Gender Comments in 111 ESRs".

best evaluated proposals (the ones which were funded). However, it does not suggest that the negative comments on gender affected the final score given in the final evaluation.

Gender comments by topic and gender expertise in panels

As said above, the analysis of gender comments in ESRs shows there are more made for proposals evaluated by panels with gender experts. Annexe 5: "Gender comments in 111 ESRs" provides the gender comments and gender expertise by topic. The EG observes the same general pattern, although there are also several panels with gender expertise (sometimes, with a relatively high percentage) which do not make any comment on gender. This is especially the case in SC1 (Health), SC5 (Climate) and SC6 (Inclusive Societies) topics, and there are two concrete illustrative examples of this phenomenon: GARRI-1-2014 from SwafS and PHC-24-2015 from SC1. This finding, along with the fact that the vast majority of gender comments in ESRs are positive, might be showing that an important number of evaluators with gender expertise do not mention if the gender dimension is not taken into account in the proposals. Thus, it can be concluded that, even in panels were there is gender expertise, gender is only "commented" if it is considered to be integrated, but it is not commented if the proposal does not take it into account. In other words, the integration of the gender dimension in the proposals is evaluated as a plus, but its absence not considered in a negative way or punished. This is consistent with the guidelines applicants are given, when they are asked to describe "where relevant, to which extent and how their planned research takes into account sex and/or gender analysis". This might make evaluators think they just need to search whether this integration has occurred and ignore the issue if it has not. Improving proposals' assessments for a gender perspective could be possible if both applicants and evaluators are asked to comment also on why the gender dimension is not relevant.

4.5.3.3. Linguistic analysis of 111 ESRs

The EG has taken a second approach to analysing ESRs and the effect of the presence of experts with a gender expertise in evaluation panels. Computer-assisted analysis of text is a fairly new tool for investigation of evaluation studies. In this case, the EG has used so called sentiment analysis in order to find out the strength of dimension of sentiments in Horizon 2020 ESRs. Computational linguistics is here systematically applied in order to identify, extract, quantify, and study affective states and subjective information. The aim of the analysis is to determine the attitude of a panel with respect to the emotional reaction to the proposal.
Since the EG only has accessed to projects funded under gender-flagged topics, it is not possible to conduct a more refined analysis that focuses on the differences between flagged and not flagged topics. But there is one indicator, the Crosscutting Monitoring Indicator (CCMI – also referred to as KPI 4), which indicates whether there is a gender dimension in the projects under study. This is the case of 61 of them. Accordingly, the analysis is based on two variables, on the one hand CCMI and on the other hand, inclusion of gender expertise in the evaluation of proposals.
The method for the study is based on LIWC[47], a tool for linguistic analysis of texts. The tool works with a variety of predefined linguistic *categories*, and has been applied for the analysis of ESRs, more precisely, the evaluation part of the ESR excluding the abstract of the project. Each category consists of a series of words representing that category, which have been validated in other studies[48]. The LIWC program counts for each of the categories how many times a word belonging to that category is present in a review report. As the reports are of different length, normalisation is needed: the number is translated into a percentage. What categories to be used in the case under study is the matter of choice. In this case, the EG started with selecting those categories that are tested and used in previous studies on grant decision and panel deliberation[49]:

- *Ability* words, such as *gift**, *intell**, *skill**;
- *Achievement* words such as *creati**, *excel**, *compet**; (and negative achievement words as separate category.
- *Agentic* words such as *outspoken*, *solid*, *risk*;
- *Negative evaluation* words such as *naïve*, *defect**, *lack**;
- *Positive evaluation* words such as *intriguing*, *compelling*, *commit**;
- *Research* words such as *laboratory*, *result**, *fund**;
- *Standout adjectives* such as *world class*, *outstanding*, *exceptional**.

[47] http://liwc.wpengine.com/
[48] Abele, A. E., & Wojciszke, B. (2014). Communal and agentic content in social cognition: A dual perspective model. Advances in Experimental Social Psychology, 50, 195 -255. doi: 10.1016/B978-0-12-800284-1.00004-7 and Van den Besselaar, Peter, Luka Stout & Xiaoli Gou (2016). Predicting panel scores by linguistic analysis. Paper presented at the STI (Science Technology Indicators) Conference in Valencia September 2016.
[49] Kaatz, A; W Magua; Dr Zimmerman & M Carnes (2015). A Quantitative Linguistic Analysis of National Institutes of Health R01 Application Critiques from Investigators at One Institution. Academic Medicine, Vol. 90, No. 1, pp. 69-75.

CorTexT[50] was used for term extraction from the review reports (excellence, impact and implementation). The list of most frequently used (stemmed) terms was inspected in order to find additional terms. Also, based on the term extraction, the EG decided that some other categories could be used:

- *Negating* words such as *hasn't*, *don't*, *can't*;
- *Negative* emotion words such as *abuse**, *bitter**, *bad**;
- *Positive* emotion words such as *agreeabl**, *benefit*, *helpful*;
- *Exclusion* words such as *but, either, except, just, not;*
- *Insight* words such as *define, reflect, idea*;*
- *Certainty* words such as *fundamental, commitment, truly.*

Why were these selected? Firstly, term extraction shows that the categories may play a role given the frequency they appear. For *negation* words, an additional argument is that the excellent applicants are the norm in science, and the others are measured against those excellent: 'not excellent'. *Exclusion* words might be used based on the same argument. Positive and negative *emotion* are relevant to include, as one would want to see how strong *sentiments* play a role in panel deliberation.
Running LIWC gives for every review the percentage of words belonging to each linguistic category. The EG can now compare the average frequencies of the categories between those that have CCMI ticking (Y/N) and those evaluated by a panel with or without gender expertise (Y/N). As there are some missing values in the CCMI ticking there are six groups but these two (CCMI missing) are fairly small:

	Gender expertise?	
CCMI	no	yes
no	***1*** **(22)**	***2*** **(11)**
yes	***3*** **(16)**	***4*** **(45)**
missing	***5*** **(2)**	***6*** **(15)**

Note: Group numbers are highlighted in red and italic (in brackets are total numbers per group).
Table 15: Number of projects by gender expertise in the evaluation panel and CCMI

The analysis will concentrate on comparisons of two types – first between groups 4 (yes/yes) and 2 (no/yes) and secondly, between groups 4 (yes/yes) and 1 (no/no), starting with a summary of the findings from the CorTexT analysis. This analysis for the groups 1 to 4 indicates first, that gender or sex related terms is more or less invisible in the ESRs (as indicated in the former section), except for the group 4 (yes/yes) which have a minor representation of gender terms. An even smaller frequency is found in group 2 (no/yes) which mentions "gender balance". From that analysis, it can be concluded that it is probably not possible to base the analysis on mentions of gender related terms (note that the analysis is based on noun phrases not monograms). Therefore, a sentiment analysis is carried out.

Result

- Group 1 versus group 4: In words, compared with group 4 (yes/yes), group 1 (no/no) has a significant higher mean score on NEGATIVE EMOTION or AGENTIC, and on NEGATIVE EVALUATION, and a significant lower mean score on INSIGHT and on POSITIVE EVALUATION. As these scores are generally not normally distributed, a non-parametric test is used next to ANOVA. This shows that in words, compared with group 4, group 1 has a significant higher mean rank on NEGATIVE EMOTION of AGENTIC, and on NEGATIVE EVALUATION, and a significant lower mean rank on INSIGHT and on POSITIVE EVALUATION. So, both tests give the same results.
- Group 2 versus group 4: In words, compared with group 4 (yes/yes), group 2 (no/yes) has a significant higher mean score on NEGATIVE EVALUATION, and a significant lower mean score on POSITIVE EMOTION and on POSITIVE EVALUATION. Again, as these scores are generally not normally distributed, a non-parametric test is used next to ANOVA, too. In words, compared with group 4, group 2 has a marginally (non-significant) higher mean rank on NEGATIVE EVALUATION, and a significant lower mean rank on POSITIVE EMOTION and on POSITIVE

[50] http://cortext.risis.eu/login

EVALUATION. Both tests give similar results. The marginally/non-significance is also due to the small number of cases for group 2.

Conclusion: Panels with evaluators with gender expertise are more positive on gender-related projects than non-gender projects (all were submitted under gender-flagged topics).

- Group 3 versus group 4: In words, compared with group 4 (yes/yes), group 3 (yes/no) has a non-significant (few cases) higher mean score on NEGATIVE EVALUATION, and a significant lower mean score on POSITIVE EMOTION. As these scores are generally not normally distributed, a non-parametric test is uses next to ANOVA. In words, compared with group 4, group 3 has a significant higher mean rank on NEGATIVE EVALUATION, and a significant lower mean rank on POSITIVE EMOTION. Obviously, both tests give about the same results. The non-significance is also due to the small number of cases for group 3.

Conclusion: Panels with no gender-expertise are more negative on gender-related projects than panels with evaluators with gender expertise.

An overall finding is close to what the EG would have expected: that if there are gender specialists in the panel, the gender-related projects come out better. This is consistent with the evaluation scores for the different groups: gender expertise panels score the "gender" proposals (CCMI yes) higher than the non-gender proposals (14.0 vs. 13.6) and the gender expertise panels score the gender proposals (CCMI yes) higher than the non-gender expertise panels do (14.0 vs. 13.1). And finally, the following answer to the question whether gender expertise matter or not, can be given: the findings indicate that **gender expertise in panels matters**. This confirms the qualitative analysis of ESRs presented above.

Overall findings concerning gender in research and innovation content:

- The EG concludes that only 17 out of the 111 projects examined include a gender dimension well ("A" ranked). To improve this, a better strategy for encouraging applicants to include a gender dimension needs to be developed. Simply gender flagging topics is not sufficient.
- These projects ranked "A" developed a gender analysis and a sex analysis where appropriate, integrating the gender dimension at several levels, in the objectives, the theoretical background, methodology, in the impact and dissemination sections, etc. The result is a clear vision of how gender and sex will be integrated into the research content, and good internal coherence within the project. They also often appear to be likely to bring new and original gender knowledge.
- This main finding can be implemented as an evaluation tool for project officers to use.
- The projects ranked "A" tend to include gender expertise among the members of the consortium, sometimes gender expertise is part of the profile of the coordinator.
- The quality of the gender dimension usually relies on good social science expertise.

In summary, the 3 objectives have been fulfilled unequally:

Gender balance in research teams seems to be improving very slowly (or not improving at all if compared to the data gathered by the FP7 ex-post evaluation[51]). Little data is available so far under Horizon 2020. In the analysed sample of 111 projects, 25% of the project leaders[52] are women. Overall, the teams include 2,398 men and 1,409 women, i.e. 36%. This is still far from the objective and lower than FP7 figures.

The improvement in gender balance in decision-making is close to being achieved (50% in advisory groups, 36% in expert groups and evaluation panels). This is a very positive achievement.

Concerning the integration of gender into research content, the wording of topics is often vague and gender is not explicitly mentioned. This clearly has to be improved, so as to make the way in which gender needs to be integrated much more explicit for the applicants. The net result concerning this objective appears still to be limited in these first two years of Horizon 2020. The notion of gender dimension does not seem to be well understood yet and is often confused with gender *balance* in research teams. It is not always well evaluated: it can be observed that some

[51] In FP7, 38% of the total reported workforce and registered in CORDA at 26/03/2015 are women, being higher in COOPERATION (39%), and lower in CAPACITIES (35%) and EURATOM (31%).
[52] In fact, this is the first member of the first team in the consortium – the person scientifically responsible is not explicitly identified in the grant agreements.

ESRs that are inconsistent with the qualitative evaluation of projects, based on the Small Database. The EG observed no implementation of the provision for trainings on gender issues in projects. The attendance of Commission and Agency personnel at the gender training organised by DG RTD Gender sector remains limited (and largely female). This is also true concerning the training of National Contact Points (NCPs). Objective 3 – indeed a recent one – clearly needs to be pursued, with improved tools.

5. EFFICIENCY

Efficiency is not easy to evaluate given the elements the EG disposed of (e.g. no measure of time expenditure). Nevertheless, to put the question differently, the EG feels that most of the improvements needed are "low-hanging fruit", that is they can be implemented with little effort. The EG observed a basically sound strategy focussed at all points of the process coming up against:

- monitoring problems due to poorly measured indicators and
- often poor implementation at the level of topic writing.

Monitoring can easily be improved. Evaluating good gender content, for evaluators, moderators and project officers can be done quite rapidly, with a key word search, checking that there is reference to sex/gender in a number of levels of the project (objectives, theoretical framework, methodology, impact, dissemination, deliverables …). A project that refers to gender issues at all these levels is likely to have a solid gender dimension. A simple guideline for evaluators should be provided; based on this observation. Simply referring to the Gender/Sex Analysis section is not efficient. Not all applicants fill it in and many proposals only make a single and perfunctory reference to gender there.

