

National IP Office Strategies for Closing the Gender Gap: Emerging Best Practices

Abstract

Persistent gender gaps in intellectual property (IP) systems limit the economic and social returns from innovation. Despite growing international attention, women still made up only 17.7% of inventors on international patent applications in 2023. Governments and IP offices have responded with new strategies—but their effectiveness remains uneven and underexamined.

This paper provides an evidence-based assessment of how national IP offices and government agencies are addressing the gender gap in IP ownership and participation. Drawing on interviews with officials from 14 countries, analysis of more than 30 equity initiatives, and a structured review of emerging evaluation metrics, the study identifies key practices with potential for broader adoption. Case studies focus on four areas of reform: leadership and program governance, data collection and measurement, gender-targeted outreach, and internal institutional change. We pay particular attention to the global benchmarking framework developed by WIPO—including the Gender-it tool and World Gender-Name Dictionary—as well as regional models such as the Latin American Network on IP and Gender.

Rather than offering a universal blueprint, the study distills adaptable lessons about what works, under what conditions, and why. Our findings highlight the importance of durable leadership, standardized metrics, and cross-sectoral partnerships. By synthesizing early evidence from the field, the paper contributes to both academic and policy debates on inclusive innovation and offers concrete guidance for IP offices and governments seeking to translate commitments into measurable impact.

Introduction

Gender inequality in the use of intellectual property (IP) systems is not only a question of fairness but a structural constraint on economic growth. Despite women's well-recognized contributions to innovation, their participation in formal IP ownership remains disproportionately low across countries and sectors. Globally, women accounted for only 17.7% of inventors listed in international patent applications filed under the Patent Cooperation Treaty as of 2023, up from 17.1% in 2022 and 10.9% in 2009 (World Intellectual Property Organization [WIPO], 2024). While this trend shows progress, it remains slow and uneven across regions, with significant disparities between countries and technical fields. This persistent disparity limits the diversity of perspectives in innovation ecosystems and underutilizes a vast reservoir of human capital.

In response, many national IP offices and governments have initiated programs aimed at closing the IP gender gap. These efforts include public awareness campaigns, inventor training workshops, institutional leadership strategies, and new frameworks for collecting gender-disaggregated data. International bodies, most notably the World Intellectual Property Organization (WIPO), have helped catalyze these efforts through shared tools, regional networks, and methodological innovations such as the Gender-it tool and World Gender-Name Dictionary.

Yet while activity is expanding, empirical evidence about what works—and under what conditions—remains limited. Systematic, comparative evaluation of these policy initiatives is essential for building effective, replicable models. This paper addresses that need by identifying and analyzing emerging best practices in gender equity programming across national IP offices and innovation agencies.

Our research combines an extensive literature review, interviews with officials from more than a dozen IP offices, and detailed case study analyses of successful programs. Findings are organized around four key thematic areas: (1) leadership and program sustainability, (2) data collection and measurement frameworks, (3) gender-focused outreach and programming, and (4) internal equity initiatives within IP offices and the broader IP profession.

By analyzing these areas, we identify effective policy approaches that not only advance gender diversity but also drive broader economic benefits. Our goal is to offer practical, adaptable lessons for policymakers committed to expanding the inclusivity and economic dynamism of their innovation systems.

I. Methodology

Our study employs a mixed-methods research design to identify and analyze evidence-based practices for increasing women's participation in intellectual property systems. We focus specifically on initiatives implemented by national and regional IP offices and government agencies, examining both program design and measurable outcomes where available.

Data collection involved three complementary approaches. First, we conducted semi-structured interviews with officials from 14 national and regional IP offices spanning Asia, Europe, Latin America, and North America between November 2024 and February 2025. Interviewees included chief economists, program directors, and officials responsible for gender equity initiatives. These conversations explored program design, implementation challenges, evaluation practices, and early indicators of success.

