Gender STI Co-design Lab 3
Europe, Africa & Asia

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LIST OF ABBREVIATIONS

AC	Associated Countries
CoP	Community of Practice
DEI	Diversity, Equity, and Inclusion
DoA	Description of Action – Annex I of the Grant Agreement
EC	European Commission
ERA	European Research Area
EU	European Union
EU-CELAC	European Union and the Community of Latin American and Caribbean States
H2020	Horizon 2020
IC	Innovation Camp Method
Lab	Gender in STI Co-Design Lab
MoU	Memorandum of Understanding
MS	Member States
RIA	Research and Innovation Action
R&I	Research and Innovation
R&D&I	Research, Development and Innovation
RFOs	Research Funding Organisations
RPOs	Research Performing Organisations
SDGs	Sustainable Development Goals
STI	Science, Technology and Innovation
STEM	Science, Technology, Engineering and Mathematics
WP	Work Package

EXECUTIVE SUMMARY

This deliverable describes the organisation, results and validation phase of the third Gender STI Co-Design Lab (hereafter the Lab) involving participants from Asia, Africa and Europe.

The third Co-design Lab that took place between October and November 2022 addressed the Gender STI objectives to integrate the gender perspective in bilateral and multilateral agreements between the EU Member States (MS), Associated Countries (AC) and third countries through design thinking methods and participatory techniques.

The document describes the methods, participatory steps and tools that have been applied in the third Lab to co-design shared solutions and prototypes for common challenges regarding gender inequalities in STI and to support the emergence of an international community of practitioners with similar challenging objectives. More specifically, the deliverable collects in detail "**what**" was done and how it was done in the Lab, reflects on the "**so what**" question, as to the sense and purpose of the challenge-based prototypes and their initial outputs, and finally draws some conclusions with a "**now what**" reflection on what was learnt and suggests possible priorities for future actions.

The report is organised in three overarching sections:

- The first section with the *Introduction* and *Organisation of the Co-design Lab*, relates to the **method and process:** what was done and how it was done, describing the Lab's preparation, adaptations, organisation, interactive sessions and throughput; the core method at the basis of the Labs is the Societal Innovation Camp Methodology, with its inclusive, agile, iterative, non-linear, incremental, entrepreneurial and pioneering discovery mindset. The Asia, Africa and Europe Lab sessions involved **24** people in an intense cocreation process that led to seven prototypes of strategic actions and initiatives that can address the gender gap in STI.

- The second section relates to the **contents and results**, the challenges, emerging prototypes and the benefits and impact that they can bring to address the gender perspective in science technology and innovation. Four prototypes were generated through the Lab sessions and we assessed how these can impact and benefit policy dialogues and agreements through the Gender STI prototyping matrix. This section is described in the chapters on *Challenges and prototypes*, *Prototype Actions and Recommendations* and on the *Gender STI Community of Practice.*

- The third and final part of the report presents the **conclusions and lessons learnt**.

While the deliverable covers in a comprehensive way all the possible facets of supporting the complex nature and global scope of the Gender STI project, the process has also been influenced by how the methods have been applied and adapted due to the Covid 19 pandemic. Actually, the emergence of Covid 19 restrictions has been an opportunity to innovate and increase inclusiveness by adapting the tools and processes and by combining asynchronous tasks and synchronous online workshops performed in different time zones by the global consortium and all the other stakeholders.

1 INTRODUCTION

The Gender STI project analyses the participation of women in STI and studies how gender equality is considered and promoted in international cooperation dialogues between European Union Member States, Associated Countries and 10 selected third countries.

In this context, the Gender STI project has hosted the first of a **series of Co-Design Lab workshops** (hereafter Labs) to address three priority objectives identified by the European Commission's gender equality strategy to promote gender equality in research and innovation:

1. Gender equality in scientific careers at all levels;
2. Gender balance in decision making bodies and positions; and
3. Integration of the gender dimension in research and innovation content.

These three forefront **challenges** that women face in science, technology and innovation (STI) are at the core of the work performed within the first **Co-Design Lab sessions**.

The Co-Design Lab workshop aimed to identify key issues in these three areas and develop potential solutions through a facilitated design thinking process in order to contribute to integrate the gender perspective in STI bilateral and multilateral agreements. Participants discussed opportunities in their respective country or institution; and co-design potential solutions that could be implemented to foment greater equality in these areas in the weeks, months and years ahead.

The Lab sessions have created the environment to **co-design and prototype solutions regarding gender inequalities in STI dialogues**.

As a result, the project has established the **Gender STI Community of Practice** to scale up the experience of gender equality in STI at a European and international level, acting as a driver of the **European Observatory on Gender in STI**, which is unique in Europe, will serve as a hub for gender equality in STI dialogues and will incorporate all project knowledge and materials

These actionable insights will feed the process to formulate policy recommendations to enhance the integration of gender equality in STI dialogues with third countries.

The sections that follow provide a description of the preparation and organisation of the Gender STI Co-Design Lab, as well as how the challenges, including background information, underlying issues, and guiding questions for the Lab sessions, resulted in the creation of prototypes of actions and recommendations that can feed the policy making process, with reference to international bilateral/multilateral agreements on gender equality in Science, Technology, and Innovation.

2 THE ORGANISATION OF THE THIRD GENDER STI CO-DESIGN LAB

The Gender STI Co-Design Lab's design and implementation followed the steps outlined in the methodological handbook.[1]. All activities have been and are being carried out in accordance with the Labs' iterative design thinking principles and action learning mindset. This implies a continuous learning and adaptation process to meet the needs and opportunities that emerge from the Labs process.

The diagram below depicts the flow of the Co-Design Lab, from the preliminary process setup to the prototyping phase, as well as the roadmap leading to the next steps.

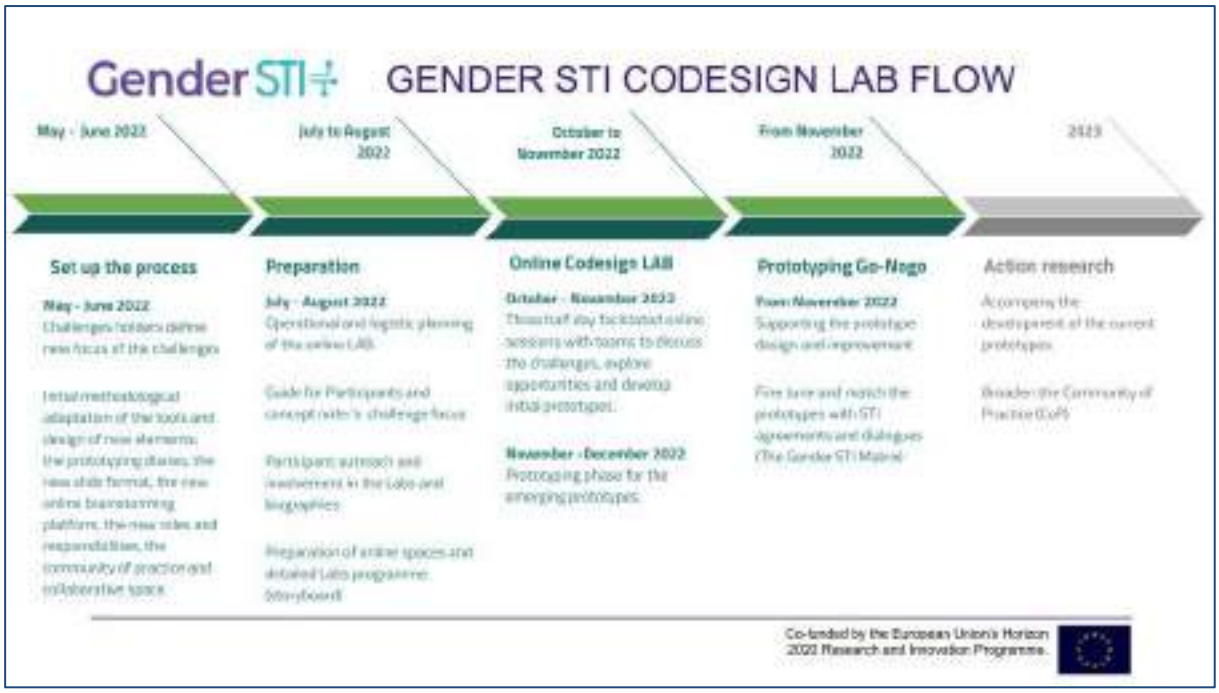


Figure 1: The Gender STI Co-design Lab roadmap

2.1 The organisation of the third Gender STI Lab

The preparation and design of the Lab began with internal retrospective reflections among the core team members so as to continue to innovate and streamline the process and approach of the online Lab sessions format based on 3 half-day synchronous and asynchronous activities. The Lab's organisation also required the integration and adaptation of a mix of online visualisation tools and platforms to cater for the needs of online facilitated sessions. The design, redesign and adaptation of the process has been led by the FUTOUR facilitation team.

The D3.1 Methodological Handbook on the GENDER STI Co-Design Labs served as the foundation for the process design and adaptation, as well as the definition of the challenges and questions that would be used in the Lab 3 sessions.

The core team established for the first Lab continued to work to organise and run the subsequent Labs. This team was led by FUTOUR as process and WP3 leader and involved partners TU Graz, UPM and VTT taking the role of challenge holders for each challenge (the

[1] See the deliverable D3.1 – Methodological Handbook on the GENDER STI Co-Design Labs

organisations taking the lead in describing the challenges and addressing specific questions within the challenges), as well as INMARK for the scientific coordination with the expert advice of CNRS and SPI for the support in the following Go-No-Go phase.

The **challenges addressed in the Gender STI Co-design Lab** were based on the **three objectives of the EC Gender Equality Strategy in R&I**:

- **Gender equality in scientific careers at all levels**. The challenge holders for this first challenge were TU Graz.
- **Gender balance in decision-making bodies and positions.** The challenge holders for this second challenge were UPM.
- **Integration of the gender dimension in research and innovation content (sex and gender analysis).** The challenge holders for this challenge were VTT.

On the basis of the experience and feedback gained from the first Gender STI Co-design Lab the WP3 core team taking care of the Lab's content and method in May and June 2022, decided to include, test and refine a series of changes, adaptations and improvements through a series of facilitated internal meetings based on word-rounds and iterative steps. These focused on the preparatory activity as well as the method of running and facilitating the second and third Gender STI co-design Labs, including the adoption of an intersectional approach in the development of prototypes, alongside diversity, gender equality and inclusiveness principles. Additionally, different online brainstorming tools, process steps, and synchronous and asynchronous activities were planned. These included:

- Creation of a guide for participants as information package on the project the process of the Labs and challenge
- Sociocratic rounds for the preparatory meetings of the core team.
- Updating the participant's Self-Biographies (the participatory biography tool).
- Adapting the Lab's process, canvases and storyboard.
- Using online digital videoconferencing and brainstorming tools: Berst and Groupmap.
- Development of new role descriptions among the core team members (adding the function of the prototype holder).
- Development of the new prototyping diary
- Creating the collaborative space for the Community of Practice based on the Basecamp tool.
- The videoclip guidelines
- Designing new prototyping slides
- Adapting the invitation of participants and their registration.

The preparation and running of the Lab integrated all these elements as we can see in the next sections, chapters and in the annexes.

2.2 The preparation of the third Lab

Between June and September 2022, a series of tasks were performed to prepare and organise the third online co-design Lab.

During the preparation phase the core team developed a **Guide for Participants** with background information on the aims and process of the Lab and a description of the challenges and questions to be addressed in Asia, Africa and Europe' s Lab. The guide for participants was discussed and adapted throughout the preparatory phase and was sent to the registered participants two weeks before the Lab sessions. The Guide for Participants was developed to inform and prepare participants on the contents and process of the Lab

sessions and to address specific themes and questions that were not addressed in previous Labs so as to focus on complementary prototypes. (See Annex A – The Guide for Participants for the Gender STI Co-design Lab Asia, Africa and Europe).

All the preparatory meetings of the core team organising the Co-design Lab adopted elements of **sociocratic facilitation through word rounds** where each topic and aspect that required a decision or joint team action could be better understood, explored and proposals could be decided through assent. This created a better understanding, alignment and collaboration within the core team and helped to take rapid decisions on the changes that were introduced in the method, in the information material, in the roles and ways to facilitate the lab sessions.

To further support the prototyping phase **a new role was added by the Lab's core team** to the roles envisaged in the Co-design Lab based on the Innovation Camp Method: that of the **Prototype Holder**. This new function was added to give Challenge holders the possibility to concentrate on the content of the challenge and its adaptation while prototype holders would support the implementation process of emerging prototypes. This role could be taken by other participants that were keen to bring the prototype forward and by other consortium partners. This is the renewed set of roles and responsibilities within the Lab's crew:

- Challenge owner: presents the challenges and comments on the results indicating how well they match expectations. Has the power to implement the prototypes.
- Challenge holder: manages the content of the challenge for the challenge owner. Present the challenge, provide clarification, let the participants talk (and speak as little as possible, and then only when specific questions are asked to her or him). The challenge holder is a deputy of the challenge owner and represents her or him throughout the Lab sessions
- Prototype holder and rapporteur: she or he collects and writes all the useful information for the final report and slides (on the basis of format) and acts as a prototype holder for one of the prototypes. She or he facilitates one of the sub-groups and acts as an organisational support to carry the prototypes forward.
- Facilitator: is responsible for the process, questions, timing. Facilitates the group main sessions and subgroups by moving between them according to the needs.

The **Self-Presentation Biography** tool was designed by FUTOUR to support the networking among Lab participants. This helps people to briefly present themselves, if they want, on a shared document, by adding their name, surname and organisation, a picture and the Lab session that they are attending, then by describing themselves briefly through the following fields:

- **Who am I, brief bio** and something about me that will make me easy to be remembered.
- **What I am looking for and would like to achieve through the Lab** (expectations, desires)
- **What can I contribute with my experience to address the gender challenges in Science, Technology and innovation?**

Figure 2: The framework of Gender STI Self-Presentation Biography

The majority of the Lab participants completed the Self-Presentation Biography, and due to GDPR rules, only the participants have access to the fiches. This file also serves as the foundation for participants to learn who is who in the Community of Practice described in the fifth section of the deliverable. The **participatory biography tool** was also applied, adapted and validated in the preparatory phase so as to continue to use it for the team building and networking process of the Community of Practice.

The Lab is a discovery process through its design thinking phases. This process includes three and a half days of online sessions for exploring and deepening knowledge, as well as asynchronous individual and group activities where participants can do some preparatory work before, between, and after the Lab sessions. This required the participants to develop trust and a collaborative spirit despite cultural and technical differences (using online digital tools for online workshops requires some practise and confidence).

The preparation and operational planning of the online Lab included the detailed design and adaptation of a series of digital tools, logistic aspects and processes that had to be integrated in the facilitation and coordination of the process.

A detailed operational agenda, the **storyboard**, that could cater for contingency plans, have all the links to the videoconference platform and digital brainstorming tools always available and accessible for the Lab core team to manage the articulated online processes. The storyboard includes the beginning and end time for every task, the role to be played by a facilitator, the challenge owner and the prototyping team, as well as asynchronous activities as shown in the figure below.

Figure 3: The Storyboard dashboard to facilitate the online Lab

The Core team meetings allowed the project partners to understand and streamline the facilitated Lab process and phases, **to test and combine online tools** in novel ways so as to create an even better experience for the participants. These participatory tools included the Berst online meeting space, to apply and practice the joint brainstorming and visualisation tool Groupmap.

To foster the interaction and create a fruitful participatory atmosphere in the online environment, we adopted the Berst video conferencing platform. **Berst**[2] is one of the most versatile video conferencing systems for online facilitation with structured breakout groups. With Berst the facilitation team could pre-organise working spaces so as to have, like with theatre sets, the breakout rooms that would appear on demand including the specific links needed to perform some tasks as groups through digital brainstorming tools that would be used by each challenge group and prototyping breakout group.

The Berst platform gives a total freedom for participants to move between breakout rooms and to create more rooms on the go without interrupting the flow of work for the existing working groups. This functional, efficient and effective logistic virtual environment allows the Lab participants to concentrate on the content of the discussion within the Lab rather than on the technical aspects of the tool.

[2] Berst is an online platform that allows participants to self-select the breakout rooms they want to work in (for more information see www.berst.io).

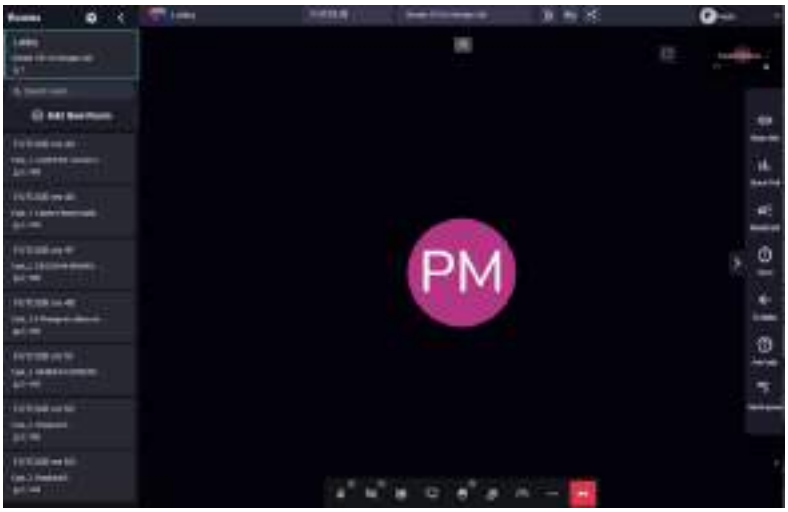


Figure 4: The Berst platform and breakout rooms

Through the Berst platform, every Lab session had a dedicated plenary room, breakout rooms and sub-breakout rooms for each challenge and prototyping groups.

In parallel to the discussion in the breakout groups the participants used shared **canvases** with the design thinking process of the Lab moving from the initial exploration and reframing of the challenges into looking for alternative opportunities, questions, initial ideas and prototypes that could be further developed according to a roadmap of short, medium and long-term activities.

In the third Lab, GroupMap substituted MIRO as the main digital brainstorming tool as it is simpler to use as well as more structured and extremely effective.
GroupMap[3] is an extremely powerful decision support tool that allows participants to brainstorm, cluster, vote, make group decisions and action plans with digital canvases that follow specifically designed frames and processes.

Figure 5: The reframing and goal setting phase in the Lab Canvas

[3] For more information on GroupMap see www.groupmap.com.

For this purpose, every challenge had a series of canvases for reframing the challenge, defining goals, identifying actors and creating an action plan. The canvases were used as places where ideas could be shared, clustered and prioritised through sticky notes, images, links, notes and diagrams that could foster creative and constructive dialogue.

To train participants in the use of GroupMap the FUTOUR team performed an ice breaker exercise in the beginning of the first session called the "Wall of Wonder of Gender in STI". The ice breaker asked participants to make a journey from the past to the present, and future and indicate with key words the main experiences, achievements and milestones in strengthening the gender balance in Science, Technology and Innovation accordingly.

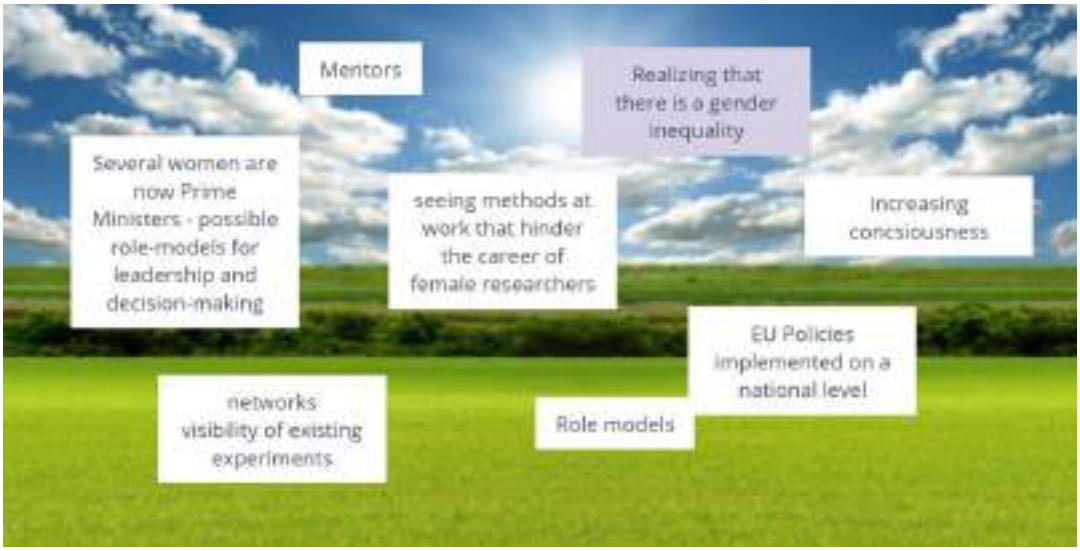


Figure 6: The "Wall of Wonder of Gender in STI" of the third Lab

A **Prototyping Diary** was created for each challenge group to collect and organise all the results of the digital brainstorming sessions. This was a new tool added by the facilitation team and became the main template and working document for the internal discussion around the prototypes and the follow-up prototyping phase.

The Prototyping Diary collected all the results of the interactive sessions that were performed online and on the GroupMap digital brainstorming tool. It was basically like a ship captain's diary, allowing participants to collaborate directly on the prototypes. All the diaries were and are available on the Community of Practice collaborative space. It was a fundamental new tool that was used by the organising team to keep all participants informed and engaged while working in the synchronous and asynchronous activities of the Lab. The output of the diary served to create the reports, slides and the recommendations of this deliverable. (See Annex E for an example of a full Prototyping Diary).

The process was also adapted in the **storyboard** by focusing on fewer crucial steps leading to prototyping. The new co-design Lab process has some elements of the Hero's Journey and of the Theory of Change. Moving from the current context by reframing the challenge and diving into the future by setting the desired goals and expectations and then back in the present by understanding the possible barriers and problems, identifying possible elements and other actors that can support us and then setting prototyping actions and activities that can lead to outcomes in the short and medium term and impacts in the longer term.

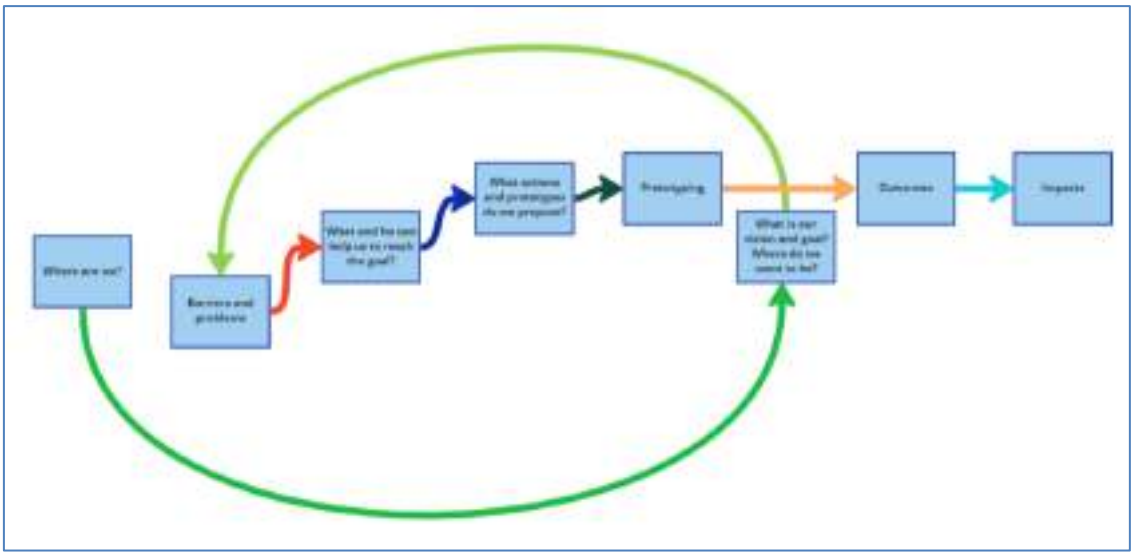


Figure 7: The workflow of the Gender STI Co-design Lab.

Within the three sessions of the online co-design Lab, after the initial ice breaker exercise based on the wall of wonder, participants started working in challenge groups in breakout rooms to address their three challenge groups, with the support of a facilitator, through the following steps:

1. First session

- Meeting the group members and introducing each other.
- Reframing the challenges as challenge groups through specific questions that were brainstormed through the GroupMap canvas and discussed:
    - What makes it a challenge?
    - What is the context behind the challenge?
    - Has this challenge been dealt with before? What were the outcomes?
    - If you solved this challenge, will there be a bigger one behind it? Is it the deepest level you can go?
- Defining the goals and objectives as challenge groups so as to identify prototyping areas:
    - Brainstorming on the "vision of the future. Why and what we want to achieve and see. What is our goal? If you had to imagine a happy ending for the topic addressed by the challenge once completed, how would you describe it? Imagine optimistic results."
    - Attribution of participants to the specific prototypes. Creation of prototyping groups.
- Update the prototype diaries with the reframed challenges and goals.

2. Second session

- Creating the action plans of the prototypes. Every challenge group created from one to three prototyping groups that worked in sub breakout rooms. For each prototyping group the participants brainstormed through a new canvas and made proposals on the following steps:
    - What are the objectives of the prototypes?
    - Who are the actors we want to involve as partners? Who are the beneficiaries of our results?
    - Expected impact in society if the prototype has been implemented (in 4-6 years).
    - Follow-through steps; earliest outcomes (in 6 months to a year).

    - Next steps in the prototyping (in 6 weeks to 3 months). Prepare the field work deep dive, sensing/user journey.
- Preparing the prototype presentation on slides through asynchronous work. The results of these prototyping phases were used to create an initial presentation that was used for the inter-challenge consultation and as a basis for the reports to be used in the prototyping go-no go phase.
- Updating the prototype diaries with the prototype information and action plan.

3. Third session

- Performing the inter-challenge consultations and fine tuning the prototypes with the slides. With reciprocal feedback from participants of other challenge groups with another GroupMap Canvas.
    - What are you impressed by?
    - What would you make stronger?
    - What would you change?
- Plenary presentation of the prototypes to receive further feedback.
- Start of the prototyping phase by updating the slides, report and preparing where possible a video clip as a call to action.

Figure 8: The three main ways to present and work with GENDER STI prototypes

The ideas, clusters and concepts that were generated in the digital brainstorming on the Co-design Lab Canvases were crystallised as initial prototypes by following the structure and templates that were provided to each prototyping team to support the follow-up prototyping and Go-No Go phases.

The ways to present and manage the prototypes were prepared in three formats so as to cater for all possible needs:

a) The prototype report template: a document that contains the substance and a detailed description of the prototype with contents, links and references. Using the metaphor of the iceberg the report is the body of the iceberg that remains under the sea water. See examples of prototype reports in Annex C.

b) A slide template: the presentation contains the essence of the prototype in two slides so as to present rapidly the challenge, the possible solutions and roadmap. Continuing the iceberg metaphor, the slides represent the visible part of the iceberg that emerges from the water. The example of the prototype slides can be seen in the figure below and in greater detail in Annex D. The slides have the following information:

- The description of the challenge and problem behind it.
- Why it is important?
- Space for photos, images and graphs.
- What to do (the objective of the prototype)
- How to do it (actions)
- Who will do it. Actors and beneficiaries.
- When: 6 weeks, within the first 6 months and within the next 6 years

Figure 9: Outline of the digital prototype template reports in slide format X

c) Instructions on how to make a one-minute video-clip. These instructions on how to prepare, record, and edit a Do-It-Yourself videoclip were provided as an optional support to improve the prototypes' call to action and engage more people in the prototype. Continuing the metaphor of the iceberg the videoclip represents the tip of the iceberg.

