Center of Excellence in Sustainability

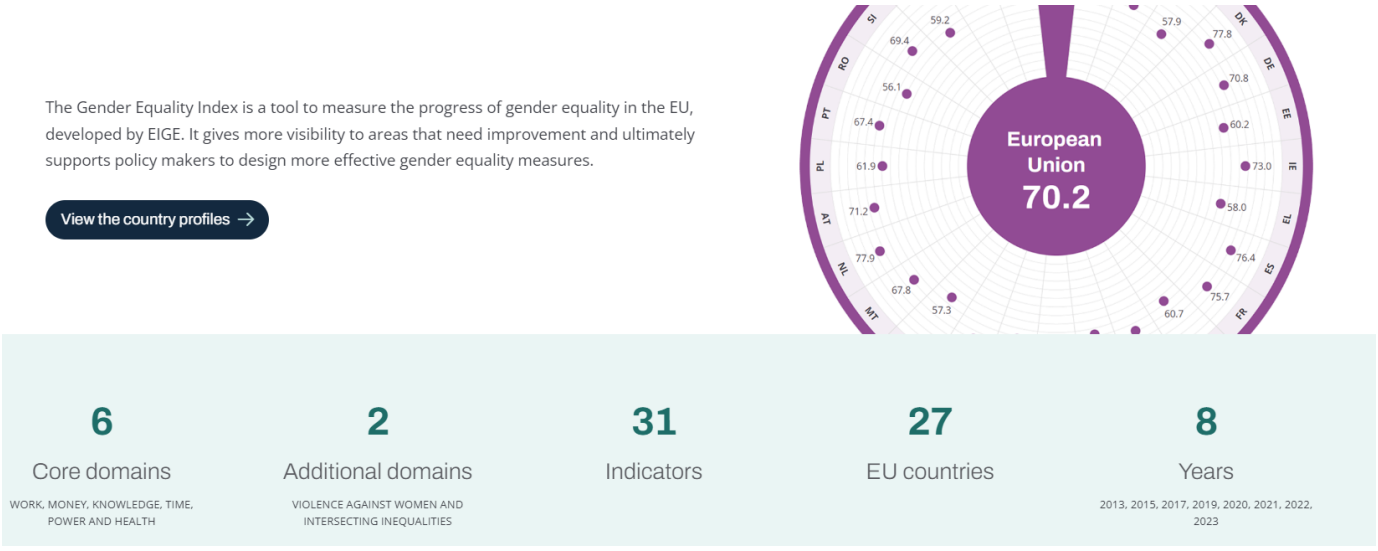
Global Femme in STEM (ΦSTEM) Initiative
Deree- The American College of Greece
BUSINESS PLAN

The Problem

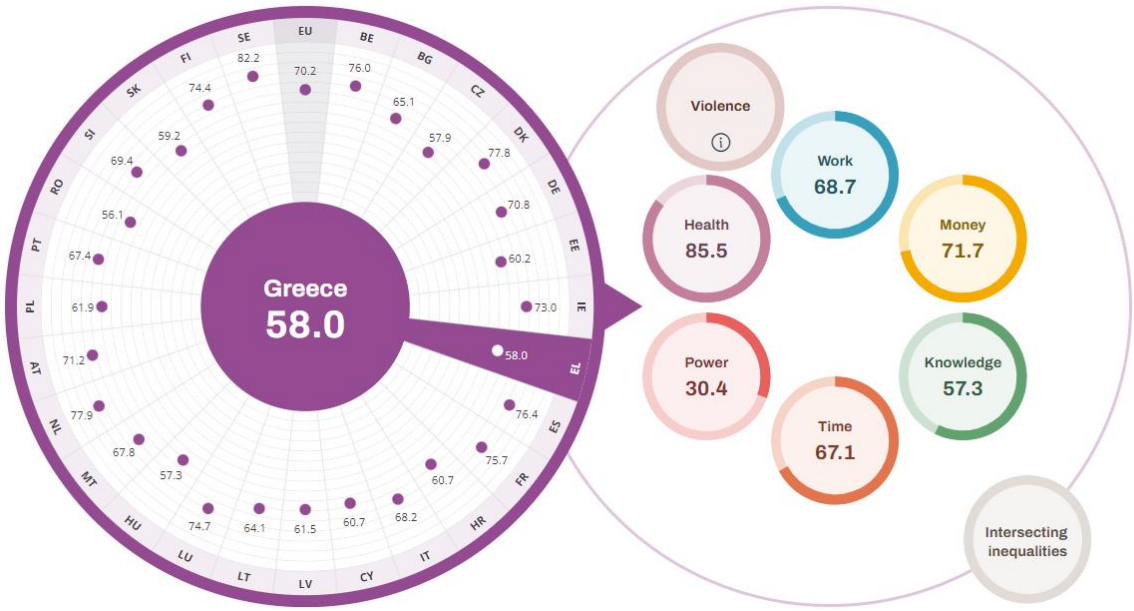
The issue of underrepresentation and challenges faced by women in STEM (Science, Technology, Engineering, and Mathematics) fields is complex and multifaceted. While progress has been made, several barriers still exist, which can deter or limit women's participation, success, and retention in STEM careers.