Second, we systematically analyzed program documents, evaluation reports, and public communications from over 30 initiatives across multiple jurisdictions. Sources included strategic plans, annual reports, outcome assessments, and where available, independent evaluations. This document analysis enabled us to understand how programs were structured, resourced, and positioned within their respective innovation ecosystems.

Third, we reviewed academic literature, policy papers, and reports from international organizations to contextualize findings and inform our identification of effective strategies. This review included research on economic impacts of increasing women's participation in innovation systems and studies evaluating gender-focused interventions.

Our analytical framework employs a comparative case study approach. For each program, we assessed its design, implementation processes, available outcomes, and sustainability factors, such as institutional support and integration into broader innovation systems. Based on this

assessment, we selected 12 case studies that illustrate promising practices across our four thematic areas.

These case studies were not selected as definitive best-in-class models but as illustrative examples of diverse approaches to common challenges. Given the relative recency of many initiatives and limited availability of rigorous evaluations, our findings are based on a combination of documented outcomes, stakeholder insights, and alignment with recognized principles of effective gender equity programming.

Our methodology allows us to identify patterns across jurisdictions while acknowledging the importance of contextual factors in program effectiveness. By triangulating evidence from multiple sources, we construct a robust picture of which policy approaches show the greatest promise for narrowing the IP gender gap.

II. Barriers to Women's Participation in IP Systems

Research has identified multiple, interconnected barriers that limit women's participation in intellectual property systems. These barriers operate at individual, institutional, and systemic levels, collectively diminishing women's ability to contribute to innovation economies.

At the individual level, barriers begin early with limited exposure to innovation careers and a lack of relatable role models. Bell et al. (2019) found that children who grow up in communities or families with inventors are significantly more likely to become inventors themselves. Their research highlighted the existence of "lost Einsteins"—talented children (disproportionately girls, minorities, and those from low-income families) who might have become inventors had they been exposed to innovation culture and mentors. In fact, Bell and colleagues estimate that if women, minorities, and low-income children had the same exposure and patenting rates as high-income white males, the number of inventors in America would quadruple.

Educational gaps persist despite progress: women remain underrepresented in many patent-intensive disciplines, particularly engineering and applied sciences (Perry, 2011). Beyond formal education, familiarity with IP processes remains limited. Interviews with inventors revealed that many women lack knowledge about what constitutes a patentable invention and are often discouraged by the complexity of patent office communications (Shaw & Mariano, 2021).

Access to networks, mentorship, and capital represents another significant barrier. Because professional networks often replicate existing patterns of exclusion, women inventors face disadvantages in accessing guidance and sponsorship (Milli et al., 2016). This disadvantage extends into the entrepreneurial ecosystem, where women founders receive only a fraction of venture capital funding compared to their male counterparts—just 1.8% of total VC funding in Europe (European Women in VC, 2022). This funding gap persists despite evidence that female-founded companies often deliver strong returns on investment.

At the institutional level, gender inequity within IP systems further suppresses women's economic contributions. Research by Jensen et al. (2018) found that patent applications filed by women are less likely to be granted than those filed by men, even after controlling for the quality

and novelty of inventions. Structural imbalances within IP professions may exacerbate these outcomes: women make up less than 30% of patent examiners at leading offices such as the United States Patent and Trademark Office (USPTO) and only about 20% of registered patent attorneys globally (Fechner et al., 2022).

At the systemic level, broader cultural and economic factors pose enduring challenges. Disproportionate caregiving responsibilities often restrict women's ability to engage in time-intensive innovation and patenting activities (Whittington, 2011; Kim & Moser, 2021). Academic settings reflect these pressures, with women researchers less likely to commercialize discoveries through patents despite comparable publication records.

These barriers are not simply matters of individual disadvantage; they collectively suppress a substantial source of economic growth. Understanding these multilayered challenges is essential for designing targeted interventions that can unlock the full economic potential of inclusive innovation.

