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List of abbreviations

Abbreviation	Definition
DSO	Distribution System Operator
IRL	In Real Life
KPI	Key Process Indicator
WP	Work Package

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Summary

This report contains the results from the Consortium Gender Analysis. It was developed by compiling information from all partners, combining project specific questions with a questionnaire developed by the EU funded project “Gendered Innovations”.

The results indicate many potential areas for considering gender aspects, both when it comes to diversity within the workforce engaged in the project but also regarding the potential customers and users. The WP Leaders have stated how gender aspects will be considered within their WP. However, since opportunities for knowledge exchange within this area will be provided changes might occur in the future.

Several future actions for taking gender into consideration during the whole project has been identified and listed, such as making a meeting policy, requiring that all reporting from formal meetings within the project contain a participant list with information regarding gender in terms of participants and speakers, and that gender KPIs are decided at a management board meeting together with a monitoring process.



Background

The expected results of Flexigrid will have an impact on future operations and infrastructure of electric grids. Flexigrid's solutions will be demonstrated in real-life conditions, which have been selected to cover large differences in cultural and social factors, i.e. Turkey, Bulgaria and Sweden. The focus on affordability will have an impact, not only for the DSO's when it comes to investing in future grids, but also for the end-users, regardless of age and social belonging.

A report from January 2019 by the International Renewable Energy Agency, IRENA¹, renewable energy employs about 32% women. This is about 10% more than in energy sector as a whole. However, even in the renewable sector, women are less represented in the sector of science, technology, engineering and mathematics, than in administrative jobs. IRENA concludes that there is still much to be done to boost women's participation and to allow them to use their full potential. Further, the report shows that the ongoing global energy transition offers a great chance to create more jobs (10,3 million in 2017 to an estimated 29 million in 2050 within renewables). This development calls for new skills.

Flexigrid takes this matter seriously and will report on how the partners of the project have chosen their participants in the project (WP1). The fact that the consortium has decided to make it obligatory for all partners to encourage female employees to take part in the project will have positive effects. It could increase the percentages of females and moreover, it will make a statement for collaborative projects to come, that female competence is highly valued.

- Integrating gender/sex analysis in research and innovation. Flexigrid's consortium believes that all institutions, their personnel, and individuals can potentially benefit from the public Flexigrid results, regardless of gender.
- Flexigrid aims to survey target groups, regarding to gender, age, and other relevant factors. It is the clear aim of Flexigrid to be compliant with expectation of stakeholders from different biological, social and cultural characteristics.
- Flexigrid aims to ensure, as widely as possible, visibility without preconceived ideas or limitations. If the project finds issues that have been neglected in the past, the consortium will disseminate these findings and address them. Moreover, the project applies with the EU objectives (in line with the RTD strategy on gender as well as with the ones set in the ERA Communication of July 2012) about the relationship between women and research: fostering gender balance in Horizon 2020 research teams², ensuring gender balance in decision-making, and integrating gender/sex analysis in research and innovation.

¹ <https://irena.org/publications/2019/Jan/Renewable-Energy-A-Gender-Perspective>

² <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/promoting-gender-equality-research-and-innovation>

Method

The consortium has a consensus regarding the importance of considering gender aspects early in order to have positive effect on both the work in the project and the impact of the work (as expressed in the Grant Agreement). Therefore, every project partner produced a Partner Gender Equality Analysis Report based on a set of questions provided by WP1 (see Appendix A). Partners who also are WP Leaders were also required to describe ambitions for the WP. The report included both project specific questions and a questionnaire produced within the EU funded project “Gendered Innovations”³.

The task was introduced at the Consortium Meeting in Gothenburg December 16-18, 2020. At this time information was also provided that the results and further actions would be discussed at a Management Board Meeting.

The deadline for the partner reports was January 16. The compiled report “D1.6 Consortium Gender Equality Analysis” was then put together and delivered to the Coordinator.

Results

The results from the work is presented in the following way:

- First a list of the partner reports is provided. All partners have access to all the reports to support knowledge exchange and benchmarking.
- Second, some general comments are made regarding how gender might have an impact on the project work based on the input from the partner reports.
- Third, the WP Leaders information about the WP targets and actions has been abstracted and quoted.

Submission of Partner Reports

The partner reports provided were the following:

³ Schiebinger, L., Klinge, I., Paik, H. Y., Sánchez de Madariaga, I., Schraudner, M., and Stefanick, M. (Eds.) (2011-2018). Gendered Innovations in Science, Health & Medicine, Engineering, and Environment (genderedinnovations.stanford.edu).