Figure 10: Cover of the instructions to create prototype video-clips

While the reports and slides were required to proceed with the prototyping phase, participants were given the option to create the clips later if they so desired.

To facilitate the internal communication and interaction between the participants, before, during and after the Lab we adopted the online **Collaborative Basecamp platform**. This was used to share all links, have open asynchronous discussion threads, define tasks and commitments and have access to resources and files that are needed for the co-design process. The platform was opened in the first Lab and further organised so as to add participants incrementally in all the Gender STI Labs.

The **Gender STI Basecamp spaces** have a message board section that allows participants to open a discussion thread, propose questions, share ideas and take decisions, a to-do space to set tasks and deadlines, a document sharing space to have all the documents and links available, a chat function for quick and rapid sharing of ideas or resources and a schedule where to keep track of the events and meetings. This virtual collaborative space was extremely useful to keep everyone on the same page and find all the information relating to the challenge and prototypes for all the participants.

The Basecamp platform has also become the main hub for the Gender STI community of practice (see the description of the Community of Practice in section 5).

2.3 Communication Actions to Promote the Co-Design Lab

Gender STI carried out a series of online communication actions to promote the second edition of the Co-Design Labs, which was invitation-only. Because of this, the actions were highly targeted to increase the RSVPs and attendance to the event, and included initiatives on the project's website, email, and the third-party event management platform Eventbrite.

Finally, the project's communication activities were a success, attracting a diverse group of participants from various sectors and four continents.

Invitation
Project partners sent out personalised invitations via email to key stakeholders working on gender equality across a variety of sectors, including government, science, technology, funding agencies, the private sector, and NGOs, among others. The Gender STI design team created a special graphic for this purpose, included below which aimed to convey a message of problem-solving gender equality issues worldwide.

Figure 11: Invitation for the Gender STI Co-Design Lab

Each partner sent out invitations on an individual basis according to GDPR privacy requirements.

Eventbrite

When considering the promotion of the Co-Design Labs, the project communication team decided to use Eventbrite as the main event landing page to reduce the number of steps participants had to take in order to register. (See Annex B)

Eventbrite served as the main landing page for the Co-Design Lab and was included in all the personal invitations sent by the project consortium. It provided a short and compelling event description, which you can see below, and allowed interested participants to register for the Co-Design Labs in less than five minutes. In total, 24 participants registered for Lab 3, Asia, Africa, and Europe sessions**.** Participants received their tickets to the event via email and received reminders about the event, scheduled on an email campaign launched through MailChimp, one day and one hour before it started, which included a guide for participants, the link to connect, and the agenda (see also Annex A)

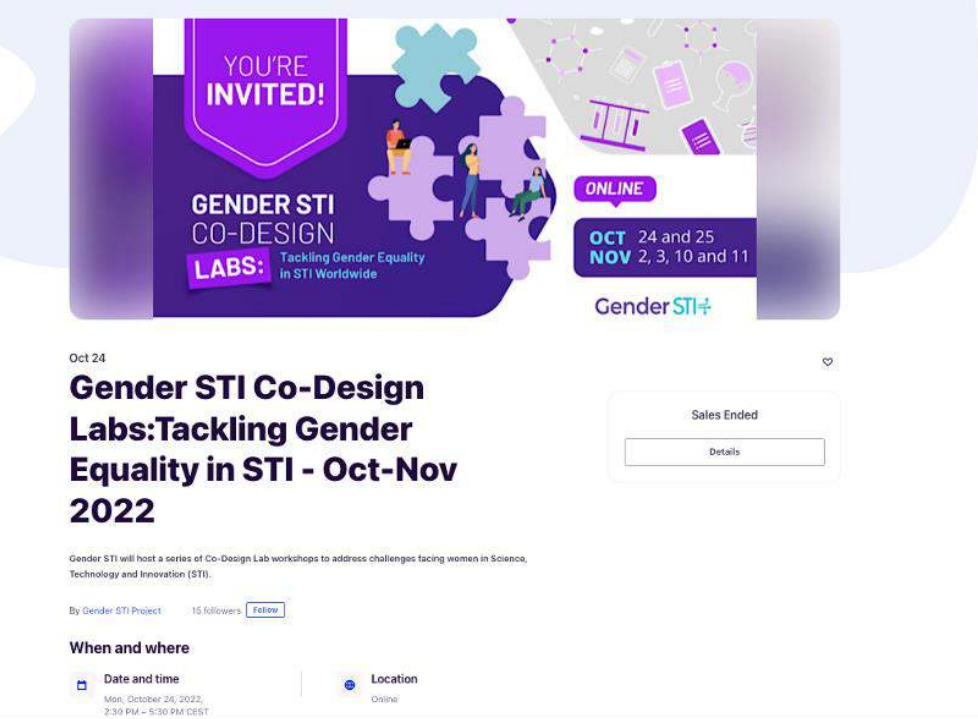


Figure 12: Lab registration landing page on Eventbrite

Full Eventbrite Description

The Gender STI project will host a series of co-design lab workshops to address three of the forefront challenges facing women in science, technology and innovation (STI): gender equality in scientific careers, gender balance in decision-making bodies and positions and the integration of the gender dimension in research and innovation content.

Adopting an intersectional approach to gender, we will address inclusiveness and diversity as guiding principles to integrate the gender perspective in STI dialogues. Gender STI is an international project, and as such will host two series of Labs to accommodate participants from Europe, America, Africa, and Asia.

The series of three facilitated interactive Labs aims to identify the key issues in these areas and develop potential solutions using design thinking and online facilitated processes. The Co-design Labs will take place online over a period of three separate days in October and November 2022. Each workshop will last approximately three hours and will include about 30 participants. As spaces are limited, we ask that you please make sure you will be available to attend all three Lab days.

Prior to the Labs, participants will each be assigned a specific challenge and receive a guide for participants with background information as a reference for the discussion. They will then work with members of the Gender STI consortium during the event and share their knowledge and experiences related to specific challenges and themes; discuss opportunities in their country or institution to tackle them; and co-design potential solutions that can be implemented to foment greater equality in these areas in the weeks, months and years ahead.

Input from participants in each challenge will contribute to a roadmap with recommendations that will be presented to the European Commission and shared with other decision-makers from countries interested in gender equality. All participants will be included as contributors to this roadmap, which will also be featured in the project's European Observatory on Gender in STI. In addition, participants will be invited to form part of Gender STI's Community of Practice, a group of leaders that work to foster gender equality in STI in their home countries and institutions.

We hope you can join us on this important endeavour and help us make a true difference for women in STI all over the world.

Blog actions

We used the Gender STI website to post the Asia, Africa & Europe Agenda for the Co-Design Labs, informing interested participants of the key elements of the online Lab sessions. It should be noted that to announce the Labs, we did not use our social media channels to promote the Co-Design Labs because the online event was invitation-only and designed for an intensive online interactive activity for a limited number of participants.

After the labs, we also published a blog post providing the audience with the session's insights and methodology. (See Annex B)

Social media

As part of the promotion, we used the project's Twitter, and LinkedIn accounts to communicate the latest updates on the different lab sessions. For each, we published a post with the activities undertaken, general remarks, and the next steps to follow. (See Annex B)

2.4 The running of the third Co-design Lab

The Co-design Lab was held between October and November 2022 and involved participants from Asia, Africa and Europe. To address the themes and questions for the selected challenges, explore opportunities and develop initial prototypes, the Lab was organised in three half-day facilitated online sessions, including synchronous online workshops and asynchronous activities.

- **Asia, Africa and Europe GENDER STI Lab sessions'** dates and times.
    - Session 1: Tuesday 25th of October from 9:00 to 12:00 CET
    - Session 2: Thursday 3rd of November from 9:00 to 12:00 CET
    - Session 3: Friday 11th of November from 9:00 to 12:00 CET

In every Lab session there was an opening plenary where the programme, challenges and Innovation Camp method were presented. There were then some technical explanations, followed by icebreakers to get people to know each other. The participants would then break out in three facilitated workshops, one for every challenge group. Within those challenge groups the challenges were initially reframed to identify new opportunities. Once some ideas for prototypes were identified the participants would again create more breakout sessions, one for every prototype group.

The core team members of the Gender STI Lab performed a keystone role by attending the Lab session as facilitators, challenge holders and rapporteurs. This required a strong coordination among the core team and several briefing and debriefing sessions were performed also to fine tune the process of the Lab and adapt to the current circumstances and opportunities.

The online nature of the Lab allowed the experimentation of different approaches and styles. For instance, in some cases the teams decided to start with broader challenge groups to create a common ground before splitting into breakout groups while in other cases, it was chosen to start with smaller sub-challenge groups that could generate ideas more rapidly and then share the results with the bigger challenge team of participants.

The sessions of the Lab applied and adapted all the tools that were designed in the preparation phase.

The Berst was organised for each session with one plenary room, three sub-plenary rooms for each challenge group and the possibility to have three or more prototyping breakout groups for every challenge.

All challenge and prototyping groups were provided with links to their dedicated video conferencing rooms that could be accessed 24/24 in for other meetings between the Lab sessions. These were used in the phase after the Lab sessions between October and November, when there were two weeks to prepare the initial draft prototypes, and after the Lab session, to organise specific meetings to continue adapting and improving the prototypes.

The challenge holders and facilitators made extensive use of the Canvas to share, visualise, and organise their ideas using sticky notes, images, arrows, and other visual tools.

Figure 13: The prototyping canvas of the Gender STI Co-design Lab

The facilitator and challenge holders set aside time to assist participants who lacked the necessary digital skills to learn how to add, comment on, and move ideas and concepts. And in some cases, also participants were providing their support to the less experienced. In some cases, participants were also assisting those who were less experienced. When compared to the first Lab, the participants found GroupMap to be much easier to use, which allowed them to focus more on the ideas and content, increasing the efficiency and efficacy of the work.

The Lab was attended by **24 participants** from Asia, Africa and Europe. This included people from India, South Africa, Finland, The Netherlands, France, Italy, Spain and Portugal that followed the synchronous and asynchronous activities.

The Gender STI Co-design Lab is **an agile, experimental and iterative process** that fosters the dialogue and supports the identification of solutions to complex societal challenges through the co-creation of prototypes among the participants. This is often an exploration into the unknown where every participant learns from each other and takes the initiative to make new discoveries, accept the possibility of making mistakes and getting to the solution by trial and error, as in research and innovation. The diverse competencies, levels of power, domains and cultures can contribute to finding and addressing solutions. This is why people from diverse walks of life and the quadruple helix are involved: research, industry, policy, civil society. The Lab process requires strong and complex challenges (such as the ones addressed by Gender STI), time for participants to get to know each other and an inquisitive, open mindset to get out of one's comfort zone, acceptance of the unknown, of risk taking, faith and trust in each other.

During the Lab process **7 prototypes** were initially designed and developed. Due to the bridging role of the core team challenge holders and facilitators several themes that were proposed in the prototypes were merged so as to create more robust concepts. As a result of this process by the end of the third session of the Lab there were **5 prototypes** and related slide reports that were presented in the closing plenaries of the Lab. During the follow-up prototyping process that took place from November 2022 a prototype was merged with another, and as a result there are now **4 prototypes**.

2.5 The prototyping and first Go-No Go phase

As envisaged by the Lab method, the first six weeks after the Lab, between *mid-November 2022 and the end of December 2022*, were dedicated to the first Go - No Go prototyping phase.

These weeks served to support and to validate the four initial prototypes and to stimulate a reflection on how prototypes could be further improved. The first Go - No Go phase has the aim of both developing the prototypes that are most promising and to go back to the drawing table where prototypes need further refinement of the concepts, more evidence, further research and documentation, interviews and so forth. It is not a process of exclusion but a continuous improvement process.

As part of the experimental discovery process of the Lab, the prototypes generated by the participants are considered as initial workable concepts that can be used and applied so as to identify further improvements until they reach a point of maturity and can be widely applied. Thus, the first weeks after the Lab are a testing period where the prototypes can be discussed initially with a closer circle of colleagues to get feedback and further ideas. This is an open process that leads to finding more questions and to adapt and improve the initial concepts embedded in the prototype so as to continually fine tune and improve them.

The Lab was an intense learning experience for both the participants and the consortium. Because the prototypes would also contribute to the project's next phase, relating to recommendations for implementing gender equality in STI dialogues (WP4), a general framework was developed and improved further after the Lab to define in a deductive way how to use and increase the impact and scope of the emerging prototypes to address the current Gender STI challenges in international bilateral and multilateral agreements and policy dialogues.

To frame the international agreements and policy dialogues and then match the prototypes the team created the Gender STI Matrix. This ongoing process and mechanism are described below, in section 4.1. relating to the prototype actions and recommendations.

The **four** prototypes generated in the Lab sessions are described in the next chapter as brief summaries and in much greater detail in the annexes (see Annex C).

2.6 Action research – 2022 and beyond

The Lab produced very useful results in terms of both process and method as well as content. The Lab's holistic and pioneering approach has stimulated a strong learning process among the partners and participants. This is generating very rich prototypes and results, as described in the next sections, and fostering an agile, continuous improvement mindset, also within the method, by integrating processes, facilitation techniques, digital tools and content in terms of the Gender STI challenges to be addressed by international bilateral and multilateral agreements and policy dialogues.

The next steps relating to the method and organisation of the Lab, *from 2023 onwards*, will continue with a **combination of process and content**, as in the first phase. We outline both dimensions here while we describe in greater depth the content aspect in the next sections.

From the **methodological and process perspective** the organisation of the virtual lab was extremely effective, inclusive and sustainable. People from as many as 8 time zones could participate at the same time. The organisation of the online Lab required a significant amount of effort and commitment from the core team, as well as numerous rehearsals and

technical fine tunings to ensure that all logistical aspects and tools worked in the online setting.

Unlike webinars and other online traditional events that can be extremely tedious and boring, the interactive and engaging nature of the Lab, with the support of professional facilitators demonstrated immediately that no matter what is the distance or experience everyone can share their thoughts, learn, support the co-design and generate interesting ideas.

In terms of **process** the most important achievement has been that of testing and finding the right mix of time, methods, task, tools and a good balance between synchronous and asynchronous activities that could compensate for the reduced number of sessions.

The **next phase** of the Co-design Lab activities will still be based on the action research principles of GENDER STI and will include the process and methodological support with the core team and challenge holders to:

- improve the existing prototypes from Labs (see the next sections);
- identify new core issues and focus questions within the three gender equality challenges;
- contribute to the strengthening and animation of the international Community of Practice of Gender in STI (CoP).

A Lab based on the Innovation Camp process, as stated in the Methodological Handbook, creates conditions in which participants can frame and reframe challenges, issues, and problems in light of other points of view and different perspectives.

Once the reframing process has begun and promising ideas have emerged, the rapid prototyping process can convert these into prototypes ready for action. These prototypes can then be tested, improved, retested, and improved again - all while interacting directly with their intended users.

As a result, a Lab based on the Innovation Camp method does not necessarily provide solutions to difficult or complex problems. It does however contribute to a better understanding of how these issues function in their societal context - and how they can be addressed more effectively. Reframing problems, deepening understanding, rapid prototyping, thinking in terms of outcomes, and planning for action are all key Lab processes that define what participants can expect from the Lab. The results in terms of **content** from the Lab process are described in the next sections, in particular the prototypes emerged from the three main challenges.

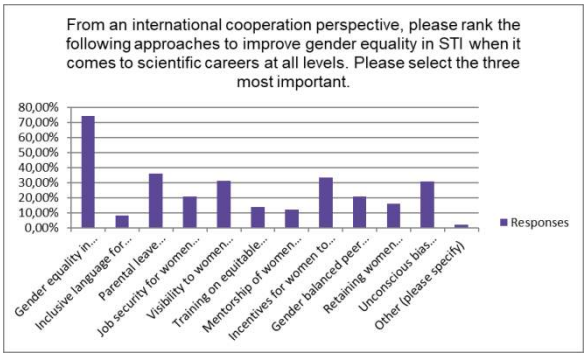
3 CHALLENGES AND PROTOTYPES

The challenges of the Gender STI Co-design Labs were originally identified and described between the spring and summer of 2021 and were the basis for the prototypes that emerged in the first Lab sessions of 2021. For this Lab they were adapted between May and August 2022 so as to cover areas that had not been dealt with in the previous prototypes and to guide the discussions through new questions.

In this section, for each of the three challenges, we include the new formulation and questions that were defined for this Lab in 2022, as indicated in the Guide for Participants (See Annex A for the full guide for participants).

3.1 Challenge 1: Gender equality in scientific careers

The gender gap in STI careers persists, and only 30% of the world's researchers are women. Our findings indicate that three most popular approaches to improve gender equality in STI when it comes to scientific careers at all levels were: gender equality in recruitment and career progression (74.51%); parental leave policies/flexible work schedule arrangements (35.78%); and enhancing incentives for women to lead projects (33.33%).



Approaches
Gender equality in recruitment and career progression
Inclusive language for job vacancies
Parental leave policies/flexible work schedule arrangements
Job security for women in the long-term
Visibility to women references in science
Training on equitable hiring practices
Mentorship of women by other women
Incentives for women to lead projects
Gender balanced peer reviews
Retaining women scientists
Unconscious bias training for the scientific community
Other
Total

Figure 14: Approaches to improve gender equality in STI when it comes to scientific careers at all levels.

The main theme addressed in the first challenge has been: Retaining women in STI.

The challenge is to attract more women to the STI field. Gender equality is always in focus, but by creating an inclusive and diverse work environment, it is also possible to promote women who experience more than one discrimination. However, it is not about changing women but rather about creating an environment in which everyone has the opportunity to contribute. For too long, the male gender has shaped science, technology, and innovation. Now is the time to do diverse research, to create technology for all to get the best results. We focus here on gaining more women for STI. 1) Career choice is central in this area, such as women's STI education. 2) Creating recommendations for policy to reduce the dropout rate. 3) Actions by funding organizations to promote an inclusive and diverse research environment.

Main questions addressed:

- *What changes support **young women** to retain in STI academia?*
- *How can **STI policy** reduce the dropout rate?*
- *What **funding mechanisms** are needed to support women in a STI work environment to be more diverse and inclusive?*

The previous prototypes developed in the first set of Gender Labs in 2021 regarding this challenge focused on 1) Science culture - University and research organizations (with an atmosphere that addresses a balanced distribution of students), and 2) Multilateral agreement to increase the representation and progression of women in STI careers[4].

3.1.1 Prototypes on gender equality in scientific careers

The Lab team working on Challenge 1, relating to gender equality in scientific careers have **is working on 2 prototypes**:

1.1 Use support and mentorship programs to assist females and women to network, face discrimination challenges and caregiver stereotype obstacle

1.2 Recommendations for scientific institutions to increase the retention of women in STI careers

The section below summarises the key points of the two emerging prototypes from challenge 1. A more detailed description of the prototypes can be found in the annex C.

Prototype 1.1 Use support and mentorship programs to assist females and women to network, face discrimination challenges and caregiver stereotype obstacle

This prototype will identify potential academic actions and activities that can be implemented to ensure that women in STI are mentored in their institutions to deal with challenges such as discrimination and obstacles such as the prominent women stereotype of a carer role with family responsibilities and not enhancing diversity, amongst others. Addressing this is critical because if women in STI are not mentored to cope with their challenges and obstacles, it can have a negative impact on retention and equality in academia.

As a result, the prototype aims to reduce women's dropout rates in academia by 50%, thereby increasing retention and equality in STEM. We will accomplish this by assisting in the design and implementation of mentorship programmes in a variety of geographic locations for women of all ages and disciplines in at least 30% of universities, as well as their access to funding and network expansion. In addition, by including women chapters in conferences related to STI disciplines, we will increase women's visibility.
STI-related organisations, funding agencies, NGOs, science councils, editorial boards of STI-related magazines, experienced colleagues, universities, and government are all involved in meeting such goals.

Some of the next steps to consider include developing country-specific literature reviews on challenges related to discrimination and carer roles faced by women in STI, gathering and sharing success stories or best practises on mentorship programmes, determining possibilities in academia with this geographic perspective considering all disciplines,

[4] Gender STI: Gender STI Co-design Lab 1 report.

identifying main challenges in each geographic location regarding mentorship programme development towards prioritising activities, and Given the visibility of women at events and conferences, the next step would be to identify regional conferences that could serve as a platform for a STI women's chapter (focusing on diversity, for example).

Keywords: Mentorship, diversity, discrimination, geographic perspective

Prototype 1.2 Recommendations for scientific institutions to increase the retention of women in STI careers

The Prototype proposes recommendations for scientific institutions (universities, RPOs, RFOs…) to increase the percentage of women in STI careers. Currently only 30% of researchers are women.

Institutional change in scientific organisations could help to reduce the dropout rate of women in STI careers. The prototype looks for identifying barriers that women face in STI careers. Are these barriers perceived in the same way by women and men? Is the dropout rate for men and women different? What are the dropout reasons? How does the family model affect women in STI careers? Further research is needed to build this foundational knowledge for the prototype.

The prototype identifies target institutions in Europe and third countries that can support institutional changes to retain women in STI. The next step is to determine possible changes needed to reduce the dropout rate of women in STI careers. Finally, the prototype proposes recommendations for scientific organisations to increase the retention of women in STI careers.

The prototype actions will involve Consortium partners, members of the CoP and key actors at scientific organisations (Professors at university, Lead positions, and Team leaders in RPOs and RFOs).

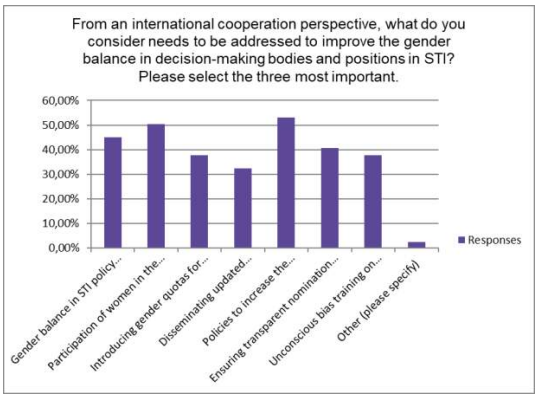
As a possible action, training and awareness raising for professors, deans, leadership positions, or team leaders would help make the unseen seen for scientific institutions. No change to retain women in STI will happen if gender inequalities are not visible.

Keywords: barriers, institutional chance, recommendations, awareness

3.2 Challenge 2: Gender balance in decision-making bodies and positions

Women are underrepresented in decision-making processes and positions in areas such as politics, STI advisory groups and business. Root causes include traditional gender roles and stereotypes as well as unequal sharing of household and care responsibilities. Political and working cultures favouring long working hours that clash with care responsibilities traditionally assigned to women are also a factor. Furthermore, women are subject to gender-based harassment and bullying in the workplace, with the emergence of online violence as an increasing concern.

In our study three most important issues to increase the number of women in decision making processes and positions were "Policies to increase the proportion of women in STI (52.94%)", "Participation of women in the negotiation of STI agreements" (50.49%) and "Gender balance in STI policy dialogues" (45.10%)[5]. The range across all responses doesn't seem very large. That tells us that there are a lot of issues to be addressed across all of the areas of improvement of gender balance in decision-making bodies and positions in STI.



Approaches
Gender balance in STI policy dialogues
Participation of women in the negotiation of STI agreements
Introducing gender quotas for evaluation panels to ensure a gender-balanced composition
Disseminating updated information, trends and good practices on gender equality in decision-making
Policies to increase the proportion of women in STI
Ensuring transparent nomination and promotion schemes in political and corporate cultures
Unconscious bias training on gender balance in leadership positions
Other
Total

Figure 15: Most important issues to increase the number of women in decision making processes and positions

The main theme addressed in the second challenge has been: Supporting women in decision-making.

Women are underrepresented in decision-making processes and positions in areas such as politics, STI advisory groups and businesses. Increases in women's political power are not uniform. Some women have more influence than others, both within and between countries. Men continue to dominate some sectors and the most powerful positions in society. Reasons for the persistent under representation and low participation of women are broad and multifaceted. Root causes include traditional gender roles and stereotypes as well as unequal sharing of household and care responsibilities. This challenge tries to promote the diversity of women in decision-making positions by addressing the barriers that currently exist, reflecting on their role as leaders, and promoting more ambassadors who bring visibility to this situation.

[5] Gender STI: Survey Report on Gender quality Implementation in STI Bilateral and Multilateral Agreements. https://www.gender-sti.org/wp-content/uploads/2021/12/Gender-Survey-Report-for-Web-Final-Version-03-12-2021.pdf

Main questions addressed:

- *What are the evident but intangible **barriers** that prevent women from achieving high professional positions and how can they be faced?*
- *What are the needs and the **role of women** in decision-making bodies?*
- *How can new **spokespeople, champions and ambassadors of gender be promoted** in STI?*

The previous prototypes developed in the first set of Gender Labs in 2021 regarding this challenge focused on 1) Worldwide Spread of Female Networks which aims to achieve a wide variety of leadership profiles and lower the prominence of the implicitly masculine leadership norm, and 2) Guideline supporting more gender sensitivity and mainstreaming in the process of developing STI agreements for decision-making positions[6].

3.2.1 Prototypes on gender balance in decision-making bodies and positions

The Lab team working on Challenge 2, relating to gender balance in decision-making bodies and positions, has been working on the prototype "**Guidelines for STI institutions towards diversity balance in the decision-making process**". The section below summarises the key points of this emerging prototype from Challenge 2. A more detailed description can be found in the Annex C.

Prototype 2.1 - Guidelines for STI institutions towards diversity balance in the decision-making process

Women are underrepresented in decision-making processes and positions in areas such as politics, STI advisory groups and businesses; and men continue to dominate the STI field as well as the most powerful positions in society. There is a resistance towards gender issues in masculine contexts. Moreover, in some countries, there is no awareness of the under-representation of women in certain fields and therefore no specific measures are suggested to remedy the situation. Decision makers still don't see attention to the gap and gender perspective is not considered in the whole decision-making process.
On the other hand, decision makers' candidate selection processes often don't comply with transparency and diversity. Biases exist in the recruitment procedure and also in the career progression.

This is a persisting challenge. Interventions have been made to improve quantitative equality but inclusiveness is more difficult to solve. It was thought that by putting women in some places it was already done, but we must act further.

Women evaluate projects from a different perspective: their perspectives are much broader, and they evaluate not only based on knowledge and experience, but also on other subjective factors. Women's participation in decision-making processes produces different outcomes, according to scientific evidence.

[6] Gender STI: Gender STI Co-design Lab 1 report.

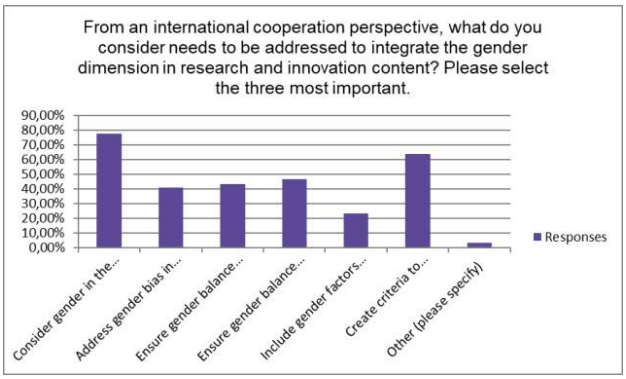
This prototype intends to provide STI institutions with guidance towards a more diverse balance in the decision-making process, based on the barriers that currently exist at all stages of the decision-making process. To achieve this, we will involve funding organisations, gender units of institutions, human resources departments, STI Organizations (e.g., universities, private businesses), as well as all levels of management, including people who lead R&I organisations and research team leads.