Although there is noted progress towards gender equality in society and in science disciplines in the Western world, there are still inequalities that must be addressed.

The Gender Equality Index is a tool to measure the progress of gender equality in the EU, developed by EIGE. It gives more visibility to areas that need improvement and ultimately supports policy makers to design more effective gender equality measures.



The average score of the 27 countries of the E.U. evaluated on 31 indicators excluding Violence, is 70.2/100, while Greece is scoring just 58, with the domain of **Power** receiving the lowest score.



1. Cultural Stereotypes and Bias

- **Gender Stereotypes:** Cultural norms and stereotypes that suggest STEM is "masculine" or that men are naturally better at math, science, and technology can discourage girls from pursuing STEM subjects early on.
- **Implicit Bias:** In workplaces and educational environments, unconscious biases can lead to the undervaluing of women's work or contributions. Studies show that identical resumes are rated higher when they have a male name rather than a female name.
- **Lack of Role Models:** The relative scarcity of visible women leaders and role models in STEM discourages younger women from pursuing these fields or seeing themselves as capable of excelling in them.

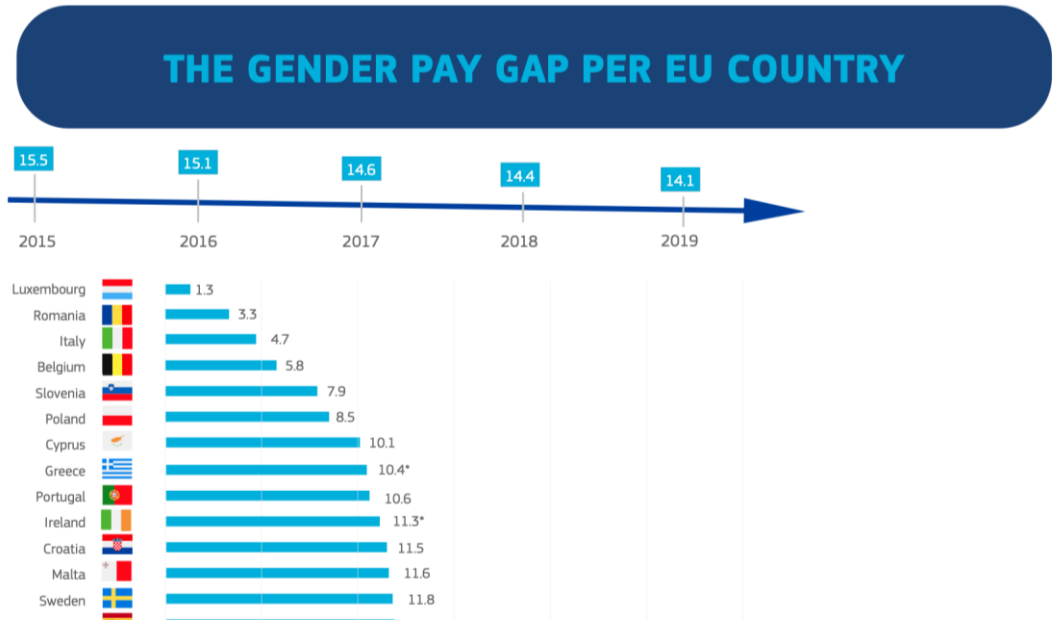
2. Workplace Discrimination

- **Pay Gap:** In STEM fields, women often earn less than their male counterparts for the same roles. This disparity discourages long-term career growth. According to the E.U. this disparity is attributed to a big extent but not limited to:
    - **Sectoral segregation**: Around 24% of the gender pay gap is related to the overrepresentation of women in relatively low-paying sectors, such as care,

health and education. Highly feminised jobs tend to be systematically undervalued.