Improving the wording of the topics is less rapidly obtained but the impact would be high. Training on gender issues, particularly of topic writers and evaluation session moderators, but also beyond, is fairly labour intensive and should be more profitable than it is. Making training mandatory or giving it high-level encouragement would increase its efficiency.

6. EU-ADDED VALUE

The added value of EU level action in the field of Gender Equality in Science, Research and Innovation has been obvious since these policies were first put in place at the end of the 1990s. Numerous Member States would be much less advanced in their actions without constant "encouragement" from the EU. It definitely should be pursued. The ERA Roadmap established by the Council in 2015[53] states that "Horizon 2020's approaches to gender mainstreaming and incorporating gender perspectives in research should be promoted as good practice in RFOs (Research Funding Organisations) and RPOs (Research Performing Organisations) and other international collaborations." The ERA Progress Reports[54] show a steady increase in the number of Member States and Associated Countries established a gender equality strategy in R&I and / or extending and improving the existing measures.

[53] http://data.consilium.europa.eu/doc/document/ST-8975-2015-INIT/en/pdf
[54] http://ec.europa.eu/research/era/eraprogress_en.htm

7. CONCLUSION

In conclusion, the EG considered very positively the fact that the actions in favour of gender equality are integrated all along the funding process. A number of these actions have had positive consequences. However, major difficulties are observed, in the wording of topics, in data collection for monitoring and in project evaluation. Implementing gender in research content is clearly quite challenging and a better understanding of gender issues in general is needed.

7.1. Main achievements

A number of positive achievements have been observed so far. Among actions that favour coverage of GE as a crosscutting issue, the EG notes that:

- The comprehensive approach by which **gender is integrated along the most parts of the funding process** has the potential of becoming a powerful instrument. The whole cycle starting with legal provisions, drafting and finalising work programmes and topic description, focussing the application and proposal evaluation process as well as the granting and project monitoring and reporting phase has been taken into account. This is very positive.
- DG RTD Gender Sector **promotes gender equality** and their work is noted at several levels. A good deal of patient awareness raising activities carried out within DG RTD has encouraged several services to integrate the wording of a gender dimension in the work programmes. Training sessions have been provided for Commission and Agency personnel as well as for NCPs.
- **Gender balance in decision-making** is close to being achieved (over 50% in advisory groups, 36.7% in evaluation panels[55]). This is a very positive achievement.
- **Legal provisions** for gender equality have been secured (Art. 14 and 16 of the Framework Programme, Art. 33 of the standard grant agreement).
- The **Advisory Group on gender** was set up and contributes to better integrating the gender dimension in the topics[56].
- Gender training and **gender awareness raising activities** can be considered as driving factors contributing to progress towards the expected outputs.

7.2. Main shortcomings

- A number of indicators were found to be unreliable (KPI 1, KPI 2, KPI 4 and gender flagging).
- Gender balance in research teams improves very slowly. The intervention logic of GE as a crosscutting issue in Horizon 2020, **does not completely integrate or develop to its full potential the objective of institutional change**. This does not imply that the objectives and intervention logic are wrong; on the contrary, they are highly important and relevant. But they are not sufficient for institutional change, which is known now to be the main impact driver for greater equality in research and innovation.
- Gender balance in decision making is an important target "per se" because it contributes to a more equal and fair society, but also because it supports women participants in their careers (experience, vision of their field, etc.). However, it should not be assumed that having more women in panels or expert groups will lead to a more equal and fair selection and/or more gender-sensitive science. **Gender expertise** should also be a criterion for group or panel composition.
- A quite a high degree of inconsistency at the time of **evaluating** the gender dimension in the ESRs can be observed. It is well known that unconscious bias at the time of assessing operate both in male and female researchers. This stage needs to be improved and evaluators and moderators need to be trained on how to consider the gender dimension.
- Up to now, too few projects really implement a thorough gender and sex analysis, truly developing a gender perspective in research content and project design. Gender training is rarely implemented within them.

[55] http://ec.europa.eu/research/evaluations/pdf/archive/h2020_monitoring_reports/second_h2020_annual_monitoring_report.pdf

[56] http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=18892&no=1 and http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=28824&no=1

8. RECOMMENDATIONS

8.1. General

The EC's Gender equality policy is ambitious and needs time to be fully implemented – this evaluation is based on the first 2 years of Horizon 2020. Nevertheless, further **improvements** are definitely needed. Awareness and communication about gender equality, the gender dimension in R&I content and the benefit for research, science and society is an on-going process and has to be continued with the same effort as up to now. When further developing the intervention logic the problematic issue of indicators (gender-flagging and KPIs) needs to be taken into account. Improvements in the implementation of Horizon 2020 Gender Equality policy could be brought in at various levels:

Improving gender policy

- The **improvement of gender knowledge** should be a 4th strategic policy objective for gender equality as crosscutting issue. This objective should be made visible in all areas of Horizon 2020 and clearly pursued and valued. It is extremely important to keep on producing gender knowledge: for analysing where the inequalities are and how to deal with them; for understanding the obstacles to a proper integration of gender into research content. How gender interacts with other inequality axes (intersectionality) is also a principal issue (age, class, geographical or ethnic origin, etc.).
- **Better integration of the results of the research** that has been carried out under SwafS, but also worldwide, **on gender issues in careers, in evaluation, in gender content of research** (i.e. the institutional / structural change approach, the mechanisms of unconscious biases, obstacles to achieving gender balance in research teams) would allow gender policy to evolve and be more precisely targeted.
- Measures to **disseminate** gender knowledge and sensitivity throughout the Commission services and agencies are still needed. Cross cutting know-how and knowledge transfer among people responsible for work programmes and funding schemes (e.g. ERC can learn from MSCAs and PEOPLE; SCs can learn from SwafS) is recommended. Technical support for the implementation of the gender dimension should be provided, for instance by installing "gender contact points" in each service department of DG RTD.
- **Gender budgeting analysis** of projects budgets should be carried out to better understand how their funding is distributed. It needs to be broken down on the beneficiaries' levels, taking into account the gender of the work package leaders.

Improving monitoring and data collection

The development of more relevant indicators for monitoring the implementation of gender equality policy in different parts of Horizon 2020 is highly recommended. The quality of their collection must be improved. This can be done fairly easily:

- Flagging of topics with gender content needs to be improved. A simple word search would allow a more precise identification of these topics. However, it should be stressed that a full argument, on how a gender dimension should be integrated into R&I content should be provided in the topics.
- KPI 1 (% women in workforce) needs sufficiently detailed data to be collected (% women at different levels, in different disciplines). As an example, in FP7, different categories (Scientific coordinator; Work package leaders; Experienced researchers; PhD students) were collected which allowed at least to identify and analysed certain vertical segregation; Unfortunately, this categorization was lost for Horizon 2020.
- KPI 2 (% women project coordinators): the EG found a major "bug" in the construction of this indicator (it has since been corrected). The scientific leaders of a project should be more clearly identified in grant agreements.
- KPI 4 (% projects with a gender dimension in research and innovation content): The notion of a gender dimension in research and innovation content is a complex one and it is difficult to reduce to one indicator. In particular, that loses all notion of the *quality* of the integration. As a rapid – but very reductive – identification technique, project officers could do a word search for "gender", "sex", "women". When a project fully integrates a gender dimension, these words will appear in several points of a project, such as the objectives, theoretical background, methodology, impact, dissemination. An alternative method would be to require an auto-evaluation of gender content by applicants, with a review possible during or after the project (as for ethics).

Improving the procedures

It is essential to maintain the coherence of this policy, by continuing to improve it at all levels.

Phases of Horizon 2020 process	Recommendations
Work programme	To further communicate the gender equality and gender dimension in R&I content issues within the EC and its service, the internal working group on gender equality, coordinated by the DG RTD Gender Sector should be strongly supported. It should regularly discuss its work and procedures with external gender experts. Increase numbers of participants in gender trainings organised by the EC. Gender trainings should be compulsory for project officers and agency personnel, for topic writers and for moderators of evaluation panels. The proportion of male participants in gender trainings should be increased.
Topics	The wording of topic descriptions which include a gender dimension should be improved. The reasons for including a gender dimension, the way it should be done, the impact it should have all need to be made explicit. As rule of thumb, several sentences concerning gender/sex are needed in the topic descriptions. More topics directly focussed on targeting gender issues in the different parts of Horizon 2020 (in all the Societal Challenges, in the LEITs, etc.) should be issued. The monitoring process of gender "flagging" must be improved (see above).
Proposals	The fact that gender training within the projects teams is an "eligible cost" should be indicated in the application template. Communication about that should be intensified in the Commission' services, in the NCPs and beyond. Terminology could be improved (e.g. gender "workshops"). Applicants should be encouraged to include gender experts and/or researchers with proven gender expertise in their proposals, especially under gender flagged topics. Gender expertise can be included in the project by integrating a partner with this specific skill in the consortium or by sub-contracting "experts with gender expertise". Encouragement of gender balance in teams should be increased. NCPs training costs should be better covered.
Evaluation	The evaluation of the gender dimension in R&I content in proposals should also be improved. A basic guideline could be provided to help non-expert evaluators get a first impression: check with word search that there is reference to sex/gender in a number of levels of the project (objectives, theoretical framework, methodology, impact, dissemination, deliverables …). If 3 or 4 of these parts indeed refer to gender, the project is likely to integrate the gender dimension well. This does not, of course, preclude an in-depth evaluation of the quality of these gender-related elements by experts with good gender expertise. The methodology of the qualitative analysis of this evaluation could serve as a starting point. The assessment of gender content could follow the ranking scale set up in this report, distinguishing among: Gender content well implemented throughout the whole proposal including objectives, excellence, impact etc.; gender content mentioned rapidly and/or only in just one sentence in the proposal and/only gender balance as percentage figure mentioned.

	In order to guarantee diverse perspectives, evaluation panels should consist of 5 people including at least one expert with gender expertise. The tick box present in the evaluation template under FP6 – "Have gender issues been taken into account properly?" – should be reintroduced, since it puts gender issues on the table during evaluation. A tick box could also refer to the inclusion of gender in the different parts of the proposal (objectives, impact, etc.) All moderators who facilitate evaluators meetings should be trained on gender in Horizon 2020 a regular basis.
Grant Agreement	All projects should provide information concerning gender balance within their research teams – from the grant agreement stage up to the reviews and reporting phase. The consortium could be required to ensure that the project's gender balance does not drop below the gender balance in the grant agreement stage (+/- 5%). A guideline for project officers on how the gender dimension in R&I content should be implemented correctly needs to be provided (see above for evaluators). The gender dimension in R&I content could also be auto-evaluated by applicants, followed by a possible review. All beneficiaries in the grant agreement phase could be asked how the project integrates the gender dimension (e.g. in objectives, theoretical framework, methodology, impact, dissemination, deliverables) and respond to Art 33 of the grant agreement on gender balance in research teams. These data could serve as a base for future analysis regarding objective 3.
Project / reporting	The gender related actions and targets formulated in the grant agreement should be put into project review templates as well as in the reporting templates. Project officers should follow this issue. Projects reviewers should be briefing as evaluators on the gender dimension in R&I content.

Table 16: Improving procedures

Recommendations can also be made according to the 3 objectives.

8.2. Objective 1: Gender balance in research teams at all levels

- There is no easy-to-handle information neither on the proposal level nor on the project level within the DoAs to assess objective 1. Gender of key team members is very often omitted. Applicants should be requested to count the key staff members in proposals and to provide a summary table with indications of gender and position within the project (scientific leader, work package/task leader, senior/junior researcher). This type of information should be completed and updated in the successive reports, as the project develops.
- Gender balance in high level positions within the projects should be monitored. Disaggregated data regarding the workforce at different levels is needed. This was done at the end of FP7 and should be continued in Horizon 2020.
- Gender balance in research teams could be better included in the grant agreement (with for instance a provision that initial gender balance will be maintained). Stricter requirement could be made (e.g. a 10% increase during project) and applicants should be further encouraged to promote gender balance in their research teams and project management structures.
- The Commission could consider defining specific gender balance targets per sector/discipline. For instance, since the She-Figures-report provides the proportions of women and men in the Health Sector the gender balance for projects in SC Health could be required to do as well or better. (This approach is based on the concept of "dynamic quota".)
- A return to "gender equality/action plans" within projects should be considered.

8.3. Objective 2: Gender balance in decision making

- The objective of 40% of the underrepresented sex in expert groups should be reached rapidly. It should be easily attainable (see the excellent results for Advisory Groups).
- Beyond gender parity in evaluation committees, evaluation criteria and the way how they are applied need to be reviewed. Implicit gender biases in evaluating men and women researchers' achievements need to be eliminated.
- Beyond numerical gender balance, gender *expertise* in expert groups, evaluation panels and advisory groups is highly recommended. Experts with proven gender expertise are needed in all different scientific fields, as suggested by AG Gender.