Key words: decision-making process, diversity balance, inclusiveness, guidelines, STI institutions.

3.3 Challenge 3: Integration of the gender dimension research and innovation content

Intersectional gender dimension in R&D&I content is largely missing. Reasons for this include, among other things, cultural and structural features of the STI fields and lack of gender expertise. Our previous research indicates that stakeholders highlight three most important approaches to enhance gender dimension in research content: "Consider gender in the entire research and innovation process" (77.45%); "Create criteria to monitor the gender dimension in research content, processes and outcomes" (63.73%); and "Ensure gender balance in research teams" (46.57%)[7].

This indicates that gender dimension should be approached through the innovation process perspective, which would allow focusing on different areas of research and innovation, starting from academic research to commercialization and grassroots entrepreneurship funding agreements.



Approaches
Consider gender in the entire research and innovation process
Address gender bias in research design
Ensure gender balance in evaluation panels
Ensure gender balance in research teams
Include gender factors in application forms
Create criteria to monitor the gender dimension in research content, processes and outcomes
Other

Figure 16: Most important approaches to be addressed to integrate the gender dimension in research and innovation content. XXX

<u>The main theme addressed in the third challenge has been: Enhancing inclusive knowledge production cultures in STI.</u>

Despite decades of gender equality interventions and steadily increasing number of female workers in the STI fields, R&I content is still largely not reflecting the gender dimension. One of the reasons for this is that despite increasing diversity, the research and science cultures within STI fields are not inclusive. This means that the diversity of viewpoints employees within the STI fields may have, are not reflected in the R&I content. This challenge aims to address this deficiency.

Main questions addressed:

- *How can **gender dimension be integrated into STI policy** as a matter of scientific excellence?*
- *How can research institutions and researchers facilitate **cultures of inclusive knowledge production**?*

[7] Gender STI: Survey Report on Gender quality Implementation in STI Bilateral and Multilateral Agreements. https://www.gender-sti.org/wp-content/uploads/2021/12/Gender-Survey-Report-for-Web-Final-Version-03-12-2021.pdf

- *How can research institutions' management contribute to **diversity and inclusion at the workplace**?*

The previous prototypes developed in the first set of gender labs in 2021 regarding this challenge focused on 1) promotion of inclusive design process perspective to enable integration of intersectional gender dimension into research content via research and innovation funding; 2) inclusiveness education/training programme and guide to develop a training programme for educators and researchers to raise awareness on inclusiveness in RTOs; and 3) standardised framework tool for organisations to facilitate the creation of constant monitoring and supporting gender equality and integration of gender into research content in joint research projects between different organisations.

3.3.1 Prototypes on the integration of the gender dimension research and innovation content

The Lab team working on challenge 3, relating to *integration of the gender dimension in research and innovation content*, has been working on the prototype "**The Gender STI Declaration**". The section below summarises the key points of this emerging prototype from Challenge 3. A more detailed description can be found in the Annex C.

Prototype 3.1 The Gender STI Declaration

The UN Sustainable Development Goal (SDG) number 5, gender equality, is a transversal dimension to be included in all SDGs for 2030.

Despite decades of gender equality interventions and steadily increasing number of female workers in the STI fields, R&I content is still largely not reflecting the gender dimension. The lack of sex/gender dimension hampers the quality of research contents (AI recognizing badly female faces, drugs ill-adapted to female bodies, etc.). One of the reasons for this is that despite increasing diversity, the research and science cultures within STI fields are not inclusive. This means that the diversity of viewpoints employees within the STI fields may have, are not reflected in the R&I content. Similarly, within the STI fields, resistance towards uptaking the Integration of Gender Analysis in Research (IGAR) tools is persistent. Hence, the major reason for the lack of sex/gender dimension in research content is that the majority of the research community ignores the concepts and methods of IGAR (Integration of Gender Analysis in Research), despite efforts to provide case studies and guidelines (Gender-Net, Gendered innovations, Kilden, DFG).

Yet, despite the importance of IGAR and its methods are not well known, they are very rarely considered in scientific international cooperation bilateral agreements. These are missed opportunities. Cooperation and dialogues are powerful levers to foster IGAR and promote collaborations between sex/gender specialists who are sometimes isolated in their own institutions and not able to efficiently reach their colleagues.

As SDGs have become a frame of reference for research funding throughout the world, referring to SDGs in general in scientific dialogues and cooperation gives room to mention explicitly the SDG5 and promote the inclusion of a gender dimension in research content.

This prototype of "Gender STI Declaration" aims to address this gap. The declaration takes a systemic approach of committing institutions to promote Gender Policy to include the gender dimension in research and innovation content.

The goal is that a diverse group of institutions and stakeholders - such as the European parliament, Spanish Presidency of the Council of the European Union, national Ministries

of different countries promoting science, technology and innovation, universities, research organisations, research funders - from all continents endorse the declaration.

The declaration commits the undertaking institution to include a Gender Policy into all of their actions promoting, funding or conducting science, technology and innovation activities. The declaration promotes inclusivity and responsible and responsive innovation to respond to grand societal challenges. The gender policy implementation and gender auditing process and implementation of the results are to be periodically monitored to ensure the desired results.

In summary the prototype aims 1) to establish international alliance of institutions committed to promoting gender sensitive R&D&I in STI fields; 2) to establish practical action points and principles that the undersigning institutions takes into account in their operations.

Key words: gender analysis, research and innovation, international cooperation, research content.

3.4 Go – No Go prototyping phase

As part of the continuous improvement and self-reflection process of the Lab every prototype undergoes a Go – No Go check and retrospective that is also based on peer review comments and contributions from its creators, from external stakeholders and potential beneficiaries. This phase is performed in three steps:

1. The first step is for rapid prototyping checks that are performed in the first month and a half after the Lab. If the prototype requires more fine tuning it is either discarded or adapted.
2. If the prototype is mature enough it goes into a longer period of tests and adaptations based on feedback from beneficiaries and other stakeholders. This phase of consolidation of the initial prototype is normally lasts about 6 months. If the prototype demonstrates that it is not realisable or incoherent it is either transformed or discarded by its proponents.
3. If the prototype is consistent and coherent with the requirements of the challenge stakeholders and decision makers and can be robust enough to be proposed as a possible action, recommendation, form of agreement, solution to the challenges, then it will be proposed to the stakeholders for its adoption. This phase enters into the time frame and processes of the policy making activities which can be within medium and long term.

This fine-tuning process helps to develop the Proof of Concept needed for the prototype proposals to be more robust, practical, concrete and operational as they go through iterations, refinements, polishing and improvements.

In the Lab, as a result of this process some prototypes were merged while others were totally transformed and adapted.

All prototypes originating from the Labs and follow-up work undergo an iterative phase of feedback for further improvement with support from SPI partner. The iterative phase of feedback runs for six weeks, counting from the last session of the labs. After this phase, a decision is taken regarding the pertinence and quality of the prototype to move forward and be transformed into a policy recommendation, under WP4.

As of the date of this deliverable, the 6-week prototyping phase is still in progress. For the Go / No-Go decision, the iterative phase of feedback allows for a summary of the key improvements identified in the prototypes that overall had to be addressed:

- The prototypes benefit from the definition of a clear goal, especially those that will end up becoming policy recommendations. The importance to see a recommendation as addressing a question/challenge was emphasised. Challenges to implement the prototypes were identified.
- Some of the prototypes were very ambitious in the proposed goals, which need to be well-planned in terms of the expected action plan and in particular in terms of the level of commitment and funding needed to ensure the fulfilment of the plan.
- The identification of the target audience of the prototypes has to be clear to make the prototype reliable. For instance, high-level actors are harder to reach out to and fully involved in the actions to implement the prototypes.
- If there was overlapping with other prototypes it was suggested to merge those prototypes or be designed in a way that they could become complementary.

If prototypes overlapped, it was suggested to either merge them or to adapt and design them so as to focus on complementary aspects.

All prototypes were reviewed and the responsible teams received detailed comments on all the sections of the prototypes. The teams who advanced quickly in revising their prototypes undertook more than a round of feedback, thus already developing the prototype into a format of a draft policy recommendation. The go / no-go decision to be implemented during the coming weeks shall identify the best prototypes that can be revised to be shared widely as policy recommendations. Considering the work developed, the team expects that at least three prototypes become highly relevant policy recommendations, to be further improved, discussed and disseminated, under WP4.

As we shall see in the next session all the emerging suggestions and retrospective analyses from the agile phase of the Go – No Go have been taken in consideration in the Gender STI Prototyping Matrix and in the recommendations from the challenges based on the first Lab’s co-design activities.

4 PROTOTYPE ACTIONS AND RECOMMENDATIONS

In this chapter we describe how the potential impact and outcomes of the prototypes have been matched according to the Gender STI Prototyping Matrix and the resulting recommendations from each challenge of the Gender STI Co-design Lab.

4.1 The Gender STI Prototyping Matrix

To assess the potential benefits, outcomes and impacts of the co-designed prototypes on international STI agreements and dialogues, we have developed the **Gender STI Prototyping Matrix.**

The Matrix has emerged as a way to identify ideas, proofs of concepts, recommendations and priorities. The Matrix's background information is based on a clear understanding of international agreements and policy dialogues and all the aspects that determine them. It examines the possible benefits and impact the prototypes can generate according to four dimensions:

- Agreements: level of agreement that could benefit from the prototype.
- Areas: focus areas where gender aspects could be addressed in the prototype.
- International Policy Dialogue on STI: Policy Dialogue Level (Interactions among stakeholders) and policy dialogue instruments and tools in which the prototype could contribute.
- Target audiences.

Below we examine and describe more in detail these four dimensions and how they integrate with each other. We then cross reference the information with the four prototypes that were generated in the Gender STI Lab sessions.

4.1.1 STI Agreements

The Gender STI Prototyping Matrix considers especially the following levels of **agreement** that could benefit from the prototypes:

- Bilateral Agreement
- Multilateral Agreement
- Memorandum of Understanding (Incl. an updated version of an agreement/ revision)
- STI implementation activities/ Joint actions / Joint program (e.g., call for proposals, rules for participation, evaluation criteria, etc.).

These bilateral, Multilateral agreements, MoU, and specific STI cooperation agreements are often legally binding documents standardised provisions. They contain provisions regarding the framework (term, purpose, duration…), rights and obligations, organization, and often resources, liability, intellectual property rights…).

If not based on mutual interest in such policies and expected added value of the cooperation, the possibilities for incorporating gender aspects in international cooperation agreements are rather limited.

4.1.2 Policy dialogues on STI

Policy dialogues are related to science diplomacy and are not legally binding, nor necessarily based on standardised provisions. They are negotiated at State/Ministry level.

The Gender STI Prototyping Matrix assesses especially the following **International Policy Dialogue Levels on STI** (interactions among stakeholders), that could benefit from the Labs prototypes:

- Preparatory meetings/ Support Processes (technical representatives).
- Regional Policy Dialogue (e.g. EU-CELAC) (high level representatives).
- National Policy Dialogue (between countries) (high level representatives).
- Background documentation (study reports).
- Concept note (include background, rationale, objectives, methodology, expected participants).
- Agenda.
- Set of recommendations.
- Roadmap/ Action Plan.
- Policy briefs (prepared to capture and communicate key messages).
- Declaration.
- Evaluation reports from policy dialogue.

To assess the potential contribution of the GENDER STI prototypes to policy dialogues it is important to be aware that:

a) A Policy Dialogue is a long process, which usually involves bilateral summits, senior officials' meetings and working groups. For example, this is the case of bi-regional dialogues such as the EU-CELAC Policy Dialogue between the European Union and the Community of Latin American and Caribbean States[8]

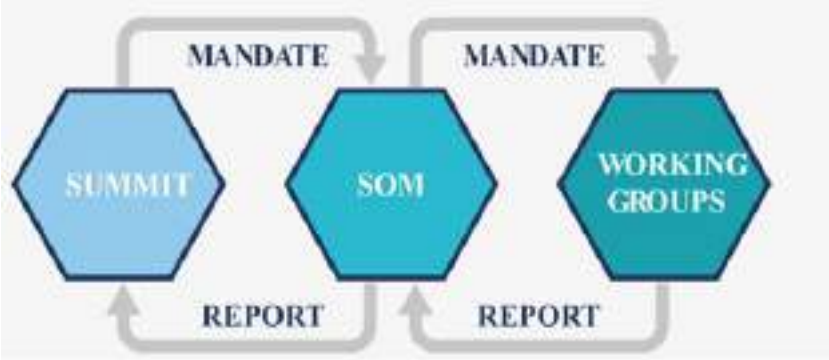


Figure 17: EU-CELAC Policy Dialogue process

b) The scope of the Dialogues is very broad, STI being just one topic. So even if gender issues are included in the action plan it is not necessarily related to STI.

c) STI Roadmaps and concept notes are usually addressing global challenges (related to SDGs) without addressing gender aspects, not even as a cross-cutting issues.

4.1.3 Focus Areas of the Gender STI prototypes

The Gender STI Prototyping Matrix has identified, the following **focus areas** where gender aspects could be addressed in the prototypes to determine their possible impact and outcomes:

- Advice/recommendations on implementing gender equality.
- Advice/recommendations on implementing gender diversity/ intersectionality

[8] For the EUCELAC Policy Dialogue see: https://www.eucelac-platform.eu/policy

- Gender balance in governance bodies.
- STI objectives/priorities (e.g., strengthen research excellence, increase the number of women researchers in STI activities, etc.).
- Evaluation criteria for STI programs/ projects.
- Monitoring of STI programs/projects.
- Calls for proposals/applications.
- Rules for participation.
- Impact of project results.
- Science communication/ raise awareness.
- Contribution to Sustainable Development Goals.
- Gender dimension in research content.

4.1.4 Target Audience of the Gender STI prototypes

The **target audience and beneficiaries** of the Gender STI Lab prototypes include all the quadruple helix stakeholders that can influence policies and strategies to balance the gender dimension in STI. More specifically:

- Government organisation.
- Funding organisation.
- Research and Technology Organisation.
- University.
- Foundation.
- Private company.
- Public company.
- STI agency/association.
- Non-governmental organisation.

The four dimensions – Agreements, Focus areas, International policy dialogues on STI and Target audiences – were matched with the prototypes from the Lab to identify what benefits and impact the prototypes could generate to address and contribute to improve the Gender STI Challenges.

In the Gender STI Prototyping Matrix below, through the fields marked with an X, we show how the four dimensions described above and the prototypes have been matched to identify possible outcomes, benefits and impact.

Here is the outline of the Co-design Lab prototypes (*) per challenge:

- **Challenge 1 (Careers):**
  - Prototype Nº 1.1 Use support and mentorship programs, inclusive initiatives and awareness campaigns to assist females/women to network, face challenges (discrimination) and obstacles (diversity, family, caregiver role) in their institutions.
  - Prototype Nº 1.2 Recommendations for scientific institutions to increase the retention of women in STI careers.

- **Challenge 2 (Decision making):**
  - Prototype Nº 2.1 Guidelines for STI institutions towards diversity balance in the decision-making process.

- **Challenge 3 (Gendered R&I content):**
  - Prototype Nº 3.1 Gender STI declaration.

Table 1: The Gender STI Prototyping Matrix

	Co-design Labs Prototypes			
	Prototype Nº 1.1	Prototype Nº 1.2	Prototype Nº 2.1	Prototype Nº 3.1
AGREEMENTS				
Level of agreement that could benefit from the prototype				
Bilateral Agreement			X	X
Multilateral Agreement			X	X
Memorandum of Understanding (Incl. an updated version of an agreement/ revision)			X	X
STI implementation activities/ Joint actions / Joint program (e.g., call for proposals, rules for participation, evaluation criteria, etc.)	X	X		
AREAS				
Focus areas where gender aspects could be addressed in the prototype				
Advice/recommendations on implementing gender equality	X	X	X	X
Advice/recommendations on implementing gender diversity/ intersectionality			X	X
Gender balance in governance bodies			X	
STI objectives/priorities (e.g., strengthen research excellence, increase the number of women researchers in STI activities, etc.)	X	X		X
Evaluation criteria for STI programs/ projects				X
Monitoring of STI programs/projects				X
Calls for proposals/applications				X
Rules for participation				X
Impact of project results	X	X		X
Science communication/ raise awareness	X	X		X
Contribution to Sustainable Development Goals				X
Gender dimension in research content				X

INTERNATIONAL POLICY DIALOGUE ON STI				
Policy Dialogue Level (Interactions among stakeholders)				
Preparatory meetings/ Support Processes (technical representatives)			X	
Regional Policy Dialogue (e.g. EU-CELAC) (high level representatives)			X	X
National Policy Dialogue (between countries) (high level representatives)			X	X
Policy dialogue instruments and tools in which the prototype could contribute				
Background documentation (study reports)		X		
Concept note (include background, rationale, objectives, methodology, expected participants)			X	
Agenda			X	X
Set of recommendations		X		X
Roadmap/ Action Plan	X			X
Policy briefs (prepared to capture and communicate key messages)				X
Declaration				X
Evaluation reports from policy dialogue				
TARGET AUDIENCE				
Government organisation	X		X	X
Funding organisation	X	X	X	X
Research and Technology Organization	X	X	X	X
University	X	X	X	X
Foundation				X
Private company				
Public company				
STI agency/association			X	X
Non-governmental organisation	X			

The Gender STI Prototyping Matrix shows that the Lab has created concrete and strong proposals in the form of prototypes that can continue to be improved and refined to demonstrate the proof of concept for future international policy agreements and dialogues on gender in STI.

Two prototypes could help to further integrate the gender perspective in STI agreements at all levels and in international policy dialogue. These are:

- Prototype Nº 2.1 Guideline for STI institutions towards diversity balance in the decision-making process.
- Prototype Nº 3.1 Gender STI declaration.

Moreover, the gender aspects that could be addressed in the prototypes are associated to different focus areas, in particular to:

- Advice/recommendations on implementing gender equality.
- STI objectives/priorities (e.g., strengthen research excellence, increase the number of women researchers in STI activities, etc.).
- Impact of project results.
- Science communication/ raise awareness.

As for the primary target audiences that could benefit from the prototypes to adopt gender equality policies in STI, they are the following:

- Funding organisation.
- Research and Technology Organization.
- Universities.

4.2 Actions and recommendations of Challenge 1 - Careers

The First Prototype of Challenge 1 - Gender Equality in Science Careers "Use support and mentorship programs to help women network, cope with challenges such as discrimination, stereotypes, caregiver and multiple" has a focus on mentorship. Therefore, in particular intersectionality plays an important role. Women might face more than one discrimination (gender, religion, ethnic, …). Furthermore, mentorship should help women cope with challenges such as discrimination, stereotypes, caregiver, and several others. Therefore, the following actions are necessary:

- Engage stakeholders (CoP)
- Country-specific literature review
- Collecting success stories (CoP and literature review).
- Exchange of best practices
- Identification of key challenges
- Lessons learned mentorship

The second prototype, "Recommendations for scientific institutions to increase the retention of women in STI careers" from Challenge 1, is intended to provide recommendations. Providing an inclusive and diverse work environment in scientific institutions should be one important goal. For this prototype, it is important to still act on the recommended actions:

- Engage the CoP for this prototype
- Identify target institutions through the contacts of the CoP
- Literature research
- Evaluate the collected information
- Identify barriers (to formulate recommendations)
- Create a survey
- Share the survey in the CoP
- Evaluate the survey
- Formulate recommendations
- Feedback of CoP

4.3 Actions and recommendations of Challenge 2 – Decision making

The actions and recommendations emerging from the prototype of Challenge 2 are important because there is a need in institutions for guidance on how to carry out an inclusive decision-making process that takes into account diversity issues. What's more, the decision-making process in STI has to be more reachable and transparent. It is beneficial for institutions to diversify the eligible profiles (re-education or careers) to occupy decision-making positions.
The prototype aims to reach more gender sensitivity and mainstreaming both in the decision-making positions and in the entire process. This impact will be achieved through the following proposed actions:

- First, to identify the phases of the decision-making process in STI and discuss the challenges in each of them to achieve more gender balance and diversity.
- Second, to draft an open document with guidelines for each of the identified phases.
- Third, to share the guidelines with the selected consortium partners institutions, receive their feedback and improve the guidelines document.
- Finally, a possible action in the future could be carrying out a survey with some institutions to collect their experience with a gender balanced decision-making process and sharing the results with the STI community to encourage more institutions to apply the guidelines.

This work will be developed further along the described lines to obtain results that contribute to involving more countries that take into account gender equality in STI when establishing their national strategies and plans or developing new policies, laws or programs that address the state of intersectionality in STI.

4.4 Actions and recommendations of Challenge 3 – Gendered R&I Content

The Gender STI Declaration as a prototype aims to enhance commitment of institutions to take on practices and principles that enhance STI cultures around the world. This is significant, as the incorporation of a gender dimension into STI is a critical step in developing science that is sensitive to the needs of society as a whole. Enhancing inclusive and gender sensitive organisational cultures is a key strategy for this.

Based on this idea, and the prototyping work, we suggest the following actions related to integrating gender dimension in research and innovation content:

- To draft an international declaration that promotes systemic approach of committing undertaking institutions to promote Gender Policy to include gender dimensions in research and innovation content.
- To involve a diverse set of institutions into the drafting and signing of the declaration
- To involve European Commission into the promotion of the declaration

Envisaged recommendations to STI policy dialogue relate to taking on steps to create international standards for inclusive STI. We propose developing a standardised approach in the form of declaration. This includes principles, guidelines and instructions for inclusive research design and implementation. The formal declaration could translate into practical actions in international scientific cooperations. It is relevant especially in MoUs concerning international collaboration, between research organisations or universities. Furthermore, the declaration shall enhance monitoring and evaluation of gender and inclusivity in a R&D&I.

5 THE GENDER STI COMMUNITY OF PRACTICE

The Co-design Lab is a powerful team building process, gathering people from diverse backgrounds, ages, nationalities, and roles, which contributed to insightful discussions and the creation of prototypes integrating an inclusive gender perspective.

Stakeholders participating in the Labs were invited to join the **Gender STI Community of Practice (CoP)**. As a result, the first batch of the CoP with 110 participants emerged through the direct collaboration, co creation and co-design process that was experienced by the participants in the Lab. This community building process was enhanced by firstly, the networking and team building activities that occurred during the Lab, secondly, by the collaboration of participants on the design and improvement of prototypes (during and after the synchronous Lab sessions), and, thirdly, by providing asynchronous tools such as the networking biographies and the collaborative spaces for each challenge group on the Basecamp platform, bridging the communication also across the different time zones.

After the Lab, we initiated the first communication activity with the CoP in order to welcome new members, foster a sense of community, and disseminate the initial project research and activities. Ultimately, the GENDER STI CoP will contribute to foster gender STI dialogues across European and third countries involved in the project.

As the Co-design Lab sessions involved 24 participants, suggestions, recommendations and word of mouth have also been an asset explaining the importance of participation. Participants were informed two to three months beforehand about the Lab purpose and process, aiming to get as close as possible to the ideal mix of minds and hearts, thus enabling an optimal preparation. For the genuine involvement of participants in the Gender STI Community of Practice, the first step has been to inform them about the purpose, challenges, process, agenda, commitments, benefits and advantages of participating actively in the process (see for instance the Guide for Participants in Annex A).

In the invitation to the Labs, it has been essential to highlight that the Gender STI Co-design Lab is an adventure, a leap beyond the status quo, and a collaborative journey that takes the time and effort needed to achieve worthwhile results. Participants are invited to join a collective process to discover ways, methods, and tools to overcome the inertia, fear, and cynicism often experienced in ordinary working contexts and projects.

Niccolò Machiavelli advised in his 16th-century political treatise The Prince, *"There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success than to take the lead in the introduction of a new order of things"*. While we know how hard it may be to establish a greater gender balance in STI internationally, we have the tools, mindset, methods, and people to induce this in a positive way and overcome the resistance to change.

Mahatma Gandhi said *"Be the change you want to see in the world",* and Margaret Mead tells us: *"Never doubt that a small group of thoughtful, committed individuals can change the world; in fact it's the only thing that ever has"*. The spirit of these quotes guide the participants that join the Gender STI project and community of practice.

The Lab's method, team, and participants can mobilise enough critical mass together to transform the emerging promising ideas into viable prototypes of policies, actions and recommendations. There is an empowering awareness of this that emerges among all participants as the process flows. In addition, the good track record of previous Labs based on the Innovation Camp method demonstrates that the Labs are not a meeting or stand-alone event, but a long-term process and exceptional initiative to connect visions and transform them into actions.

The invitation letter includes:

- PURPOSE. The purpose of the Gender STI Co-design Labs addresses the benefits of belonging to an international community of change agents that are eager to keep learning, improving, and mobilising people.

- OUTCOME. A description of the challenges, possible outcomes, and the stakeholders involved.

- PROCESS. How the Labs are organised, and the steps of their process, including preparations, what is expected of participants, scheduling issues, commitment to blended activities, the digital tools, and the continuous learning process.

One way to see the whole process is to be part of a **Community of Practice**, enabling participants to learn how to make change happen and acquire a strong sense of purpose. The Gender STI Labs nurture a community of practice as a transversal challenge crossing all three other challenges.

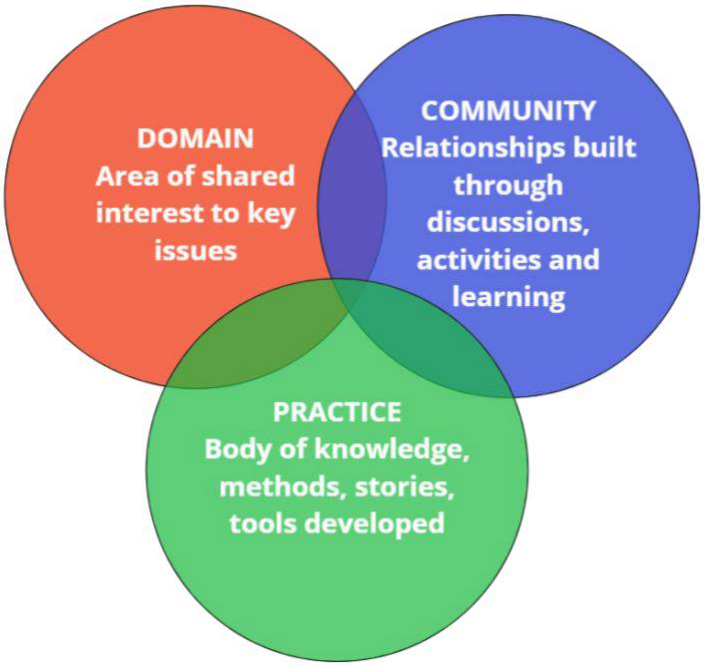


Figure 18: The key elements of the GENDER STI Community of Practice

Communities of Practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they regularly interact (Wenger et al 1998, 2000, 2002). In all cases, the key elements are:

- **The domain**: members are brought together by a common learning need (regardless of whether this shared learning need is explicit or not, or whether learning is the motivation for coming together or a by-product of it). The domain in the case of GENDER STI is the analysis and search of socio-technical solutions that can define outputs, medium-term outcomes, and long-term impact to enhance gender equality in STI.
- **The community**: the collective learning becomes a bond among participants over time (experienced in various ways and thus not a source of homogeneity). The community includes all stakeholders that are keen to face the challenge and want to make a change in how affairs related to gender equality in STI are approached. Some of these community members include all the GENDER STI actors and stakeholders indicated above: e.g., policy makers, researchers, the business world, academia, civil society.