Partner	WP Leader
IMCG	1, 9, 10, 11
RISE	2
TU/e	3
SIVCO	4
Chalmers	5
Akademiska Hus	6
EMAX	7
OEDAS	8
Göteborg Energi (GE)	-
ENTRA Energy	-
ENERGO-PRO	-
LIST	-
ESR	-
T4E	-
TUS	-
HES-SO	-

Table 1. Submission of partner reports

General comments

Based on the partner reports, some general observations and comments can be made regarding different gender issues related to Flexigrid. To some extent the applicability varies with WP, but since much of the work is cross-functional with a focus on impact, it is important for all members in the project to be aware of them:

- **Ambitions:** The partners in Flexigrid do have high ambitions when it comes to gender. However, there are differences in how gender is perceived as having a potential impact on for example interface design and market development, why it is important to continue to discuss and investigate the matter. This report is thus a baseline for the future development.
- **Opportunity:** Within the energy area, renewable energy is attracting more and more women. This is an opportunity to take care of and exploit in Flexigrid through insightful communication.
- **Diversity:** Gender is only one aspect of diversity, why it is important to also consider dimensions such as language, disabilities, economic opportunities, educational level, family situation, culture and more when for example designing interfaces, tests and communication.
- **Policies and expertise:** Some of the partners participating in Flexigrid do have gender-related policies in place, and some who do not still have very high ambitions when it comes to gender why there are good opportunities to learn from each other and also probably expertise to engage in the project.
- **Project participants:** Gender aspects do not only concern employees at the partners but is also an issue when it comes to collaborating with students, customers and individuals participating in user experience testing.
- **Physical aspects:** Gender aspects when it comes to ergonomics is important in the physical places where people will work during the project.

- **Software:** Gender aspects should definitely be considered when designing and testing the user interface, and the related learning environment (user manuals, on-line support, tutorials etcetera).
- **Hardware:** The project will not produce any hardware, but in case the software will be included in hardware the design of this might have an impact on the attractiveness from a gender perspective.
- **Market:** There might be gender differences in terms of energy usage that could have an impact on market development. For example, there might be differences when it comes to attitudes towards the importance of renewable energy, ownership of electrical vehicles, experience of temperature levels. Therefore, it is important to have a broad perspective on who the user is and how the solution might impact the whole family. This is especially important when it comes to communication and exploitation.

WP Directions

In this section, the objectives and actions for each WP has been extracted and quoted from the partner reports.

WP1 Project management (IMCG)

“The energy area is in general involving more men than women, and there are also gender differences when it comes to specific tasks. However, as in many engineering areas change is slowly happening especially within renewable energy and Flexigrid aims at becoming a positive role-model for the development.

The following KPIs are suggested for the whole Flexigrid project:

- Ratio women/men working in the project: 1:2
- Ratio women/men WP Leaders: 1:2
- Ratio women/men presenting at each consortium meeting: 1:1

The following actions will be taken in order to reach and monitor the targets:

- Strongly recommend all project partners to consider gender aspects, especially when it comes to recruiting more people in the project for example preparing succession in roles such as WP Leader
- Organise cross-cutting activities engaging people from different work packages (action teams)
- Have a gender perspective when organising consortium meeting, starting with having a mix of men and women on the planning committee
- Monitor official project communication in terms of gender ratio in photos and quotations
- Develop a general meeting policy that will be discussed and decided at the next management board meeting (see draft in Appendix B)
- Require that all reporting from formal meetings (consortium meetings, board meeting, WP meeting, seminars, workshops etc) within Flexigrid contain a participant list with information regarding gender (women/men/does not want to state gender) in terms of participants and speakers

- Decide the gender KPIs at a management board meeting during Q1-2 2020 and that they from that date will be presented at both management board meetings and consortium meetings, based on the statistics reported
- Discuss best practice considering gender aspects annually at a consortium meeting, focusing especially on gender aspects regarding exploitation and market driving communication but also concerning the project organisation and meetings”

WP2 Grid services and market designs, regulation and business models (RISE)

“No specific targets or KPIs have been defined concerning gender equality for either RISE work in the project or for WP2 which lead by RISE. However, the work of RISE and in WP2 include business model development and innovation barriers, where gender aspects could be of importance.”

WP3 Integrated process for observability, flexibility determination and dispatch (TU/e)

“Being a WP leader, we will motivate the partners for following:

1. Gender balanced participation of researchers while development of project solution.
2. Equal participation in project meetings and decision making.”