8.4. Objective 3: Integrating the gender dimension in the content of R&I

- Further efforts need to be made to improve the understanding of the notion of "gender dimension in research and innovation content" at applicant level, among evaluators and among Commission and Agency personnel.
- Topics need to be very explicit, explaining how the gender dimension should/could be included, and at all levels. A minimum of two lines of text is a good criterion. Topics should also include an argument for why gender is important to the call.
- Topics should encourage having social scientists as coordinators – this often leads to better integration of the gender dimension.
- The inclusion of gender expertise in consortia should be further encouraged.
- For the applicants, simple guidelines for the inclusion and evaluation of the gender dimension in research content should be developed (based on comprehensiveness: if gender is well integrated, it appears in the different dimensions of a proposal). There is already very good material produced by the different FP7 and Horizon 2020 structural change projects, the ERA-Net Gender-Net, the Gendered Innovations project and in the GEAR online tool developed by EIGE and DG RTD. A specific tool to help applicants draft research proposals would nevertheless be useful.
- Offering the possibility of having gender training as an eligible cost is not sufficient. It should be further incentivized. Terminology may be an issue for scientists ("gender workshops" or "capacity building workshops" could be more appropriate than "training".)
- Beneficiaries should be requested to provide information on how much money is spent for gender training or for sub-contracting external gender expertise.
- Regarding evaluation panels, the evaluators – and moderators – should be trained on how to consider the gender dimension but also on how to improve quality of evaluation, for instance by avoiding unconscious biases.

9. ANNEXE 1: METHODOLOGICAL APPROACH USED FOR ANALYSIS AND PROCEDURE

9.1. Baseline

Horizon 2020 began on 1st January 2014 and the first contracts were signed towards the end of that year. Signed projects are available for 2014 and 2015, but very few are for 2016. Therefore, the project analysis is based on those two years. To evaluate effectiveness of gender equality, the EG used various sources and developed a set of quantitative and qualitative methods:

- A quantitative analysis based on a set of data extracted from CORDA, including the 1,437 projects under the Societal Challenges, LEIT-ICT, LEIT-NMBP and Science with and for Society, restricted to projects from 2014 and 2015, restricted to Innovation Action (IA) and Research and Innovation Action (RIA) only.
- An in-depth analysis, both qualitative and quantitative, of 111 out of the 263 projects that correspond to gender-flagged topics, within the set described above. The documents examined were the projects' Description of Activities (part A and part B) and Evaluation Summary Reports (ESR). This sample represents 42% of all projects under gender-flagged topics in these parts of the work program.
- A qualitative analysis of various key documents and information, such as parts of work programmes, topic descriptions, descriptions of activities including training and awareness-raising, etc.

Support and background information was provided by EC during the whole evaluation process.

9.2. Quantitative analysis

Data was provided by the Commission. A selection out of the 9,846 projects in the full CORDA database at that time was done to extract 1) Innovation Action (IA) and Research and Innovation Action (RIA); 2) the years 2014-2015; 3) the programme parts LEIT-ICT and LEIT-NMBP, the 7 Societal Challenges and SwafS. The selection consisted of 1,437 projects which have been the basis for the analysis provided in this report.

9.3. Qualitative analysis

9.3.1. Selecting the projects

Under Horizon 2020, nearly 10,000 projects have already been financed so a procedure to sample them was obviously necessary. The EG agreed to analyse

- only gender flagged topics
- only IA and R&I projects – no CSAs
- all 7 Societal Challenges
- SwafS
- LEIT-ICT and LEIT-NMBP since they had gender-flagged topics
- when a topic was selected, the EG analysed ALL signed projects under that topic.

The objective was to retain about 100 projects for in-depth analysis. Once the filters described above were applied, a further selection of topics where a gender dimension seemed particularly appropriate was carried out, based on the topic titles.

Based on the selection criteria mentioned above, the following **topics were finally selected:**

LEIT-ICT – Leadership in Enabling and Industrial Technologies (Information and Communication Technologies) (total 11 projects)

- ICT-13-2014: Web Entrepreneurship
- ICT-31-2014: Human-centric Digital Age
- ICT-35-2014: Innovation and Entrepreneurship Support

LEIT-NMP – Leadership in Enabling and Industrial Technologies (Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing, and Biotechnology) (total 2 projects)

- NMP-11-2015: Nanomedicine therapy for cancer

SC1 - Health, demographic change and wellbeing (total 18 projects)

- PHC-01-2014: Understanding health, ageing and disease: determinants, risk factors and pathways
- PHC-08-2014: Vaccine development for poverty-related and neglected infectious diseases: tuberculosis (also in SC2)
- PHC-24-2015: Piloting personalised medicine in health and care systems

SC2 - Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy (total 4 projects)

- SFS-15-2014: Proteins of the future
- SFS-16-2015: Tackling malnutrition in the elderly
- SFS-18-2015: Small farms but global markets: the role of small and family farms in food and nutrition security

SC3 - Secure, clean and efficient energy (total 6 projects)

- EE-12-2014: Socioeconomic research on energy efficiency
- LCE-20-2014: The human factor in the energy system

SC4 - Smart, green and integrated transports (total 10 projects)

- MG-3.6a-2015: Safe and connected automation in road transport
- MG-5.1-2014: Transforming the use of conventionally fuelled vehicles in urban areas
- MG-5.3-2014: Tackling urban road congestion

SC5 - Climate action, environment, resource efficiency and raw materials (total 15 projects)

- WASTE-1-2014: Moving towards a circular economy through industrial symbiosis
- WASTE-6a-2015: Promoting eco-innovative waste management and prevention as part of sustainable urban development
- WATER-5c-2015: Preparing and promoting innovation procurement for resource efficiency

SC6 - Europe in a changing world - Inclusive, innovative and reflecting societies (total 27 projects)

- EURO-1-2014: Resilient and sustainable economic and monetary union in Europe
- EURO-2-2014: The European growth agenda
- EURO-3-2014: European societies after the crisis
- EURO-6-2015: Meeting new societal needs by using emerging technologies in the public sector
- INSO-2-2014: Understanding and supporting business model innovation
- INSO-4-2015: Innovative schemes for open innovation and science 2.0
- YOUNG-2-2014: Youth mobility: opportunities, impacts, policies
- YOUNG-4-2015: The young as a driver of social change
- YOUNG-5a-2014: Societal and political engagement of young people and their perspectives on Europe
- YOUNG-5b-2014: Societal and political engagement of young people and their perspectives on Europe

SC7 - Secure societies – Protecting freedom and security of Europe and its citizens (total 9 projects)

- BES-14-2014: Ethical Societal Dimension topic 1: Human factors in border control
- BES-08-2015: Supply Chain Security topic 1: Development of an enhanced non-intrusive (stand-off) scanner
- DRS-07-2014: Crisis management topic 7: Crises and disaster resilience – operationalizing resilience concepts
- FCT-16-2015: Ethical/Societal Dimension Topic 4 - Investigating the role of social, psychological and economic aspects of the processes that lead to organized crime (including cyber related offenses), and terrorist networks and their impact on social cohesion

SWAFS - Science with and for society (total 9 projects)

- GARRI-1-2014: Fostering RRI uptake in current research and innovations systems
- SEAC-1-2014: Innovative ways to make science education and scientific careers attractive to young people
- SEAC-1-2015: Innovative ways to make science education and scientific careers attractive to young people

In all, 111 projects were selected for in depth analysis.

9.3.2. Analytical framework for the qualitative analysis

The following variables as well as verbatim quotations referring to gender were collected:

Project					
Part of Horizon 2020	**WP Year**	**Topic**	**Number**	**Acronym**	**Part**

A number of key words were used to search for in ESRs, DoAAs and DoABs. The key words included "gender" and "sex" but also, if needed "men" "women", "male, female, "boys", "girls".

Gender in research content was searched for in the specific "sex and gender analysis" sections and throughout the project description. Occurrences in methodology, theoretical consideration, impact, dissemination were noted.

Referring to topic / consideration of gender issues; see chapter 1.2 of DoAB form (Relation to WP)		**Chapter "Sex and/or Gender Analysis"; see chapter 1.3 of DoAB form (Concept and approach)**		**Ethics; see chapter 5.1 of DoAB form (Ethics)**
Integrated in methodology?	Integrated in theoretical consideration?	Integrated in impacts?	Integrated in dissemination?	other

The key words "gender training" were searched for.

Gender Training		**Gender Equality (resp. Action) Plan**
Existing? Visible in work programme?	Innovative training materials?	Is a GEP or GAP part of the deliverables?

Projects were ranked A-B-C and if the project seemed liable to gender equality knowledge ahead, it was noted:

Rank	**Evidence**
A	Projects carry out a full gender and a sex analysis where appropriate, take the gender dimension seriously into account and integrate gender in a good sense throughout the whole project. Projects ranked with an "A" integrate the gender dimension into a significant part of their activities, at various levels, such as in theoretical background, methodology, the impact and dissemination sections. The result is a clear vision of how the gender dimension will be integrated into the research content, and good internal coherence within the project.
B	Projects discuss gender dimension in a few lines, with no further development. The projects develop to some extent a sex analysis but miss the gender analysis while it is relevant.
C	Projects only mention (generally rapidly) gender balance in the team and completely miss any gender dimension in their research.

Overall review			
Does that project move gender knowledge ahead?		**A/B/C ranking**	**Could this project serve as "good practice"?**
Indicate yes/maybe/no	Why		Indicate yes/maybe/no

Gender counts were made of the teams and of the advisory boards, when appropriate.

Project team (head counting)							
Project coordinator		**Project members**			**No. of beneficaries**	**Advisory board**	
male	female	male	female	NN		male	female

Gender expertise was looked for (identified as the word "gender" appearing in team members' CVs or publication lists).

Gender Experts involved		
project indicating gender experts	male	female

10. ANNEXE 2: CASE STUDIES (SHORT VERSION)

The following list provides an overview and a short summary of selected case studies coming from the qualitative analysis. All these case studies integrate gender dimensions in the research content or implement gender issues on the organisational project level. In the opinion of the EG, they are among the best projects in the sample of 111 projects examined.

Ageing Trajectories of Health: Longitudinal Opportunities and Synergies (ATHLOS) Project No. 635316; Topic PHC-2014-two-stage, SC Health
The objective of ATHLOS is to achieve a better understanding of ageing by identifying patterns of healthy ageing, the determinants of those patterns and the critical points when changes in trajectories are produced, and to propose timely clinical and public health interventions to optimize healthy ageing. One of the aims is to understand differentials in ageing trajectories between men and women. Although gender is not the main focus of the project, gender considerations are well included in the methodology, work packages and policy recommendations.

Constructing AcTive CitizensHip with European Youth: Policies, Practices, Challenges and Solutions (CATCH-EyoU) Project No. 649538; Topic YOUNG-1-2-5a-2014, SC Inclusive Societies
The project investigates young people's views of the EU and of their role in building the EU through their participatory practices at EU, national, regional and local levels. These issues will be examined from an interdisciplinary perspective as building blocks for a new and ground-breaking conceptualization and theoretical model of youth active citizenship in the EU, including "psychological" citizenship and practices of social and political engagement. The project gives gender issues a central position both in terms of the content of the research (gender and age specific patterns of youth engagement) as well as its research management (gender dimension included among criteria to sample case studies).

Characterizing Atrial fibrillation by Translating its Causes into Health Modifiers in the Elderly (CATCH ME) Project No. 633196; Topic PHC-01-2014, SC Health
The aim of CATCH ME is to transform the prevention and treatment of atrial fibrillation (AF) and its complications by developing and validating informed management strategies based on the main health modifiers leading to atrial fibrillation in the European population. The gender dimension is an essential part of the analysis assessing interactions of the CATCH ME factors with ageing and hormonal changes in women, and by addressing the existing uncertainties e.g. regarding gender and AF prevalence, or gender and stroke risk in AF. Furthermore, the consortium will promote diversity and equality and the consortium work will support women scientists in their career goals. The project's diversity and equality board will constantly monitor the thorough integration of sex and gender into the analyses.

Congestion Reduction in Europe: Advancing Transport Efficiency (CREATE) Project No. 636573, Topic MG-5.3-2014, SC Transport
The project examines the full range of urban passenger and freight/servicing movements in urban, suburban and peri-urban areas, and the evolving ways in which urban streets are used (both in terms of 'Movement' and 'Place' activities). It identifies and quantifies the main impacts (economic, social and environmental) of policy measures introduced at different stages in the Transport Policy Evolution Cycle, in order to establish the effectiveness of different measures. And it examines their distributional consequences by gender and for residents and mobility disadvantaged groups of travellers. In particular, the project identifies gender-specific travel behaviour and transport requirements, and the gender implications of different technologies and transport policy measures. The project also monitors quality control and adherence to the gender dimension of the work.