- **The practice**: the interactions within the community produce resources that affect their practice, regardless of whether the participants engage in actual practice together or individually. The practice occurs both at work and in society, as well as through the strong participatory design principles of the Labs with the support of each partner of the GENDER STI consortium.

As with any change process, the commitment required to attend the Labs may be a barrier to some and a way to select the ones that are really passionate and interested in making change makers. Hence with the collaboration of these partisans the Gender STI Community of Practice will have a solid chance to accomplish a great impact.

The **Gender STI Co-design Labs Community of Practice** uses the Basecamp online platform as it allows everyone to contribute and communicate asynchronously and provides a series of useful collaborative tools.

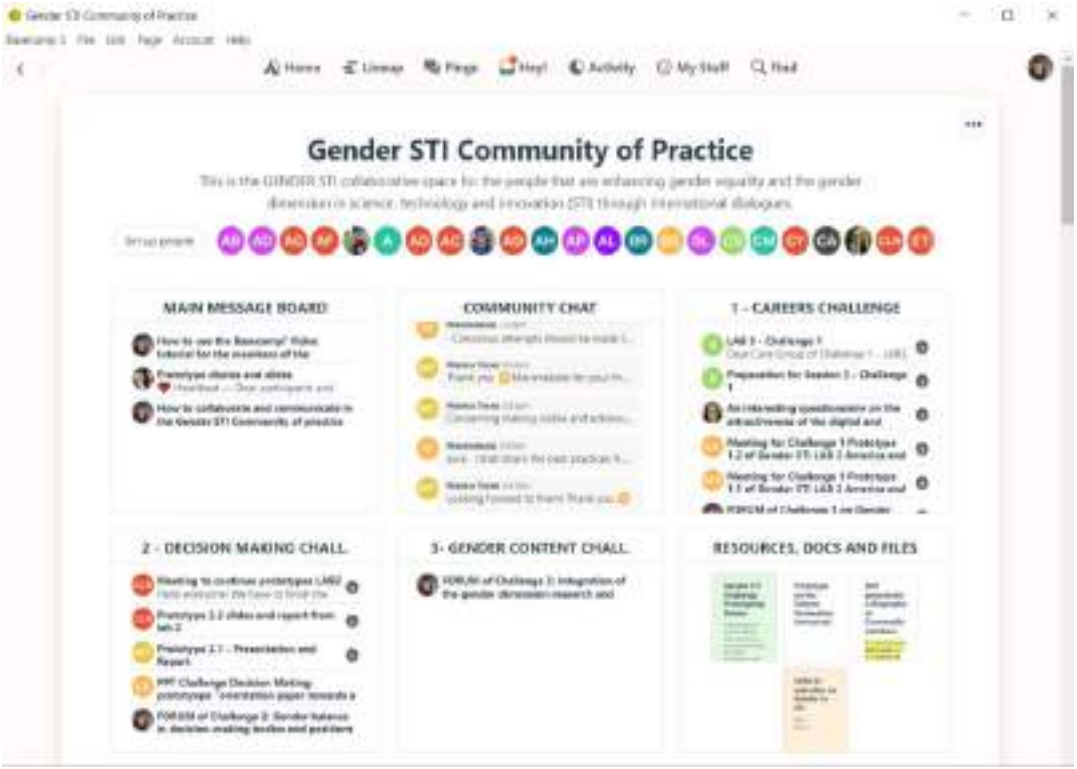


Figure 19: The Basecamp space of the Co-design Lab's Community of Practice

The Community of Practice has the following tools to collaborate and communicate among participants:

- A **COMMUNITY CHAT** for short messages to chat casually with the group, ask random questions, and share stuff without ceremony.

- A **MAIN MESSAGE BOARD** for all the community members to post and broadcast announcements, pitch ideas, progress updates, etc and keep feedback on-topic. The **MAIN MESSAGE BOARD** and **CHALLENGE FORUMS** are the most effective way to share information, post announcements, pitch ideas, progress updates, etc and keep feedback on-topic.

- **Three** dedicated **Challenge forums**, one for each Challenge and for participants from all the Gender STI Labs (and beyond). These allow participants to read each other's challenge discussions and share other reflections whenever they want. All three

challenge forums can be used to post announcements, pitch ideas, progress updates, etc and keep feedback on-topic for the specific Challenge. This is where prototypes are discussed, developed, tested and implemented.

  - **1 - CAREERS.** Forum of **Challenge 1: Gender equality in scientific careers at all levels.**
  - **2 - DECISION MAKING.** Forum of **Challenge 2: Gender balance in decision making bodies and positions.**
  - **3 - GENDER CONTENT.** Forum of **Challenge 3: Integration of the gender dimension in research and innovation content.**

- **RESOURCES, DOCS AND FILES.** This is the place where community members can store or organise assets and reference material with links to the shared folder in the cloud, keeping all the community docs (google or otherwise) in one place. For instance, here we keep the Information Guides for participants, the Challenge Prototype Diaries, Links to the Berst platform for meetings, and so on.

- **COMMUNITY EMAIL FORWARDS**: provides access to any relevant information and contents that participants want to share via email with the community. The working space has a unique email address that allows every participant to forward a copy of the messages sent by email directly to the internal mailbox of the Community of Practice.

- **PING**: if participants want to send a direct message to a person, they can search their name or click on their icon and select the "ping" command, then write the direct message. To write to one (and more people) they can open the "Ping" command above the Basecamp bar to search for the name of the person(s) and add them as recipients.

  - Participants can add a message and comment on other messages by writing their comments just below a message in the forum.
  - They may also add your reactions and emoticons to messages by clicking on the little rocket that is below the message on the right.
  - To send a direct message to someone they can just click on the (@) sign and start typing their name, then select it. The person will receive notification that they are mentioned in the message.
  - When writing a message in the Forum participants can decide who they want to send the messages by selecting the subscribers at the bottom. They are advised to select only the ones that they want to address the message to, unless it is a message that needs to be broadcasted to everyone in the community. If they are in doubt, it is better to send any forum message without adding subscribers. People will read the message anyhow from the Forum.

All partners have participated in the Labs as passionate *change-makers* to align and strengthen the Community's principles and purpose. More external actors and stakeholders have been gradually involved from the first Lab onwards, broadening the engagement and increasing the number of *change-agents* in the Community of Practice.

Each challenge forum is animated by the respective challenge holders, for instance TU Graz were in charge of Challenge 1 on Careers; UPM of Challenge 2 on Decision Making; and VTT of Challenge 3 on Gender R&I content.

As a result of the Lab's workshops and the follow-up phase, the Gender STI Community of Practice will be strengthened to foster gender equality dialogues and solutions across the countries involved, and beyond. This community of practice helps to share information, know-how, solutions, agreements, processes, and best practices to move forward together. GENDER STI intends to scale up the experience at the international level, thereby generating further long-term outcomes and impact on gender equality in STI.

6 CONCLUSIONS AND LESSONS LEARNT

The Gender STI project hosted the third Co-design Lab workshop to address three of the forefront challenges facing women in Science, Technology and Innovation (STI): **gender equality in scientific careers, gender balance in decision-making bodies and positions and the integration of the gender dimension in research and innovation content.**

- The Co-design Lab sessions continued the pioneering experimental experience of online interactive prototyping started with the first Lab in 2021 due to Covid-19 restrictions. The 2022 Lab sessions were also a testbed where new methods, tools and processes were introduced and adapted to organise an even more efficient and effective facilitated prototyping process. Activities were performed so as to cater for the needs and time zones of people from Asia, Africa and Europe.

- The Lab sessions were an effective learning process for everyone. The **virtual Lab process** required all participants to both learn how to apply the design thinking principles and to learn how to co-create and collaborate in a facilitated participatory way in a **remote online setting**. The Lab sessions included both **synchronous** meetings where participants would meet together virtually, and **asynchronous** activities where they would collaborate, make proposals and take decisions on specific platforms (such as Basecamp, GroupMap or shared google files as for the Prototyping Diaries and Prototyping slides). While the design and core team kept introducing simpler tools that had a less steep learning curve the digital brainstorming sessions were a very stimulating way to walk the talk in terms of empowering participants to use virtual tools, listen actively, be inclusive and bridge gaps in language differences. In these digital sessions all the participants had to stretch their comfort zone and learnt how to apply in a creative way several **methods and techniques** that were combined in a new way to address three societal challenges related to gender equality in STI.

- Working online in the Lab sessions proved to be **extremely efficient** and **inclusive** with participants being "only one click" away, even if they were thousands of kilometres separating them. This was the result of **careful planning among partners** and the **support of facilitators** with a lot of **experience in creating a collaborative and warm social online atmosphere**, in spite of time, logistic and technological constraints. More adaptations to the process have been considered to find a trade-off between the complexity of the topics being dealt with and the time needed to address them so as to generate and agree on ideas for prototypes and the optimal use of digital techniques. The experience and practice gained with the first Lab in 2021 made the work of the core team and partners much more fluid and stimulating. There was a stronger feeling of belonging, trust, respect and much better team work with continuous feedback and improvements.

- The Lab sessions were effective. Through the Lab sessions the challenges were addressed by challenge holders and participants to **generate more and different prototypes of solutions** that could address the gender perspective in STI relating to careers, leadership and decision making and gendered content. The development of a Guide for Participants helped the core team to frame and narrow-down with great clarity which themes to tackle that would be complementary with respect to those tackled previously. This allowed a much stronger coordination of the topics and reduced overlaps and redundancies in the prototypes. The first Lab initially generated **seven prototypes** that were then merged and consolidated into **four prototypes** involving participants from all time zones. These prototypes are the main basis for identifying ways to **have an impact and benefit** on current and future **policy dialogues and agreements** on gender in STI.

- The Lab prototypes undergo an iterative testing and continuous improvement process. After the first Lab sessions the emerging **prototypes** continued to be adapted, improved and developed by the prototype proponents. This iterative process led to the definition of a **Proof of Concept** for the emerging prototypes and their further improvement in the next phases of the Lab.

- The Lab challenges and their solutions are the main drivers of the Lab's pioneering discovery process. The **three gender challenges** that have been addressed will keep guiding the whole Lab process. New specific dimensions of these have been addressed in this Lab, on the basis of new requests and priorities and also to fill gaps that were not covered by other prototypes with reference to the **Gender STI prototyping matrix**. As a result of these new challenges, themes and questions the Lab has generated more prototypes that can contribute to strengthen the connection with the current policy challenges.

- The focus of the challenge in the Labs is key to guide the questions and subsequent prototypes. As a lesson learnt while the first exploratory Lab addressed the challenges very broadly, with prototypes that range from very strategic to tactical actions, the following Labs have **selected more focused aspects of the challenges**, **topics** and **guiding questions**, with a direct link to ones that could have **a strong support from decision makers**. This selection of targeted aspects of the challenges has been enriched through the new "Guide for Participants". Through the Gender STI Community of Practice and by liaising directly with people involved in institutions and organisations that are directly active in international bilateral and multilateral agreements and policy dialogues the impact of the prototypes may be further enhanced through a stronger ownership of the issues. This also increases the engagement and commitment of all parties involved in the Labs and broadens their scope and systemic impact.

- The Lab sessions are a catalyst for the creation of the first international **Community of Practice (CoP)** to address the gender perspective in STI through improved policy agreements and dialogues. The **CoP** has grown further from the interactive, challenge-driven Lab session activities. By meeting in a facilitated environment, through ice-breakers and team building activities, participants have had the possibility to learn more about their different backgrounds, expectations, dreams and hopes relating to gender equality in STI and have realised that together they can achieve much more than they could even imagine. Participants were extremely enthusiastic about the Lab sessions and methods, especially as the process helped them to achieve, in a relatively short span of time, quality outcomes that would have required much more time if there was not a strong and clear method. The Community of Practice, being a many-to-many and demand and supply self-driven mechanism where all members are resources for each other counts also on a strong passion and commitment on the gender equality in STI challenges addressed by the Lab. In the next phase, the Community of Practice will be broadened through communication and dissemination activities and through an intensive approach where every new participant is onboarded and coached word of mouth from the existing members.

Summing up the main findings and lessons learnt, the third Gender STI Co-design Lab (Oct-Nov 2022) has been a test bed to continue to define the three challenges and this led to **four** detailed work-in-progress prototypes. This prototyping, action research and continuous improvement process is in the experimental design thinking nature of the Lab's methodology.

Considering the complexity of the challenge and issues addressed, the third Lab was a considerable achievement and as consortium we are aware of the positive results as well as of what can be improved:

- It was the third time such an online Lab based on the Innovation Camp method was organised on a global scale on such daring societal goals and policy issues. Participants of the third lab attended the workshop from Asia, Africa and Europe working together across 6 different time zones.
- The experience of the core team members and partners acquired in the first Lab helped to support new participants that had little or no experience with digital brainstorming tools and online co-design processes. This support, combined with a reengineering of tools and processes by the facilitators, helped to make the learning curve much simpler and to focus more on the contents and outcomes of the Lab than in the first one.
- The Lab has broadened the diversity of perspectives by involving new external stakeholders from other regions and organisations and by having a greater gender balance.
- The challenge of organising all the Lab activities online rather than through face-to-face meetings became an opportunity for innovations in the methods, tools and facilitation approaches and for greater inclusion of participants, as well as a good combination of synchronous and asynchronous activities through digital tools. As participants did not need to travel to attend the Lab sessions this allowed to dedicate more time on the content, process and overall support of the consortium to the prototypes. The role of the consortium partners has been key to keep the continuity and depth of the discussion in the Lab, their prototyping and implementation phase in spite of time constraints. The asynchronous work through collaborative platforms provided also the time for deeper reflection, analyses and syntheses of results among prototyping groups.

The next phase of the Co-Design Lab is based on the continuation of the prototyping activities and their implementation both among the participants that were involved in their design and with other stakeholders and societal actor that can be involved through the Community of Practice. The prototypes and results of the Gender STI Co-Design Lab will feed into the recommendations for implementing gender equality in STI dialogues and policy actions to enhance the integration of gender equality in bilateral and multilateral activities between EU MS, AC and third countries in the area of STI. Insights from the design thinking process, and in particular the outcomes from the Co-Design Labs, will create the groundwork for the formulation of recommendations on gender equality in STI, while the implementation phase of the design thinking process will develop an action plan to effectively implement the selected recommendations.

7 ANNEXES

The annex section includes the following:

- 7.1 Annex A - The Guide for Participants for the Gender STI Co-design Lab 3 Asia, Africa and Europe sessions
- 7.2 Annex B – Eventbrite registration page for the Gender STI Co-design Lab sessions, Blog post & Social media posts in Twitter and LinkedIn
- 7.3 Annex C – Prototypes of the Lab 3 Asia, Africa and Europe sessions
- 7.4 Annex D – Slides of prototyping
- 7.5 Annex E - Prototyping diary

7.1 Annex A – The Guide for Participants to the Gender STI Co-design Lab 3 Asia, Africa and Europe sessions

This annex has the full description of the Guide for Participants that was sent to inform participants of the Gender STI Co-design Lab 3 Asia, Africa and Europe sessions.

Guide for the Participants to the Gender STI Co-design Labs

TABLE OF CONTENTS

This participant's guide aims to inform you and provide background information on the challenges that are addressed by the GENDER STI Co-design labs. This information helps you to identify previous policies, and new opportunities, ideas for prototypes that will be used to enhance gender equality and gender dimension in science, technology and innovation (STI) through international dialogues.

The Gender STI project

The Gender STI project aims to enhance gender equality in science, technology and innovation (STI) workforce and decision-making positions, as well as to support the integration of the gender perspective in STI dialogues between Europe and third countries.

The project is part of the European Research Area (ERA) strategy to advance gender equality in Research and Innovation (R&I).

Gender STI innovatively contributes to solving complex problems associated with the integration of the gender perspective in STI dialogues, by adopting a design thinking human-centric problem-solving approach. Gender STI investigates how gender equality is taken into consideration at different levels of international cooperation dialogues in the area of STI, between the EU Member States and Associated Countries, and a selected set of 10 third countries, including Canada, the United States, Mexico, Brazil, Chile, Argentina, South Africa, India, South Korea and China.

The Co-design Labs prototyping method

The Co-design Labs (Labs) addresses three of the forefront challenges facing women in STI: i) gender equality in scientific careers; ii) gender balance in decision-making; and iii) the integration of the gender dimension in research and innovation content. By prototyping and testing solutions according to design thinking principles, the participants in the Labs work with facilitators and interactive brainstorming methods to reframe the challenges, look for opportunities, define goals, identify key actors, build initial ideas, develop prototypes and a roadmap to test the prototypes in real contexts.

The Co-design Labs use the Innovation Camp Method adopted by the European Commission Joint Research Centre (JRC) and the Committee of the Regions.

The Co-design Labs sessions

The Co-design Labs are organized in three sessions of half a day each as well as asynchronous prototyping collaboration. The Labs will address the three main challenges of **gender equality in careers, decision making and R&I content**, with focus on different **thematic areas for each challenge** to identify diverse prototypes. You will find the descriptions of the challenges, themes and open questions in the tables below across the specific sections of the document.

Here are the dates and times of the Labs you are attending. Please consider that attending the three sessions in a Lab is important as it is an integrated process where each session builds on the previous one so as to build prototypes that can have a concrete impact.

GENDER STI Co-design Lab sessions - Asia, Africa and Europe Labs
Session 1: Tuesday 25th of October. 9:00 to 12:00 CET **Session 2:** Thursday 3rd of November. 9:00 to 12:00 CET **Session 3:** Friday 11th of November. 9:00 to 12:00 CET

Overview of gender related challenges in STI

The information and figures presented in this section are based on data collection and analysis of the Gender STI project, including:

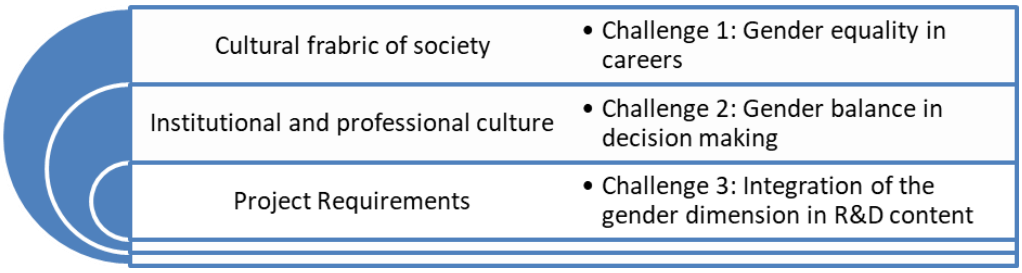
- **Interviews**: Europe and third countries. Semi-structured, 81 interviews across different institutions, countries and cultures (EU 33; North America 7; Latin America 24; Africa 4; Asia 12; Oceania 1).
- **Survey**: 204 respondents from key actors (Europe and third countries participating in the project, including members of government organisations, funding organisations, Research and Technology Organisations (RTOs), universities, foundations, private companies, public companies, STI agencies and associations and NGOs)
- **Mapping of STI agreements**: Europe and third countries, 528 STI agreements identified, 15% of these agreements include gender-related content.

Reports on key findings of the Gender STI project can be downloaded from the website Publications section.

Gender inequality and exclusion in STI remain a persistent problem. Although the culture of each country seems to appear as a defining factor of equality and inclusivity, the main findings of the Gender STI investigation indicate that the institutional profile, and the vision of meritocratic culture embedded in different societies influence gender questions the most. The implementation of international dialogues and cooperation activities are not able, per se, to change a whole cultural perspective. However, they seem an important instrument of change if cultural differences are considered.

The institutional profile stands by the type of actions deployed by each institution and its professional culture. The former is important to define the range each gender balance action can have in that environment, and the latter is more related with the mismatch between inclusion and diversity goals, including gender balance and the idea of meritocracy in STI fields. Finally, data gathering and production on gender and inclusion seems to be one of the main tools to enable assessing gender balance policies. However, the lack of dedicated personnel to this end is indicated in the data (Gender STI, Overview of gender inequalities, 2022).

Where each Challenge stems from, according to Gender STI in-depth interviews



Also, the Gender STI survey supports the finding that the culture of each country is not a defining factor in gender equality, gender equality drivers and barriers are actually quite similar in EU and third countries. See more survey results: Gender STI Survey Report.

The survey respondents see that the main areas to address gender equality in new agreements are "Advice/recommendations on implementing gender equality" (32.4%), and in setting "STI objectives/priorities" (29.0%) and placing gender criteria already in the

"Calls for proposals/applications" (28.8%). There is clearly a need for awareness raising activities, as well as expert advice such as guidelines, training, workshops, webinars, just to mention a few examples.

Barriers that prevent inclusion of gender equality in STI agreements in turn emphasise concrete challenges such as underrepresentation of women in STI decision-making, but also intangible challenges as prevailing stereotypes and unconscious biases, and cultural and social barriers that demand major changes in the currently prevailing masculine STI culture(s).

Side by Side Comparison of the Main Barriers Preventing the Inclusion of Gender Equality in STI Bilateral and Multilateral Agreements: Europe and Third Countries

Reasons	Total	Europe	Third Countries
Underrepresentation of women in decision-making positions	**61,76%**	**57.14%**	**66.04%**
Stereotypes and unconscious bias	**57,84%**	**63.27%**	**52.83%**
Continued widening of the economic gender gap	14,22%	11.22%	16.98%
Lack of a supportive environment for women in STI	35,29%	35.71%	35.85%
Cultural and societal barriers	**57,35%**	**60.2%**	**55.66%**
Legal barriers	3,43%	2.04%	4.72%
Negotiation power	16,18%	17.35%	15.09%
Lack of belief that gender inequality exists in the research/teams	48,04%	47.96%	48.11%
Other	4,90%	5.1%	4.72%
Total	100% (204)	100% (98)	100% (106)

Who is involved in STI dialogues that promote gender equality?

Our mapping study, which concentrates on the international STI dialogues from the perspective of STI agreements, answers questions like which actors are involved in the STI dialogues that promote gender equality and what kind of gender-related content we find in the STI agreements. Like our other activities, this mapping study focuses on dialogues between EU and third countries. Interestingly, we can observe that universities do not excel in having gender content in the STI agreements, although they dominate in our sample. Actually, a majority of gender content is found in government level dialogues, like those in which the European Commission participates, but also in dialogues with Research and Technology Organizations especially in the third country context. In turn, the role of STI funding organizations is rather limited. Another observation is that the majority of gender content is included in Memorandum of Understandings (MoUs) or STI implementation activities like joint action plans between countries. Bi- and multilateral STI agreements offer less room for modifications because these are often standardized texts with less details on the context, whereas MoUs often relate to collaboration on specific fields of science. One should however keep in mind that due to the limited number of observations of agreements that include gender content generalizations are to be made with caution.

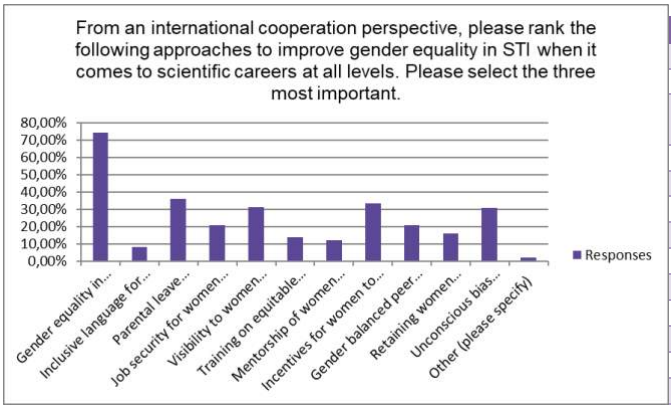
What kind of gender content do we find in the STI agreements?

Finally, in terms of gender content in STI agreements, we can state unequivocally that the two most prominent themes in the data are gender equality and female empowerment. The former focuses on gender equality based on national gender equality articles, for example, whereas the latter frequently promotes female participation or places women as intervention targets. Inclusion, which does not always specify gender but refers to equality in education, and intersectionality, which can be seen in phrases like non-discrimination based on race, ethnicity, colour, religion, and sex, are also emerging themes in our data.

What kind of solutions to gender equality and inclusion have we proposed?

Challenge 1: Gender equality in scientific careers

The gender gap in STI careers persists, and only 30% of the world's researchers are women. Our findings indicate that three most popular approaches to improve gender equality in STI when it comes to scientific careers at all levels were: gender equality in recruitment and career progression (74.51%); parental leave policies/flexible work schedule arrangements (35.78%); and enhancing incentives for women to lead projects (33.33%).



Approaches
Gender equality in recruitment and career progression
Inclusive language for job vacancies
Parental leave policies/flexible work schedule arrangements
Job security for women in the long-term
Visibility to women references in science
Training on equitable hiring practices
Mentorship of women by other women
Incentives for women to lead projects
Gender balanced peer reviews
Retaining women scientists
Unconscious bias training for the scientific community
Other
Total

To find new solutions to this, the previous Gender Labs focused on developing prototypes to promote STEM as career choice for women and encourage women to the STI field.

In fact, previous prototypes developed in the first set of gender labs in 2021 regarding this challenge focused on (1) Science culture, aiming for a cultural change to enhance atmosphere at university and research organizations in ways that would enable a balanced distribution of students, and (2) Multilateral agreements to increase the representation and progression of women in STI careers.

For the 2022 Labs the challenge 1 "Gender equality in scientific careers at all levels" aims to give women, in particular, the opportunity to work in the field of STI. This means that more women have to be encouraged to enter these fields, and on the other hand, the drop-out rate has to be significantly reduced.

Asia, Africa and Europe Labs
Theme: Retaining women in STI.

The challenge is to attract more women to the STI field. Gender equality is always in focus, but by creating an inclusive and diverse work environment, it is also possible to promote women who experience more than one discrimination. However, it is not about changing women but rather about creating an environment in which everyone has the opportunity to contribute. For too long, the male gender has shaped science, technology, and innovation. Now is the time to do diverse research, to create technology for all to get the best results. We focus here on gaining more women for STI. 1) Career choice is central in this area, such as women's STI education. 2) Creating recommendations for policy to reduce the dropout rate. 3) Actions by funding organizations to promote an inclusive and diverse research environment.

Main questions:

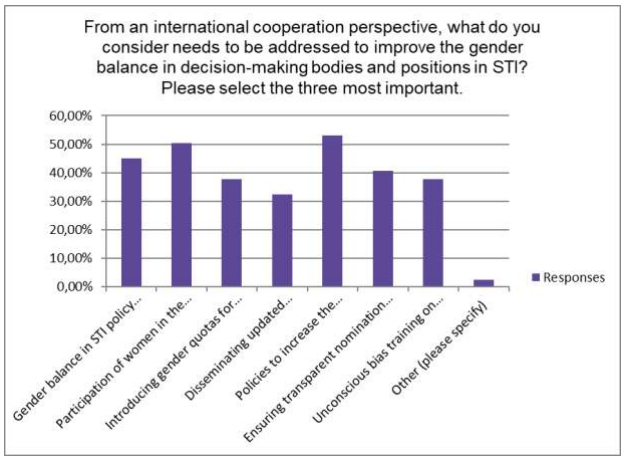
- *What changes support **young women** to retain in STI academia?*

- *How can **STI policy** reduce the dropout rate?*
- *What **funding mechanisms** are needed to support women in a STI work environment to be more diverse and inclusive?*

Find additional tools and resources on measures for addressing gender inequalities in recruitment and career progression, and for advancing gender equality in work-life balance and organizational culture in the **Gender Equality in Academia and Research (GEAR) Tool**.

