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POLICY BRIEF

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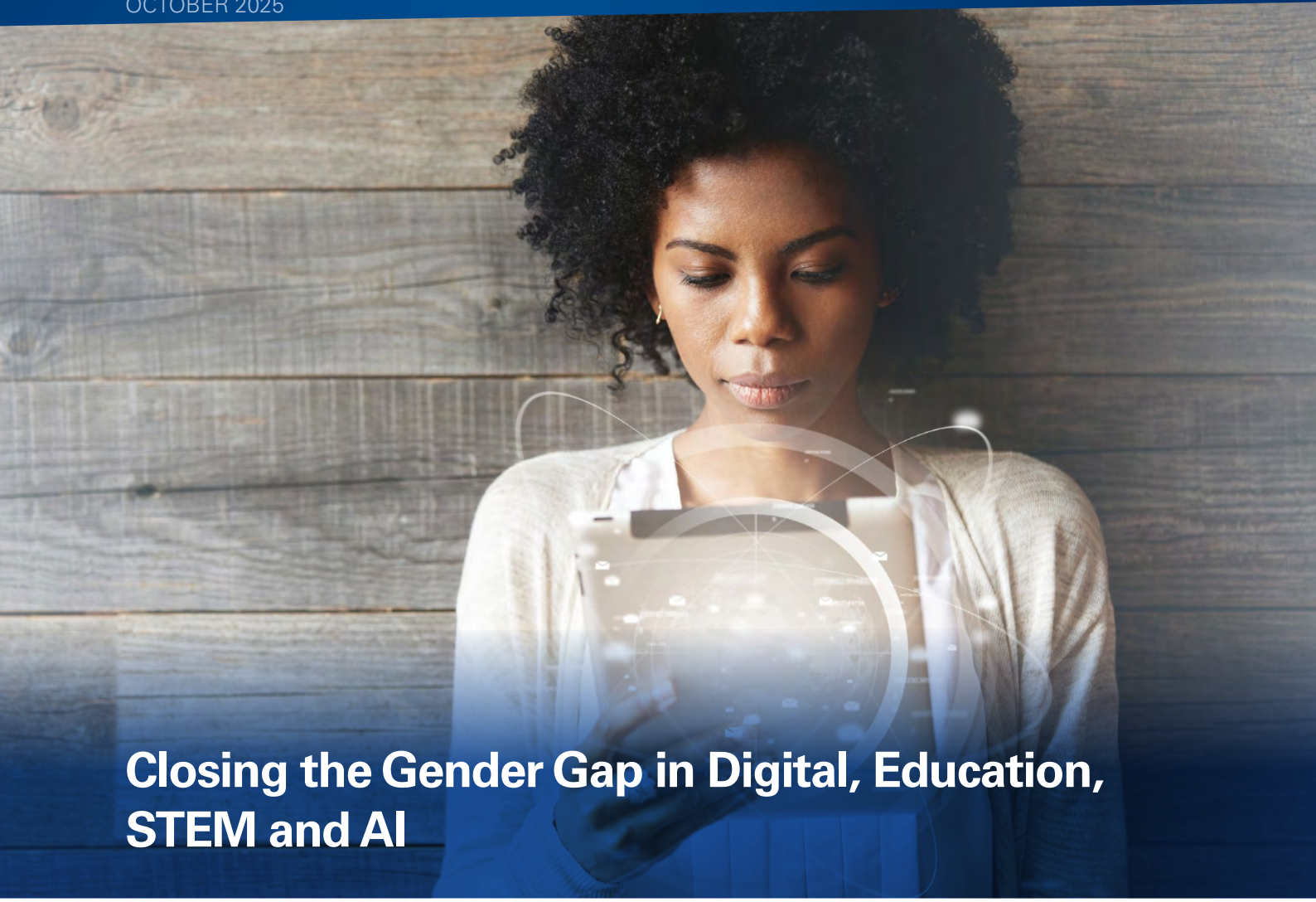

Closing the Gender Gap in Digital, Education, STEM and AI

Key Messages

- **Digital inclusion is smart economics**: closing the usage gap could generate up to USD 2.2 trillion in additional GDP across G20 economies by 2030[1].
- **Education without transition support is insufficient**: scholarships must be linked to mentorship, internships, and leadership pathways to close the education-to-employment gap.
- **Technology-facilitated gender-based violence and femicide (TFGBVF) is a foundational barrier** to women's participation in digital economies, STEM education, and AI governance. Unless addressed, the digital transformation will deepen inequalities and silence women and marginalised communities in innovation spaces.
- **What gets measured gets changed**: a Global AI and Gender Equality Index, with TFGBVF indicators, is needed to hold G20 countries accountable for inclusive, safe AI and digital governance.