III. Interventions by National IP Offices to Improve Gender Equity in Using the IP System

Research identified four types of policy interventions by IP offices and national governments that have emerged to address and make progress toward closing the IP gender gap. These areas are: (1) developing leadership and program sustainability for gender equity programs, (2) establishing data collection and measurement frameworks to set baselines and measure progress, (3) outreach and programming to encourage and help women use the IP system, and (4) equity initiatives within IP offices and the broader IP profession. This Section describes these interventions, provides examples of each, and derives lessons learned for best practices.

A. Leadership and Program Sustainability

Effective initiatives to increase women's participation in IP systems share key characteristics related to leadership and sustainability. Three critical factors consistently emerge: (1) strong institutional leadership with high-level commitment; (2) mechanisms for coordination across stakeholders; and (3) dedicated resources combined with accountability frameworks.

1. Institutional Leadership and High-Level Commitment

Institutional leadership with an explicit gender equity mandate is a hallmark of sustainable programs. Offices that have succeeded in narrowing the gender gap have embedded diversity goals into core governance structures, rather than treating them as isolated projects.

The World Intellectual Property Organization's (WIPO) 2024-2027 Gender Equality Policy exemplifies integrated leadership. The policy established an Inclusion Steering Group and a Network of Inclusion Focal Points, embedding gender equity responsibilities across all sectors. Sector leads are required to incorporate gender considerations into their biennial work plans and budgets, ensuring systematic implementation rather than ad hoc efforts (WIPO, 2024).

At the national level, Brazil's National Institute of Industrial Property (INPI) institutionalized its commitment through a Strategic Committee on Gender, Diversity, and Inclusion. The Committee sets gender diversity targets, collects disaggregated data, and reports progress quarterly to INPI leadership, elevating gender equity as an ongoing organizational priority (Ormay & Guerrante, 2023).

In the United States, the USPTO's Council for Inclusive Innovation (CI²) demonstrated leadership at a national scale. Operating under the authority of the Secretary of Commerce, CI² drove development of a National Strategy for Inclusive Innovation that offered a multi-pronged approach to boosting participation among underrepresented groups (USPTO, 2022).

Interviews with IP office officials reinforced that leadership commitment at the highest level is crucial for maintaining momentum. As one official explained, "When the head of office made this a standing agenda item in management meetings, it transformed how seriously program managers took gender equity efforts."

2. Cross-Sector and Regional Coordination

Given the complex nature of the IP gender gap, coordination among multiple sectors—government, education, industry, and civil society—is essential. Successful programs have established formal coordination mechanisms to share resources, expertise, and lessons.

The Latin American Network on IP and Gender exemplifies regional leadership and cooperation. Launched in 2020, the Network included IP offices from Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Mexico, Peru, and Uruguay (WIPO, 2022). By August 2024, the Network had expanded further, with 12 Latin American and 2 Caribbean countries participating in its 6th Regional Meeting hosted by Brazil, where they reaffirmed their commitment to use IP as a tool for promoting gender equality (WIPO, 2024).

This collaborative model has yielded measurable progress. Peru reported that women's involvement in patenting had doubled through network initiatives, with INDECOPI noting that the number of Peruvian women inventors rose 25% from 2019 to 2023, bringing women's share of patents granted to approximately 30%, up from about 26% in 2018 (UnionAndina, 2024).

Korea's partnership model demonstrates cross-sector coordination. The Korean Intellectual Property Office (KIPO) has partnered with the Korean Women Inventors Association (KWIA) since 1999, combining government resources with civil society engagement to deliver invention expos, mentorship programs, and commercialization support. In 2023, KWIA's annual Korea International Women's Invention Exposition (KIWIE) attracted 375 women inventors from 19 countries and featured an "IP Wave for Creative Women Leaders" training workshop led by WIPO experts (IFIA, 2023). These sustained efforts have yielded tangible results: according to KIPO data, women's share of Korean IP applications climbed from approximately 24% in 2017 to 30% by 2021, with KWIA's programs assisting over 2,200 women annually in developing inventions and startups (WIPO Magazine, 2023).