Challenge 2: Gender balance in decision making bodies and positions

Women are underrepresented in decision-making processes and positions in areas such as politics, STI advisory groups and business. Root causes include traditional gender roles and stereotypes as well as unequal sharing of household and care responsibilities. Political and working cultures favouring long working hours that clash with care responsibilities traditionally assigned to women are also a factor. Furthermore, women are subject to gender-based harassment and bullying in the workplace, with the emergence of online violence as an increasing concern.



Approaches
Gender balance in STI policy dialogues
Participation of women in the negotiation of STI agreements
Introducing gender quotas for evaluation panels to ensure a gender-balanced composition
Disseminating updated information, trends and good practices on gender equality in decision-making
Policies to increase the proportion of women in STI
Ensuring transparent nomination and promotion schemes in political and corporate cultures
Unconscious bias training on gender balance in leadership positions
Other
Total

In our study three most important issues to increase the number of women in decision making processes and positions were "Policies to increase the proportion of women in STI (52.94%)", "Participation of women in the negotiation of STI agreements" (50.49%) and "Gender balance in STI policy dialogues" (45.10%). The range across all responses doesn't seem very large. That tells us that there are a lot of issues to be addressed across all of the areas of improvement of gender balance in decision-making bodies and positions in STI.

The previous prototypes developed in the first set of Gender Labs in 2021 regarding this challenge focused on (1) Worldwide Spread of Female Networks which aims to achieve a wide variety of leadership profiles and lower the prominence of the implicitly masculine leadership norm, and (2) Guideline supporting more gender sensitivity and mainstreaming in the process of developing STI agreements for decision-making positions.

For the 2022 Labs in order to approach this problem from new points of view that address inclusiveness in this matter, we have defined two topics that help support women and inspire them to achieve decision-making positions in the STI field.

Asia, Africa and Europe Labs
Theme: Supporting women in decision-making.

Women are underrepresented in decision-making processes and positions in areas such as politics, STI advisory groups and businesses. Increases in women's political power are not uniform. Some women have more influence than others, both within and between countries. Men continue to dominate some sectors and the most powerful positions in society. Reasons for the persistent under representation and low participation of women are broad and multifaceted. Root causes include traditional gender roles and stereotypes as well as unequal sharing of household and care responsibilities. This challenge tries to promote the diversity of women in decision-making positions by addressing the barriers that currently exist, reflecting on their role as leaders, and promoting more ambassadors who bring visibility to this situation.

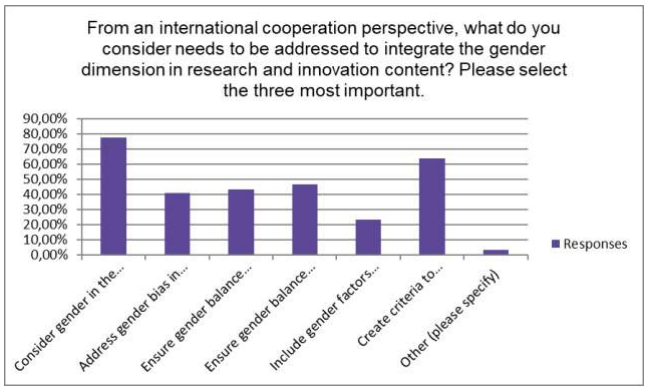
Main questions:

- *What are the evident but intangible **barriers** that prevent women from achieving high professional positions and how can they be faced?*
- *What are the needs and the **role of women** in decision-making bodies?*
- *How can new **spokespeople, champions and ambassadors of gender be promoted** in STI?*

Find additional tools and resources on efforts to promote gender balance in leadership and decision-making in the **Gender Equality in Academia and Research (GEAR) Tool**.

Challenge 3: Integration of the gender dimension in research and innovation content

Intersectional gender dimension in R&D&I content is largely missing. Reasons for this include, among other things, cultural and structural features of the STI fields and lack of gender expertise. Our previous research indicates that stakeholders highlight three most important approaches to enhance gender dimension in research content: "Consider gender in the entire research and innovation process" (77.45%); "Create criteria to monitor the gender dimension in research content, processes and outcomes" (63.73%); and "Ensure gender balance in research teams" (46.57%).



Approaches
Consider gender in the entire research and innovation process
Address gender bias in research design
Ensure gender balance in evaluation panels
Ensure gender balance in research teams
Include gender factors in application forms
Create criteria to monitor the gender dimension in research content, processes and outcomes
Other
Total

This indicates that gender dimension should be approached through the innovation process perspective, which would allow focusing on different areas of research and innovation, starting from academic research to commercialization and grassroots entrepreneurship funding agreements.

The previous prototypes developed in the first set of gender labs in 2021 regarding this challenge focused on (1) promotion of inclusive design process perspective to enable integration of intersectional gender dimension into research content via research and innovation funding; (2) inclusiveness education/training programme and guide to develop a training programme for educators and researchers to raise awareness on inclusiveness in RTOs; and (3) standardised framework tool for organisations to facilitate the creation of constant monitoring and supporting gender equality and integration of gender into research content in joint research projects between different organisations.

For the 2022 Labs, we have recognised two main categories to be enhanced in order to integrate the gender dimension into R&D&I processes. First concerns capabilities for inclusive knowledge, addressing the issue from the researcher's capability perspective. Second concerns creating STI cultures that enhance and cherish diversity and inclusion of different knowledge.

Asia, Africa and Europe Labs
Theme: Enhancing inclusive knowledge production cultures in STI.

Despite decades of gender equality interventions and steadily increasing number of female workers in the STI fields, R&I content is still largely not reflecting the gender dimension. One of the reasons for this is that despite increasing diversity, the research and science cultures within STI fields are not inclusive. This means that the diversity of viewpoints employees within the STI fields may have, are not reflected in the R&I content. This challenge aims to address this deficiency.

Main questions:

- *How can **gender dimension be integrated into STI policy** as a matter of scientific excellence?*
- *How can research institutions and researchers facilitate **cultures of inclusive knowledge production**?*
- *How can research institutions' management contribute to **diversity and inclusion at the workplace**?*

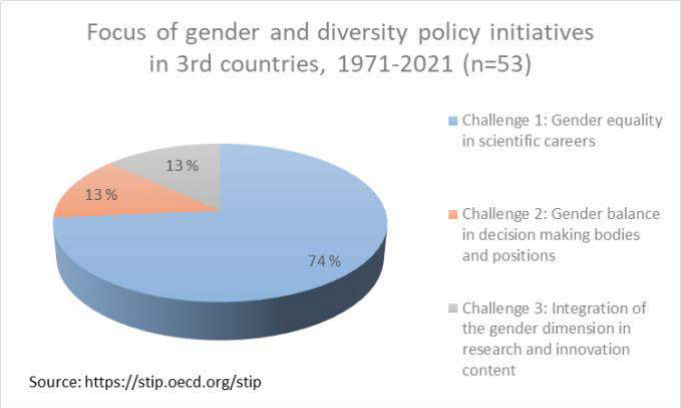
Find additional tools and resources on measures to integrate the sex/gender dimension into research and teaching content in the **Gender Equality in Academia and Research (GEAR) Tool**.

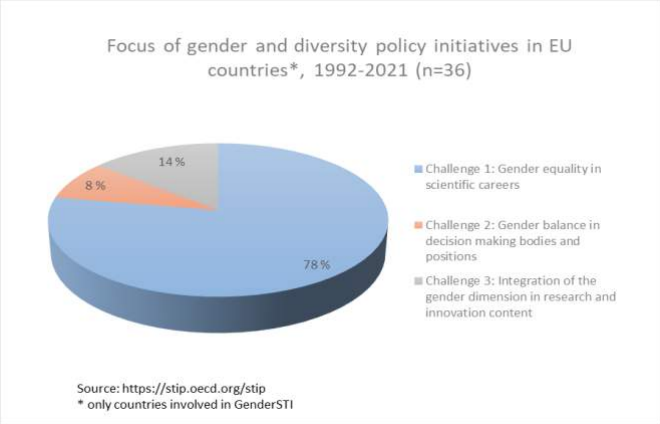
GENDER-NET project published the following report: *Manuals with guidelines on the integration of sex and gender analysis into research contents, recommendations for curricula development and indicators*.

GENDER-NET Plus project has produced a *Comparative analytical report on existing national and regional initiatives on the integration of the gender dimension in research content*.

Previous / existing policy initiatives

The gender policy analysis is based on OECD STIP Compass available online (EC-OECD STIP Compass) which collects together in one place qualitative and quantitative data on national trends in STI policy. The sample used in the Gender STI study includes all policy initiatives of 'Gender balance and inclusiveness'. No time or budget restrictions were applied when forming the sample.





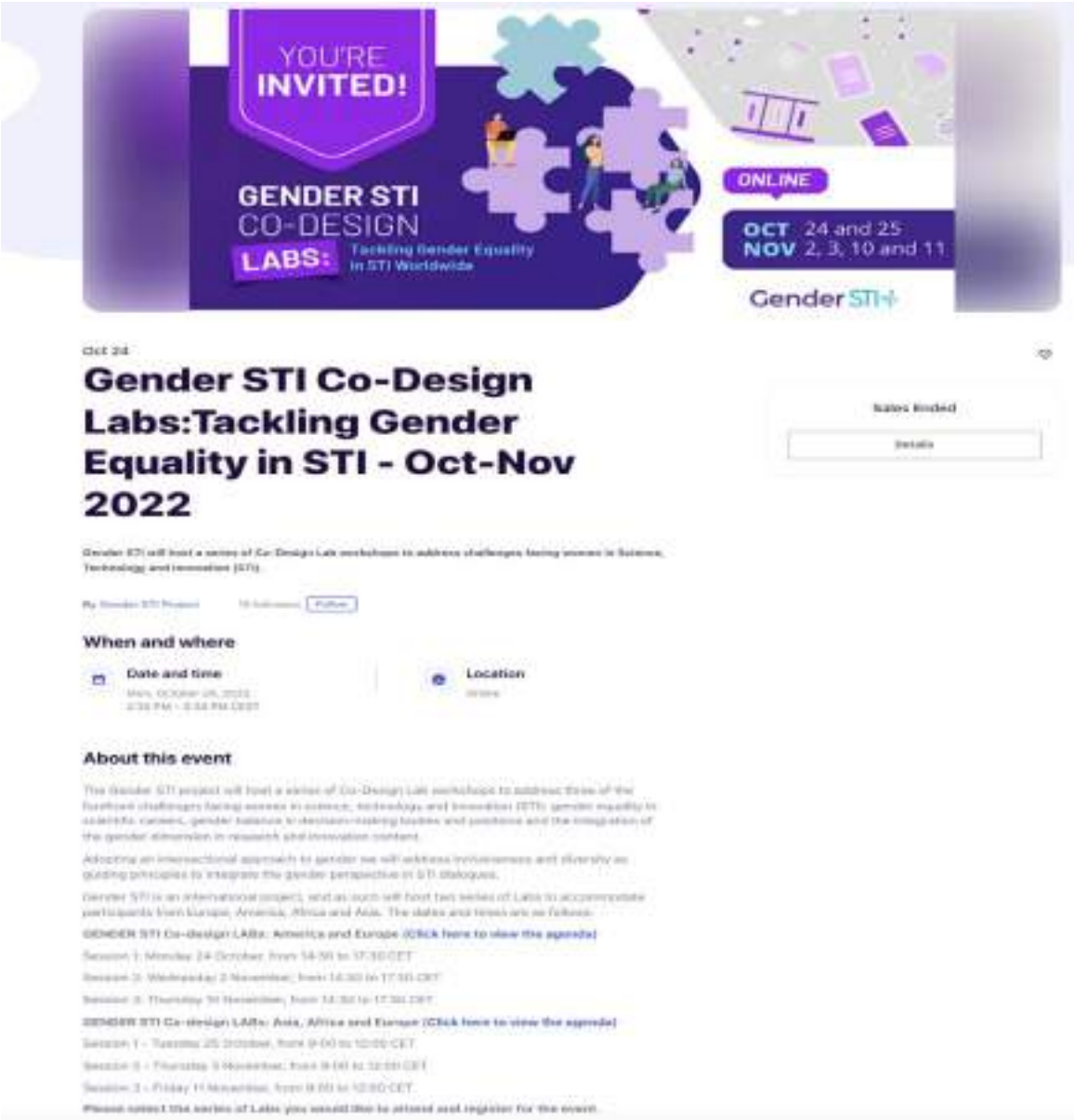
GENDERACTION project elaborated a report *Comparative analysis and recommendations on gender in international cooperation in STI* (2020). According to this report, six issues need to be considered when concluding an international STI cooperation agreement, launching a call, or collaborating on a specific project:

1) Create equal opportunities for women to participate
2) Articulate gender in research and innovation content
3) Negotiate research objects
4) International division of teamwork and intellectual property rights
5) Engage local communities and grassroots organisations
6) Reduce negative impacts and hidden disadvantages implicated in academic mobility

GENDERACTION has also issued a Policy Brief (2020) on *Gender Perspectives in International Cooperation in STI* with a set of recommendations to national authorities, the EC, and research funders.

7.2 Annex B - Eventbrite registration page for the Gender STI Co-design Lab sessions, Blog post & Social media posts in Twitter and LinkedIn

Eventbrite registration page for Lab 3 - Asia, Africa & Europe



Blog post

"The Gender STI Projects hosts the second edition of the Co-Design Lab" published on November 28th 2022 at the Gender STI project website
https://www.gender-sti.org/the-gender-sti-project-hosts-the-second-edition-of-the-co-design-labs/

Social media posts in Twitter and LinkedIn

Twitter

- First lab session post
- Second lab session post
- Third lab session post
- Lab session insights blog post

LinkedIn

- First lab session post
- Second lab session post
- Third lab session recap post
- Lab session insights blog post

7.3 Annex C - Prototypes of the Gender STI Co-design Lab 3 Asia, Africa and Europe Sessions

In this section we collect the prototypes that have been developed during the third Lab sessions involving participants from Asia, Africa and Europe. These are still under development and the main results and key emerging recommendations have been collected in the main body of the report, in the sections above.

7.3.1 Annex C.1 - Prototypes from challenge 1 on gender equality in scientific careers

This section describes the outline of the prototypes based on the prototype reports format that was provided to all participants.

Note for the prototype coordinator: the prototype solutions should also include images. We provide an empty report form as an example. Please copy and paste it to add more as appropriate.]

The first challenge produced **2 prototypes**.

Here are the titles of the prototypes:

- **1.1. Use support and mentorship programs to assist females and women to network, face discrimination challenges and caregiver stereotype obstacle**
- **1.2. Recommendations for scientific institutions to increase the retention of women in STI careers**

Prototype 1.1 - ***Use support and mentorship programs to assist females and women to network, face discrimination challenges and caregiver stereotype obstacle.***

- **Challenge 1. CAREERS: Gender equality in scientific careers;**
- **Lab 3 Asia, Africa and Europe**
- **Challenge Holder(s):** Names hidden to respect GDPR rules
- **Facilitator:** Names hidden to respect GDPR rules
- **Prototype Holder:** Names hidden to respect GDPR rules
- **Participants:** Names hidden to respect GDPR rules
- **Date** 2.12.2022

1. ABSTRACT OF THE PROTOTYPE (BASED ON THE SUMMARY PRESENTATION OF THE PROTOTYPE

Use support and mentorship programs to assist females and women to network, face discrimination challenges and caregiver stereotype obstacle

Through this prototype we are going to identify possible actions and activities in academia that can be applied to ensure that women in STI are mentored in their institutions to cope with their challenges like discrimination, and obstacles such as, the prominent women stereotype of a caregiver role with family responsibilities and not enhancing diversity, amongst other. Tackling this is important, as if women in STI are not mentored to cope

with their challenges and obstacles it can negatively affect the retaining rate and equality in academia.

As such, we aim to decrease women's dropout rate by 50% in academia and consequently increasing retention and equality in STEM. We will do this by supporting the design and implementation of mentorship programs in various geographic locations, for women of all age groups and several disciplines in at least 30 % of universities as well as their access to funding extending their networks. Adding to this, we will also enhance women visibility in conferences related to STI disciplines by including women chapters.

The actors involved to meet such objectives are; STI related organizations, funding agencies, NGOs, science councils, editorial boards of magazines in the STI field, fellow experienced colleagues, universities and government.

Some of the next steps consider, develop country specific literature reviews on challenges related to discrimination and caregiver roles facing women in STI, gathering and sharing success stories or best practices on mentorship programs and determine possibilities in academia with this geographic perspective considering all disciplines, identify main challenges in each geographic location regarding mentorship programs development towards prioritizing activities, as well as identifying funding mechanisms per country that can support women in STI. Considering women's visibility in events and conferences the next step would be to identify regional conferences that provide a platform for a women chapter (focusing on diversity etc.) in STI.

2. WHY IS THIS PROTOTYPE IMPORTANT? [WHAT IS THE PURPOSE AND HOW DOES IT ADDRESS THE CHALLENGE?]

- Mentor women in STI
- Helps women to cope with their challenges and obstacles
- Improve equality in academia

2. DESCRIPTION OF PROPOSED ACTIONS [ACTION ORIENTATION IS EXTREMELY IMPORTANT]

- To implement mentorship programs to retain women in STI careers.

3. WHAT WILL THIS ACHIEVE? WHAT IS THE SOCIETAL IMPACT?

- Affect retaining rate and equality in academia
- Assist women with their obstacles (diversity, family, caregiver role)

4. WHO IS RESPONSIBLE?

- Participants of Prototype 1 of Challenge1 Lab3

5. WHO WILL BE INVOLVED? (IN SOCIETY? IN THE CHALLENGE TEAM?)

- STI related organisations
- Funding agencies
- NGOs
- Science Councils
- Editorial boards of magazines in the STI field
- Fellow experienced colleagues
- Universities
- Government

6. Description of the best ideas

- Create initiatives for women in STI to share their networks
- Develop mentorship programs to support women in academia
- Support women from all age groups with their challenges without discrimination

7. First steps: what must happen in the next 6 weeks? *Who should do what?*

- Do a country specific literature review (16 countries in the consortium) on challenges facing women in STI.
- Share success stories and lessons learnt on mentorship programs.
- Identify main challenges in each geographic location and prioritize activities.
- Identify funding mechanisms per country that can support women in STI.

8. Prototyping: What must happen in the next 6 months? *Who should do what?*

- Identify opportunities through awards or campaigns for recognition of women achievers in STI.
- Identify which country specific policies that can be amended to recognize women in STI.
- Determine mentorship possibilities in academia with a geographic perspective considering all disciplines.
- Identify regional conferences that provide a platform for a women chapter (focusing on diversity etc.) in STI.

9. Impact in 6 Years

- Have policies targeting for the allowance of more women in STI projects
- Include women chapters in conferences related to STI disciplines
- Geographic mentorship programs for different age groups and disciplines
- Implement mentorship programs geographically (for young women and late entrees in STI) in x% of universities worldwide.
- Decrease dropout rate by 50% of women in STI.
- Allow for women in STI of all age groups to apply for funding to extent networks.

Prototype 1.2 - Recommendations for scientific institutions to increase the retention of women in STI careers

- **Challenge 1. CAREERS: Gender equality in scientific careers;**
- **Lab 3 Asia, Africa and Europe**
- **Challenge Holder(s):** Names hidden to respect GDPR rules
- **Facilitator:** Names hidden to respect GDPR rules
- **Prototype Holder:** Names hidden to respect GDPR rules
- **Participants:** Names hidden to respect GDPR rules
- **Date** 2.12.2022

1. ABSTRACT OF THE PROTOTYPE (BASED ON THE SUMMARY PRESENTATION OF THE PROTOTYPE

Recommendations for scientific institutions to increase the retention of women in STI careers

The Prototype proposes recommendations for scientific institutions (universities, RPOs, RFOs …) to increase the percentage of women in STI careers. Currently only 30% of researchers are women.
Institutional change in scientific organizations could help to reduce the dropout rate of women in STI careers. The prototype looks for identifying barriers that women face in STI careers. Are these barriers perceived in the same way by women and men? Is the dropout rate for men and women different? What are the dropout reasons? How does the family model affect women in STI careers? Further research is needed to build this foundational knowledge for the prototype.
The prototype identifies target institutions in Europe and third countries that can support institutional changes to retain women in STI. The next step is to determine possible changes needed to reduce the dropout rate of women in STI careers. Finally, the prototype proposes recommendations for scientific organizations to increase the retention of women in STI careers.
The prototype actions will involve Consortium partners, members of the Community of Practice (CoP) and key actors at scientific organizations (Professors at university, Lead positions, and Team leaders in RPOs and RFOs).
As a possible action, training and awareness raising for professors, deans, leadership positions, or team leaders would help make the unseen seen for scientific institutions. No change to retain women in STI will happen if gender inequalities are not visible.

2. WHY IS THIS PROTOTYPE IMPORTANT? [WHAT IS THE PURPOSE AND HOW DOES IT ADDRESS THE CHALLENGE?]

> Only 30% of researchers are women. (UNESCO, 2022) To raise the percentage of women in STI careers, an institutional change in scientific organizations (universities, RPOs, RFOs ..) must happen.

3. DESCRIPTION OF PROPOSED ACTIONS [ACTION ORIENTATION IS EXTREMELY IMPORTANT]

> To articulate recommendations for scientific institutions (universities, RFOs, RPOs, evaluation agencies/authorities…) is needed to increase the percentage of women in STI careers.

4. WHAT WILL THIS ACHIEVE? WHAT IS THE SOCIETAL IMPACT?

- Institutional change to retain women in STI (identify barriers to determine which institutional changes are of relevance)
- Reduce dropout rate
- Propose recommendations for scientific organizations

5. WHO IS RESPONSIBLE?

- Participants of Prototype 2 of Challenge 1
- Consortium Partners

6. WHO WILL BE INVOLVED? (IN SOCIETY? IN THE CHALLENGE TEAM?)

- Consortium Partners
- Gender STI CoP
- Universities
- RPOs
- RFOs (public/private)

7. Description of the best ideas

- Research (state of the art)
- Insights from consortium partners and CoP
- Propose recommendations

8. First steps: what must happen in the next 6 weeks? *Who should do what?*

- Identity target institutions (like universities, RPOs, RFOs) in Europe and third countries that can support institutional changes to retain women in STI
- (Literature) Research: dropout rate; leaky Pipeline, glass ceiling to fit this prototype.

9. Prototyping: What must happen in the next 6 months? *Who should do what?*

- Evaluate (e.g. barriers to support institutional change) among consortium and **CoP** current state of the art (through survey questionnaires)
- Propose effective recommendations

10. Impact in 6 Years

- Reduce dropout rate of women in STI
- Training as action
- Awareness raising for the gender issue

11. Other relevant information on the prototype (links, references, contacts)

- https://en.unesco.org/news/just-30-world%E2%80%99s-researchers-are-women-whats-situation-your-country
- Is the gender gap narrowing in science and engineering?: https://books.google.at/books?hl=de&lr=&id=SDHwCgAAQBAJ&oi=fnd&pg=PA85&dq=Is+the+gender+gap+narrowing+in+science+and+engineering%3F&ots=AKPWFxnlne&sig=IkTS6ZySg_gZMaVss7l35XMOuvg&redir_esc=y#v=onepage&q=Is%20the%20gender%20gap%20narrowing%20in%20science%20and%20engineering%3F&f=false

- The Leaky Pipeline of Women in STEM: https://digitalcommons.assumption.edu/honorstheses/100/

12. Suggestions for improving the effectiveness of the Co-design Lab

- Involving external participants

7.3.2 Annex C.2 - Prototypes from Challenge 2 on gender balance in decision making bodies and positions.

This section describes the outline of the prototypes based on the prototype report format that was provided to all participants.

This challenge produced **1 prototype**.

- **2.1 - Guidelines for STI institutions towards diversity balance in the decision-making process**

Prototype 2.1 - Guidelines for STI institutions towards diversity balance in the decision-making process

- **Challenge 2. Gender balance in decision making bodies and positions**
- **Lab 3 Asia, Africa and Europe**
- **Challenge Holder(s):** Names hidden to respect GDPR rules
- **Facilitator:** Names hidden to respect GDPR rules
- **Prototype Holder:** Names hidden to respect GDPR rules
- **Participants:** Names hidden to respect GDPR rules
- **Date:** November 2022.

1. ABSTRACT OF THE PROTOTYPE (BASED ON THE SUMMARY PRESENTATION OF THE PROTOTYPE

Women are underrepresented in decision-making processes and positions in areas such as politics, STI advisory groups and businesses; and men continue to dominate the STI field as well as the most powerful positions in society. There is a resistance towards gender issues in masculine contexts. Moreover, in some countries, there is no awareness of the under-representation of women in certain fields and therefore no specific measures are suggested to remedy the situation. Decision makers still don't see attention to the gap and gender perspective is not considered in the whole decision-making process.

On the other hand, decision makers' candidate selection processes often don't comply with transparency and diversity. Biases[1] exist in the recruitment procedure and also in the career progression.

This is a persisting challenge. Interventions have been made to improve quantitative equality but inclusiveness is more difficult to solve. It was thought that by putting women in some places it was already done, but we must act further.

Women have a different perspective to evaluate projects: their points of view are much more panoramic, and they evaluate not only from knowledge and experience, but also from other elements that are subjective in nature. It has been scientifically proven that when women participate in decision-making processes, the results are different.

This prototype intends to provide STI institutions with guidance towards a more diversity balance in the decision-making process, based on the barriers that currently exist at all stages of the decision-making process. To achieve this, we will involve funding organisations, gender units of institutions, human resources departments, STI Organizations (e.g. universities, private businesses), as well as all levels of management, including people who lead R&I organisations and research team leads.

References:

1) https://www.google.com/url?q=https://www.undp.org/publications/global-report-gender-equality-public-administration&sa=D&source=docs&ust=1669848488031776&usg=AOvVaw30hxSyELIBH6Ifft_yqroJ

2. WHY IS THIS PROTOTYPE IMPORTANT? [WHAT IS THE PURPOSE AND HOW DOES IT ADDRESS THE CHALLENGE?]

- There is a need in institutions for guidance on how to carry out an inclusive decision-making process that takes into account diversity issues.
- The decision-making process in STI has to be more reachable and transparent.
- It is beneficial for institutions to diversify the eligible profiles (re-education or careers) to occupy decision-making positions.
- Mentoring should be included into the work space and hours, and not as something to be done aside.
- There must be a working-time balance between professional life and family life at decision-making levels.

3. DESCRIPTION OF PROPOSED ACTIONS [ACTION ORIENTATION IS EXTREMELY IMPORTANT]

Provide STI institutions with guidance towards diversity balance in all phases of the decision-making process.

Phase 1: Engagement and setting up.

This phase includes the engagement and setting up of new leadership positions in STI institutions, starting with the preparation of an inclusive announcement to attract leadership profiles for positions, followed by the evaluation process for the selection of the candidates, until the constitution of the decision-making body.

Draft guidelines (actions):

- Prepare an inclusive announcement.
    - Use Inclusive Language. Also, check if the words used are associated with male or female traits with tools like "Gender Decoder" http://gender-decoder.katmatfield.com/

Include the Organization Value Statements (diversity, flexible working or other enabling practices, zero-tolerance approach to harassment).

- Inform diverse candidates.
    - Identify candidates (taking into consideration gender diversity).

    - Use a variety of communication channels to make sure they receive the announcement.
- Select a candidate for the position.
    - Establish the evaluation criteria incorporating quantitative and qualitative gender indicators.
    - Ensure a gender-balanced evaluation committee for candidates.
    - Make sure the candidate selection process is transparent. Inform candidates/publish reports in each step of the selection process.
- Constitute the decision-making body (as much as possible gender balanced).
    - Guarantee that the members have diversity of trajectories and gender.
- Train new candidates on gender/diversity issues.
    - Provide a training program for the selected candidate.
        - I.e. ghosting, which consists of people with less experience living for someday the life of the leader to experience what she or he does and how she or he does it.
        - I.e. role play training, where you identify barriers and obstacles.
    - Educate the decision-makers on gender-bias at decision making levels.