Energy System Transition Through Stakeholder Activation, Education and Skills Development (ENTRUST) Project No 657998 Topic - LCE-20-2014 SC Energy
The project aims to analyse Europe's energy system and understand how human behaviour around energy is shaped by both technological systems and socio-demographic factors (especially gender, age and socio-economic status). Gender appears the theoretical framework, methodology, impact and in dissemination. It is part of a socio-economic WP and has a specific deliverable.

Revisioning the 'Fiscal EU': Fair, Sustainable, and Coordinated Tax and Social Policies (FairTax) Project No. 649439 Topic - EURO-1-2014 SC Inclusive Societies
The project aims to research ways of harmonizing of EU member tax and social policies to produce fairer, more stable, and more sustainable tax and social policy regimes. The topic was well worded and firm. The project covers gender very extensively, including it in its objectives, its theoretical framework, its methodology and its impact. It has a specific gender WP and refers to gender in several others. The coordinator has good gender expertise.

Innovative Social Investment: Strengthening communities in Europe (InnoSI) Project No. 649189; Topic Euro-3-2014 SC Inclusive Societies

One of the main objectives of this project is to understand better, from the perspective of recipients, the social and psychological impact of innovative and strategic approaches to social welfare reform with a particular focus on gender and generational issues. Gender analysis is a key dimension in the project and runs through all the work packages. The project is likely to provide new knowledge on how gender dimensions are and could be integrated in welfare reforms.

Mapping mobility – pathways, institutions and structural effects of youth mobility in Europe (MOVE) Project No. 649263; Topic YOUNG-2-2014 SC Inclusive Societies
The overall ambition of this project is to provide a research-informed contribution towards an improvement of the conditions of the mobility of young people in Europe and a reduction of the negative impacts of mobility through the identification of ways of good practice thus fostering sustainable development and wellbeing. The project is based on a multilevel research design, including case studies on six types of mobility (higher education, voluntary work, employment, vocational training, pupil's exchange and entrepreneurship), a survey and secondary data analysis, taking into consideration social inequality. Within the project, gender is a central category within a broader perspective on social inequality and disadvantages of young people. The project consortium also aims to achieve gender balance at all levels of personnel participating in the project, including at supervisory and managerial level.

Participatory Engagement with Scientific and Technological Research through Performance (PERFORM) Project No. 665826; Topic SEAC-1-2014 SwafS
The project aims to investigate the effects of the use of innovative science education methods based on performing arts in fostering young peoples' motivations and engagement with STEM. Gender is taken into account comprehensively and throughout the project: in 3 of the 4 objectives of the project, it presents gender analysis in the SoA, in theoretical considerations, methodology, impacts and dissemination. Although there are no gender specific work packages or deliverables, there is some (although not broad) gender expertise in the consortium, gender balance in the team, and gender is embedded in a general RRI strategy, so it is a good example of gender as a cross cutting issue in the project.

PROMoting youth Involvement and Social Engagement: Opportunities and challenges for 'conflicted' young people across Europe (PROMISE) Project No. 693221; Topic YOUNG-4-2015 SC Inclusive Societies
The project will investigate how young people's, often negative, responses to these problems create conflict, and how, instead, their responses can provide opportunities for positive social engagement. By addressing the experiences, values and attitudes of European youth seen to be in conflict with older generations, authorities and social norms the project will get to the heart of barriers and opportunities for social engagement. The gender mainstreaming approach promoted in the project concerns both the organisation and management of the project and the research itself and is detailed in a Gender Action Plan devised at the outset of the project including a list of criteria against which to assess progress.

Solidarity in European societies: empowerment, social justice and citizenship (SOLIDUS) Project No. 649489; Topic Euro-3-2014 SC Inclusive Societies
This project aims to analyse in depth the acts of solidarity which are being developed across Europe, the extent to which they respond to dialogic and inclusive processes, the related outcomes and the policy developments. Gender is considered through all cross-national comparison and the gendered aspects of psychological, political, cultural and socioeconomic factors influencing solidarity are explored. The gender dimension is very well integrated in all parts of the project. A strong point is the Gender Committee that ensures the inclusion of gender perspectives throughout the project as well as in management and dissemination.

Development of water supply and sanitation technology, systems and tools, and/or methodologies (Waterspoutt) Project No. 688928; Topic - WATER-5-2014c SC Food
The project aims to design and field-test solar disinfection technologies to provide affordable access to safe water to remote and vulnerable communities in Africa. Gender is presented as a basis issue for the project. It has a Social science WP (the rest is more technical) where gender appears at all levels (theory, methodology, impact, dissemination, in a deliverable). There is good gender expertise in the project and in particular with the Social Science WP leader.

Pan-European web entrepreneurship and startup ecosystem (WELCOME) Project No. 644286; Topic LEIT ICT-13-2014
The project aims to connect 4 different major EU ecosystems, identifying and engaging through local partners the most relevant players of the previous 4 web entrepreneur ecosystems (investors, corporates, media, successful web entrepreneurs) with prospective, emerging and successful start-ups. The final goal is to create a Pan-European ecosystem in which every web entrepreneur in one of the ecosystems feels that belongs to it. The project deals with gender issues by promoting affirmative action at the institutional level and develops an action plan that indicates actions and activities to be developed to promote gender equality in all forms within the project.

11. ANNEXE 3: TOPIC FORMULATION

The EG carried out a systematic search for references to gender issues in 5 parts of the 2014-2015 and 2015-2016 work programmes, LEIT-ICT, SC1 Health, SC4 Transport, SC5 Climate and SC6 Inclusive Societies. The results appear extensively below, after a summary. Some topics with no reference to gender – although it would seem more than pertinent - have also been listed.

11.1. A typology of topic wordings

Topic wording takes a variety of forms, often very brief or qualified by "if relevant". An argument for the integration of gender is rarely extensively developed. However, in a few cases, gender is referred to at several points in the topic (scope, impact, etc.), leading to a more coherent view.

Only short sentence may appear, such as:

- CULT-COOP-05-2017: Religious diversity in Europe - past, present and future: "The gender dimension of these issues should be also considered."
- SC5-01-2016-2017: Exploiting the added value of climate services: "If relevant, gender aspects in relation to the services may be addressed."

Gender may be mentioned among a series of rather unrelated dimensions:

- SC6-EURO-4-2014: Political challenges for Europe: "The analysis should consider the gender dimension, the historical-cultural traditions of leadership, and the historical contexts of different crisis situations."
- REV-INEQUAL-07-2016: Spatial justice, social cohesion and territorial inequalities: "Attention should be paid to access and quality of health as well as to the gender dimension."

Gender can be mentioned among other, more related, dimensions, often qualifying gender as an inequality issue:

- SC6-INT-10-2015: The European Union and integration challenges in the Balkans: "Key issues such as socio-economic and democratic development, identity politics, challenges of state building, linguistic and cultural diversity, ethnic conflicts as well as gender equality and migration should be addressed."

A full explanation of the gender issue is very rarely given:

- SC6 Other Actions: "Women entrepreneurship and women-led enterprises: With this prize the European Union would like to boost women entrepreneurship by bringing about solutions to overcome the obstacles for women-led enterprises and entrepreneurial activities and address the importance of women's access to support and finance."

In some rare cases, gender appears in several points along the topic:

- INT-7-2015: Towards a new geopolitical order in the South and East Mediterranean region: "In order to better understand interrelations of social, cultural, religious, gender and political factors and developments in the region, research should draw on a multitude of disciplinary perspectives including, for instance, sociological, historical, economic and anthropological research. […] Research will also identify the role of civil society and the existing cleavages or tensions that may emerge between different groups of the population (such as current and future elites but also the role of both rural and urban citizens and of gender relations) in the geopolitical and political process. […] It will focus on the existing and emerging social, cultural, political, gender and religious factors that affect the region."

It is very likely that a more coherent and complete description of the way a gender dimension should be integrated into the research content will have a stronger impact on the applicants. Wording of topics should therefore be improved.

A list of all references to gender/sex in 4 parts of the work-programme follows. Some gender-less topics have also been listed.

11.1.1. Wording of topics in LEIT-ICT

2014-15

113 pages of WP - 2 topics mentioned gender

- ICT 20 – 2015: Technologies for better human learning and teaching: "Gender differences in ICT-based learning attitudes should be considered."
- ICT 31 – 2014: Human-centric Digital Age: "Gender, generational and cultural differences in behaviours should also be considered where relevant."

2016-17

144 pages of WP – 7 topics mentioned gender, a clear improvement

- ICT-03-2016: SSI - Smart System Integration: "The variety of users' needs and customers, induced by age, gender and other factors, will be taken into account."
- ICT-17-2016-2017: Big data PPP: Support, industrial skills, benchmarking and evaluation: "Also, there is an urgent need [underlined in text] to improve the education, professional training and career dynamics (including addressing the existing gender gaps in ICT) so that the profiles of data professionals better respond to the rapidly evolving needs of data intensive industry sectors."
- ICT-18-2016: Big data PPP: privacy-preserving big data technologies: "The diversity (e.g. in terms of age, sex, gender, socio-economic class) of data subjects should be taken into account, as appropriate."
- ICT-19-2017: Media and content convergence: [In a footnote] "When testing accessibility solution, attention should be paid to the diversity of the disabled population, in particular to social characteristics, such as age, gender, and socio-economic status." [Large scale demonstrators – there is no question of « disability », only wide access to technology!]
- ICT-23-2017: Interfaces for accessibility: "A mix of expertise is necessary including from relevant social sciences and humanities disciplines (e.g. cognitive sciences, psychology, disability studies) and due attention will be paid to the diversity of users and users' needs (e.g. age, gender, socio-economic status)."
- ICT-24-2016: Gaming and gamification: "Activities shall include work on gaming technologies (augmented and mixed reality, 3D audio and video, virtual worlds, interactive storytelling, narratives, modelling and data, etc.), learning and behavioural triggers (pedagogical effectiveness, engagement, creativity, collaborative behaviours, proactive) and social science aspects (potential risks and challenges, privacy, gender and ethical issues etc.)."
- ICT-39-2016-2017: International partnership building in low and middle income countries: "Societal and gender issues will be taken into account."

11.1.2. Wording of topics under SC1 Health

The searched was carried out for "sex" and "gender" (sex is rarely used alone; it rather appears in "sex and gender"). Generally, gender appears in a list of issues to be taken into account. There is no text of the type "gender is important because […]".

2014-15

In 2014-15, HCO (i.e. coordination activities) are more attentive to explaining gender dimensions than PHC (personalising health and care), with fewer topics but better introduced. PHC puts gender in practically every call. Some calls with no reference to gender are listed below.

- PHC 1 – 2014: Understanding health, ageing and disease: determinants, risk factors and pathways: "In both cases, sex and gender differences should be taken into account.
- PHC 2 – 2015: Understanding diseases: systems medicine: "The predictive value of such models should be validated in well-phenotyped patient cohorts, taking due account of gender, and their clinical potential thoroughly investigated."
- PHC 4 – 2015: Health promotion and disease prevention: improved inter-sector co-operation for environment and health based interventions: "In the development of these interventions, age and gender aspects should be taken into account where appropriate."
- PHC 5 – 2014: Health promotion and disease prevention: translating 'omics' into stratified approaches: "The assessment should include account age and gender aspects where appropriate."
- PHC 6 – 2014: Evaluating existing screening and prevention programmes: "The gender dimension should be taken into account where relevant."