- **Unequal share of paid and unpaid work**: Women have more work hours per week than men but they spend more hours on unpaid work, a fact that might also affect their career choices. This is why the EU promotes equal sharing of parental leaves, an adequate public provision of childcare services and adequate company policies for flexible working time arrangements.
- **The Glass Ceiling** (further details below): The position in the hierarchy influences the level of pay: less than one in ten of top companies' CEOs are women. Nevertheless, the profession with the largest differences in hourly earnings in the EU were managers, with 23% lower earnings for women than for men.

- **Sexism and Harassment:** Women in STEM, like in many other fields, frequently report facing sexual harassment, sexist attitudes, and microaggressions that make the workplace environment unwelcoming or hostile.

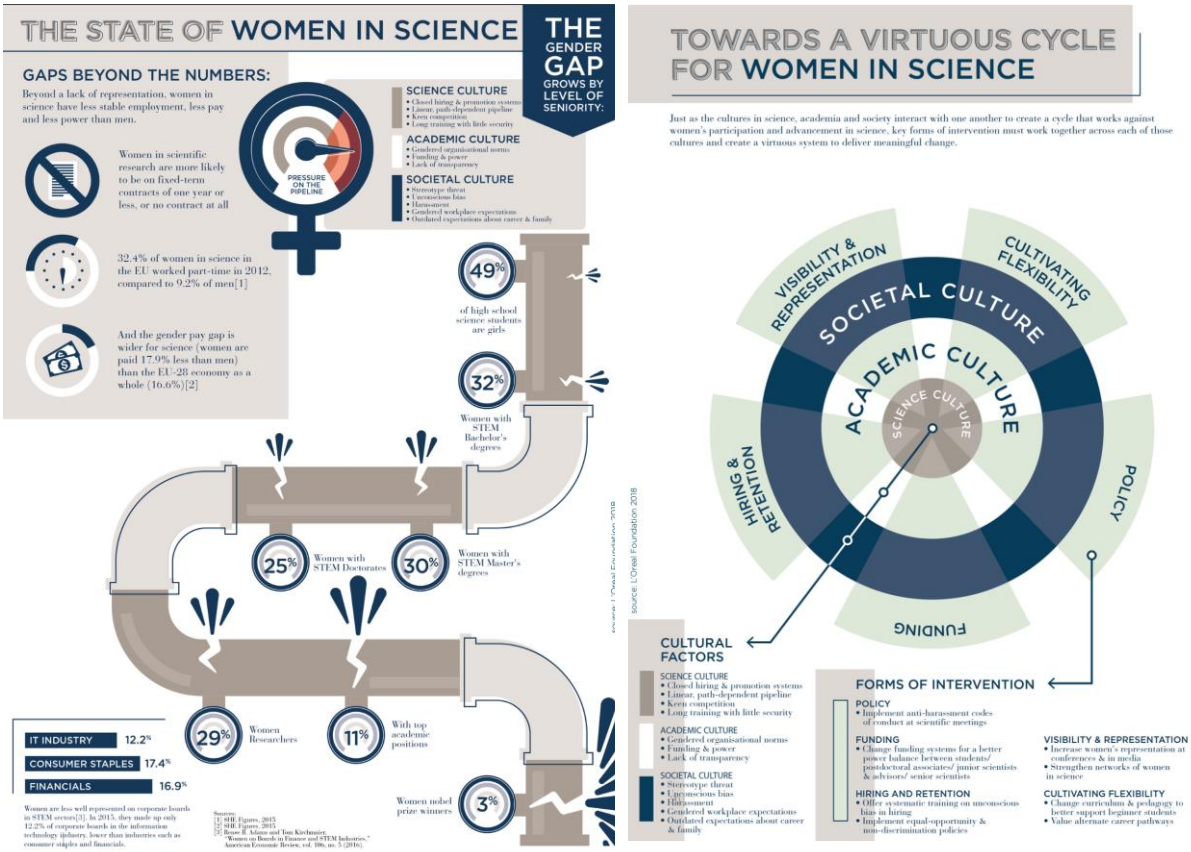


3. Underrepresentation in Leadership and Research – The Glass Ceiling

- **The Glass Ceiling & Leadership Disparity:** Even when women enter STEM careers, they often encounter barriers to promotion or leadership roles, such as department heads, principal investigators in research projects, and other roles in academia, executive positions, and scientific advisory boards.
- **Funding and Recognition Gaps:** Studies have shown that female scientists receive less funding for their research, and their work is less likely to be cited or recognized compared to male peers. This limits their career growth and visibility in their field.

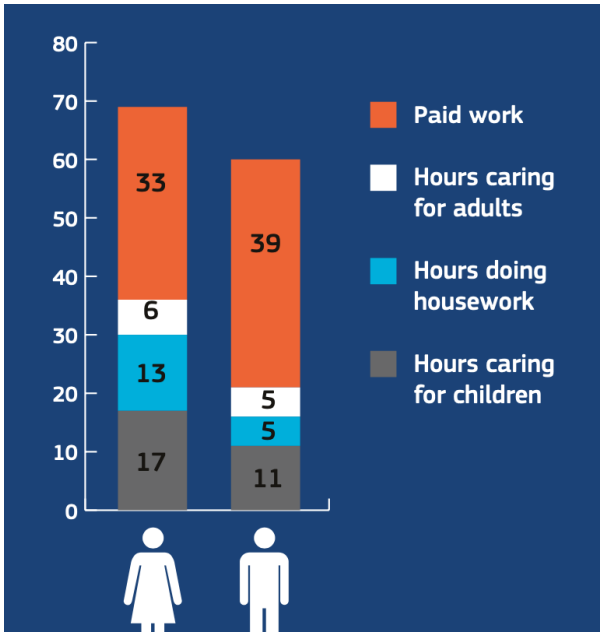
Facts in numbers

- Less than 30% of the world's researchers are women.
- 37% of research grants are awarded to female researchers (all disciplines considered).
- 90% engineering and physical sciences research grants go to male-headed projects.
- The annual value of women's unpaid work is valued at $10 trillion or 13% GDP.
- 70% of members of parliamentary committees in the EU dealing with the environment and climate change are men.