Phase 2: Decision making.
This phase includes the monitoring of the way the decision-making body works and the intervention in case gender/diversity aspects are not taken seriously enough.

Draft guidelines (actions):

- Be prepared for actions/activities.
    - Negotiate clear gender clauses in international agreements to ensure that gender mainstreaming is included in all agreements.
        - Explicitly expose the principle of diversity in agreements: for example, to prioritize the intersectional variables, like class, caste, religion, region, race, ethnicity, age, etc., and suggest specific measures to eliminate the gender gap in sex ratio, nutrition, health, literacy and education, economic participation, participation in decision-making areas including politics, entrepreneurship, leadership, etc.
        - Gender equality in the agreements should be part of the scientific integrity principles in international collaboration and a key condition for full use of the existing potential in leadership, scientific knowledge, and creative innovation.
        - Establish a gender committee to look at the agreement that can advise and work more with the policymakers.
    - Identify gender objectives on each action of the decision-making process.
        - There should be a reference to gender mainstreaming, with a clear guideline of how we will do it by incorporating gender equality goals from the beginning of the formulation of actions.
        - Annual report and monitor on the implementation of decisions that include a gender approach.
            - Prepare an annual synthesis report on progress in integrating a gender perspective into constituted body processes
- Monitor systematically gender balance in the way of working.
    - Analysis of speaking times during decision making plenaries and meetings. Speaking time of each participant, in order to balance the length of both

men and women's interventions). https://unfccc.int/sites/default/files/resource/cp2022_03E.pdf
    - While the composition of delegations is an important indication of gender-based participation in conferences and negotiations, such data only reveal who is in the room. They do not provide a more detailed understanding of active participation. The analysis of speaking times enhances understanding of gender-based participation in conferences and negotiations.
    - Analysed, with speakers differentiated by gender, age and role in the meeting. I.e. data collected:
        - Number of male speakers / Number of female speakers
        - % Speaking time of men / % speaking time of women
        - By Age and gender
            - Age <26
                - Female
                - Male
            - Age 26–35
                - Female
                - Male
            - Age 36–55
                - Female
                - Male
            - Age 56–65
                - Female
                - Male
            - Age >66
                - Female
                - Male
    - Include facilitation as a tool to guarantee that the speaking-time is balanced. The facilitators plan, guide and manage a group event to meet its goals.
- Gender and age composition of constituted bodies, including comparison with data for previous years
    - I.e. data collected:
        - Body (name)
        - Total delegates
        - Number of female delegates
        - Number of male delegates
        - Female representation (%)
        - Change in number of women since last year (XX)
        - By age and gender <26/ 26–35 / 36–55/ 56–65/ >66
- Identify role models in decision making positions in the institutions and make them visible.
    - I.e. Ensure the presence of these profiles on balanced panels at events.
- Provide training and tools for the gender units of the institutions so that they can intervene if needed.

Phase 3: Conclusion.
This stage is an auto evaluation that addresses the result of the previous phases, reaching conclusions for improving the future decision-making process.

Draft guidelines (actions):

- Carry out interviews with all the actors involved in the decision-making process to gather their experience.
- Reflex about ways to improve the decision-making process in your institution.
- Implement the new recommendations.
- Share the most relevant results with the STI community.

4. WHAT WILL THIS ACHIEVE? WHAT IS THE SOCIETAL IMPACT?

- More gender sensitivity and mainstreaming both in the decision-making positions and in the entire process.

5. WHO IS RESPONSIBLE?

- Funding organisations.
- Gender unit of institutions.
- Human resources departments.
- STI Organizations (e.g. universities, private businesses).
- All levels of managements
    - People who lead R&I organisations.
    - Research team leads.

6. WHO WILL BE INVOLVED? (IN SOCIETY? IN THE CHALLENGE TEAM?)

- Gender STI partners involved in Challenge 2.
- STI institutions that will be asked to share their feedback about the draft guidelines.

7. Description of the best ideas

- Orientation guidelines for STI institutions that include all phases of the decision-making process.
- Analysis of speaking times in decision making meetings.
- Identification of gender objectives on each action of the decision-making process.
- Auto evaluation as a final step of the decision-making process.

8. First steps: what must happen in the next 6 weeks? *Who should do what?*

- Identify the phases of the decision-making process in STI and discuss the challenges in each of them to achieve more gender balance and diversity.
- Draft an open document with guidelines for each of the identified phases.
- Make a list of possible institutions to share the guidelines with them in later steps (2 or 4 Gender STI partners).

9. Prototyping: What must happen in the next 6 months? *Who should do what?*

- Share the guidelines with the selected consortium partners institutions, receive their feedback and improve the guidelines document.
- 2nd draft, final document

10. Impact in 6 Years

- More gender sensitivity and mainstreaming both in the decision-making positions and in the entire process.

- Possible action: carry out a survey with some institutions to collect their experience with a gender balanced decision-making process. Share the results with the STI community to encourage more institutions to apply the guidelines.

11. Other relevant information on the prototype (links, references, contacts)

- Tips for an inclusive job announcement: https://www.glassdoor.com/employers/blog/10-ways-remove-gender-bias-job-listings/

7.3.3 Annex C.3 - Prototypes from Challenge 3 On the integration of the gender dimension in research and innovation content

This section describes the outline of the prototypes based on the prototype report format that was provided to all participants.

This challenge produced **1 prototype**.

- **3.1 The Gender STI Declaration:** a systemic approach of committing institutions to promote Gender Policy to include the gender dimension in research and innovation content.

Prototype 3.1 - The Gender STI Declaration

- **Challenge 3. CONTENT: Integration of the gender dimension in research and innovation content and its integration in international cooperation.**
- **Lab 3 Asia, Africa and Europe**
- **Challenge Holder(s):** Names hidden to respect GDPR rules
- **Facilitator:** Names hidden to respect GDPR rules
- **Prototype Holder:** Names hidden to respect GDPR rules
- **Participants:** Names hidden to respect GDPR rules
- **Date** 21.11.2022

The UN Sustainable Development Goal (SDG) number 5, gender equality, is a transversal dimension to be included in all SDGs for 2030.

Despite decades of gender equality interventions and steadily increasing number of female workers in the STI fields, R&I content is still largely not reflecting the gender dimension. The lack of sex/gender dimension hampers the quality of research contents (AI recognizing badly female faces, drugs ill-adapted to female bodies, etc.). One of the reasons for this is that despite increasing diversity, the research and science cultures within STI fields are not inclusive. This means that the diversity of viewpoints employees within the STI fields may have, are not reflected in the R&I content. Similarly, within the STI fields, resistance towards uptaking Integration of Gender Analysis in Research (IGAR) tools is persistent. Hence, the major reason for the lack of sex/gender dimension in research content is that the majority of the research community ignores the concepts and methods of IGAR (Integration of Gender Analysis in Research), despite efforts to provide case studies and guidelines (Gender-Net, Gendered innovations, Kilden, DFG).

Yet, despite the importance of IGAR and its methods are not well known, they are very rarely considered in scientific international cooperation bilateral agreements. These are missed opportunities. Cooperation and dialogues are powerful levers to foster IGAR and

promote collaborations between sex/gender specialists who are sometimes isolated in their own institutions and not able to reach efficiently their colleagues.

As SDGs have become a frame of reference for research funding throughout the world, referring to SDGs in general in scientific dialogues and cooperation gives room to mention explicitly the SDG5 and promote the inclusion of a gender dimension in research content.

This prototype of "Gender STI Declaration" aims to address this gap. The declaration takes a systemic approach of committing institutions to promote Gender Policy to include the gender dimension in research and innovation content.

The goal is that a diverse group of institutions and stakeholders - such as the European parliament, Spanish Presidency of the Council of the European Union, national Ministries of different countries promoting science, technology and innovation, universities, research organisations, research funders - from all continents endorse the declaration.

The declaration commits the undertaking institution to include a Gender Policy into all of their actions promoting, funding or conducting science, technology and innovation activities. The declaration promotes inclusivity and responsible and responsive innovation to respond to grand societal challenges. The gender policy implementation and gender auditing process and implementation of the results are to be periodically monitored to ensure the desired results.

2. WHY IS THIS PROTOTYPE IMPORTANT? [WHAT IS THE PURPOSE AND HOW DOES IT ADDRESS THE CHALLENGE?]

- Despite decades of gender equality interventions and steadily increasing number of female workers in the STI fields, R&I content is still largely not reflecting the gender dimension. One of the reasons for this is that despite increasing diversity, the research and science cultures within STI fields are not inclusive. This means that the diversity of viewpoints employees within the STI fields may have, are not reflected in the R&I content. The other reason is that too few people identify what integrating the sex/gender dimension in research content really means. Hence, many recommendations deal with professional issues instead of IGAR without knowing it.
- This prototype of "Gender STI Declaration" aims to address this deficiency. The declaration takes a systemic approach of committing institutions to promote Gender Policy to include the gender dimensions in research and innovation content.

2. DESCRIPTION OF PROPOSED ACTIONS [ACTION ORIENTATION IS EXTREMELY IMPORTANT]

- Preparation of the declaration in a wide collaboration, including joint-action with sister projects on gender equality in research (GENDER-NET Plus, GENDERACTION Plus…)
- Use the SDG as a frame of reference for the content of the declaration
- Committing the institutions to endorse the declaration
- Implementing the content of the declaration by the committed institutions

3. WHAT WILL THIS ACHIEVE? WHAT IS THE SOCIETAL IMPACT?

- The declaration will give visibility to the SDG n°5, to IGAR, and to a broad set of resources to implement IGAR.
- The research and innovation organisations and institutions who signed the declaration will support the inclusion of IGAR in their scientific diplomacy and international agreements.
- As a consequence, international scientific cooperation will boost IGAR: the number of researchers aware of IGAR and its methods will grow, more training will be fostered by these partnerships.
- A growing share of research will include the gender dimension, giving new tools to reach SDG n°5.
- The declaration takes a systemic approach of committing institutions to promote Gender Policy to include the gender dimension in research and innovation not only to tackle inequalities in STI but to produce more responsible and responsive innovations for tackling grand societal challenges.

4. WHO IS RESPONSIBLE?

- Gender STI project in collaboration with Gender-Net Plus project
    - Respective project organizations of the projects
- Lead by CNRS Mathieu Arbogast

5. WHO WILL BE INVOLVED? (IN SOCIETY? IN THE CHALLENGE TEAM?)

- A group developing and implementing the prototype:
    - Wide group of participants from the Gender STI and Gender Net Plus project organizations.
    - Other interested organizations including the potential signatory institutions are invited to a participatory workshop(s) to ensure diversity of institutions from all continents to commit to the preparation, dissemination and implementation of the declaration.
    - First to be taken, e.g contacts from the following institutions:
        - European Commission Policy Officer
        - GENERA Network - Gender Equality Network in the Research Area (See MOU)
        - The advisory boards of the Gender STI and Gender-Net Plus
        - Stanford University
        - French academy of sciences
- At societal level:
    - The goal is that a diverse group of institutions from all continents endorse the declaration.
    - Institutions to be invited (for example):
        - European parliament, Spanish Presidency of the Council of the European Union, UNESCO, Global Research Council, Transformative Innovation Policy Consortium, Gender Equality Observatories, EIGE (European Institute for Gender Equality), National Ministries of different countries promoting STI, National Academies of Science, universities, research organisations, international and national research funders

6. Description of the best ideas

- To create impact through wide visibility for the declaration by inviting high-profile participants and institutions to develop, implement and disseminate the declaration across all continents.

7. First steps: what must happen in the next 6 weeks? *Who should do what?*

- Identify leader for the drafting the Declaration
    - Leader of the prototype development and implementation Mathieu Arbogast from CNRS and related project workers from CNRS
    - Leader of the dissemination
        - French Academy of Sciences - supporter of Gender research + women in research > possible leader in the drafting of declaration?
- Google folder for project
- Discussion with Gender STI and Gender-Net Plus project coordinators
- Detailed time table and action plan for the declaration
- Identifying existing best practices
- Creating a structure of the declaration
- Starting drafting the declaration
- Planning and organizing the first participatory co-creation workshop for the prototype (to be held on February 2023)

8. Prototyping: What must happen in the next 6 months? *Who should do what?*

- First co-creation workshop for the declaration February 2023
- First draft of the declaration ready by the end of 02/2023
- 1st comments (by the Gender STI and Gender-Net Plus communities) by end of 3/2023
- List of target audience for the declaration (with names and contact details)
- Identify ambassadors and contact points in all continents
- Determine the platform for the declaration (Gender STI website, Commission, other?)
- Invite key persons to collaborate
- Contact the Spanish Ministry as Council Presidency
- Promotional activities (sharing the word, raising awareness, create engagement)
- Plan to collect signatories (find best practices)
- 2nd draft by end of 04/2023
- 2nd round of comments from external entities (workshops/meetings to talk and tune the prototype and enhance commitment)
- Final draft by end of 6/2023

9. Impact in 6 Years

- The Gender STI Declaration is well identified and signed by institutions from all continents
- More researchers and decision makers in STI understand the importance of gender sensitive research and innovation
- More institutions in the STI field internationally are aware of the importance of sex/gender analysis
- Research and innovation contents are improved to respond better to societal challenges
- Science culture has improved to be more inclusive

- There will be a gender policy in every institution and gender sensitivity be included among the research community to guide all STI actions using a gender lens.
- STI fields' workforce is more diverse and inclusive
- The institutions of higher learning, research institutions, international and national research funders, etc. have a systemic approach to have a Gender Policy to guide all of their research and innovation content including gender auditing done to understand the gap towards gender equality.
    - Related to gender auditing reports, the provision of the gender policy can be implemented. In practice, for example, a stakeholder's discussion can be made with the research department, faculty, administrators, students, etc. to make suggestions to institutionalise the gender equality initiatives. The Departments promoting gender equality will be identified to disseminate the need for incorporating the gender dimension in research and innovations where the stereotyping that gender issues are to be dealt with by women or certain departments alone be given up. The researchers may identify research areas to be focused on where the gender dimension be incorporated.
    - Agreements and collaborations including gendered research are sustainable.

10. Other relevant information on the prototype (links, references, contacts)

- Google drive project space for the prototype:
    - https://drive.google.com/drive/folders/1-1CJ-YRZnaZ3iNbj3BkH_ac2MYwjmbfv?usp=sharing
- Example declarations to be benchmarked (by structure, dissemination or content)
    - The Madrid Declaration on Science Diplomacy – EU Science Diplomacy (s4d4c.eu)
    - Berlin Declaration on Digital Society and Value-based Digital Government | Shaping Europe's digital future (europa.eu)'
    - ERA Portal Austria – The Lund Declaration
    - Marseille declaration on international dialogue and cooperation in R&I

7.4 Annex D – Prototyping Slides

This section presents the prototyping slides of every challenge group.

Challenge 1 CAREERS - Mentorship Programs

LAB 3 Asia Africa Europe

GenderSTI+

Description of the challenge. What is the problem?
Women in STI usually lack support and mentorship programs, to assist them to network, face challenges (discrimination) and obstacles (diversity, family, caregiver role) in their institutions. Therefore it was decided to focus on mentorship programs as a mechanism to address the problem.

Why is it important?
If women in STI are not mentored to cope with their challenges and obstacles it can negatively affect the retaining rate and equality in academia.

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Challenge 1 CAREERS - Prototype 1

LAB 3 Asia Africa Europe

GenderSTI+

WHAT TO DO? (objective)

To implement mentorship programs to retain women in STI careers.

HOW TO DO IT? (actions)

- Address different challenges women have to face we aim to reduce the dropout rate.
- Create initiatives for women in STI to share their networks
- Develop mentorship programs to support women in academia
- Support women from all age groups with their challenges without discrimination

WHO WILL DO IT? ACTORS/BENEFICIARIES

The involved actors will be:

- STI related organisations
- Funding agencies
- NGOs
- Science councils
- Editorial boards of magazines in the STI field
- Fellow experienced colleagues
- Universities
- Government

The beneficiaries are:

- All age groups of women in STI
- Academic institutions and organisations that employ women in STI

WHEN? (6 weeks-6 months-6 years)

First 6 weeks:

Do a country specific literature review (16 countries in the consortium) on challenges facing women in STI.
Share success stories and lesson learnt on mentorship programs.
Identify main challenges in each geographic location and prioritize activities.
Identify funding mechanisms per country that can support women in STI.

Within the first 6 months

Identify opportunities through awards or campaigns for recognition of women activeism in STI.
Identify which country specific policies that can be amended to recognize women in STI.
Determine mentorship possibilities in academia with a geographic perspective considering all disciplines.
Identify regional conferences that provide a platform for a women chapter (focusing on diversity etc.) in STI.

Within the first 6 years

Have policies targeting for the allowance of more women in STI projects.
Include women chapters in conferences related to STI disciplines.
Geographic mentorship programs for different age groups and disciplines.
Implement mentorship programs geographically (for young women and late entrees in STI) in x% of universities worldwide.
Decrease dropout rate by 50% of women in STI.
Allow for women in STI of all age groups to apply for funding to extend networks.

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Challenge 1 CAREERS - Prototype 2 - Recommendations for scientific institutions to increase the retention of women in STI careers.

LAB 3 Asia, Africa, Europe

GenderSTI+

Description of the challenge. What is the problem?

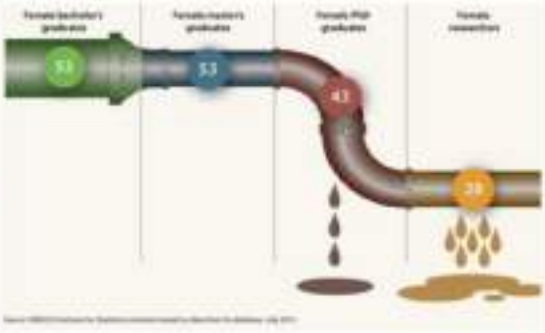
- 30% female researcher
- women in STI careers at all levels
- Identify target institutions in Europe and third countries
- Institutional change to retain women in STI
- Reduce dropout rate
- Propose recommendations for scientific organizations

Why is it important?
Only 30% of researchers are women. To raise the percentage of women, an institutional change in scientific organizations (universities, RTOs, ...) must happen.

Possible factors are:
- Increasing the rate of female scientists,
- closing the leaky pipeline,
- breaking the glass ceiling.

The leaky pipeline:

share of women in higher education and research, 2013 (%)



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Challenge 1 CAREERS - Prototype 2 - Recommendations for scientific institutions to increase the retention of women in STI careers.

LAB 3 Asia, Africa, Europe

GenderSTI+

WHAT TO DO? (objective)

To articulate recommendations for scientific institutions (universities, RTOs, RPOs, research funders/agencies, evaluation agencies/authorities ...) to increase the percentage of women in STI careers.

HOW TO DO IT? (actions)

- Research (state of the art)
- analysis among consortium partners and CoP
- Propose recommendations

Trainings for professors, deans, lead positions or team leader to make the unseen seen for scientific institutions (if gender inequalities are not seen, then change to retain women in STI cannot happen.)

WHO WILL DO IT? ACTORS/BENEFICIARIES

The involved actors will be:
- Consortium partners
- CoP
- Universities, RTOs
- Funding agencies (public/private)

The beneficiaries are:
- Scientific institutions like universities or RTOs
- Women in STI careers

WHEN? (6 weeks-6 months-6 years)

First 6 weeks:
Identify target institutions in Europe and third countries that can support institutional changes to retain women in STI

Research: dropout rate; leaky Pipeline, glass ceiling to fit this Prototype

Within the first 6 months
Evaluate among consortium and **CoP** current state of the art (through survey questionnaires)

Propose effective recommendations

Within the first 6 years
Reduce dropout rate, especially women
Training as action
Awareness for the gender issue

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Challenge 2 DECISION MAKING

Orientations towards a balanced and diverse decision-making process and positions in STI

LAB 3 Asia Africa Europe

Gender STI+

Description of the challenge. What is the problem?

- Women are underrepresented in decision-making processes and positions in areas such as politics, STI advisory groups and business. This is a waste of talent and capacity.
- Decision-making functions demands full-time dedication.
- Men continue to dominate the STI field and the most powerful positions in society.
- In some countries there is no awareness of the under-representation of women in certain fields and therefore no specific measures are suggested to remedy the situation. Decision makers still don't see attention to the gap.
- Decision makers' candidate selection processes often don't comply with transparency and diversity / Existing of biases on the selection processes and procedures at the recruitment, selection and career progression.

Why is it important?

- Diverety in decision making have demonstrated benefits in increasing creativity and innovation.
- There is a need of more transparent committee membership in decision making for STI agendas.
- We all have to join forces to echieve more gender sensitive and mainstreaming in the decision-making positions.

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Challenge 2 DECISION MAKING

Orientations towards a balanced and diverse decision-making process and positions in STI

LAB 3 Asia Africa Europe

Gender STI+

WHAT TO DO

- Address the barriers that currently exist at all stages of the decision-making process (GENDER STI research based on surveys and interviews).
- Promote more diverse and gender balanced decision-making positions proposing the introduction of a transparent process.
- Provide recommendations for future decision-making processes.

HOW TO DO IT?

Provide STI institutions with guidance on how to carry out an inclusive process in decision making positions.

Phases of the decision-making process:

- Preparation phase.
- Setting up the decision making body.
- Decision making.
- Concluding phase.

WHO WILL DO IT? ACTORS/BENEFICIARIES

The involved actors will be: (needed to develop our prototype - guidelines)

- → Gender unit of institutions.
- → Human resources departments.
- → Evaluation committees.
- → Gender STI partners.

The beneficiaries are: (who could implement our prototype - the guidelines)

- → STI Organizations (e.g. universities, private businesses).
- → Funding organisations.

WHEN? (6 weeks-6 months-6 years)

First 6 weeks:

1) Draft of an open document with orientation for each of the four phases.
2) Identify a list of possible institutions (beneficiaries) to share the orientations.

Within the first 6 months

Share the orientations with some institutions, receive their feedback and improve the orientation document.

Within the first 6 years (Impact)

1) More gender sensitivity and mainstreaming in the decision-making positions and process.
2) Acknowledgment of experience with gender balance in decision making process (i.e., through surveys).

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Challenge 2 DECISION MAKING

Orientation paper towards a balanced and diverse decision-making process and positions in STI

LAB 3 Asia, Africa, Europe

GenderSTI+

Ideas for orientations

Preparation phase:
Inclusive announcements and evaluation criteria.
Identify and encourage female candidates.
Proposals:
- Use Inclusive Language.
- Include Value Statements: (include statements that demonstrate the organisation's values (diversity, flexible working or other enabling practices, zero-tolerance approach to harassment).
- Incorporate a Gender indicator in Evaluation Criteria.
- Use a variety of communication channels.

Setting up the decision making body:
Constitution (as much as possible gender balanced).
Briefing and training on gender/diversity issues.
Proposals:
- A gender-balanced evaluation committee for candidates.
- A transparent candidate selection process.
- Provide a training program. For example, Ghosting. Can people with less experience live for some day the life of the leader to experience what she or he does and how she or he does it?
- Role play trainings: identify barriers, obstacles.

Decision making:
Monitor the process and intervene in case gender/diversity aspects are not taken seriously enough.
Proposals:
- Monitor systematically gender balance through surveys, data collection.
- Provide tools for gender units to intervene if needed.

Concluding phase:
Assess the result concerning gender and diversity supporting decision making and write conclusions for future decision making processes.
Proposals:
- Continue improving the orientations for all phases with the experience.
- Identify role models in decision making positions in the institutions.

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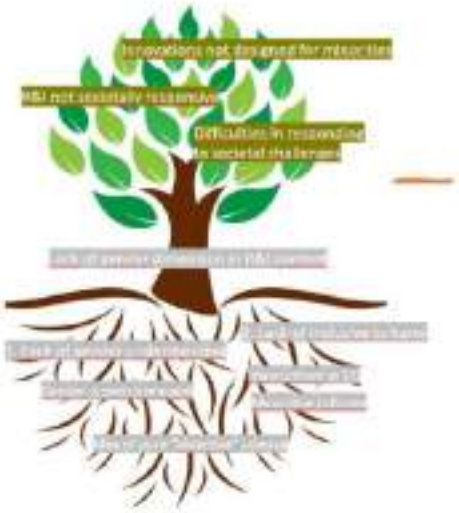
Challenge 3 GENDER CONTENT - Gender declaration

LAB 3 Asia, Africa, Europe

GenderSTI+

Description of the challenge. What is the problem?

Despite decades of gender equality interventions and steadily increasing number of female workers in the STI fields, R&I content is still largely not reflecting the gender dimension. One of the reasons for this is that despite increasing diversity, the research and science cultures within STI fields are not inclusive. This means that the diversity of viewpoints employees within the STI fields may have, are not reflected in the R&I content. This challenge aims to address this deficiency.



Why is it important?

The lack of gender dimension in R&I content makes science to be not socially responsible or responsive. There is a need for systemic integration of sex and gender analysis into R&I so that they can better address grand challenges.

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Challenge 3 GENDER CONTENT - Gender Declaration
GenderSTI
WHAT TO DO? (objective)
To have declaration where the undertaking institutions take on a systemic approach to have a Gender Policy to include gender dimensions in research and innovation content
HOW TO DO IT? (actions)
Formulate the declaration (content, structure, scope and focus)
Benchmark best practices
Identify stakeholders / target institutions to comment, disseminate information, and sign the declaration
Involve stakeholders for formulation
Contact EU Council presidency countries
WHO WILL DO IT? ACTORS/BENEFICIARIES
The involved actors will be:
CNRS
VTT
GenderSTI community
External gender experts
Council presidency country/ministry
Universities
RTOs
Ministries
National Academies of Science
The beneficiaries are:
Science
Research community, innovators
Citizens, end users
WHEN? (6 weeks-6 months-6 years)
First 6 weeks:
Within the first 6 months
Within the first 6 years
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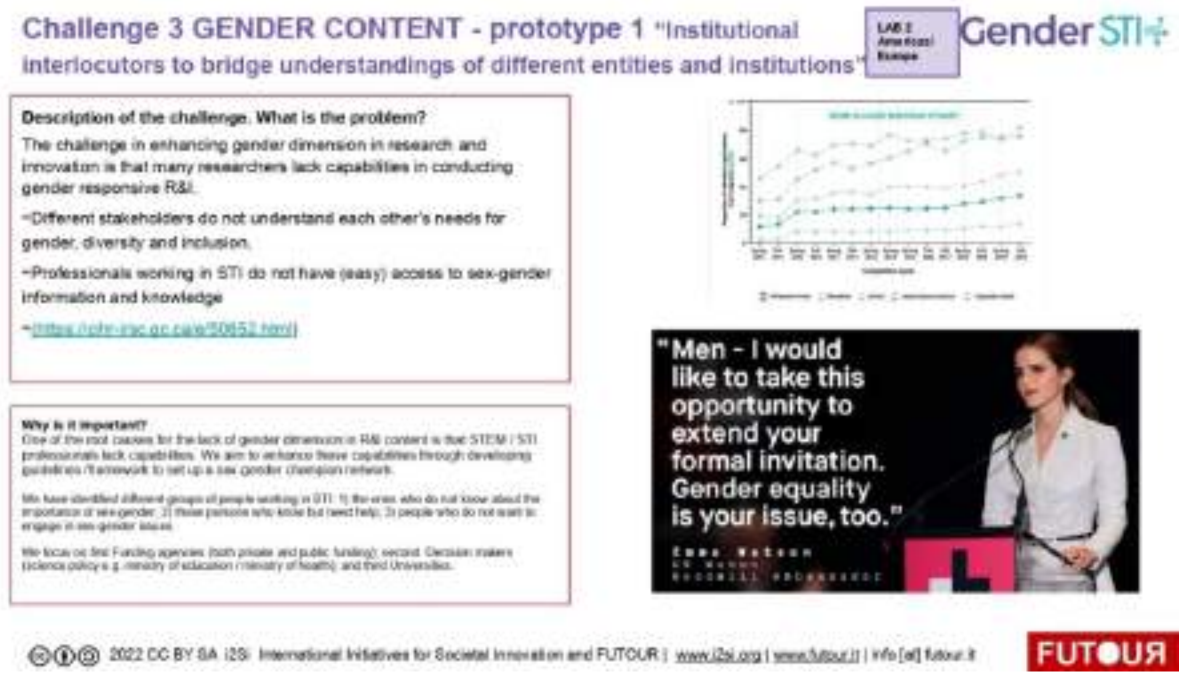
Challenge 3 GENDER CONTENT - prototype 1 "Institutional interlocutors to bridge understandings of different entities and institutions"
GenderSTI
Description of the challenge. What is the problem?
The challenge in enhancing gender dimension in research and innovation is that many researchers lack capabilities in conducting gender responsive R&I.
-Different stakeholders do not understand each other's needs for gender, diversity and inclusion.
-Professionals working in STI do not have (easy) access to sex-gender information and knowledge
Why is it important?
"Men - I would like to take this opportunity to extend your formal invitation. Gender equality is your issue, too."
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Challenge 3 GENDER CONTENT - "Institutional interlocutors to bridge understandings of different entities and institutions"

LAB 3 Americas/ Europe

GenderSTI+

WHAT TO DO? (objective)

- The objective is to develop guidelines/model/framework how to set up institutional interlocutor network for gender and inclusivity champions (in national research context).
- The gender and inclusivity champions is a network that can provide interdisciplinary guidance for research organisations / groups to integrate qualitative gender & inclusivity dimension into their projects
- CIHR- Canadian model took 10 years to set up in Canada, so it demands streamlining to be replicated in other contexts.