Australia's STEM gender equality programs represent another noteworthy case of coordinated action. The Australian government implemented a comprehensive Advancing Women in STEM action plan that spans primary, secondary, and tertiary education, workforce development, and research. The plan coordinates efforts across multiple government departments, educational institutions, and industry partners, leveraging initiatives like the Women in STEM Cadetships & Advanced Apprenticeships and the Superstars of STEM program. The latter has been particularly successful, having trained 210 women scientists since 2017 and reaching over 60,000 school students (Department of Industry, 2022).

Common features of successful coordination efforts include formal agreements that define roles, leveraging complementary strengths, pooling resources to extend program reach, and creating learning networks to facilitate data sharing and continuous improvement.

3. Resource Commitment and Accountability Mechanisms

Dedicated resources—both financial and human—are indispensable for sustaining gender equity initiatives. Successful programs integrate gender equity into standard budgeting processes rather than relying on temporary funding streams.

WIPO's approach is instructive. Under its Gender Equality Policy, sector leads must allocate budgets for gender-related initiatives during each biennium, embedding sustainability into core operations (WIPO, 2024). In 2023, WIPO launched its first-ever Intellectual Property and Gender Action Plan (IPGAP), a strategic framework to integrate gender equality across WIPO's policy, training, and support activities (SDGs.UN.org, 2023). This plan includes assisting governments in adopting gender-inclusive IP policies, gathering better gender-disaggregated IP data, and implementing capacity-building projects to equip women with IP skills.

Accountability systems are equally vital. The European Patent Office (EPO) conducts annual gender diversity reviews with its Administrative Council, while Brazil's INPI requires quarterly reporting from department heads. Even without perfect outcome metrics, regular reporting maintains visibility and momentum.

In 2022-2023, the EPO conducted comprehensive research showing that among European patent filings in 2023, only 27% had at least one woman inventor, with stark disparities by country and field. For example, Spain had 46% of applications including a woman, while some countries were below 20%, and women represented just 14% of inventors in mechanical engineering versus 50% in chemistry (EPO, 2023). Using these findings to raise awareness, the EPO led a joint statement with over 75 IP offices worldwide on International Women's Day 2024, calling for collective action to "drive inclusion and diversity" in IP ecosystems (EPO, 2024).

One challenge revealed during interviews was the lack of sophisticated evaluation metrics beyond simple participation counts. Australia's STEM Equity Evaluation Portal offers a useful model, compiling best practices for program assessment to help policymakers link activities to outcomes systematically.

The United Kingdom Intellectual Property Office (UKIPO) provides another instructive example of accountability through its gender pay gap reporting and action plan. After identifying that the pay disparity stemmed primarily from women's underrepresentation in specialized STEM roles and higher-grade positions, UKIPO developed targeted initiatives including a STEM impact program, family-friendly policies, inclusive recruitment practices, and career advancement programs. By 2024, women held 25% of the organization's STEM roles, up from 21% in 2018, demonstrating the effectiveness of a systematic approach combined with regular monitoring (United Kingdom Intellectual Property Office, 2024).

B. Data Collection and Measurement

Effective strategies to increase women's participation in IP systems must be grounded in reliable data. Without systematic measurement, IP offices cannot establish baselines, identify barriers, evaluate interventions, or track progress. Recent developments have significantly improved the ability to collect, analyze, and use gender-disaggregated IP data.

1. Global Leadership: WIPO's Measurement Framework

WIPO has led international efforts to develop standardized, replicable methods for measuring gender participation in IP systems. Central to this work are two key tools: the World Gender-Name Dictionary (WGND) and the Gender-it automation tool.

The WGND was developed in 2016 by compiling gender-specific information for over 26 million names from 195 countries and territories, spanning more than 100 languages. It enables researchers and IP offices to infer the gender of inventors based on their names, applying sophisticated algorithms that account for cultural and linguistic variations (Raffo, 2021).