WP4 Cross-functional platform integration and communication platform (SIVICO)

“It’s essential to highlight that in the WP we will promote among the WP’s partners the following:

- Equality in decision – making
- Gender equality in internal and external actions
- Dignity, integrity between partners
- Motivating the resources involved

Monitoring actions: Regular meetings / one to one meeting with the partners involved and reports regarding the numbers of women involved.”

WP5 Demonstration of grid monitoring control and flexibility intervention (Chalmers)

“As research show that mixed group generally performs better, our aim is to, throughout the project, have a mixed group of people working in the project, both from an ethnical as well as a gender perspective.

From a result perspective our goal is that the solutions developed within the project will be used by both genders.

To reach the goals we will make use of the available support functions at Chalmers. If both genders are represented in the research team it will be a great value in order to develop solutions that are attractive to both male and female.

Interviews with representatives from the ongoing project Genie will provide additional input to how we could strengthen our equality work in Flexigrid.”

WP6 Demonstration of a local energy market for exchange of energy and grid services (Akademiska Hus)

“We have already good gender balance within our WP6 so our main goal is to deliver successful technical solution to the customers”

WP7 Demonstration of P2P energy transactions based on blockchain technology (EMAX)

“Targets and KPIs: To have team mixing of culture, sex and age.

Actions to reach targets and KPIs: Yearly monitoring.

Monitoring actions: Number of nationalities, sex balance.”

WP8 Demonstration of flexibility measures and electricity grid services provided by local energy storage and EVs (OEDAS)

“As Leader of WP8 we aim to show use cases that can be cost efficient and sustainable. We want to show flexibility can reduce inefficiency through current best practices. Which will lead more sustainable operation of the grid which means more green energy into the mix.

In the pilot we want to demonstrate more involvement of renewables in grid operations. (at least %20 increase in renewable energy distributed.)”

WP9 Barriers to innovation, exploitation and deployment, financial instruments (IMCG)

“A quick initial overview of the individuals that will most probably participate in WP9 indicates that even though the majority are male, there are several females. The WP-leader is female. Out of 6 tasks, at least 3 (probably 4) will be led by females.

Regarding the possible exploitable results of Flexigrid, the solution providers will be asked if they foresee different scenarios needed in any way regarding reaching female or male users. (Features in the technology, design, solution etc).

Regarding the on-going work within WP9, WP-leader and Task leaders will be asked to aim for a balanced mix of female and male participants. In the deliverables both female and male competences should (when possible) contribute to the content and if there are quotations, it should be from both genders (if possible). If there is a majority of one gender, and there are no other personnel that can be used, a note on this matter should be made, to augment the awareness of it.”

WP10 Communication, engagement and dissemination (IMCG)

“The work package will be executed by communication staff from all partners. While the WP-leader is male, the distribution of men and women is about equal in the group.

Actions to accomplish the tasks within the WP will be performed by all partners using their expertise within their geographical area. This means that the project’s communication actions put together will be executed by approximately 50 percent male and 50 percent female participants.

The WP will collaborate in this environment, giving feedback to, and doing pre-tests on each other to minimize the risk of using an excluding language or images, or reinforce stereotypes.

The WP’s targets are to reach out to distribution system operators (DSOs), end-users, politicians and officials within EU. During the first phase of the WP there will be a target group analysis, in which gender is an aspect that will be noted. Gender is one of the parameters to take in consideration when communicating with a larger group and will be important for the WP to get a clear image of our target audience.”

WP11 Ethics requirements (IMCG)

Not applicable.

Future actions

The main future actions are the following:

- Each partner is responsible for monitoring the KPIs and actions they have indicated in the partner reports.
- Strongly recommend all project partners to consider gender aspects, especially when it comes to recruiting more people in the project for example preparing succession in roles such as WP Leader
- Organise cross-cutting activities engaging people from different work packages (action teams)
- Have a gender perspective when organising consortium meeting, starting with having a mix of men and women on the planning committee
- Monitor official project communication in terms of gender ratio in photos and quotations
- Develop a general meeting policy that will be discussed and decided at the next management board meeting (see draft in Appendix B)
- Require that all reporting from formal meetings (consortium meetings, board meeting, WP meeting, seminars, workshops etc) within Flexigrid contain a participant with information regarding gender (women/men/does not want to state gender) in terms of participants and speakers
- Decide the gender KPIs at a management board meeting during Q1-2 2020 and that they from that date will be presented at both management board meetings and consortium meetings, based on the statistics reported

Appendix A. Partner report template

Partner Gender Equality Analysis – PARTNER NAME

1. Basic Information

Participants in making this report (Flexigrid participants and internal gender experts)

Work process for making this report and monitoring the results

Person responsible for future reporting

2. Current Status

How does Flexigrid relate to the organisation's general plans/policies regarding gender and/or equality issues?