- PHC 8 – 2014: Vaccine development for poverty-related and neglected infectious diseases: Tuberculosis: "Proposals should therefore address areas such as *in vitro* and *in silico* testing, predictive animal models, predictive correlates of protection, phase 0 trials, first in man trials and innovative risk prediction methods, taking into account potential sex-specific differences."
- PHC 9 – 2015: Vaccine development for poverty-related and neglected infectious diseases: HIV/AIDS: "Proposals should therefore pool expertise in the areas of *in vitro* and *in silico* testing, predictive animal models, predictive correlates of protection, phase 0 trials, first in man trials and innovative risk prediction methods, taking into account sex-specific differences."
- PHC 17 – 2014: Comparing the effectiveness of existing healthcare interventions in the elderly: "The study population should address gender balance where relevant."
- PHC 19 – 2014: Advancing active and healthy ageing with ICT: Service robotics within assisted living environments: "Gender and ethical issues should be paid due attention."
- PHC 20 – 2014: Advancing active and healthy ageing with ICT: ICT solutions for independent living with cognitive impairment: "Gender and ethical issues should be paid due attention."
- PHC 21 – 2015: Advancing active and healthy ageing with ICT: Early risk detection and intervention: "Proposals should build on multi-disciplinary research involving behavioural, sociological, health and other relevant disciplines, and on stakeholder engagement in order to be driven by relevant user needs to ensure end-user acceptance (including gender aspects)."
- PHC 22 – 2015: Promoting mental wellbeing in the ageing population: "Issues of particular relevance for the target populations, such as self-medication, poly-pharmacy and compliance, and gender specificities should also be taken into account."
- PHC 23 – 2014: Developing and comparing new models for safe and efficient, prevention oriented health and care systems: "The gender dimension should be duly addressed."
- PHC 24 – 2015: Piloting personalised medicine in health and care systems: "Behavioural, ethical, legal, social implications as well as the gender dimension should be addressed."
- PHC 25 – 2015: Advanced ICT systems and services for Integrated Care: "Gender and ethical issues should be paid due attention."
- PHC 26 – 2014: Self-management of health and disease: citizen engagement and mHealth: "Implementation of programs or applications for different target populations to capture gender- and age-dependent differences in health, behaviour and handling of devices should be included."
- PHC 27 – 2015: Self-management of health and disease and patient empowerment supported by ICT: "Implementation of programs or applications for different target populations to capture gender- and age-dependent differences in health, behaviour and handling of devices is encouraged. [...] Gender and ethical issues should be duly considered."
- PHC 28 – 2015: Self-management of health and disease and decision support systems based on predictive computer modelling used by the patient him or herself: "Gender and ethical issues should be duly considered."
- PHC 30 – 2015: Digital representation of health data to improve disease diagnosis and treatment: "Gender and ethical issues should be duly considered."
- HCO 5 – 2014: Global Alliance for Chronic Diseases: prevention and treatment of type 2 diabetes: "All proposals should: [...] Include an assessment of equity and gender gaps in diabetes prevention and treatment. [...] Identify obstacles such as inequities and equity gaps including gender that will be taken into account in the design of an implementation strategy. [...] [impact] Reducing health inequalities and inequities, including gender, in the prevention and treatment of type 2 diabetes in both a local and global context."
- HCO 6 – 2015: Global Alliance for Chronic Diseases. Prevention and treatment of lung diseases: "Smoking is a major cause of inequality in health between gender, socioeconomic groups and age categories. [...] Identify obstacles such as inequities and equity gaps including gender that will be taken into account in the design of an implementation strategy. [...] To reduce health inequalities and inequities, including gender, in the prevention and treatment of lung diseases in both a local and global context"
- HCO 15 – 2014: Mobilisation and mutual learning action plan: "The MML should contribute to the implementation of 'Science with and for Society' issues (public engagement, ethics, gender perspectives, science education, communication and access to and dissemination of scientific information) in the area of health"
- HCO 16 – 2014: National Contact Points: "Various mechanisms may be included, such as benchmarking, joint workshops, enhanced cross-border brokerage events, specific training linked to this societal challenge as well as to gender dimension of Research and Innovation, and twinning schemes."

No mention of gender (the list is not complete, these are only some examples):

- PHC 3 - 2015: Understanding common mechanisms of diseases and their relevance in co-morbidities
- PHC 12 – 2014/2015: Clinical research for the validation of biomarkers and/or diagnostic medical devices
- PHC 13 – 2014: New therapies for chronic non-communicable diseases

2016-2017

In 2016-17, there is in first approximation no increase in the amount of text referring to gender. PM (personalized medicine) puts gender in practically every call. HCO (= coordination activities) is perhaps a bit more detailed, but gender only appears in 2 topics. There are calls with no gender. Some are listed below.

- In the WP part introduction: The 'Health, Demographic Change and Well-being' Work Programme 2016-2017 integrates the principle of responsible research and innovation in all its activities, including addressing gender/sex differences as well as ethics, social sciences and humanities (SSH) whenever relevant.
- SC1-PM-01-2016: Multi omics for personalised therapies addressing diseases of the immune system: "Proposals should address relevant ethical implications, take into account sex and gender differences and include a section on research data management."
- SC1-PM-02-2017: New concepts in patient stratification: "The new concepts of stratification should be validated in pre-clinical and clinical studies taking into account sex and gender differences"
- SC1-PM-03–2017: Diagnostic characterisation of rare diseases: "In addition, age, sex and gender aspects should be included where appropriate"
- SC1-PM-04–2016: Networking and optimising the use of population and patient cohorts at EU level: "Proposals should aim at maximizing the exploitation of cohorts by bringing together national and/or European cohorts with common scientific interests (e.g. across diseases, children, mothers, elderly, birth, gender, etc.), and by taking advantage of new technologies (e.g. ICT, social platforms, etc.) and new type of data (e.g. geographical, genetic, eHealth records, etc.)."
- SC1-PM-05–2016: The European Human Biomonitoring Initiative: "Gender aspects should be taken into account where relevant."
- SC1-PM-06–2016: Vaccine development for malaria and/or neglected infectious diseases: "If relevant, an assessment of the target population risk-perception attitudes and immunization behaviours should be made and sex- and gender differences should be taken into account."
- SC1-PM-07–2017: Promoting mental health and well-being in the young: "The interventions should use a holistic approach, taking gender and health inequality aspects into account, in increasing resilience and empowering the young. [...] These analyses of impact and effectiveness should be presented in quantitative as well as qualitative terms, in a gender disaggregated way where relevant."
- SC1-PM-09–2016: New therapies for chronic diseases: "Gender and age must be considered whenever relevant."
- SC1-PM-10–2017: Comparing the effectiveness of existing healthcare interventions in the adult population: "Where relevant the study population should address gender as well as socio-economic differentials in health and/or any other factors that affect health equity."
- SC1-PM-11–2016-2017: Clinical research on regenerative medicine: "Sex and gender differences should be investigated, where relevant."
- SC1-PM-12–2016: PCP - eHealth innovation in empowering the patient: "ICT solution should address relevant ethics and gender aspects and should also address related regulatory questions such as ownership of data, data protection/privacy and consumer protection."
- SC1-PM-13–2016: PPI for deployment and scaling up of ICT solutions for active and healthy ageing: "Provide robust safeguards to ensure compliance with ethical standards and privacy protections and take account of the gender dimension"
- SC1-PM-14–2016: EU-Japan cooperation on Novel ICT Robotics based solutions for active and healthy ageing at home or in care facilities: "Gender and ethical issues should be paid due attention."
- SC1-PM-15-2017: Personalised coaching for well-being and care of people as they age: "Proposals should address relevant ethics and gender aspects and should also assess related legal and regulatory questions such as ownership of data, data protection/privacy, liability and consumer protection."

- SC1-PM-16–2017: In-silico trials for developing and assessing biomedical products: "They will build on comprehensive biological and biomedical knowledge management and advanced modelling paradigms in order to be able to simulate the individual human physiology and physiopathology at the biological levels relevant for the biomedical product under study (at the cell level, tissue level or organism level) and the interaction with the product, thus taking into account the variability among individuals (for example, molecular pathways, cellular microenvironments, microbiota, genetics, gender characteristics, behaviours, comorbidities, development, diet)."
- SC1-PM-17–2017: Personalised computer models and in-silico systems for well-being: "Well-being is a consequence of resilience to challenges and illness and of better prevention adapted to predispositions and behaviours (including gender), of better consideration given to the functional troubles, of better recovery and rehabilitation after illness. [...] The projects have to support computer modelling and simulations able to aggregate various information sets e.g. molecular, biochemical, medical imaging, social, lifestyle, economic, occupational, microbiome, environmental, developmental, psychological, gender etc. into robust predictors for resilience in coping with and overcoming challenges and stresses and for recovery after challenges and illness."
- SC1-PM-21-2016: Implementation research for scaling-up of evidence based innovations and good practice in Europe and low- and middle-income countries: "Proposals should be multidisciplinary and relevant gender aspects should be taken into account."
- SC1-HCO-08–2017: Actions to bridge the divide in European health research and innovation: "The proposals will propose concrete measures for tackling structural barriers to health research and innovation, including those related to capacity, skills, policy, regulatory environment, and economic and socio-cultural factors including gender equality issues and gender dimension in research content."
- SC1-HCO-12–2016: Digital health literacy: "The courses should be designed tailored to users' needs based on a strong understanding and projections of key factors, drivers, barriers and trends of the future that affect digital health literacy, be targeted specifically to citizens with low levels of digital health literacy and take into account and quantifying demographic, social, cultural and gender differences and address critical and/or interactive skills and competencies, as well as support peer learning"

No mention of gender (list is not complete, only some examples):

- SC1-PM-08–2017: New therapies for rare diseases
- SC1-PM-18–2016: Big Data supporting Public Health policies
- SC1-HCO-05–2016: Coordinating personalised medicine research
- SC1-HCO-11–2016: Coordinated action to support the recognition of Silver Economy opportunities arising from demographic change

11.1.3. Wording of topics under SC4 Transport

There is a clear improvement between the two periods.

2014-2015

- MG.1.6-2014. Improving skills and knowledge base in European aviation: "Regarding the education of aviation engineers in Europe, the scope of the action is to identify the skill needs in the sector, propose improvements including on gender issue and further contribute to the harmonisation of the content of the curricula for aviation engineers towards the creation of a Europe wide system."
- MG.3.6-2015. Safe and connected automation in road transport: "Ethical and gender issues in compensating for human errors should be duly taken into consideration."
- MG.5.1-2014. Transforming the use of conventionally fuelled vehicles in urban areas: "Special attention should be paid to issues related to vulnerable groups of citizens and gender issues."
- MG.5.3-2014. Tackling urban road congestion: "Special attention should be paid to issues related to vulnerable groups of citizens and gender issues."
- MG.5.5-2015. Demonstrating and testing innovative solutions for cleaner and better urban transport and mobility: "Special attention should be paid to issues related to vulnerable groups of citizens and gender issues."
- MG.9.1-2015. Transport societal drivers: "Specific challenge: A sound understanding of behavioural and societal factors –including economic, social, demographic, cultural and gender issues where relevant- that influence transport demand and supply is needed to ensure that, in

shaping transport policies and research and innovation activities, the values, needs and expectations of the society are met."

- MG.9.5-2015. Fostering transnational cooperation in European transport research and innovation – National Contact Point (NCP) network: "Various mechanisms may be included, such as benchmarking, joint workshops, enhanced cross-border brokerage events, specific training linked to the Transport Challenge as well as to gender dimension of Research and Innovation, and twinning schemes."
- MG.9.7-2014. Innovation awards for students and researchers in the context of the Transport Research Arena conference - TRA 201623: "The action should give particular attention to gender issues."

2016-2017

- MG-3.2-2017: Protection of all road users in crashes: "Consideration should be taken of gender aspects such as body structure and stature and other demographic factors such as the disabled (persons of reduced mobility), ageing, obesity, etc."
- MG-3.5-2016: Behavioural aspects for safer transport: "The challenge is to study those key factors that influence safe transport user behaviour, both individually and collectively, taking into account demographic factors (gender, age, socio-cultural aspects, etc.) and societal framework conditions (changing living conditions etc.). Scope: Proposals should address the following aspects: [...] Social and demographic factors such as: variations in safety behaviour, socio-cultural issues, gender, age and disability and their impact on risk assessment and exposure of each individual or group; and identification and development of measures to address these factors and reduce their impact."
- MG-4.1-2017: Increasing the take up and scale-up of innovative solutions to achieve sustainable mobility in urban areas: "Where relevant, potential gender differences should be investigated."
- MG-4.2-2017: Supporting 'smart electric mobility' in cities: "Where relevant, potential gender differences should be investigated."
- MG-8-2-2017: Big data in Transport: Research opportunities, challenges and limitations: "Disaggregated data analysis by users' groups (e.g. age, gender) will contribute to better focus specific needs and trends. [...] Better data can help transport authorities and industries to understand the behaviour of travellers and consumers, also in disaggregated groups (e.g. age and gender), provide targeted information and identify policy interventions."
- MG-8.3-2016: Assessing future requirements for skills and jobs across transport modes and systems: "The specific challenge of this topic will be to identify and assess future requirements for skills and training tools/methods across transport modes and systems, in order to improve the potential of the workforce and improve the gender balance in the field of transport. [...] Issues of gender and age are important and should be appropriately considered. [...] While, in the mid-term, work under this topic is expected to contribute to a better qualified labour force in the various transport sectors, in the longer term is expected to contribute to improved transport services as well as the employment prospects and gender balance of the sector."
- MG-8-4-2017: Improving accessibility, inclusive mobility and equity: new tools and business models for public transport in prioritised areas: "Specific Challenge: Accessibility is a concept used in order to address both travel patterns, attitudes and needs of particular social groups – e.g. gender specific needs, unemployed persons, vulnerable to exclusion citizens such as migrants, elderly, children, disabled, etc., as well as the mobility needs and transport use characteristics of people living in different types of areas such as rural, remote or deprived urban areas. [...] Identification of gender-related specificities in each group is strongly recommended. [...] The development of effective, efficient and affordable mobility solutions which respond to the specific needs of particular population groups such as vulnerable to exclusion citizens, taking into consideration the gender aspect."
- MG-8-5-2017: Shifting paradigms: Exploring the dynamics of individual preferences, behaviours and lifestyles influencing travel and mobility choices: "In all aspects, issues of age and gender should be taken into consideration. [...] Gender disaggregated data collection and analysis could contribute to a more thorough analysis."
- MG-8.6-2016: Innovation awards for students and researchers in the context of the Transport Research Arena conference - TRA 201847: "The action should give particular attention to gender issues"
- ART-02-2016: Automation pilots for passenger cars: "Gender balanced representation of the reference group should be ensured and data analysed in a disaggregated way. [...] Consideration should be taken of gender aspects and other demographic factors such as ageing, etc. [...] Wider socio-economic impacts of automated driving and the benefits for the driver in

terms of mobility, comfort, convenience and safety and analyse specific issues related to gender and other demographic factors such as ageing, etc."
- ART-04-2016: Safety and end-user acceptance aspects of road automation in the transition period: "Gender issues are particularly relevant and disaggregated data collection and analysis is strongly recommended."
- ART-07-2017: Full-scale demonstration of urban road transport automation: "Gender specificities should be considered."
- GV-05-2017: Electric vehicle user-centric design for optimised energy efficiency: "Consideration should be taken of gender aspects and other demographic factors such as ageing."