HOW TO DO IT? (actions)

- Learn from best practices (e.g. CIHR sex and gender champions)
- learning from the CIHR/Canadian model. (+other models= identify most promising the steps, actors, methods
- Replicate best practices into the guidelines
- Identify network partners who could work together with(in) VTT
- Test in real life

The impact: each funding proposal has to include a sex and gender expert in the research group to ensure mainstreaming sex & gender analysis in all research projects.

WHO WILL DO IT? ACTORS/BENEFICIARIES

The involved actors will be:

- VTT
- CIHR
- N.N GenderSTI partner
- National research councils/institutes

The beneficiaries are:

- National Funding agencies
- National STI-related) ministries
- National Universities
- Xxx

The indirect beneficiaries are: STI community

WHEN? (6 weeks-6 months-6 years)

First 6 weeks:

Prioritise groups who to target
Identify network partners who could work together with VTT
Learn from best practices (Canadian + others)
Study the CIHR/Canadian model
Identify other similar models (in GenderSTI countries & beyond)
Identify prototyping organisations

Within the first 6 months

Develop step-by-step guideline based on the Canadian experiences
Learn best practices of other models (in GenderSTI countries & beyond)
Make a list of actors to target
Identify champions who would take on the task / join network
Convince other partners to pilot this module outside of Europe/North America

Within the first 6 years

Sex-gender Champions network is launched in five countries.
The model is a mainstream practice in two countries.

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Challenge 3 GENDER CONTENT - "DEI in R&I leadership"

LAB 3 Americas/ Europe

GenderSTI+

Description of the challenge. What is the problem?

Despite decades of gender equality interventions and steadily increasing number of female workers in the STI fields, R&I content is still largely not reflecting the diversity, equality and inclusion (DEI) dimensions. One of the reasons for this is the lack of awareness and competences of leaders to include DEI dimensions in research and innovation content.

Why is it important?

The lack of gender dimension in R&I content makes science to be not socially responsible or responsive. There is a need for systemic integration of inclusive leadership in STEM / STI in order to better address grand challenges.

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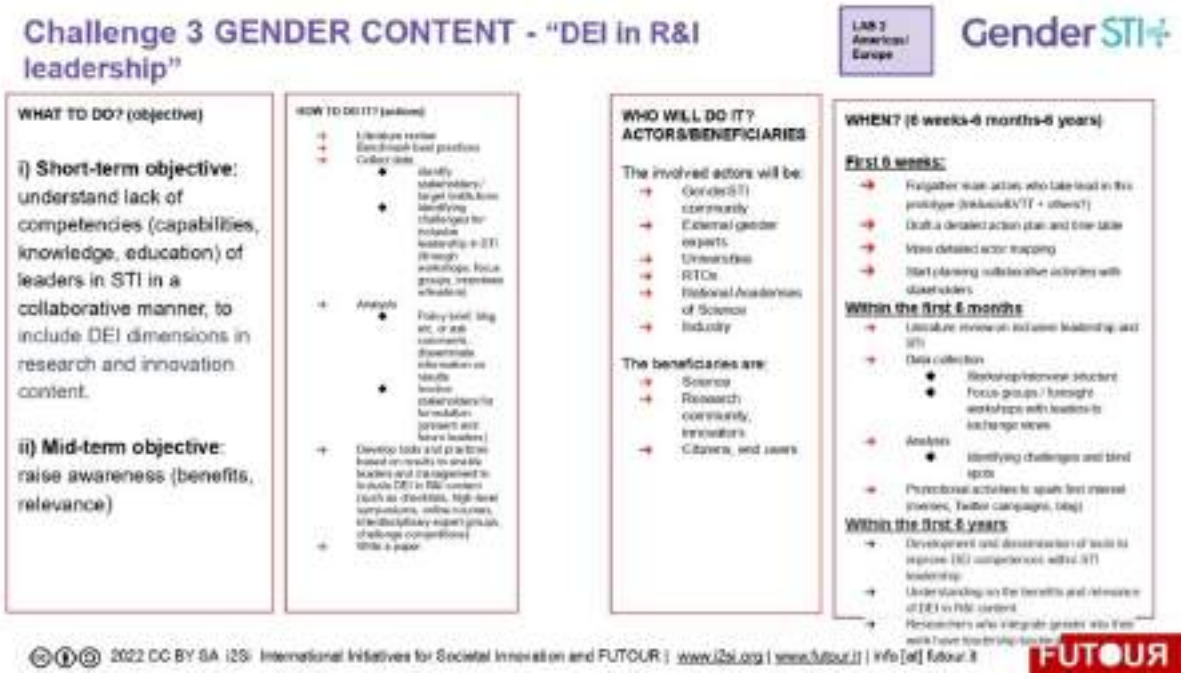
Challenge 3 GENDER CONTENT - "DEI in R&I leadership"
LAB 3 Americas/ Europe
GenderSTI+
WHAT TO DO? (objective)
i) Short-term objective: understand lack of competencies (capabilities, knowledge, education) of leaders in STI in a collaborative manner, to include DEI dimensions in research and innovation content.
ii) Mid-term objective: raise awareness (benefits, relevance)
HOW TO DO IT? (actions)
WHO WILL DO IT? ACTORS/BENEFICIARIES
The involved actors will be:
Gender STI community
External gender experts
Universities
RTOs
National Academies of Science
Industry
The beneficiaries are:
Science
Research community, innovators
Citizens, end users
WHEN? (6 weeks-6 months-6 years)
First 6 weeks:
Within the first 6 months
Within the first 6 years
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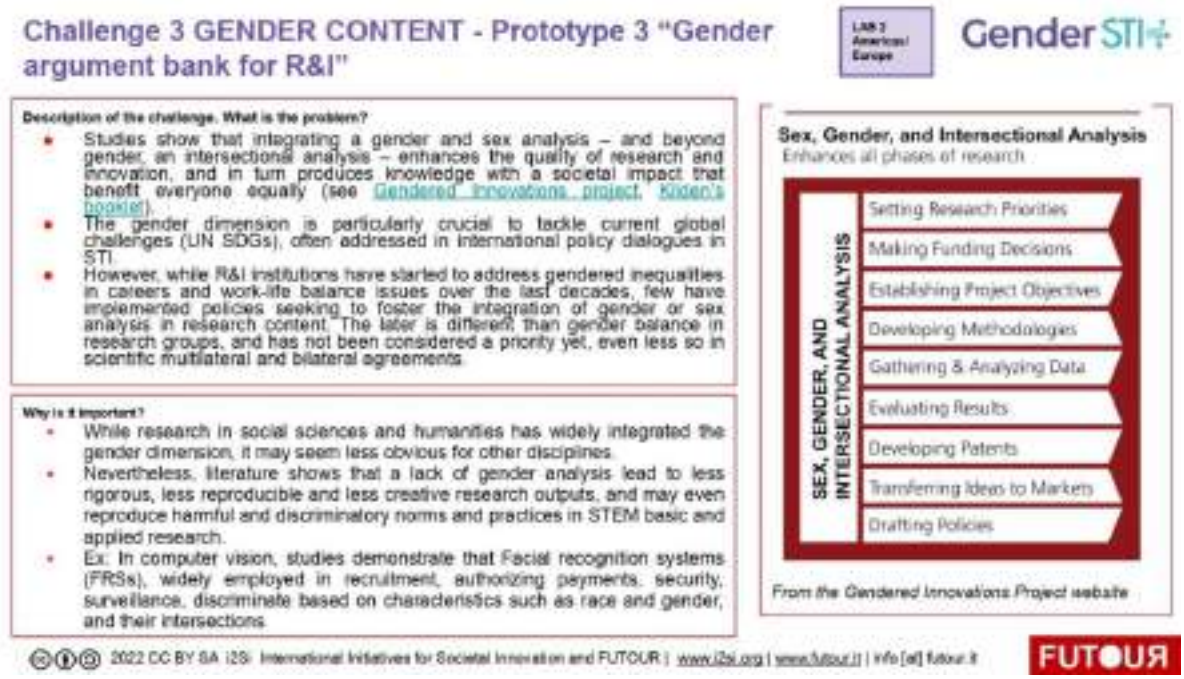
Challenge 3 GENDER CONTENT - Prototype 3 "Gender argument bank for R&I"
LAB 3 Americas/ Europe
GenderSTI+
Description of the challenge. What is the problem?
Studies show that integrating a gender and sex analysis – and beyond gender, an intersectional analysis – enhances the quality of research and innovation, and in turn produces knowledge with a societal impact that benefit everyone equally (see Gendered Innovations project, Kilden's booklet).
The gender dimension is particularly crucial to tackle current global challenges (UN SDGs), often addressed in international policy dialogues in STI.
However, while R&I institutions have started to address gendered inequalities in careers and work-life balance issues over the last decades, few have implemented policies seeking to foster the integration of gender or sex analysis in research content. The later is different than gender balance in research groups, and has not been considered a priority yet, even less so in scientific multilateral and bilateral agreements.
Why is it important?
While research in social sciences and humanities has widely integrated the gender dimension, it may seem less obvious for other disciplines.
Nevertheless, literature shows that a lack of gender analysis lead to less rigorous, less reproducible and less creative research outputs, and may even reproduce harmful and discriminatory norms and practices in STEM basic and applied research.
Ex: In computer vision, studies demonstrate that Facial recognition systems (FRSs), widely employed in recruitment, authorizing payments, security, surveillance, discriminate based on characteristics such as race and gender, and their intersections.
Sex, Gender, and Intersectional Analysis
Enhances all phases of research
SEX, GENDER, AND INTERSECTIONAL ANALYSIS
Setting Research Priorities
Making Funding Decisions
Establishing Project Objectives
Developing Methodologies
Gathering & Analyzing Data
Evaluating Results
Developing Patents
Transferring Ideas to Markets
Drafting Policies
From the Gendered Innovations Project website
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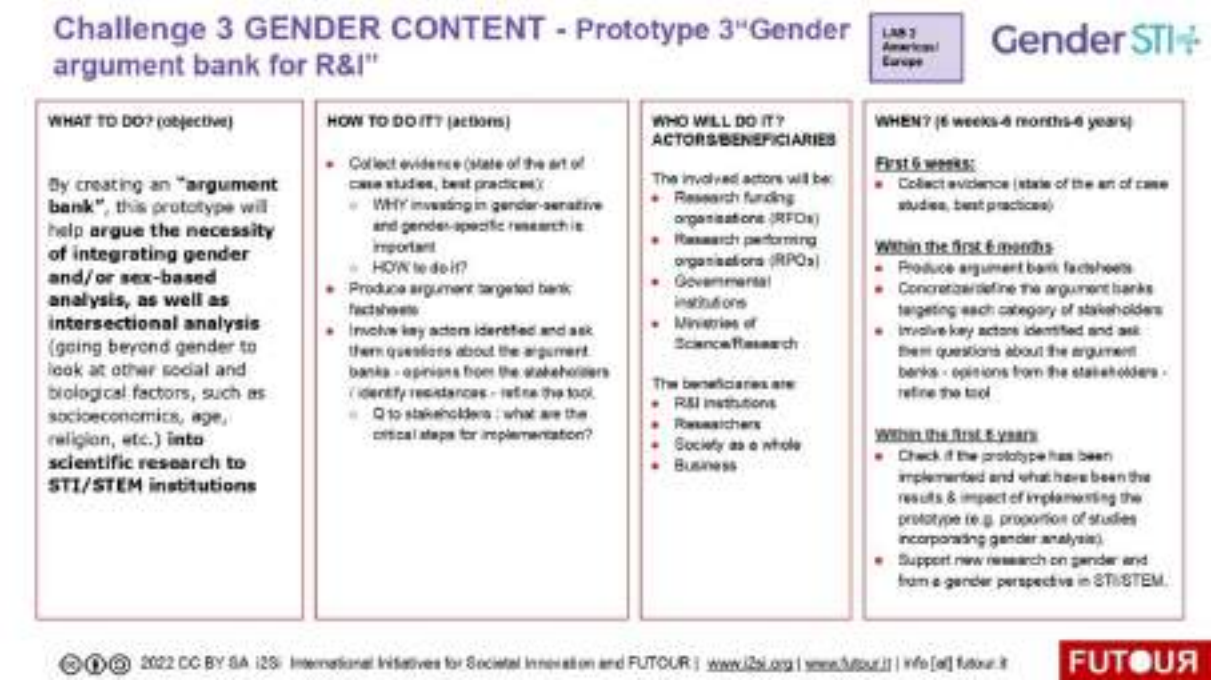
Challenge 3 GENDER CONTENT - Prototype 3"Gender argument bank for R&I"
LAB 3 Americas/ Europe
GenderSTI+
WHAT TO DO? (objective)
By creating an "argument bank", this prototype will help argue the necessity of integrating gender and/or sex-based analysis, as well as intersectional analysis (going beyond gender to look at other social and biological factors, such as socioeconomics, age, religion, etc.) into scientific research to STI/STEM institutions
HOW TO DO IT? (actions)
Collect evidence (state of the art of case studies, best practices):
WHY investing in gender-sensitive and gender-specific research is important
HOW to do it?
Produce argument targeted bank factsheets
Involve key actors identified and ask them questions about the argument banks - opinions from the stakeholders / identify resistances - refine the tool.
Q to stakeholders : what are the critical steps for implementation?
WHO WILL DO IT? ACTORS/BENEFICIARIES
The involved actors will be:
Research funding organisations (RFOs)
Research performing organisations (RPOs)
Governmental institutions
Ministries of Science/Research
The beneficiaries are:
R&I institutions
Researchers
Society as a whole
Business
WHEN? (6 weeks-6 months-6 years)
First 6 weeks:
Collect evidence (state of the art of case studies, best practices)
Within the first 6 months:
Produce argument bank factsheets
Concretize/define the argument banks targeting each category of stakeholders
Involve key actors identified and ask them questions about the argument banks - opinions from the stakeholders - refine the tool
Within the first 6 years:
Check if the prototype has been implemented and what have been the results & impact of implementing the prototype (e.g. proportion of studies incorporating gender analysis).
Support new research on gender and from a gender perspective in STI/STEM.
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7.5 Annex E - Prototyping diary

We hereby provide a sample of the full **Lab 3 Prototype Diary that was used to develop for Challenge 1 on CAREERS.**

GENDER STI CO-DESIGN LAB

"Enhancing gender equality and gender dimension in STI through international dialogues"

CHALLENGE PROTOTYPING DIARY

CHALLENGE 1 - CAREERS: Gender equality in scientific careers

THEME: Retaining women in STI.

Lab 3 - Asia, Africa and Europe (East)

Session 1: Tuesday 25th of October from 9:00 to 12:00 CET

Session 2: Thursday 3rd of November from 9:00 to 12:00 CET

Session 3: Friday 11th of November from 9:00 to 12:00 CET

CHALLENGE PROTOTYPING DIARY

TABLE OF CONTENTS

Lab 3 Prototype Diary for Challenge 1: CAREERS

Lab 3: Asia, Africa and Europe (East)

CHALLENGE 1 - CAREERS: Gender equality in scientific careers

THEME: Retaining women in STI, science, technology and innovation

The challenge is to attract more women to the STI field. Gender equality is always in focus, but by creating an inclusive and diverse work environment, it is also possible to promote women who experience more than one discrimination. However, it is not about changing women but rather about creating an environment in which everyone has the opportunity to contribute. For too long, the male gender has shaped science, technology, and innovation. Now is the time to do diverse research, to create technology for all to get the

best results. We focus here on gaining more women for STI. 1) Career choice is central in this area, such as women's STI education. 2) Creating recommendations for policy to reduce the dropout rate. 3) Actions by funding organisations to promote an inclusive and diverse research environment.

Main questions:

- *What changes support **young women** to retain in STI academia?*
- *How can **STI policy** reduce the dropout rate?*
- *What **funding mechanisms** are needed to support women in a STI work environment to be more diverse and inclusive?*

Challenge Group Participants

- **Challenge Holder(s):** Names hidden to respect GDPR rules
- **Facilitator:** Names hidden to respect GDPR rules
- **Prototype Holder:** Names hidden to respect GDPR rules
- **Participants:** Names hidden to respect GDPR rules

The Gender STI Co-design Lab method

The Gender STI project addresses the challenge of **how to enhance gender equality in STI workforce and decision making, as well as how to integrate the gender perspective in science, technology and innovation (STI) in dialogues between Europe and third countries.** The project is part of the European Research Area (ERA) strategy to advance gender equality in Research and Innovation (R&I).

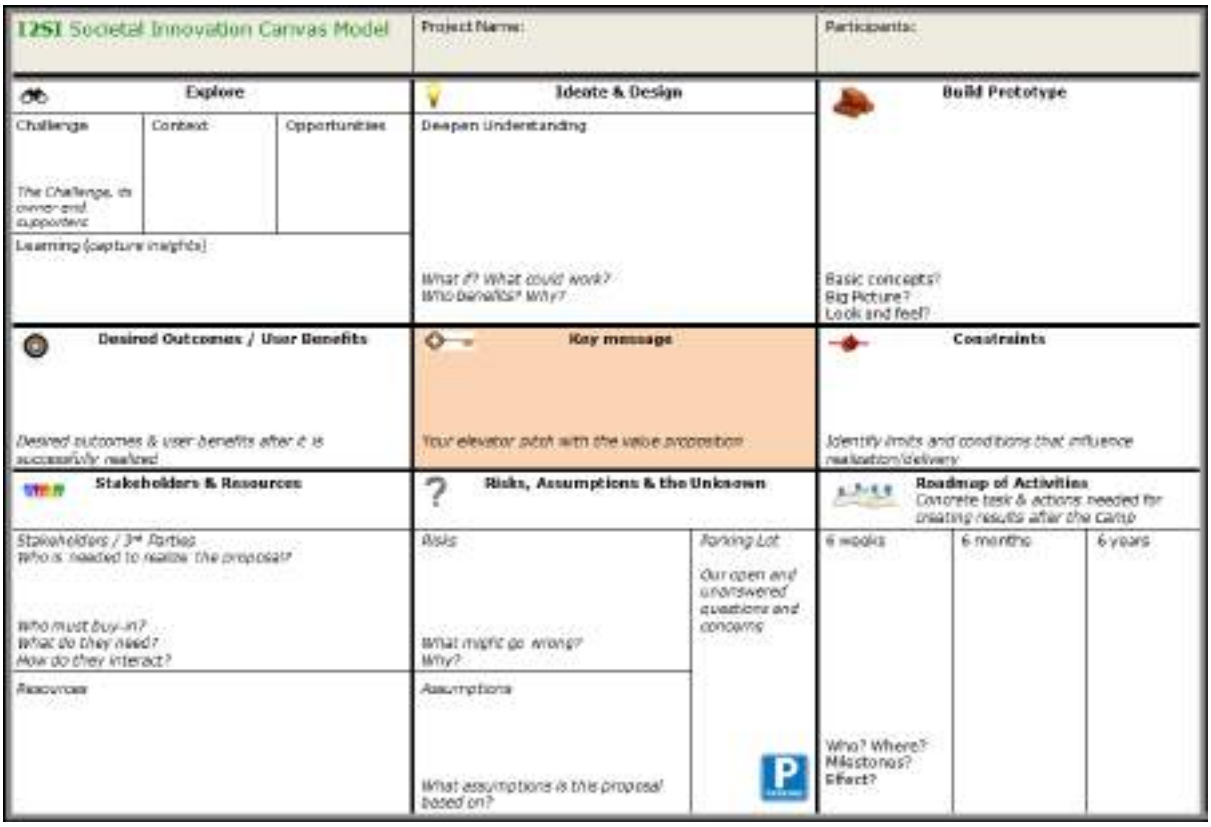
This document is your **Challenge Prototyping Diary** that supports your work as challenge teams within the Gender STI Co-design Lab. Your prototypes will be used to **enhance gender equality and gender dimension in STI through international dialogues**.

Why? The purpose of the GENDER STI Co-design Lab challenge group is to develop prototypes that can be tested and improved so as to identify solutions that increase the gender balance in science technology and innovation.

How? It is a co-design process that applies interactive participatory methods and through synchronous and asynchronous digital collaboration and communication.

What? Your group can design and test prototypes that can address and solve some of the key challenges of gender balance in science, technology and innovation (STI). Your work can bring a fundamental contribution.

The working approach of the Gender STI Co-design Lab is based on the Innovation Camp. We address a challenge, reframe it, identify possible goals and objectives that can be addressed with a prototype, identify actors and partners that can support the prototype and define the activities in the long, medium and short term that can help us to address the challenge. Within the Lab we use a **canvas** with guiding questions and steps that can help you in the discovery process from exploring and reframing the challenge to defining a roadmap of activities.



The activities that are performed in the interactive Gender STI Labs concentrate on the following main steps in the canvas:

- Exploring the challenge, through its reformulation and deepening its understanding.
- Defining desirable and possible objectives to address the challenges through prototypes that can help to reach the desired outcomes and benefits for the target groups.
- Prototyping solutions by identifying actors, partners, beneficiaries, resources and setting up a roadmap of activities.

The diary of this challenge group contains the results of the brainstorming sessions that can contribute to prepare the report, presentation and videoclip of the Prototypes that were generated by the participants.

EXPLORING THE CHALLENGE, IDENTIFYING OPPORTUNITIES AND OBJECTIVES FOR THE PROTOTYPING

This part of the Challenge Prototyping Diary collects the instant report of the first online interactive brainstorming sessions to "Enhance gender equality and gender dimension in STI through international dialogues" within our Challenge and Topic. They include:

a) The **reframing of our GENDER STI challenge and theme**.
b) The definition of **GENDER STI goals, objectives, opportunities to develop prototypes** that address our challenge and theme
c) The **identification of prototypes** and creation of **prototyping groups**.

REFRAMING THE GENDER STI CHALLENGE to develop prototypes that "Enhance gender equality and gender dimension in STI through international dialogues".

This section of the challenge prototyping Diary contains the results of the reframing session that were written through the digital brainstorming. You may use it as an inspiration and reflection for the prototyping process.

- **What makes it a challenge?**
  - Science culture: competition.
  - Leaky pipeline.
  - Lack of mentors.
  - Lack of networks.
  - Unfriendly family environment.
  - Obstacles that women find difficult to overcome.
  - Lack of role models in academic institutions.
  - Discrimination regarding lower salaries for females than males in some STI companies.
  - Work-life balance is difficult to achieve for many (?) scientific women.
  - Stereotypes.

- **What is the context behind the challenge?**
  - Create multipliers.
  - Encouragement of women to retain in STI - the system makes it hard for women to stay.
  - In some cases or companies women are being paid less for holding a similar position than a male counterpart.
  - Stereotypes in STEM prevent women from advancing in their careers.
  - The idea that a woman's role in society was that of a care-taker.
  - Mentors who are willing to support new females entering.
  - Engrained role models in society.

- **Has this challenge been addressed before? What were the outcomes?**
  - Understand cultural barriers of reasons why women are paid less.
  - Yes: women in STEM - a lot of girls in STEM programs already created (coding weeks, courses, school programs,..) but still gender gap; did not change stereotypes (yet).
  - These challenges have been addressed in terms of gender balance in STEM careers. It is important to address the causes of inequality.

- **If you solved this challenge will there be a bigger one behind it? Is it the deepest level you can go?**
  - Awareness campaigns for females entering the workplace can be a supportive mechanism.
  - Diversity creates diverse outcomes.
  - Women are not the issue.
  - Family issues should not be an obstacle.
  - Women should be trained to deal with barriers that they will find in their career.
  - Discrimination has various levels based on age, experience and culture and also on biases or prejudice.

DEFINITION OF GENDER STI GOALS AND OPPORTUNITIES to develop prototypes that "Enhance gender equality and gender dimension in STI through international dialogues".

This section of the challenge prototyping Diary contains the results of the brainstorming session on the goals, opportunities and positive vision of the outcomes and impact that can guide you into identifying possible prototypes that address your challenge. Use it as an inspiration and reflection for the prototyping process.

- **GOALS/OBJECTIVES AND OPPORTUNITIES**: If you had to imagine a happy ending for the topic addressed by the challenge once completed, how would you describe it? Imagine optimistic results. This brainstorming has the purpose to identify 2-3 prototyping groups.
    - Work-life balance is not a barrier anymore for retaining women in STI.
    - More women feel satisfied with their careers, they do not need to complain about discriminations.
    - Give more visibility to women's achievements in their careers.
    - Support from institutions and decision makers to change things.
    - Inclusive initiatives in academic institutions, networking groups and support groups.
    - Be sensitive and aware of female challenges (discrimination) and obstacles (diversity, family, caregiver role) in the workplace.
    - Mentorship programs for women to deal with stereotypes and barriers in careers.
    - Stereotypes that prevent women from advancing in their careers.

- **IDENTIFY PROTOTYPES**. Select the main goals, objectives and outcomes you want to address in your prototype (testing/experimentation). The two, three most relevant goals, objectives and outcomes you want to address and resolve with your prototypes are selected from the previous list. Through an analysis and synthesis of the goals and objectives the team has identified the following two or three prototyping areas.
    - Use support and mentorship programs, inclusive initiatives and awareness campaigns to assist females/women to network, face challenges (discrimination) and obstacles (diversity, family, caregiver role) in their institutions.
    - Recommendations for institutions (and decision-makers) - change the system and not the women.