Do you have relevant Key Process Indicators regarding gender equality used in the organisation?

Overview of results from filling in the Gendered Innovations Engineering Checklist
(Put checklist answers in appendix)

3. Future Plans

Partner perspective (what you as a partner plan to achieve during the project regarding gender)

Targets and KPIs

Actions to reach targets and KPIs

Monitoring actions

WP Leader perspective (if you are a WP leader, what you want the WP to aim for)

Targets and KPIs

Actions to reach targets and KPIs

Monitoring actions

Appendix: Gendered Innovations Engineering Checklist

http://genderedinnovations.stanford.edu/methods/engineering_checklist.html

This checklist is intended for researchers, project directors and evaluators, grant writers, and funding organizations addressing the development of technologies and related products, services, infrastructures, or processes. It provides a set of key questions for incorporating sex and gender analyses into engineering—as a basis for developing Gendered Innovations. As such, it complements and should be read in conjunction with the methodology described in Engineering Innovation Processes.

Basic Facts

Organisation

Contact person:

Key Questions

1. Potential consumers of technology have different characteristics ([gender identities](#), [sex](#), age, [ethnicity](#), profession, occupation, education, income, household and living arrangements, familiarity with and attitudes towards technology, etc.) What role, if any, do sex and gender play with regard to the developing technology? (see [Analyzing Research Priorities and Outcomes](#); [Analyzing Factors Intersecting with Sex and Gender](#))

(A) Determining the Relevance of Sex

2. Are there basic anatomical and physiological differences between women and men that should be considered (e.g. in height, strength, range of motion, etc.)? (see Term: [Sex](#); see Methods: [Analyzing Sex](#); [Rethinking Standards and Reference Models](#))

☐ Yes ☐ No

Please motivate here.

3. Are there further anatomical and physiological differences between women and men that should be considered (e.g. in vision, hearing, voice pitch, sense of touch, smell, and taste, pro-prioceptors, muscular tension, temperature perception, etc.)?

☐ Yes ☐ No

Please motivate here.

(B) Determining the Relevance of Gender

4. What are the potential application areas of the technology (e.g. professional life, leisure activities, home, etc.)? Do these contexts suggest different patterns of use by different groups of potential consumers (e.g. women and men)? See Term: [Gender](#); see Method: [Analyzing Gender](#).

☐ Yes

☐ No

Please motivate here.

5. Might different groups of potential consumers (e.g. women and men) have different expectations regarding the interface? Do certain features of previous innovations reinforce existing gender inequalities, [gender norms](#), or [stereotypes](#)? (see [Reformulating Research Questions](#); [Participatory Research and Design](#))

☐ Yes

☐ No

Please motivate here.

6. Might different groups of potential consumers (e.g. women and men) have different expectations regarding the exterior design?

☐ Yes

☐ No

Please motivate here.

7. Might different groups of potential consumers (e.g. women and men) have different expectations regarding the features and functions?

☐ Yes

☐ No

Please motivate here.

8. Is it more cost-effective to tailor the technology to specific groups (e.g. women and men) at early development stages or could it be inexpensively adapted in post-development?

Please specify here.

9. Is there a risk of stereotyping or offending potential consumers through the exterior design (e.g. imposing role models, avatars, different forms of sexism, etc.)?

☐ Yes

☐ No

Please motivate here.

10. Is there a risk of excluding certain groups (e.g. men or women) through the technology design?

☐ Yes

☐ No

Please motivate here.

11. Would certain configurations reinforce existing social roles (e.g., gender segregation in the work force; men associated with engineering and women with domestic technologies, for example)?

☐ Yes ☐ No

Please motivate here.

12. On the basis of the above, what are the relevant sex and/or gender variables for your business, and what do you need to know that you do not currently know or understand concerning sex and/or gender?

Please specify here.

(C) Determining the Tools Required

13. Is it possible and/or necessary to establish a usability lab or to run ergonomic tests? What additional tools might you use for monitoring (questionnaires, workshops, etc.)?

☐ Yes ☐ No

Please motivate here.

14. Have you ensured diversity within test groups (in terms of age, sex, gender identity, height, etc.)?

☐ Yes ☐ No

Please motivate here.

15. Do you inform your customers about gender-tailoring in your technologies?

☐ Yes ☐ No

Please motivate here.

(D) Determining the Potential for Innovation

16. Can you think of any additional customer groups or application areas for your technology?

Please specify here.

17. How much research would be necessary to identify those groups/markets?

Please specify here.