4. Work-Life Balance and Expectations

- **Work-Life Conflict:** STEM careers often demand long hours, and the pressure to publish, innovate, or stay on top of fast-evolving industries can clash with family responsibilities. Women, who still bear a disproportionate share of caregiving and domestic duties, may face more challenges in balancing work and family life.
- **Lack of Supportive Policies:** Some workplaces lack family-friendly policies, such as parental leave, flexible working hours, or on-site childcare, which disproportionately affects women's ability to thrive in STEM careers.



5. **Lack of Mentorship and Networking Opportunities**

- **Mentorship Gap:** Women often have less access to mentors and sponsors who can help them navigate their careers, advocate for their promotions, or provide professional advice.
- **Networking Barriers:** Networking events and professional spaces in STEM fields can sometimes be male-dominated or unwelcoming to women, making it harder for them to build professional relationships that are crucial for career advancement.

6. **Retention Problems**

- **High Attrition Rates:** Women are more likely to leave STEM careers than men, especially after starting families or when encountering hostile workplace environments. The "leaky pipeline" phenomenon refers to the steady decline of women in STEM as they move from education to the workforce to leadership roles.
- **Isolation:** In male-dominated fields, women may feel isolated or excluded, leading to a sense of alienation that pushes them out of the profession.

7. **Educational Barriers – Differs between regions & countries**

- **Early Encouragement:** Girls are often discouraged from pursuing math and science during their formative years due to stereotypes and inadequate encouragement Teachers and parents may unwittingly steer boys toward STEM subjects more actively than girls. Common stereotype perceiving boys performing better in science subjects and girls in humanities.