1. GSMA Intelligence, 2025

Executive Summary

Despite G20 commitments, women and girls, particularly in rural and marginalised communities, remain underrepresented in STEM, the digital economy, and AI governance. Their exclusion is both an economic cost and a human rights failure.

- Closing the gender gap in mobile internet use in low- and middle-income countries (LMICs) = USD 1.3 trillion GDP boost from 2023 to 2030[2]
- Closing the usage gap across G20 economies = USD 2.2 trillion GDP boost by 2030[3]
- Parity in STEM employment = USD 300 billion annually[4].

Digital inclusion cannot advance without online safety. Technology-facilitated gender-based violence and femicide (TFGBVF), including harassment, algorithmic discrimination, image-based abuse, and cyberstalking is escalating. Unless G20 nations embed digital safety across all policy domains, women and girls will continue to be silenced and excluded.

This brief puts forward four recommendations for G20 governments under South Africa's 2025 Presidency. Together, they combine economic rationale with a rights-based imperative, and position digital safety and TFGBVF prevention as the foundation for inclusive innovation.

Policy Context

G20 leaders have repeatedly committed to inclusive growth and gender equality, yet delivery lags. Several frameworks are relevant, but insufficient:

- Global Digital Compact (UN, 2023) calls for universal, equitable access to technology.
- SDGs (5, 9, 17) commit to gender equality, innovation, and partnerships, but lack binding enforcement.
- OECD Principles on AI emphasise fairness, transparency, and accountability, yet lack gender indicators.
- UNESCO's *Recommendation on the ethics of artificial intelligence* (2021) sets global standards, but lacks implementation mechanisms.
- Women20 *Communiqués* (Indonesia 2022, India 2023, Brazil 2024) have repeatedly highlighted the urgency of digitally including all women and girls and the importance of developing and implementing responsible and ethical AI principes, but have lacked calls for a strong monitoring and follow up mechanisms.

Despite multiple commitments, most national digital inclusion and AI strategies remain gender blind. Very few contain measurable targets for women and girls, or safeguards against TFGBVF.

2. GSMA, Mobile Gender Gap Report, 2025
3. GSMA Intelligence, 2025
4. Global Gender Gap Report, World Economic Forum, 2025

Why TFGBVF Must Be the Golden Thread

Technology-facilitated gender-based violence is not a side issue, it is a structural barrier that silences women across the digital and STEM pipeline:

- Access: women are discouraged from using digital platforms due to harassment and fear of violence.
- Education: online harassment and cyberbullying deter girls from pursuing STEM learning.
- Employment: 38% of women in tech report online abuse; rates are even higher for women of colour, LGBTQ+ women, and women with disabilities[5]. This leads to attrition, reputational harm, and lost economic opportunities.
- Leadership: the absence of women in decision-making perpetuates unsafe platforms and biased AI systems.

If TFGBVF is not addressed, investments in access, education, and governance will fail. It is therefore foundational to the success of all other policies.

The Evidence: Why Closing the Gender Gap Matters

Digital access and literacy gaps

- Women in LMICs are 14% less likely than men to use mobile internet (GSMA, 2025).
- Only 65% of women globally use the internet, versus 70% of men (ITU, 2024).
- Rural and marginalised women face the highest risk of exclusion due to poor ICT infrastructure, affordability challenges, lack of literacy levels and digital skills, online safety concerns, and perceptions around the relevance of the internet. These barriers are intensified by social norms and structural inequalities, such as lower education and income.
- Most national policies neglect subsidy programmes to make handsets and data affordable and fail to address discriminatory financing rules. The absence of gender-disaggregated monitoring further obscures inequalities.

Underrepresentation in STEM and the education-to-employment gap

- Women are only 35% of STEM graduates globally; in some contexts, as low as 12.6%[6].
- Women's underrepresentation grows at higher levels, only 22% of the global AI workforce[7].
- Barriers include:
  - Gender bias in hiring, promotions, and research funding.
  - High attrition due to hostile or unsafe workplaces.
  - Unpaid care burdens disproportionately borne by women.
  - Lack of structured support during transitions from education to employment.
  - Scholarships alone cannot solve the gap and prevent women from exiting the pipeline prematurely without mentorships, internships, and workplace protections.