11.1.4. Wording of Topics under SC5 Climate

The number of references to gender has decreased between the two periods. Gender is well integrated when it appears, which is not very often.

2014-2015

- WASTE-1-2014: Moving towards a circular economy through industrial symbiosis: "Opportunities for social innovation, encouraging more sustainable consumption behaviour and lifestyle change, and involving civil society, should be considered, with appropriate attention to the gender dimension and to the barriers to raising awareness of eco-innovative solutions and their market, household and community penetration. [...] [Impact] Support, where appropriate, to the implementation and evaluation of technology verification schemes, also from a gender perspective, including the EU Environmental Technology Verification (ETV) Pilot programme."
- WASTE-4-2014/2015: Towards near-zero waste at European and global level: "Specific Challenge: The complexity and heterogeneity of waste streams require coordination and networking between researchers, entrepreneurs and public authorities to harmonise technologies, processes and services, to profit from benchmarking, sharing best practices, and gender mainstreaming, and to use or develop standards. [...] They should provide for participatory and proactive social engagement of citizens and education as well as gender balance and sensitivity specific issues."
- WASTE-6-2015: Promoting eco-innovative waste management and prevention as part of sustainable urban development: "Integrating in this way economic, social and environmental dynamics, it is possible to understand the socio-economically and gender nuanced patterns of resource use and consumption, and pinpoint drivers of waste-avoiding behaviour, manufacturing and business and public governance models. [...] Proposals should adopt an integrated urban metabolism approach and inter-disciplinary research and innovation and take into account the gender dimension where relevant. [...] Proposals should highlight the possible benefits to be derived from ecosystems services and green infrastructure, and their gender sensitive application. [...] Collectively-built, gender-sensitive solutions to promote eco-innovative urban management and re-naturing cities, measurable by qualitative and quantitative indicators."
- WATER-5-2014/2015: Strengthening international R&I cooperation in the field of water: "A prerequisite for tackling these challenges is a profound analysis of water resources at cross-boundary catchment scales, pressures on water resources and conflicts in water use that require sound approaches to water management, taking into consideration broader socio-economic factors and greater gender balance in decision making. [...] Proposals should connect to local knowledge, socio-economic development cultures, policy institutions and implementing bodies, and take into account the gender dimension where relevant."
- SC5-19-2014/2015: Coordinating and supporting research and innovation in the area of climate action, environment, resource efficiency and raw materials: "Various mechanisms may be included, such as benchmarking, joint workshops, enhanced cross-border brokerage events, specific training linked to this Societal Challenge as well as to the gender dimension of research and innovation, and twinning schemes."

No gender in (list is not complete, just some examples):

- WASTE-2-2014: A systems approach for the reduction, recycling and reuse of food waste
- WASTE-4-2014/2015: Towards near-zero waste at European and global level
- WATER-1-2014/2015: Bridging the gap: from innovative water solutions to market replication
- WATER-4-2014/2015: Harnessing EU water research and innovation results for industry, agriculture, policy makers and citizens
- SC5-3-2014: The economics of climate change and linkages with sustainable development
- SC5-17-2015: Demonstrating the concept of 'Citizen Observatories'

- SC5-20-2014/2015: Boosting the potential of small businesses for eco-innovation and a sustainable supply of raw materials

2016-2017

- Introduction to work program part: "This systemic approach is in line with Horizon 2020's Responsible Research and Innovation2 (RRI) crosscutting objective, engaging society, integrating the gender and ethical dimensions and ensuring access to research outcomes.
- Call - Greening the Economy – Introduction: "A better understanding of the demand and supply sides of the market is therefore needed, as well as a thorough assessment of the barriers and constraints associated with the provision and use of climate services, including gender issues."
- SC5-01-2016-2017: Exploiting the added value of climate services: "If relevant, gender aspects in relation to the services may be addressed."
- SC5-06-2016-2017: Pathways towards the decarbonisation and resilience of the European economy in the timeframe 2030-2050 and beyond: "In addition, proposals should address the socio-economic and environmental implications of deep decarbonisation, including the consequences for supply chains and production of goods (e.g. agriculture, industry, feedstock, raw material availability) and the impacts on various social groups (including gender aspects)."

No gender in (list is not complete, just some examples):

- SC5-10-2016: Multi-stakeholder dialogue platform to promote innovation with nature to address societal challenges
- SC5-11-2016: Supporting international cooperation activities on water (Had gender well integrated in 14-15)
- SC5-12-2016: Food systems and water resources for the development of inclusive, sustainable and healthy Euro-Mediterranean societies
- SC5-21-2016-2017: Cultural heritage as a driver for sustainable growth
- SC5-22-2017: Innovative financing, business and governance models for adaptive re-use of cultural heritage
- SC5-25-2016: Macro-economic and societal benefits from creating new markets in a circular economy

11.1.5. Wording of Topics under SC6 Inclusive Societies

Roughly the same proportion of references to gender over the two periods.

2014-2015

- EURO-1-2014: Resilient and sustainable economic and monetary union in Europe: "The compatibility of the European tax systems and the broader impacts of the different tax regimes at the European level should be assessed, including the implications for economic development as well as widening socio-economic and gender inequalities."
- EURO-2-2014: The European growth agenda: "From the labour market perspective, it is important to investigate how migrants can complement native worker productivity and what the success factors and inhibitors in migrants' careers are, including the gender-specific factors."
- EURO-3-2014: European societies after the crisis: "It should combine theoretical and empirical work in this endeavour, taking explicitly into account the gender dimension as well as spatial justice. [...] Attention should be paid to the gender dimension of social policies as well as generational justices and the challenge to develop sustainable pension schemes."
- EURO-4-2014: Political challenges for Europe: "The analysis should consider the gender dimension, the historical-cultural traditions of leadership, and the historical contexts of different crisis situations."
- EURO-6-2015: Meeting new societal needs by using emerging technologies in the public sector: "The focus can be on any or several of the below: [...] Transforming delivery of public services to business and citizens taking account of diversity (gender, age, disability etc.);
- Call -the Young Generation in an Innovative, Inclusive and Sustainable Europe H2020-YOUNG-2014/2015 – Introduction: "Specific attention will be paid to capturing the full diversity of young people in Europe and to addressing gender equality aspects."
- YOUNG-1-2014: Early job insecurity and labour market exclusion: "Taking specifically into account the gender perspective and most vulnerable groups of young people, research will also investigate the economic, social, personal and psychological consequences of early job insecurity, labour market and social exclusion in the short, medium and long term."

- YOUNG-3-2015: Lifelong learning for young adults: better policies for growth and inclusion in Europe: "Diversity issues (gender, culture, ethnicity, language etc.) should be considered as well."
- YOUNG-4-2015: The young as a driver of social change: "Specific challenge: Meeting the challenges of the ageing population and a transformation into a more sustainable social and economic model, characterised by growing scarcity of resources, greater consideration for the natural environment, living under a shifting climate with uncertain consequences, and more gender equality, necessitates profound changes in the European society concerning our lifestyles, consumption patterns, the way we do business, develop our cities and design our homes, but also the way we build and govern our societies, forge intra- and intergenerational relations and organise our daily lives. [...] Research should also investigate their attitudes towards a more sustainable socio-economic model and its various features in comparison with older generations, including the evolution of gender relationships."
- YOUNG-5-2014: Societal and political engagement of young people and their perspectives on Europe: "Activities under this topic should take into account the characteristics, approaches and needs of young people coming from different cultural and socio-economic backgrounds, including the gender context."
- INT-3-2015: Europe's contribution to a value-based global order and its contestants: "It should then examine whether and how various criteria for a just and value-based global order are met by the EU and EU Member and Associated countries' policies, activities and regulations in issue areas that may be of particular importance for the promotion of inter-culturally shared values and justice at a global scale, such as trade and development policy, the defence of human rights, the promotion of gender equality, religious freedom conflict prevention and resolution and the protection of livelihoods."
- INT-7-2015: Towards a new geopolitical order in the South and East Mediterranean region: "In order to better understand interrelations of social, cultural, religious, gender and political factors and developments in the region, research should draw on a multitude of disciplinary perspectives including, for instance, sociological, historical, economic and anthropological research. [...] Research will also identify the role of civil society and the existing cleavages or tensions that may emerge between different groups of the population (such as current and future elites but also the role of both rural and urban citizens and of gender relations) in the geopolitical and political process. [...] It will focus on the existing and emerging social, cultural, political, gender and religious factors that affect the region."
- INT-10-2015: The European Union and integration challenges in the Balkans: "Key issues such as socio-economic and democratic development, identity politics, challenges of state building, linguistic and cultural diversity, ethnic conflicts as well as gender equality and migration should be addressed."
- INSO-2-2014: Understanding and supporting business model innovation: "Due attention should be given to the gender dimension in developing business models and multi-disciplinarity, as well as to the broader social and environmental aspects of business model development and implementation."
- INSO-4-015: Innovative schemes for open innovation and science 2.0: "The actions will be implemented by consortia that will commit to the ERA principles [Note Commitment to the ERA Principles implies that institutions: [...] apply a Gender Equality Plan [...] Gender aspects need to be taken into account. [...] International aspects should be taken into account, while appropriate consideration should be given to the gender dimension in the design, development and delivery of the actions"

No gender in (list is not complete, just some examples; no gender at all under "REFLECTIVE")

- REFLECTIVE-3-2015: European cohesion, regional and urban policies and the perceptions of Europe
- REFLECTIVE-5-2015: The cultural heritage of war in contemporary Europe
- INT-9-2015: The European Union, Turkey and its wider neighbourhood: challenges and opportunities

2016-2017

- Introduction to work program part: "Many Topics also integrate the gender dimension as a key element of inclusive societies. [...] The approach adopted in the present calls is in line with the Horizon 2020 Responsible Research and Innovation (RRI) crosscutting issue, engaging multiple actors including society, integrating the gender and ethical dimensions, ensuring the access to research outcomes. Some Topics deal specifically with formal and informal (science) education.