- **Underrepresentation in STEM studies and careers:** Even when girls show interest in STEM subjects, the existing perceptions and the male dominated STEM environments in universities of some countries, particularly in regions with gender inequality issues, make STEM studies unappealing for girls. As a result, girls are less likely to pursue these fields. Big differences between regions and countries exist. For example, in the EU, Greece and the ACG, this is not an issue. ΦSTEM is a global movement aiming to unite and empower women everywhere, enhance collaborations amongst all regions and support relevant initiatives.
- **Advanced Studies:** Even when women obtain undergraduate degrees in STEM, they are often discouraged to pursue advanced degrees (Master's, PhDs) in STEM, especially in fields like engineering and computer science, due to institutional barriers, bias, and lack of mentorship.

Solutions and the Path Forward

While these challenges persist, many organizations, governments, and educational institutions are actively working to promote gender equity in STEM:

- **Encouraging early STEM engagement** for girls through programs like STEM clubs, coding workshops, and summer science camps.
- **Combating stereotypes** through inclusive teaching methods and celebrating women in STEM role models.
- **Improving workplace policies** to support work-life balance and providing anti-harassment training.
- **Addressing systemic bias** in hiring, promotions, and funding decisions.
- **Fostering mentorship and sponsorship programs** to guide and support women throughout their careers.

This is why we established **ΦSTEM**!

Vision Statement

To empower, inspire, and advance women in STEM (Science, Technology, Engineering, and Mathematics) fields, fostering a future where women hold an equal share of leadership positions, innovation opportunities, and recognition for their contributions in STEM.

Mission Statement

Femme in STEM aims to create a supportive and inclusive community at ACG that promotes women's leadership, growth, and professional development in STEM fields. Through mentorship, networking, skill-building programs, and advocacy, we seek to bridge the gender gap, promote diversity and inclusion, and encourage a culture where all women can thrive as leaders in STEM.

Core Values

1. **Empowerment:** We believe in equipping women with the confidence and resources to lead in STEM.
2. **Collaboration:** We foster a community that thrives on mentorship, partnerships, and shared knowledge.
3. **Inclusion:** We promote diversity within STEM, recognizing the importance of all women's voices, particularly those from underrepresented backgrounds.
4. **Awareness:** We believe that change will come by consciously recognizing all the barriers that exist and learning to surpass them.
5. **Excellence:** We strive for academic, personal, and professional excellence, encouraging our members and especially our students to break barriers in STEM fields.

Target Audience

1. Female students at ACG in STEM majors.
2. Prospective female students interested in STEM.
3. Faculty and industry professionals who support the advancement of women in STEM.
4. Partnering organizations and companies focused on diversity and inclusion in STEM.

Business Objectives

1. **Increase Representation:** To elevate the number of women in leadership positions in STEM at the college level and beyond.
2. **Foster Mentorship:** Build a network of professionals and alumni to mentor students in navigating their careers.
3. **Professional Development:** Equip members with the technical, leadership, and soft skills needed to succeed in STEM industries.
4. **Advocacy and Awareness:** Raise awareness about gender disparity in STEM and advocate for policies and practices that promote equality and diversity in STEM disciplines.

Implementation Strategy

1. **Community Building and Networking:**
    - **Mentorship Program:** Establish a structured mentorship program where experienced female STEM professionals and alumni mentor students.
    - **Networking Events:** Host regular networking sessions that connect students with faculty, industry professionals, and other like-minded women in STEM.
2. **Workshops and Training:**
    - **Leadership Training:** Offer workshops on leadership development, communication, and team management tailored for women in STEM.
    - **Technical Skills Bootcamps:** Partner with departments and tech companies to provide coding, data analysis, and lab-based training.
    - **Public Speaking & Confidence Building:** Create a series of events aimed at building confidence in public speaking, an essential skill for leadership.
3. **Partnerships with Industry and Academia:**
    - Partner with STEM companies and institutions offering internships, co-op programs, and scholarships aimed at women in STEM.
    - Host guest speakers, panel discussions, and career fairs focused on women leaders in science, tech, and engineering.
4. **Scholarship and Financial Support:**
    - Secure funding for scholarships targeted at women pursuing leadership roles in STEM.
    - Work with external donors and companies that focus on gender diversity to establish endowments or grants.
5. **Outreach and Awareness Campaigns:**
    - **Advocacy Campaigns:** Organize campus-wide and social media campaigns to highlight gender disparities in STEM and promote initiatives that aim to close these gaps.
    - **Allyship Programs:** Engage male students and faculty as allies in promoting gender equality through workshops and discussions.
6. **Academic Support and Resources:**