5. Pew Research Center, 2021
6. UNESCO, 2024
7. UNESCO, 2021

Governance gaps and algorithmic bias

- AI systems are overwhelmingly developed by male-dominated teams and trained on biased datasets.
- Algorithmic discrimination entrenches gender inequality[8].
- Despite OECD and UNESCO guidelines, few G20 countries have embedded gender impact assessments, inclusive data protocols, or mandatory female participation in AI policymaking.
- TFGBVF thrives in these unregulated environments, including online harassment, doxxing, deepfakes, and cyberstalking.

Fragmented global frameworks and weak monitoring

- Implementation gap: frameworks exist, but few have binding enforcement or financing.
- Monitoring gap: international indicators rarely disaggregate by gender and lack TFGBVF metrics.
- Coordination gap: digital, education, and economic policies often run in silos, leaving gender equity unaddressed.
- Without a global accountability mechanism, commitments will remain rhetorical.

Policy Recommendations

1. Launch a Global AI and Gender Equality Index

What? An annual G20-endorsed index measuring women's participation, inclusive data use, and digital safety standards

Why? Although frameworks, such as the OECD AI Policy Observatory, UNESCO's *Recommendation on the ethics of artificial intelligence*, and the ITU Digital Development Dashboard track digital innovation, they rarely include gender-disaggregated metrics. Without such measurement, policy commitments risk remaining aspirational.

How?

- Establish a Global AI and Gender Equality Index to provide actionable, comparative insights on women's participation and gender safeguards in national AI strategies.
- Build on existing frameworks, such as those of the OECD, UNESCO, and ITU, to ensure coherence and uptake.
- Include TFGBVF indicators as a global benchmark to track safety and accountability.

Impact: Transparent, comparable data for accountability, policy reform, and resource allocation

8. AI Now Institute, 2023

1. Implement fully funded national digital inclusion programmes

What? Publicly funded, gender-transformative digital skills and access programmes co-designed with women, civil society, and the private sector

Why? Without access to affordable devices and data, as well as safe online environments, women will remain excluded.

How?

- Expand access and affordability by subsidising devices and connectivity, reducing handset and data costs, and removing discriminatory financing barriers.
- Build women's digital capacity through tailored digital skills training, literacy initiatives, and integrated safety and TFGBVF reporting tools.
- Foster inclusive partnerships with the private sector and women's organisations to ensure sustainable and equitable impact.

Impact: Expanded access and safer participation for women in the digital economy.

3. Link STEM scholarships to career pathways

What? Scholarships tied to structured mentorship, internships, and leadership development.

Why? Education alone does not guarantee employment; many women exit due to hostile workplaces.

How?

- Prioritise women from underserved communities by targeting scholarships towards those most affected by structural inequalities, ensuring that opportunities in STEM and AI are equitably distributed and accessible to those who are otherwise excluded.
- Require mentorship and internship placements so that scholarships are directly connected to real career pathways, giving women practical experience, professional networks, and support systems to navigate and thrive in often male-dominated workplaces.
- Embed training on digital ethics and safe technology use to prepare women not only with technical expertise, but also with the skills to recognise and respond to online risks, algorithmic bias, and technology-facilitated gender-based harms.

Impact: Increased retention and leadership of women in STEM and AI sectors

4. Prevent TFGBVF

What? Enforceable national and international digital safety standards

Why? TFGBVF is escalating; most countries lack clear protections.

How?

- Strengthen legal and regulatory protections by criminalising online abuse (cyberstalking, image-based abuse, harassment), mandating transparency and risk audits of digital platforms, and enforcing robust data protection laws.
- Promote safety-by-design in technology through child-appropriate AI systems, survivor-centred justice mechanisms, age-assurance tools, and mandatory online risk assessments for products and services.
- Invest in knowledge and support systems by funding research on the economic costs of TFGBVF, expanding public education and awareness, and creating survivor support mechanisms to overcome stigma.

Impact: Safer digital spaces; stronger public trust in innovation

Call to Action

The G20 cannot afford to leave half the world behind in the digital future. W20 South Africa's Presidency calls on G20 governments to:

- Establish a **Global AI and Gender Equality Index** with TFGBVF at its core.
- Scale **inclusive digital programmes** that protect and educate women and girls.
- Invest in **education-to-employment pathways** that enable women's leadership in STEM.
- Build **binding governance standards** that protect against TFGBVF.

Without online safety, there is no digital inclusion. Without digital inclusion, there is no sustainable growth. The G20 must act.

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This policy brief was peer reviewed by members of the Think 20 (T20) review panel.