- CO-CREATION-01-2017: Education and skills: empowering Europe's young innovators: "Within the scope of the action is to develop new models, to investigate and to test new mechanisms that the young generation is engaging in, for addressing societal challenges coupled with an entrepreneurial spirit as well as effective ways and mechanisms for collecting and promoting innovative ideas from the young people. Particular attention should be paid to gender issues. [...] Particular attention should be paid to gender issues."
- CO-CREATION-07-2017: Towards a new growth strategy in Europe - Improved economic and social measurement, data and official statistics: "The changing characteristics of economies and societies in Europe require inclusion of multiple dimensions, including gender and age, new measurement and data for developing new policy for economic growth and well-being."
- CO-CREATION-07-2017: Towards a new growth strategy in Europe - Improved economic and social measurement, data and official statistics: "Better measurement of tangible and intangible investments together with labour skills, in existing categories as well as inclusion of potentially relevant asset categories outside the current asset boundary (such as economic competences, organisational capital, co-creation, skills, marketing assets, firm specific human capital investments, culture and arts) – by taking gender and age into account - would improve the understanding about growth in knowledge-based, globalised and connected economies."
- H2020-SC6-REV-INEQUAL-2016-2017 Introduction: "The rise in inequalities in Europe and other parts of the world comprises hitherto unknown quantitative and qualitative dimensions: in the wake of the financial and economic crisis, highly increased levels of inequality (e.g. income and wealth concentration, gender inequality) can be detected alongside novel types of inequalities (e.g. debt inequality, inequality in access to justice or political life, spatial inequality)."
- REV-INEQUAL-01-2016: An empirically informed European theory of justice and fairness: "This should encompass the attitudes regarding inequalities at least in relation to debt, wealth, income, access to financial services and to the labour market, education, age, gender and health."
- REV-INEQUAL-02-2016: Contemporary radicalisation trends and their implications for Europe: "Socialisation processes linked to these crimes as well as re-socialization processes which can reverse them should be considered and gender aspects included. [...] Due regard must be had to the gender dimension. [...] Projects will also produce profiles of recruiters and targeted individuals and groups such as young women."
- REV-INEQUAL-03-2016: Dynamics of inequalities across the life-course: "Comparisons should be made between time-use patterns of various generations, whereby special attention should be paid to the elderly, gender differences and of rural and urban populations in Europe, in order to investigate the conditioning factors of disposable time at various stages of the life-course at both the individual and structural level. [...] Research should provide the evidence base for effectively planning time in the working environment, but also insights on how relevant policies, such as pension, employment including extended working life, social, housing or education policies, can provide the frameworks in which men and women feel that they can use their life time in a manner they experience as healthy, comfortable and fair."
- REV-INEQUAL-04-2016: Intra-EU mobility and its impacts for social and economic systems: "In this regard, issues to be explored may include remittances, loss of human capital, impact of migration on family life (separations, impact on children and the elderly) and local communities, gender, equality, demographic trends as well as the impact on the tax base and labour market."
- REV-INEQUAL-06-2016: Tackling inequalities at their roots: new policies for fairness in education from early age: "This could include combating social, economic, gender and spatial segregation and discrimination; promoting the success of migrant-background learners; better equipping institutions and educators to deal with diversity and social inequality; providing active and inclusive pedagogies and psychosocial care policies; promoting citizenship and enhancing democratic values; better measuring and monitoring inequalities in education, including at the regional and local level, whereby microsimulation could be envisaged as a tool. [...] Possible dimensions to be analysed include: governance issues (decentralisation of responsibility for expenditure, decision-making, assessing results, allocating public funding); teachers training; organisation of the curriculum; degree of autonomy of schools; level of segregation; accountability issues; availability and quality of facilities, including ICT, innovative teaching/learning methods; gender balance, and learning environments, including the role of teachers and community members."
- REV-INEQUAL-07-2016: Spatial justice, social cohesion and territorial inequalities: "Attention should be paid to access and quality of health as well as to the gender dimension."
- REV-INEQUAL-08-2016: Fighting inequalities through policies against tax fraud and tax evasion: "Research should also assess whether and to what extent the prevalence of tax fraud, optimisation, evasion and avoidance might be socially and/or culturally or gender embedded."

- REV-INEQUAL-10-2016: Multi-stakeholder platform for enhancing youth digital opportunities: "Gender issues will be paid particular attention. Furthermore, gender and diversity balance among the participating children and young people will be ensured."
- ENG-GLOBALLY-03-2017: The European Union and the global challenge of migration: "Research should cover existing migration management experiences in origin and transit countries focussing on compared practices and policy solutions for effective migration management including the gender dimension."
- CULT-COOP-02-2017: Improving mutual understanding among Europeans by working through troubled pasts: "The gender dimension of these discourses and their transmission should be also considered."
- CULT-COOP-03-2017: Cultural literacy of young generations in Europe: "Based on a comparative analysis of cultural literacy of young Europeans of diverse origins and backgrounds as well as of their "inter-cultural" competencies, research should investigate the role and impact of informal education in the broadest sense, by family, gender, communities of origin, peer-groups or society at large on the development of cultural literacy."
- CULT-COOP-05-2017: Religious diversity in Europe - past, present and future: "The gender dimension of these issues should be also considered."
- CULT-COOP-06-2017: Participatory approaches and social innovation in culture: "The gender dimension of these issues should be also considered. […] Other Actions: Women entrepreneurship and women-led enterprises: With this prize the European Union would like to boost women entrepreneurship by bringing about solutions to overcome the obstacles for women-led enterprises and entrepreneurial activities and address the importance of women's access to support and finance."

No gender in (list is not complete, just some examples):

- CO-CREATION-04-2017: Applied co-creation to deliver public services
- REV-INEQUAL-05-2016: Inequalities in the EU and their consequences for democracy, social cohesion and inclusion.
- REV-INEQUAL-09-2017: Boosting inclusiveness of ICT-enabled research and innovation
- ENG-GLOBALLY-08-2016/2017: EU-China cooperation on sustainable urbanisation
- CULT-COOP-04-2017: Contemporary histories of Europe in artistic and creative practices

12. ANNEXE 4: EVIDENCE FROM THE FP7 EX-POST EVALUATION

The FP7 ex-post evaluation recognised that GE draws on a long history of policy development at the EU. Since the EEC Treaty of Rome in 1957 the EU has adopted 13 directives in the field of gender equality. Following the Amsterdam Treaty of 1999, which established equality between men and women as a specific task of the Community and as a horizontal objective affecting all Community tasks, the European Commission formalised its commitment to advance gender equality in research in its Communication Women and Science: mobilising women to enrich European research57. Since then, the promotion of gender equality is part of the European Commission's strategic approach in the field of research and innovation. The Women and Science Unit in D.G Research and the Helsinki Group, the group of National representatives created by the EC in order to place the women and science debate on a policy footing, were also created in 1999.

The increasing knowledge about the complexity of gender segregation in science & innovation led the EC, during the FP7 period, to a shift in focus towards addressing the structural transformation of institutions, using a systemic, comprehensive and sustainable approach. As stated by the Expert Group on Structural Change report commissioned by DG Research in 2011, it is precisely with the FP7 that the EC's activities changed character towards a structural change approach: "from women scientists, the focus moved to the institutions that employ them in order to address gender management issues and work towards a better representation and retention of women at all levels of their scientific careers"[58].

This structural change report "analyses the progress made in legislation, participation and policy, describes the problems remaining for research institutions in Europe and stresses the role that EU policy makers, science institutions and gatekeepers of excellence must play in order to advance gender equality in research and innovation". Five structural problems were identified for facing a real structural change in research institutions: 1) Opaqueness in decision-making: despite the significant progress, lack of transparency continues to affect structures and processes.; 2) The institutional practices, although they are apparently neutral, do have negative effects on career opportunities of women, among them, unconscious cognitive biases operate in assessing merit, suitability for leadership or evaluation of performance; 3) Unconscious gender biases in the assessment of excellence and the process of peer review; 4) Gender Bias also operates in the content of science itself, being important the integration of sex and gender analysis for increasing innovation and quality of research; and 5) The gender pay gap also affects research. Work is organized in gendered ways, which affects the reconciliation of work and family; also harassment and concentration of power are variables to take into account in that gendered labour organization.[59]

Concretely, the decision on the FP7 stated that "the integration of the gender dimension and gender equality will be addressed in all areas of research"60. With it, the EC pursued a systematic and visible strategy to promote gender equality in science and research. This strategy recognized that the relationship between women and research is threefold: 1) Women's participation in science and research must be encouraged; 2) Research must address women's needs as well as men's; and 3) There should be research on the gender question itself, to enhance understanding of gender issues in science and research. Therefore, gender in research requires actions related to the two gender objectives of FP7: 1) Equal opportunities for men and women in research, that is, actively promoting the role of women in science, which led to: a) Encourage equal participation of men and women in research teams at all levels, and b) Create working conditions and culture that allow men and women to have equally fulfilling careers. And 2) Gender in research content. For this objective, it was necessary to: a) Consider gender as a key analytical and explanatory variable in research and b) Consider gender specific research to fill knowledge gaps.

Regarding FP7 on impact, the ex-post evaluation recognized that, due to different ways of gathering data over the years, there were not many reliable comparative figures from prior FPs were available. However, there were some indications that FP7 had shown a slight improvement in female participation in the projects in comparison with FP6. For example, in the *expost* FP6 evaluation the figure of 16-17% female coordinators (Principal Investigators) was given for 2006 and 6 years later, 2012, 19.2%, which was considered a low increased and served for

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[57] European Commission (1999), Women and Science: mobilising women to enrich European research. Communication of the European Commission, Brussels: European Commission.

[58] Report on Structural Change in research institutions: Enhancing Excellence, Gender Equality and Efficiency in Research and Innovation Report of the Expert Group on Structural Change (Chair: Inés Sánchez de Madariaga). 2012. Brussels: DG Research & Innovation. European Commission, p.10. Highlighted terms by this report's authors.

[59] Report on Structural Change in research institutions. p.6

[60] Decision nº 1982/2006/EC of 18/12/2006, OJ L 412, 30/12/2006, p.1

corroborating a vertical segregation and the structural character of gender inequality and how it operates in science & innovation, especially compared to female participation in other workforce categories[61]. However, the FP7 ex-post evaluation also recognized several key advancements on GE in FP7.

[61] HLEG, Commitment and Coherence. FP7 Ex-post evaluation.

13. ANNEXE 5: GENDER COMMENTS IN 111 ESRS

List of "gender comments" in the 111 ESRs analysed. The first listed are the ones which were done by panels with no gender expertise (0 GE). In red and italic, the negative comments (i.e. where the gender dimension is negatively evaluated).

13.1. Criterion 1 (Excellence):

25 proposals have a comment.

The proposal describes a valid approach to address gender issues and the needs of vulnerable groups by including specific behaviour parameters and layout requirements in the modelling and assessment tools. (0 GE)

Gender and social/cultural aspects are considered throughout. (0 GE)

Gender issues are addressed. (0 GE)

Gender and social/cultural aspects are considered throughout. (0 GE)
Gender issues are addressed. (0 GE)
The proposal clearly addresses gender as a crosscutting issue (0 GE)
The creative, cross-cultural, socio-cultural, and gender perspectives lack clarity and evidence of an informed approach that will greatly inform the overall direction of the research. (0 GE).
The partners demonstrate a commitment to gender equality by their existing practices, but the gender dimension is not adequately covered.
Gender issues are well described and considered. (last strength in a list of 9)
Gender and sex differences and roles are taken into consideration and mainstreamed into the project as well as new perspectives on frailty.
Gender has been fully integrated into the proposal, even within the sampling of good practice cases.
The consortium takes great care in addressing issues of gender: both in stratified analyses of the results and in looking at gender-specific EDC results.
Gender issues are adequately considered, and the active involvement of women in the stakeholder consultations and negotiations is noteworthy.
A special focus is on involving young women, a group that is difficult to engage in decision making on political and social issues.
The proposal describes an ambitious agenda dealing with diverse set of topics such as radicalization, entrepreneurship, special entitlements, engaging with the media city, gendered sexuality, second generation immigrant experience, music, art, and youth culture. It will therefore be a challenge to successfully integrate these different dimensions
The proposed approach contains beyond state of the art level elements, a large number of (clinical and preclinical) approaches that are ambitious, and are in accordance with the call (e.g. [...] sex and gender differences).
The project will focus on all age groups and on gender-specific determinants of healthy ageing. In addition, gender/sex is treated as a complex phenomenon that is simultaneously of biological and social nature
The project clearly takes the gender dimension extremely seriously, with a number of methodological, representational and administrative elements woven into the design and execution of the project. This attempt to mainstream gender is a distinguishing feature and backed up by the strong records of individual researchers
Strengths of the concept lie with the attention to contemporary science, gender balance, community involvement, and socio-scientific issues. There is also attention to gender issues and the roles of women in scientific careers.
A particularly strong aspect of this proposal is the emphasis on an innovative and well-elaborated pedagogy that highlights the gender-related, social, civic and ethical aspects of responsible research and innovation in science education
Gender aspects are well considered. The proposal embraces and inter-connects such areas and tools as an open source platform, STEM education, communication, intrinsic and extrinsic motivational tools, social networking, gaming based on a pedagogical framework, while simultaneously considering gender issues and combining interfaces with multiple languages. All this proves that crosscutting issues are naturally embedded into the character of the
Some of the WPs display a potential to go beyond the state of the art, for instance in examining gender aspects of taxation policies
Gender aspects are included by aiming to develop gender implementation guidelines for integrated water management strategies, as well as by seeking gender balanced project team compositions.
The proposers recognise the gender dimension in the household water management and will address it through dedicated actions.
The proposal aims to empower local communities, especially women, through capacity building, as well as to develop a "Roadmap for empowering women in the aquaculture sector.

The gender dimension is thoroughly approached and based on equal consideration of the life patterns, needs and interests of both women and men.
The gender issue is very well considered both in the practices of the institutions involved as well as in the implementation of the project particularly regarding capacity building in which the project will provide training without discrimination. Additionally, in each WP partners will have measures to promote gender equality.

13.2. Criterion 2 (Impact):

10 proposals have a comment.