The Gender-it tool operationalizes the WGND, allowing users to prepare patent datasets, run gender attribution analyses, and generate confidence levels. This methodology supports both probabilistic and deterministic gender coding and has been made available as open-source software (Raffo, 2023).

Using these tools, WIPO introduced three standardized metrics:

- **Women Inventor Rate (WIR):** The share of unique female inventors among all inventors
- **Share of Patents with At Least One Female Inventor (ATL):** The percentage of patents listing at least one woman
- **Women's Share of Total Patents (WSP):** The proportion of inventive contribution based on inventor shares per patent

WIPO applied this methodology in its 2023 analysis of Patent Cooperation Treaty filings, covering more than 3.69 million applications. The results revealed slow but steady progress while highlighting regional and sectoral disparities.

WIPO's open-access approach—making both tools and methodological guidance publicly available—has enabled offices worldwide to produce comparable data, supporting benchmarking and collaborative learning.

2. Regional and National Approaches

The European Patent Office has adopted complementary methods to deepen understanding of gender disparities. Beyond calculating standard metrics, the EPO expanded its analysis by comparing women's participation in patenting to their representation in the general labor force, doctoral STEM programs, R&D employment, and senior management roles (European Patent Office, 2022).

This pipeline analysis confirmed significant attrition of women between education and inventive output, supporting the "leaky pipeline" theory that identifies systemic losses at each career stage. Such comparative metrics provide policymakers with valuable insight into where interventions are most needed.

The European Union Intellectual Property Office (EUIPO) has contributed important data on gender disparities in the design field. To mark World IP Day 2023, EUIPO released a groundbreaking study titled "Women in Design" which revealed that in the EU, only 24% of professional designers are women, and just 21% of registered Community designs name a female designer (WDO, 2023). At current rates, it would take over 50 years to close this gender gap in design professions. The study also found that women designers earn about 13% less than their male counterparts on average. These findings have been shared with EU institutions and industry to catalyze gender-balanced initiatives (EUIPO, 2023).

Several national IP offices have moved toward direct collection of gender data through voluntary self-reporting options. Argentina, Chile, Colombia, Cuba, Israel, Peru, and the Dominican Republic now provide applicants with gender checkboxes. Although this method only captures new filings, it avoids the inferential uncertainties of name-based methods while respecting privacy concerns by making disclosure voluntary.

The UKIPO has also made significant contributions to gender data methodology. Starting in 2016, their informatics team developed approaches to gender inference that combined multiple datasets, including the Matias method (using open birth data) and the Tang method (using Facebook-generated name lists). This layered approach allowed more accurate gender attribution across cultural contexts (United Kingdom Intellectual Property Office, 2016).

An instructive case study in alternative measurement approaches comes from Botswana's Chobe baskets project. This initiative, which supports women artisans using IP protection for traditional knowledge, employs qualitative evaluation criteria aligned with the OECD framework for development evaluation. By measuring not just economic outcomes but also relevance, coherence, efficiency, effectiveness, impact, and sustainability, the project demonstrates how evaluation frameworks can be adapted to capture the full spectrum of benefits from women's participation in IP systems, particularly in contexts where traditional economic metrics might be insufficient (World Intellectual Property Organization, 2024).

From these developments, several best practices emerge:

- **Standardization:** Adoption of globally recognized methodologies enhances comparability and facilitates international collaboration
- **Multiple metrics:** Using WIR, ATL, and WSP together provides a nuanced understanding of participation patterns
- **Flexibility:** Combining name inference methods for historical data with voluntary disclosure for new applications offers the most complete dataset
- **Integration with policy:** Data collection should link directly to program evaluation and policy refinement

Building robust gender data systems is critical for creating evidence-based strategies to close the IP gender gap and unlock the full economic potential of inclusive innovation ecosystems.