   - **Study Groups and Tutoring:** Organize study groups and offer tutoring specifically for STEM courses that tend to have higher dropout rates for women.
   - **Research Opportunities:** Provide support for women in securing research positions, grants, or internships, emphasizing the importance of early career research experience.
7. **Alumni Engagement:**
   - Build a strong alumni network for ongoing mentorship, networking, and professional development opportunities for members even after they graduate.

Revenue Streams

1. **Grants and Donations:** Apply for grants aimed at supporting women in STEM. Seek donations from alumni, STEM companies, and local sponsors.
2. **Corporate Sponsorships:** Partner with corporations focused on diversity and inclusion in STEM to sponsor events, scholarships, and leadership programs.
3. **Fundraising Events:** Organize fundraising events such as hackathons, STEM fairs, and seminars that generate income for the organization.

Key Partnerships

1. **STEM Companies:** Collaborate with tech firms, research labs, and engineering companies for sponsorships, workshops, and job placement.
2. **University STEM Departments:** Work closely with academic departments to provide resources, faculty mentorship, and research opportunities.
3. **Women's Organizations:** Partner with local and national women's groups that focus on STEM fields for mutual support and resource sharing.
4. **Alumni Network:** Leverage the university's alumni network to connect members with successful women leaders in STEM.

Marketing and Outreach Strategy

1. **Social Media Campaigns:** Utilize platforms such as Instagram, LinkedIn, and Twitter to promote events, share success stories, and engage with a broader audience.
2. **Campus-wide Outreach:** Participate in campus fairs, collaborate with other student organizations, and use flyers and posters to raise awareness.
3. **Newsletter and Blog:** Create a newsletter or blog that shares updates, success stories, STEM opportunities, and industry trends.

4. **Collaboration with Faculty:** Engage STEM faculty members as advocates and participants in group activities and events to increase visibility within academic circles.

Metrics for Success

1. **Membership Growth:** Track the increase in student membership year over year.
2. **Leadership Development:** Monitor the number of leadership roles (in the group and outside in STEM fields) filled by members.
3. **Mentorship Matches:** Measure the success of the mentorship program by the number of successful mentor-mentee pairings and feedback from participants.
4. **Event Participation:** Evaluate the attendance and engagement at workshops, networking events, and speaker series.
5. **Post-graduation Success:** Track members' career progress in STEM leadership roles, including internships, job placements, and leadership positions post-graduation.
6. **Partnerships and Sponsorships:** Assess the number of new partnerships and sponsors, as well as the funding and resources brought in through these collaborations.

Long-Term Goals

1. **Sustainable Growth:** Expand the group's influence and programs to reach women in STEM across the college and possibly other regional institutions.
2. **Leadership Pipeline:** Build a sustainable pipeline for women leaders in STEM by creating an environment where mentorship, professional development, and advocacy thrive.
3. **National Recognition:** Aim for recognition as a leading college organization advocating for women in STEM through national partnerships and awards.

External Advisors

- Dr. Angeliki Diane Rigos, Founder of Epistimi
- Dr. Elisa Konofagou, Professor of Biomedical Engineering, Columbia University
- Ms. Eleni Petra, Head of the Innovation Unit for Women at the Athena Research Center (IUW)
- Dr. Stella Kafka, Executive Director, American Meteorological Society
- Dr. Rebecca Wade, Senior Lecturer in MEng/BEng (Hons) Civil and Environmental Engineering, Abertay University, WES Top 50 Women in Engineering 2024

By focusing on these strategies and maintaining a commitment to inclusion and empowerment, ΦSTEM will help bridge the gender gap in STEM leadership at ACG and beyond.