PROTOTYPES AND DISTRIBUTION OF PARTICIPANTS. The table below indicates the initial prototype titles, ideas on them and how the challenge participants have distributed themselves. The titles and distribution of participants may change throughout the process and the challenge team will update it accordingly.

Prototype 1	**Prototype 2**
Use support and mentorship programs, inclusive initiatives and awareness campaigns to assist females/women to network, face challenges (discrimination) and obstacles (diversity, family, caregiver role) in their institutions	Recommendations for institutions (and decision-makers) - change the system and not the women.

Names hidden to respect GDPR rules	Names hidden to respect GDPR rules

PROTOTYPING, TESTING AND EXPLORING WAYS TO "ENHANCE GENDER EQUALITY AND GENDER DIMENSION IN STI THROUGH INTERNATIONAL DIALOGUES"

This part of the Challenge Prototyping Diary collects the instant reports of the online interactive brainstorming sessions to identify and plan Prototypes that can "Enhance gender equality and gender dimension in STI through international dialogues" within our Challenge and Topic.

For each prototype we have created a chapter that includes the prototype title, the participants and other information from the digital brainstorming sessions that can contribute to developing the slide presentation with keywords, the prototype report and a videoclip.

All prototypes build on the reframing of the GENDER STI Challenge and theme and on the specific objective of the prototype.

Each **prototype chapter in the diary** includes the following:

- Detailed Prototype report format to be written by the prototype team including the abstract and more in-depth description of the Prototype (this serves as future deliverable so it is important to complete it).
- Link to the slides used in the presentation of the prototype.
- Videoclip: space to add ideas and develop the script of the videoclip.

After all the prototype descriptions there is also a small section at the end of the Diary, after the prototype descriptions and report including the feedback received by the prototypes of this challenge during the **Inter challenge consultation**.

In the annexes of the Challenge Prototype Diary there is a **REFERENCE ONLY instant report of the digital brainstorming on the prototypes** (from the GroupMap canvas). This can be used to copy, adapt and edit the information and idea exclusively in the main report, abstract, slides and video described in the previous paragraph. The instant, reference-only annexes contain the following information.

- Participants contributing to the prototype.
- Prototype objective and description.
- Main actors and partners to be involved in the prototype.
- Activities in the long, medium and short term.

PROTOTYPE 1 - Use support and mentorship programs, inclusive initiatives and awareness campaigns to assist females/women to network, face challenges (discrimination) and obstacles (diversity, family, caregiver role) in their institutions

Report with a detailed description of the prototype and the abstract

Please describe the prototype by using the report template below. You may use and improve all the contents emerging from the digital brainstorming (s*ee Annex 1 for reference only*). The **report** describes more in detail what you will be explaining with keywords in your presentation of the prototype roadmap in the last session and can help you in the follow-up activities to test the prototype. The prototype report needs to be completed **by the third session of the Lab** and can be further polished in the prototyping phase.

Title of the Prototype: Use support and mentorship programs, inclusive initiatives and awareness campaigns to assist females/women to network, face challenges (discrimination) and obstacles (diversity, family, caregiver role) in their institutions

- **Challenge 1. CAREERS: Gender equality in scientific careers;**
- **Lab 3 Asia, Africa and Europe**
- **Challenge Holder(s):** Names hidden to respect GDPR rules
- **Facilitator:** Names hidden to respect GDPR rules
- **Prototype Holder:** Names hidden to respect GDPR rules
- **Participants:** Names hidden to respect GDPR rules
- **Date** 2.12.2022

Note to the Rapporteur:

Please use as many visuals as possible in this report. These may include drawings, illustrations and PowerPoint presentations made by the group, and photographs of the wall-space where the group worked (including post-its and papers hung on the walls, or flip-over pages prepared by the group).

1. ABSTRACT OF THE PROTOTYPE (BASED ON THE SUMMARY PRESENTATION OF THE PROTOTYPE

Note to the Rapporteur:

Use support and mentorship programs to assist females and women to network, face discrimination challenges and caregiver stereotype obstacle

Through this prototype we are going to identify possible actions and activities in academia that can be applied to ensure that women in STI are mentored in their institutions to cope with their challenges like discrimination, and obstacles such as, the prominent women stereotype of a caregiver role with family responsibilities and not enhancing diversity, amongst other. Hence, covering the gap between school girls call towards STEM careers and women in leadership positions within this field. Tackling this is important, as if women in STI are not mentored to cope with their challenges and obstacles it can negatively affect the retaining rate and equality in academia.

As such, we aim to decrease women's dropout rate by 50% in academia and consequently increasing retention and equality in STEM. We will do this by supporting the design and implementation of mentorship programs in various geographic locations, for women of all age groups and several disciplines in at least 30 % of universities as well as their access to funding extending their networks. Adding to this, we will also enhance women visibility in conferences related to STI disciplines by including women chapters.

The actors involved to meet such objectives are; STI related organizations, funding agencies, NGOs, science councils, editorial boards of magazines in the STI field, fellow experienced colleagues, universities and government.

Some of the next steps consider, develop country specific literature reviews on challenges related to discrimination and caregiver roles facing women in STI, gathering and sharing success stories or best practices on mentorship programs and determine possibilities in academia with this geographic perspective considering all disciplines, identify main challenges in each geographic location regarding mentorship programs development towards prioritizing activities, as well as identifying funding mechanisms per country that can support women in STI. Considering women's visibility in events and conferences the next step would be to identify regional conferences that provide a platform for a women chapter (focusing on diversity etc.) in STI.

2. WHY IS THIS PROTOTYPE IMPORTANT? [WHAT IS THE PURPOSE AND HOW DOES IT ADDRESS THE CHALLENGE?]

- Mentor women in STI
- Helps women to cope with their challenges and obstacles
- Improve equality in academia

2. DESCRIPTION OF PROPOSED ACTIONS [ACTION ORIENTATION IS EXTREMELY IMPORTANT]

- To implement mentorship programs to retain women in STI careers.

3. WHAT WILL THIS ACHIEVE? WHAT IS THE SOCIETAL IMPACT?

- Affect retaining rate and equality in academia

- Assist women with their obstacles (diversity, family, caregiver role)

4. WHO IS RESPONSIBLE?

- Participants of Prototype 1 of Challenge1 Lab3

5. WHO WILL BE INVOLVED? (IN SOCIETY? IN THE CHALLENGE TEAM?)

- STI related organisations
- Funding agencies
- NGOs
- Science Councils
- Editorial boards of magazines in the STI field
- Fellow experienced colleagues
- Universities
- Government

6. Description of the best ideas

- Create initiatives for women in STI to share their networks
- Develop mentorship programs to support women in academia
- Support women from all age groups with their challenges without discrimination

7. First steps: what must happen in the next 6 weeks? *Who should do what?*

- Do a country specific literature review (16 countries in the consortium) on challenges facing women in STI.
- Share success stories and lessons learnt on mentorship programs.
- Identify main challenges in each geographic location and prioritize activities.
- Identify funding mechanisms per country that can support women in STI.

8. Prototyping: What must happen in the next 6 months? *Who should do what?*

- Identify opportunities through awards or campaigns for recognition of women achievers in STI.
- Identify which country specific policies that can be amended to recognize women in STI.
- Determine mentorship possibilities in academia with a geographic perspective considering all disciplines.
- Identify regional conferences that provide a platform for a women chapter (focusing on diversity etc.) in STI.

9. Impact in 6 Years

- Have policies targeting for the allowance of more women in STI projects
- Include women chapters in conferences related to STI disciplines
- Geographic mentorship programs for different age groups and disciplines
- Implement mentorship programs geographically (for young women and late entrees in STI) in x% of universities worldwide.
- Decrease dropout rate by 50% of women in STI.
- Allow for women in STI of all age groups to apply for funding to extent networks.

10. Other relevant information on the prototype (links, references, contacts)

- None

11. Suggestions for improving the effectiveness of the Co-design Lab

- Covering the gap between school girls call towards STEM careers and women in leadership positions within this field.
- Finish up with a Mentorship Program guide that addresses step by step its implementation in an academic institution
- Split by themes the program: Funding mechanisms, onboarding system, activities to implement

---

Slides for the presentation of the prototype
In the third session of the Lab each challenge group presents briefly the purpose and roadmap of the prototype through some slides. While every report of the Prototype is detailed and can keep more extensive descriptions (see above) the presentation of the prototype will be described with only two slides by using keywords and images. The slides are structured as follows:

- First Slide
    - Description of the challenge. What is the problem?
    - Why is it important?
    - Space for images, graphs, figures
- Second slide
    - WHAT TO DO? (objective)
    - HOW TO DO IT? (actions)
    - WHO WILL DO IT? ACTORS/BENEFICIARIES
        - The involved actors will be:
        - The beneficiaries are:
    - WHEN? (6 weeks-6 months-6 years)
        - First 6 weeks:
        - Within the first 6 months
        - Within the first 6 years

The slides need to be ready **two days before the third lab** session.

Every Lab session has only one shared file where all presentations are added by the respective prototype teams. It is important to work on your slides collaboratively in the same file as we are working from virtual settings and other prototype teams can also be inspired by your prototype. So please work directly just in your Lab presentation file.

Below you can see the link to the presentations from each Lab. Work and improve only yours.

- LAB3_GENDER_STI_PROTOTYPE_PRESENTATIONS
- LAB2_GENDER_STI_PROTOTYPE_PRESENTATIONS

Script for the videoclip
After the third Lab session your team can create a video clip of one minute describing the prototype aims as a call to action. The core team organising the Gender STI Lab will provide more information on this task.
You then can use this collaborative space in the Challenge Diary to write and comment on the script and storyboard of the narrative of your videoclip.

FEEDBACK TO THE CHALLENGE PROTOTYPES FROM THE INTER CHALLENGE CONSULTATION

All prototypes from a specific challenge in the Lab perform an **Inter challenge consultation** where they receive feedback, impressions, suggestions by visiting challenge groups. We include below the overall feedback received by the prototypes in this specific challenge.

- **WHAT ARE YOU IMPRESSED BY?**
  - "A mentor is someone who believes in you when you don't believe enough in yourself." — Dr. Joanne Liu, international president at Médecins Sans Frontières.
  - Mentoring matters to retain women in STI careers.
  - Mentorships are important and it is good they are being further developed.
  - Great idea, mentoring processes specifically addressed to promote gender equality could be useful also in the industrial field.
  - Mentorship is important as well as the sharing of networks for this to happen.
  - Concrete and doable.
- **WHAT WOULD YOU MAKE STRONGER?**
  - It is important to ensure that mentorship programmes do not increase the workload of women (or other people) but that this is integrated into the work life and it would be compensated for those who join it.
  - I'd suggest to highlight that dedicated mentoring programmes could be introduced also within STI companies, not only academic environments.
  - Networking sharing to implement the prototype. Excellent through the GENDER STI Community of Practice (CoP).
  - CoP - use this network for the prototype.
  - There are many types of mentorships, possibly one is a better fit then another. This may be culturally specific?
- **WHAT WOULD YOU CHANGE?**
  - Can men help make this happen?
  - Include also analysis on where can mentorship specifically intervene - what is the mentee being helped with?
  - Very important topic. Also started to think concrete support that an organization could give for example for a person in a family leave. How to tackle career challenges, how to keep up academic work during family leaves, etc.

PROTOTYPE 2 - Recommendations for scientific institutions to increase the retention of women in STI careers.

Report with a detailed description of prototype 1.2 and the abstract

Please describe the prototype by using the report template below. You may use and improve all the contents emerging from the digital brainstorming (see Annex 2 for reference only). The report describes more in detail what you will be explaining with keywords in your presentation of the prototype roadmap in the last session and can help you in the follow-up activities to test the prototype. The prototype report needs to be completed by the third session of the Lab and can be further polished in the prototyping phase.

Note to the Rapporteur:
Please use as many visuals as possible in this report. These may include drawings, illustrations and PowerPoint presentations made by the group, and photographs of the wall-space where the group worked (including post-its and papers hung on the walls, or flip-over pages prepared by the group).

Title of the Prototype: Recommendations for scientific institutions to increase the retention of women in STI careers

- **Challenge 1. CAREERS: Gender equality in scientific careers;**
- **Lab 3 Asia, Africa and Europe**
- **Challenge Holder(s):** Names hidden to respect GDPR rules
- **Facilitator:** Names hidden to respect GDPR rules
- **Prototype Holder:** Names hidden to respect GDPR rules
- **Participants:** Names hidden to respect GDPR rules
- **Date** 2.12.2022

1. ABSTRACT OF THE PROTOTYPE (BASED ON THE SUMMARY PRESENTATION OF THE PROTOTYPE

Note to the Rapporteur:

*Summarise the prototype in **half a page**. The abstract can be based on the main prototype report, see below and from other insights of its promoters. This is the essence of the prototype. It is very important to be clear and specify about the purpose of the prototype, its objectives, activities and anything else that helps a reader to understand it.*

*While the rest of the report can be more detailed and structured according to the sections below, the abstract should include the title and briefly describe in a discursive manner, **not in bullet points**: 1) What we are going to do. 2) Why is it important? 3) What objectives do we meet? 4) Who: what other actors are involved? 5) What could be the next steps?*

Recommendations for scientific institutions to increase the retention of women in STI careers

The Prototype proposes recommendations for scientific institutions (universities, RPOs, RFOs …) to increase the percentage of women in STI careers. Currently only 30% of researchers are women.
Institutional change in scientific organizations could help to reduce the dropout rate of women in STI careers. The prototype looks for identifying barriers that women face in STI careers. Are these barriers perceived in the same way by women and men? Is the dropout rate for men and women different? What are the dropout reasons? How does the family model affect women in STI careers? Further research is needed to build this foundational knowledge for the prototype.
The prototype identifies target institutions in Europe and third countries that can support institutional changes to retain women in STI. The next step is to determine possible changes needed to reduce the dropout rate of women in STI careers. Finally, the prototype proposes recommendations for scientific organizations to increase the retention of women in STI careers.
The prototype actions will involve Consortium partners, members of the CoP and key actors at scientific organizations (Professors at university, Lead positions, and Team leaders in RPOs and RFOs).
As a possible action, training and awareness raising for professors, deans, leadership positions, or team leaders would help make the unseen seen for scientific institutions. No change to retain women in STI will happen if gender inequalities are not visible.

2. WHY IS THIS PROTOTYPE IMPORTANT? [WHAT IS THE PURPOSE AND HOW DOES IT ADDRESS THE CHALLENGE?]

Only 30% of researchers are women. (UNESCO, 2022) To raise the percentage of women in STI careers, an institutional change in scientific organizations (universities, RPOs, RFOs ..) must happen.

3. DESCRIPTION OF PROPOSED ACTIONS [ACTION ORIENTATION IS EXTREMELY IMPORTANT]

To articulate recommendations for scientific institutions (universities, RFOs, RPOs,, evaluation agencies/authorities…) is needed to increase the percentage of women in STI careers.

4. WHAT WILL THIS ACHIEVE? WHAT IS THE SOCIETAL IMPACT?

- Institutional change to retain women in STI (identify barriers to determine which institutional changes are of relevance)
- Reduce dropout rate
- Propose recommendations for scientific organizations

5. WHO IS RESPONSIBLE?

- Participants of Prototype 2 of Challenge 1
- Consortium Partners

6. WHO WILL BE INVOLVED? (IN SOCIETY? IN THE CHALLENGE TEAM?)

- Consortium Partners
- Gender STI and **CoP**
- Universities
- RPOs
- RFOs (public/private)

7. Description of the best ideas

- Research (state of the art)
- Insights from consortium partners and CoP
- Propose recommendations

8. First steps: what must happen in the next 6 weeks? *Who should do what?*

- Identity target institutions (like universities, RPOs, RFOs) in Europe and third countries that can support institutional changes to retain women in STI
- (Literature) Research: dropout rate; leaky Pipeline, glass ceiling to fit this prototype

9. Prototyping: What must happen in the next 6 months? *Who should do what?*

- Evaluate (e.g. barriers to support institutional change) among consortium and **CoP** current state of the art (through survey questionnaires)
- Propose effective recommendations

10. Impact in 6 Years

- Reduce dropout rate of women in STI
- Training as action
- Awareness raising for the gender issue

11. Other relevant information on the prototype (links, references, contacts)

- https://en.unesco.org/news/just-30-world%E2%80%99s-researchers-are-women-whats-situation-your-country

- Is the gender gap narrowing in science and engineering? : https://books.google.at/books?hl=de&lr=&id=SDHwCgAAQBAJ&oi=fnd&pg=PA85&dq=Is+the+gender+gap+narrowing+in+science+and+engineering%3F&ots=AKPWFxnlne&sig=IkTS6ZySg_gZMaVss7l35XMOuvg&redir_esc=y#v=onepage&q=Is%20the%20gender%20gap%20narrowing%20in%20science%20and%20engineering%3F&f=false
- The Leaky Pipeline of Women in STEM: https://digitalcommons.assumption.edu/honorstheses/100/

12. Suggestions for improving the effectiveness of the Co-design Lab

- Involving external participants

Slides for the presentation of the prototype
In the third session of the Lab each challenge group presents briefly the purpose and roadmap of the prototype through some slides. While every report of the Prototype is detailed and can keep more extensive descriptions (see above) the presentation of the prototype will be described with only two slides by using keywords and images. The slides are structured as follows:

- First Slide
  - Description of the challenge. What is the problem?
  - Why is it important?
  - Space for images, graphs, figures
- Second slide
  - WHAT TO DO? (objective)
  - HOW TO DO IT? (actions)
  - WHO WILL DO IT? ACTORS/BENEFICIARIES
    - The involved actors will be:
    - The beneficiaries are:
  - WHEN? (6 weeks-6 months-6 years)
    - First 6 weeks:
    - Within the first 6 months
    - Within the first 6 years

The slides need to be ready **two days before the third lab** session.

Every Lab session has only one shared file where all presentations are added by the respective prototype teams. It is important to work on your slides collaboratively in the same file as we are working from virtual settings and other prototype teams can also be inspired by your prototype. So please work directly just in your Lab presentation file.

Below you can see the link to the presentations from each Lab. Work and improve only yours.

- LAB3_GENDER_STI_PROTOTYPE_PRESENTATIONS
- LAB2_GENDER_STI_PROTOTYPE_PRESENTATIONS

Script for the videoclip
After the third Lab session your team can create a video clip of one minute describing the prototype aims as a call to action. The core team organising the Gender STI Lab will provide more information on this task.

You then can use this collaborative space in the Challenge Diary to write and comment on the script and storyboard of the narrative of your videoclip.

FEEDBACK TO THE CHALLENGE PROTOTYPES FROM THE INTER CHALLENGE CONSULTATION

All prototypes from a specific challenge in the Lab perform an **Inter challenge consultation** where they receive feedback, impressions, suggestions by visiting challenge groups. We include below the overall feedback received by the prototypes in this specific challenge.

- **WHAT ARE YOU IMPRESSED BY?**
  - It is really interesting to spread attention about career inequality directly within the relevant work environment (composed by both men and women).
  - The prototype is tackling an important challenge and the action plan is quite detailed - it seems that it is doable.
- **WHAT WOULD YOU MAKE STRONGER?**
  - Working on strengthening internal welfare appears to be a fundamental instrument to retain women at work.
  - Important to collect best practices from different countries and organizations.
  - There is a lot of research on this topic, and perhaps a lot of challenges and best practices identified. Narrowing the prototype to focus on "arguments" and really enhancing / promoting understanding of this topic could make it more effective.
- **WHAT WOULD YOU CHANGE?**
  - Focus on developing the articulation of the issue - i.e. arguments.
  - Very important topic. Also started to think concrete support that an organization could give for example for a person in a family leave. How to tackle career challenges, how to keep up academic work during family leaves, etc.

ANNEXES OF THE PROTOTYPING DIARY (FOR CONSULTATION ONLY)

ANNEX 1: Prototype 1 - Transcript from the brainstorming session on the prototype

Instant report from digital brainstorming on prototype 1.1
This is the transcript of the ideas and suggestions that were added to the digital brainstorming on the prototype. It may be helpful to cut, paste, and gather information for the other more detailed parts of the prototype description in the sections below the instant report

- **PARTICIPANTS**
  - Names hidden to respect the GDPR rules.

- **PROTOTYPE GOAL/OBJECTIVE with respect to the challenge and scope**
  - Addressing different challenges women have to face, we aim to reduce the dropout rate.

    - Create initiatives and awareness campaigns to share network groups among women.
    - Develop mentorship programs to support women in academia.
    - Support women from all age groups with their challenges without discrimination.

- **WITH WHOM? Identify the ACTORS and partners needed to achieve the OBJECTIVE of this "Gender equality in STI" PROTOTYPE.** Think of organisations and names in them: People make the difference!
    - STI related associations.
    - NGOs.
    - Funding agencies.
    - Science council.
    - Editorial boards of magazines in the STI field.
    - Fellow experienced colleagues.
    - Universities.
    - Governments.

- **HOW? Short-term Activities (in 6 WEEKS) to achieve our "Gender Equality in STI" Prototype Goal, Outcomes and Impact with the identified Actors.** What is the sequence of short-term activities (in 6 WEEKS) to achieve our "Gender Equality in STI" Prototype goal/objectives, outcomes and impact with the identified actors? **NEXT STEPS.**
    - Next steps:
    - Creating awareness campaigns breaking bias on caregiving roles for undergraduates.
    - Do a country specific literature review on challenges facing women in STI.
    - Share success stories and lessons learnt on mentorship programs.
    - Create a brainstorm on what women chapters could look like.
    - Identify main challenges in each geographic location and prioritize activities.
    - Identify funding mechanisms per country that can support women in STI.
    - Creating the first contacts with institutions that can support women in STI.

- **HOW? Medium-term Activities (in 6 MONTHS) to achieve our "Gender Equality in STI" Prototype Goal, Outcomes and Impact with the identified Actors.** What is the sequence of medium-term activities (in 6 MONTHS) to achieve our "Gender Equality in STI" Prototype goal/objectives, outcomes and impact with the identified actors? **EARLIEST OUTCOMES AND FOLLOW-THROUGH.**
    - Follow-through steps; earliest outcomes:
    - Identify opportunities through awards or campaigns for recognition of women achievers in STI.
    - Use incentives by funding agencies or governments to develop mentorship programs and support groups in universities to strengthen the retaining of women in STI.
    - Focus on creating awareness on STEM careers for undergraduates.
    - Identify successful awareness campaigns that can be used as lessons learnt.
    - Identify which country specific policies that can be amended to recognize women in STI.
    - Determine mentorship possibilities in academia with a geographic perspective considering all disciplines.
    - Identify regional conferences that provide a platform for a women chapter (focusing on diversity etc.) in STI.
    - Evaluating current women participation in projects.

- **HOW? Long Term Activities (in 6 YEARS) to achieve our "Gender Equality in STI" Prototype Goal, Outcomes and Impact with the identified Actors.** What is the sequence of long-term activities (4-6 years) to achieve our "Gender Equality in STI" Prototype goal/objectives, outcomes and impact with the identified actors? **IMPACT IN SOCIETY IF THE PROTOTYPE HAS BEEN IMPLEMENTED.**
    - Impact in society if the prototype has been implemented.
    - Have policies targeting the allowance of more women in STI projects.
    - Include women chapters in conferences related to STI disciplines.
    - Mentorship and awareness campaigns geographically for different age groups and disciplines.
    - Implement mentorship programs geographically (for young women and late entrees in STI) in x% of universities worldwide.
    - Have awareness campaigns at x% universities globally for women in STI.
    - Allow for women in STI of all age groups to apply for funding to extend networks.
    - Decrease dropout rate by 50% of women in STI.

ANNEX 2: Prototype 2 - Transcript from the brainstorming session on the prototype

Instant report from digital brainstorming on the prototype 1.2
This is the transcript of the ideas and suggestions that were added to the digital brainstorming on the prototype. It may be helpful to cut, paste, and gather information for the other more detailed parts of the prototype description in the sections below the instant report.

- **PARTICIPANTS**
  - Names hidden to respect the GDPR rules.

- **PROTOTYPE GOAL/OBJECTIVE with respect to the challenge and scope**
  - To further develop this prototype, we need:
    a) identify target institutions in Europe and third countries that can support institutional changes to retain women in STI.
    b) identify changes needed to reduce the dropout rates of women in STI.
    c) propose effective recommendations in the short-term and the long-term.
  - Understanding how the family model influences women in STI careers: How the traditional family and diverse family model for women in STI careers. Giving up the idea of family - if women are dedicated to work only.
  - Identify changes needed to reduce the dropout rates of women in STI.
  - Propose effective recommendations.

- **WITH WHOM? Identify the ACTORS and partners needed to achieve the OBJECTIVE of this "Gender equality in STI" PROTOTYPE.** Think of organisations and names in them: People make the difference!
  - Professors at university and research centres.
  - Funding agencies - public; private: they should give funding to universities, RPOs and RTOs- only if they take gender and diversity training.
  - Universities and Research Centres.
  - Evaluation agencies/authorities
  - Responsible leaders of companies, Universities (professors, .).
  - "Training for Leadership".

- **HOW? Short-term Activities (in 6 WEEKS) to achieve our "Gender Equality in STI" Prototype Goal, Outcomes and Impact with the identified Actors.** What is the sequence of short-term activities (in 6 WEEKS) to achieve our "Gender Equality in STI" Prototype goal/objectives, outcomes and impact with the identified actors? **NEXT STEPS.**
  - Next steps, until 31st of December 22:
  - Identify target institutions in Europe and third countries that can support institutional changes to retain women in STI.
  - What is the women drop rate in comparison to the one of men? Research of already existing data: it helps to frame questionnaires.

- **HOW? Medium-term Activities (in 6 MONTHS) to achieve our "Gender Equality in STI" Prototype Goal, Outcomes and Impact with the identified Actors.** What is the sequence of medium-term activities (in 6 MONTHS) to achieve our "Gender Equality in STI" Prototype goal/objectives, outcomes and impact with the identified actors? **EARLIEST OUTCOMES AND FOLLOW-THROUGH.**
  - Follow-through steps; earliest outcomes until June 23:

- Propose effective recommendations.
- Do women or men face different barriers (why they -women/men- drop out?) To answer this question, make a small questionnaire to be distributed among Lab Participants and more; Results by end of June

- **HOW? Long Term Activities (in 6 YEARS) to achieve our "Gender Equality in STI" Prototype Goal, Outcomes and Impact with the identified Actors.** What is the sequence of long-term activities (4-6 years) to achieve our "Gender Equality in STI" Prototype goal/objectives, outcomes and impact with the identified actors? **IMPACT IN SOCIETY IF THE PROTOTYPE HAS BEEN IMPLEMENTED.**
  - Impact in society if the prototype has been implemented.
  - Reduce the dropout rate, especially women.
  - Training is an action- more a long-term goal.
  - Actions, training, ... in agreements, project, EU funding project.
  - Training - final goal.
  - Equal treatment for everyone in STI.

REFERENCES

Rissola, G., Kune, H., Martinez P. 2017. "Innovation Camps Methodology Handbook: Realising the potential of the Entrepreneurial Discovery Process for Territorial Innovation and Development," JRC Working Papers JRC102130, Joint Research Centre (Seville site).

GENDER STI Project, D3.1 Methodological Handbook on the GENDER STI Co-Design Labs. Grant Agreement Number 872427.

Matti, C., Rissola, G., Martinez, P., Bontoux, L., Joval, J., Spalazzi, A. and Fernandez, D., Co-creation for policy: Participatory methodologies to structure multi-stakeholder policymaking processes, Matti, C. and Rissola, G. editor(s), EUR 31056 EN, Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-52216-4, doi:10.2760/495731, JRC128771. Download from t.ly/P6vW

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