C. Gender-Focused Outreach and Programs

Closing the gender gap in IP systems requires sustained, targeted outreach that equips women with the knowledge, skills, and networks needed to participate fully in the innovation economy. Successful initiatives share common features: early and continuous engagement, capacity building, role model visibility, and cross-sector collaboration.

1. National Leadership: Korea's Comprehensive Approach

The collaboration between the Korean Women Inventors Association (KWIA) and the Korean Intellectual Property Office (KIPO) represents a model for gender-focused IP outreach. Recognizing that many women did not perceive themselves as inventors, they launched initiatives designed to demystify innovation and promote women's contributions.

Key components include:

- **Annual Korea International Women's Invention Exposition (KIWIE):** An international exhibition showcasing women's inventions, offering prizes, recognition, and commercialization support. In 2023, KIWIE attracted 375 women inventors from 19 countries (IFIA, 2023)
- **Korea International Women's Invention Forum:** A platform for global discussion of challenges in innovation
- **Women Inventors Creativity Classes and IP Wave Academy:** Programs providing practical training in IP rights management and business development
- **Idea Competitions:** Targeted competitions like *Women Idea in Everywhere* that encourage everyday problem-solving, culminating in prototype development and patent applications

These sustained efforts have yielded measurable results. The share of women filing IP applications in Korea rose from 4.3% in 2002 to over 30% in 2021. Each year, KWIA's programs assist over 2,200 women in developing inventions and startups (WIPO Magazine, 2023). This

model—combining competitions, expos, training, and mentorship—has produced many successful female inventors and a dramatic increase in women's engagement with the IP system.

2. Regional Leadership: Latin American Initiatives

Across Latin America, IP offices have launched creative programs to engage women. Peru's participation in the Latin American Network on IP and Gender led to targeted outreach campaigns and education programs that helped raise women's share of patent filings from 26% to 30% between 2018 and 2023 (Indecopi, 2023).

The Latin American Network on Intellectual Property and Gender, established in 2021, has become a powerful regional collaboration. Chile's INAPI spearheaded the network's creation with Colombia, Costa Rica, and Peru as founding members, and WIPO as an honorary member (IP Tango, 2021). By 2024, the network's reach had expanded considerably, as evidenced by the 6th Regional Meeting hosted by Brazil in August 2024, where 12 Latin American and 2 Caribbean countries reaffirmed their commitment to use IP as a tool for promoting gender equality (WIPO, 2024).

Chile's *Mujer Ícono Sello de Origen* award represents an innovative approach to recognizing women's contributions to IP-protected traditional knowledge. The program honors women who have become key figures in revitalizing traditional production methods and strengthening local commerce through geographic indications and appellations of origin. By publicly celebrating these women's roles through competitions and online voting, the initiative positions them as icons of cultural heritage while encouraging new generations to continue these traditions (National Institute of Industrial Property, 2021).

Mexico's *Mujeres Innovadoras* initiative, spearheaded by the Mexican Institute of Industrial Property (IMPI), provides a dedicated platform to inform and assist women inventors, designers, and entrepreneurs in understanding and accessing IP tools more effectively. Through a user-friendly online portal, the program disseminates information, hosts training sessions, and showcases success stories of women innovators (Mexican Institute of Industrial Property, 2023).

Brazil's Digital Girls Program offers another instructive example of early intervention. Created to address declining female participation in computer science, the program engages high school girls through workshops and connections with experts. The initiative has expanded to over 100 active projects nationwide, transforming perceptions of the field and building a pipeline of future women innovators (Maciel et al., 2018; Medeiros, 2005).

3. Global Capacity Building

WIPO has played a critical role in fostering international cooperation and capacity-building initiatives. Regional workshops and training sessions, particularly in Latin America, Africa, and Asia, support national offices in developing gender equity strategies. These workshops share best practices, provide technical training, and foster peer-to-peer learning.