18. Is your business model missing potential opportunities by not addressing sex and gender sufficiently? Where might sex and gender analysis open up new business opportunities through Gendered Innovation?

☐ Yes ☐ No

Please motivate here.

(E) Procuring Sex and Gender Expertise

19. Have you identified the particular gender expertise you require?

☐ Yes ☐ No

Please motivate here.

20. Do your internal and external teams include the needed gender expertise? If not, what efforts are your teams making to bring in gender specialists?

☐ Yes ☐ No

Please motivate here.

21. Do members of the target group(s) have particular expertise relevant to developing or applying the technology that should be incorporated into the innovation process?

☐ Yes ☐ No

Please motivate here.

22. What efforts is your team making to ensure that the diverse expertise, interests and needs of the target groups are incorporated into the design and development of the product? (see [Participatory Research and Design](#))

Please specify here.

23. Do certain groups hold knowledge (e.g., because of gendered divisions of labor) with the potential to prevent unwanted outcomes, such as increased gender bias or environmental damage?

☐ Yes ☐ No

If yes, please specify here.

24. What efforts is your team making to ensure that it learns from the inputs of external expertise concerning sex and gender, and builds relevant capabilities in-house?

Please specify here.

25. Does your team understand how to incorporate gender expert knowledge and innovation criteria into existing design, engineering and quality methods such as Quality Function Deployment (QFD), Failure Mode Effect Analysis (FMEA), or Six Sigma?

☐ Yes

☐ No

Please comment here.

Works Cited

This Checklist is based on the Fraunhofer - project "Discover Gender", which was funded from the German Ministry for Research from 2004-2006. See:

Bührer, S., & Schraudner, M. (Eds.) (2006). *Wie können Gender-Aspekte in Forschungsvorhaben erkannt und bewertet werden?* Karlsruhe: Fraunhofer Verlag.

Schraudner, M. (2010). Fraunhofer's DiscoverGender Research Findings. In Spritzley, A., Ohlausen, P., Sprath, D., (Eds.), *The Innovation Potential of Diversity: Practical Examples for the Innovation Management*, pp. 169–185. Berlin: Fraunhofer-Institut für System- und Innovationsforschung.

Schröder, K. (2012). *Female Interaction Strategy*. Aarhus: Design People.

Appendix B. Meeting Policy (Draft)



This is a draft to be developed and decided at a Management Board Meeting. The scope of this policy is all kinds of meetings organised within Flexigrid, for example consortium meetings but also workshops within work packages.

The purpose of the meeting policy is to drive impact by making meetings inclusive, transparent, creative and productive for everybody participating in the project.

Before a meeting

- Always aim for having the meetings at times that makes it possible for parents to manage childcare, usually between 9 am and 4 pm.
- Make it possible for more than one person from each partner to participate in a meeting, making it possible for one man and one woman to join.
- Provide options to participate online as a complement to IRL (In Real Life) meetings.
- Provide information in the program for the meeting regarding the gender distribution (women/men/does not want to state gender) in terms of participants and speakers.
- Aim for having a 1:1 gender ratio when it comes to speakers and at least 1:2 regarding participants.
- Consider changing the scope of the meeting/workshop to achieve a more cross-disciplinary approach and to fulfil the gender ratio target, as well as rethinking who should be invited (for example involve customers).
- Make sure everybody who is invited gets the same relevant information before the meeting.
- Provide information about the meeting in the WP calendar in Dropbox (topics, participants) in order to ensure transparency.
- Design the meeting in such a way that all participants are invited to provide information and participate in the discussions.
- Provide information about the Flexigrid Meeting Policy together with the invitation to the meeting.

During a meeting

- Always be respectful regarding each other's competence, since all kinds of expertise are needed in order to achieve impact and everybody's opinion count.
- Rotate the task of taking minutes at the meeting, making sure that both men and women are assigned that task.
- Show everybody at the meeting respect by focusing on the meeting
 - Switch off your phone and take calls only during breaks
 - Use computers/smartphones only for taking notes or checking information relevant for the project

- Keep quiet during presentations and raise your hand if you have comments or questions
 - Arrive in time for the meeting
 - If you need to leave early or are expecting a very important call (i.e. family or business emergency), indicate this at the beginning of the meeting
- Make sure that it is clear who is organising the meeting, since these people sometimes need to leave the meeting to see to practicalities.

After a meeting

- Post the minutes from the meeting in the WP Dropbox to ensure transparency, for example to members who could not participate.
- Provide information in the reporting afterwards regarding gender (women/men/does not want to state gender) in terms of participants and speakers.
- Consider gender aspects in the communication from meeting/workshop concerning ratio in photos and quotations.