The project will prioritize the participation of young females in the academy and will work together with existing relevant initiatives, such as the European Network of Female Entrepreneurship Ambassadors and the European Network of Mentors for Women Entrepreneurs. (0 GE)
There is not enough attention given to gender and generational dimensions in the study. (0 GE).
Overall, gender balance is well addressed in the proposal. Further, by its contribution to small farms, the result will benefit women farmers, farm workers and owners, who often have limited access to knowledge, technology and property rights. (0 GE)
Raised awareness of the risks of delaying parenthood (for both sexes) and can therefore contribute to preventive strategies and policies.
The proposal consistently integrates the gender dimension into the planned social policies' reform proposals.
Substantial scientific impact for Europe will be generated through this project it will identify the risks and protective factors that really matter in the population according to risk profiles and gender
The application convincingly shows consistent and profound interest in the engagement of girls for the interest of ER and STEM as a consequence.
The proposal's explicit recognition of gender, environmental and social dimensions is positive in encouraging wider impact.
The project will also advance knowledge of the motivation and attitudes of the various actors including gender related issues. The impact of issues such as gender, socio-economic and access is well covered within communities and within peoples' daily lives.
Rural water supply has a strong gender dimension since it is women and girls who bear the primary responsibility for collecting water in developing countries. The proposal has great potential to impact positively on the lives of rural women in Africa and on local socio-economic development.

13.3. Criterion 3 (Quality and efficiency of the implementation):

15 proposals have a comment.

The differences in role and responsibilities between the Project Coordinator and the Project Manager are not adequately described as also the gender balance among the participants. (0 GE).
The inclusion of PP14 Greater Amman Municipality is justified as this partner has a substantial role and can contribute to potentially interesting insights regarding gender segregation in PT and women access to the labour market. (0 GE)
Gender aspects are effectively considered given the composition of the WP leaders and researchers. (0 GE)
Women are very well represented in the managerial positions of the proposal securing a good gender balance. (0 GE)
Women are very well represented in the managerial positions of the proposal securing a good gender balance. (0 GE)
the proposal has satisfactorily addressed gender balance across the consortium (0 GE)
While it inherently - through the methodological approach - aims to continuously improve dimensions of gender balance, the work plan offers little attention to detail on how the outcomes will achieve this across the project.
The gender issue is considered carefully, also in the project team and management board, and in the choice for tools and dissemination strategies to be used.
The strong point of the proposal is the clarity of the division of tasks between the partners, consistency with the target, gender balance and involvement of women and young people in the project, (..) Ethical issues concerning working with minors and gender balance issues are meticulously considered in the proposal
The gender issues are well addressed in the proposed organisation and management of the consortium

The gender-related section is very well articulated
The importance of the horizontal themes is apparent from the way in which specific packages are assigned to the gender dimension and combating social exclusion (...) The horizontal themes are given proper representation in the management structures without the overall organisational arrangements becoming overladen with committees. The Gender Committee is a distinctive feature of this proposal.
The proposal adequately addresses the gender balance among the consortium participants.

The gender awareness of the consortium is pronounced.

Good geographical coverage of consortium, with a nice mix of younger and more senior scholars, and also a very nice gender balance.
The consortium is balanced in terms of gender.

14. ANNEXE 6: TOPICS WHERE GENDER COMMENTS APPEAR IN THE ESRS

	Topic	Name of the Topic	Projects with gender comments	Projects with NO gender comments	Gender expertise in panel
LEIT-ICT	ICT-13-2014	Web Entrepreneurship		4	0%
	ICT-31-2014	Human Digital Age	2	2	0%
	ICT-35-2014	Innovation and Entrepreneurship Support	1	2	0%
LEIT-NMBP	NMBP-11-2015	Nanomedicine therapy for cancer	1	1	0%
Total LEIT			***4***	***9***	
SC1 Health	PHC-01-2014	Understanding health, ageing and disease: determinants, risk factors and pathways	6	10	13.7%
	PHC-24-2015	Piloting personalised medicine in health and care systems		2	23.1%
Total SC1			***6***	***13***	
SC2 - Food	SFS-15-2014	Proteins of the future		1	0%
	SFS-16-2015	Tackling malnutrition in the elderly	1		0%
	SFS-18-2015	Small farms but global markets: the role of small and family farms in food and nutrition security	1		0%
Total SC2			***2***	***1***	
SC3 Energy	EE-12-2014	Socioeconomic research on energy efficiency		5	0%
	LCE-20-2014	The human factor in the energy system	1		9.1%
Total SC3			***1***	***5***	
SC4 Transport	MG-5.1-2014	Transforming the use of conventionally fueled vehicles in urban areas	1	1	0%
	MG-5.3-2014	Tackling urban road congestion	2	2	0%
	MG-3.6a-2015	Safe and connected automation in road transport	1	3	0%
Total SC4			***4***	***6***	
SC5 Climate	WASTE-1-2014	Moving towards a circular economy through industrial symbiosis	1	4	0%
	WASTE-6a-2015	Eco-innovative solutions	1	3	12.5%
	WATER-5c-2015	Development of water supply and sanitation technology, systems and tools, and/or methodologies	6		30.8%
Total SC5			***8***	***6***	
SC6 – Inclusive Societies	EURO-1-2014	Resilient and sustainable economic and monetary union in Europe	2	2	12.5%
	EURO-2-2014	The European growth agenda		5	8.3%
	Euro-3-2014	European societies after the crisis	2	4	14.4%
	EURO-6-2015	Meeting new societal needs by using emerging technologies in youth mobility: opportunities,		3	3.6%

		impacts, policies			
	INSO-2-2014	Understanding and supporting business model innovation		1	9.1%
	INSO-4-2015	Innovative schemes for open innovation and science 2.0	1		0%
	YOUNG-2-2014	Youth mobility: opportunities, impacts, policies		2	30%
	YOUNG-4-2015	The young as a driver of social change	1		23.3%
	YOUNG-5a-b-2014	Societal and political engagement of young people and their perspectives on Europe	2	2	33% 20%
Total SC6			***8***	***19***	
SC7-Secure Societies	BES-14-2014	Ethical Societal Dimension topic 1: Human factors in border control		1	40%
	BES-08-2015	Supply Chain Security topic 1: Development of an enhanced non-intrusive (stand-off) scanner		1	0%
	DRS-07-2014	Crisis management topic 7: Crises and disaster resilience –operationalizing resilience concepts		5	0%
	FCT-16-2015	Ethical/Societal Dimension Topic 4 - Investigating the role of social, psychological and economic aspects of the processes that lead to organized crime (including cyber related offenses), and terrorist networks and their impact on social cohesion		2	22.2%
Total SC7			***0***	***9***	
Science with and for Society	GARRI-1-2014	Fostering RRI uptake in current research and innovations systems		2	40%
	SEAC-1-2014 & SEAC-1-2015	Innovative ways to make science education and scientific careers attractive to young people	7		25.5% 23.9%
Total SwafS			***7***	***2***	

15. ANNEXE 7: MEMBERS OF THE EXPERT GROUP

Ms. Suzanne de Cheveigné (FR) Chair: Suzanne de Cheveigné is a senior researcher (Directrice de recherche) emerita with the French National Centre for Scientific Research (CNRS), where she carries out research on the relations between science and society, media, social practices, gender issues related to technologies, environmental and climatic research, fuel poverty; glass ceiling effect in women careers. In 2006-2007 she was a member of the Expert Group Women in Research Decision-Making. She was also a member of the Expert Group for the mid-term evaluation of FP6 Science and Society Programme. In 2008-2009 she chaired the EU Expert Group Gender and Excellence and in 2015-2017 she is the rapporteur of the Horizon 2020 Advisory Group on Gender.

Ms. Bente Knoll (AT) Rapporteur: Bente Knoll has a background and long-time experience in landscape, spatial and transport planning, mobility research, environmental sciences and engineering, sustainable development, gender equality as well as systemic communication and social media. She works as managing director of B-NK GmbH (Consultancy for Sustainable Competence) and since starting her company over 13 years ago, she has managed over 50 applied research projects that mainly took the gender dimension into account in national and international project consortiums (Austria, Europe and Central Asia). She also works as a lecturer at the Vienna University of Technology as well as at the University for Applied Sciences Technikum in Vienna. She holds basic and advanced lectures as well as seminars in Gender Studies and Engineering.

Ms. Maria Bustelo (ES) Evaluator: Maria Bustelo is an Associate Professor at the Complutense University of Madrid. Associate Professor of Political Science and Public Administration and Rector's Delegate for Equality at the Complutense University of Madrid (UCM). Director of the Master on Evaluation of Programmes and Public Policies (UCM), and President of the European Evaluation Society 2012-2013. Leader at UCM of several European research projects on the quality of gender equality policies and structural change at universities, among them, MAGEEQ (2003-2005, FP5), QUING (2006-2011, FP6) and GENOVATE (2013-2016, FP7). She currently integrates the UN Women Global Evaluation Committee (2014-2016) and she was a member of the Expert Group for the FP7 post-evaluation.

Mr. Eivind Engebretsen (NO) Evaluator: Eivind Engebretsen is a Professor and Director of the Postdoctoral Training Programme at the University of Oslo's School of Medicine. His research is focused on the social and cultural dimensions of medical knowledge and knowledge translation. He led the development of a multidisciplinary PhD program. He is the alternate Norwegian Member of the Helsinki Group on Gender in Research and Innovation. He has experience in supervision and management of multidisciplinary research projects and from scientific boards at EU level.

Mr. Ulf Sandström (S) Evaluator: Ulf Sandström is docent in Science and Technology (S&T) Studies at Linkoping University and affiliated to the Department of Industrial Engineering and Management in the School of Industrial Engineering and Management at KTH, Stockholm. Currently member of the GEDII research team focusing on gender diversity in S&T, a project financed by Horizon 2020. His research is focused on policy issues related to the governance of research. He combines an interest in quantitative analytical methods with the use of qualitative standard methods. He has developed a special analytical competence for the use of publication databases in combination with other data. Research areas covered are the following themes: research productivity and efficiency; structures of financing of research; cognitive bias in peer review; the role of mobility in research, and gender issues in S&T.

16. ANNEXE 8: LIST OF ABBREVIATIONS

Abbreviation	Explanation
AG	Advisory group
CAB	Cabinet
CCMI	Crosscutting monitoring indicator
CORDA	Common Research Datawarehouse
CV	Curriculum Vitae
DG	Directorate-General
DG AGRI	Directorate-General for Agriculture and Rural Development
DG CONNECT	Directorate-General for Communications Networks, Content & Technology
DG EAC	Directorate-General for Education, Youth, Sport and Culture
DG ENER	Directorate-General for Energy
DG HOME	Directorate-General for Migration and Home Affairs
DG JUST	Directorate-General for Justice and Consumers
DG RTD	Directorate-General for Research and Innovation
DoA	Description of Action
DoAA	Description of Action – Part A
DoAB	Description of Action – Part B
EASME	Executive Agency for Small and Medium-sized Enterprises
EC	European Commission
ECAS	European Commission Authentication Service
EIGE	European Institute for Gender Equality
EMI	European Movement International
EMPP	Expert area in the Participant Portal
ERA	European Research Area
ERC	European Research Council
ERCEA	European Research Council Executive Agency
ESR	Evaluation summary report
EU	European Union
EU-28	The 28 Member States of the European Union
FP	Framework Programme
G7	Group of 7
GA	Grant Agreement
GE	Gender equality
GEAR	Gender Equality in Academia and Research
GEP	Gender Equality Plan
GERI	Gender Equality in Research and Innovation
GS	Gender Sector
IA	Innovation Action
ICT	Information and Communication Technologies
IMI	Innovative Medicines Initiative
JRC	Joint Research Centre
KPI	Key performance indicator
LEIT-ICT	Leadership in Enabling and Industrial Technologies – Information and Communication Technology
LEIT- NMBP	Leadership in Enabling and Industrial Technologies – Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing, and Biotechnology
MDG	Millennium Development Goals
MS	Member States
MSCA	Marie Skłodowska-Curie Action
NCP	National Contact Points
OP	Publications' Office
PhD	Doctor of Philosophy
PO	Project officer
PP	Participant portal
R&I	Research and innovation
REA	Research Executive Agency
RFO	Research Funding Organisation
RIA	Research and Innovation Action
RICH	Research Infrastructures Consortium of NCPs for Horizon 2020

RPO	Research Performing Organisation
RTD	Research Technology Development
SC	Societal Challenge
SDG	Sustainable Development Goals
SiS	Science in Society
STEM	Science, Technology, Engineering and Mathematics
SwafS	Science with and for Society
SyGMA	System for Grant Management
ToRs	Terms of references
UN	United Nations
WP	Work programme

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This report aims to identify possible improvements in the implementation of gender equality as a crosscutting issue in Horizon 2020. It assists the European Commission in assessing gender equality, and – in particular – the gender dimension in research and innovation content, as a crosscutting issue at the various stages of the implementation of Horizon 2020 from the Work Programme definition to the funded projects. It aims to provide a solid evidence base for designing future activities and initiatives, in particular the preparation of the ex-ante impact assessment of the next Framework Programme for Research and Innovation.

This report was drafted by the Commission expert group on the interim evaluation of gender equality as a crosscutting issue in Horizon 2020.

Studies and reports