The WIPO Academy offers specialized training programs with modules focused on gender inclusivity, adapting content to local contexts to make training more relevant and accessible. As part of its 2023 Intellectual Property and Gender Action Plan (IPGAP), WIPO has developed customized training modules on IP for women entrepreneurs and convened regional workshops to help national IP offices design pro-women programs (SDGs.UN.org, 2023).

WIPO also leads global knowledge-sharing: in November 2024, it hosted the 1st Global Research Experts Meeting on Gender and Diversity in IP, bringing together academics and policymakers to examine the latest research and craft evidence-based solutions (WIPO, 2024). Public awareness is another focus -- World IP Day 2023 was themed "Women and IP: Accelerating Innovation and Creativity," and WIPO coordinated joint statements by IP offices worldwide on International Women's Day urging greater inclusion of women in IP systems (EPO, 2024).

The United States has contributed several notable programs. The USPTO's Women's Entrepreneurship Symposium series provides consistent, accessible education for women entrepreneurs across the country. Public-private partnerships, such as the Invent Together initiative, have developed targeted online education resources like the Inventor's Patent Academy (TIPA) to support underrepresented inventors (Office of the Chief Economist, USPTO, 2020).

4. Lessons for Effective Outreach

Analysis of these programs suggests several best practices:

- **Combine awareness with practical support:** Outreach should move beyond promoting awareness to offering concrete tools, training, and resources
- **Highlight visible role models:** Recognition programs and public storytelling create relatable examples that inspire future innovators
- **Start early and sustain engagement:** Programs that engage girls and young women early and maintain involvement through educational and career stages have greater long-term impact
- **Leverage regional cooperation:** Networks such as the Latin American IP and Gender Network amplify individual national efforts
- **Institutionalize support:** Long-term leadership commitments are essential for program sustainability

Gender-focused outreach programs represent strategic economic investments. By expanding the pool of innovators, they enhance national innovation ecosystems, improve competitiveness, and drive inclusive economic growth.

D. Equity in IP Offices and the IP Profession

Advancing gender equity within IP offices and the IP profession is critical to creating more inclusive innovation systems. Internal reforms strengthen workplaces while enhancing the broader IP ecosystem by expanding networks, improving decision quality, and helping mitigate unconscious bias.

1. Setting Institutional Targets

The European Patent Office has integrated diversity and inclusion into its strategic planning through measurable targets and systematic monitoring. As part of its Strategic Plan 2030, the EPO committed to strengthening workforce diversity, particularly in management and technical roles (European Union Intellectual Property Office, 2024).

Key features include workforce dashboards tracking gender representation across management levels, departments, and contract types; benchmarking against major EU institutions; and unconscious bias training for hiring managers. By embedding equity goals into its broader organizational strategy, the EPO ensures that diversity and inclusion are fundamental elements of its long-term mission.

The EUIPO's Strategic Plan 2030 similarly emphasizes diversity and inclusion as core components of organizational effectiveness. The office uses dashboards to track gender representation over time across all levels of management, departments, and contract types. It also participates in the International Gender Champions network, a leadership alliance of decision-makers committed to advancing gender equality within their institutions (International Gender Champions, 2025).

In November 2023, the EUIPO's European Observatory on Infringements organized an IP training session for teachers from 19 EU member states at the annual Women and Girls in STEM Forum, equipping educators to inspire more girls to pursue STEM and IP fields (EUIPO, 2023). The EUIPO also partners in EU-wide projects like Girls Go Circular, an EIT-led initiative to develop digital and entrepreneurship skills in girls aged 14-19; as part of this, EUIPO experts contribute IP modules to encourage young women innovators (EIT-Campus, 2023).

2. Pipeline Development

Australia offers a valuable example of upstream interventions aimed at improving gender equity in IP-intensive sectors. Recognizing the link between women's underrepresentation in STEM fields and in IP systems, Australia has invested in programs throughout educational and early professional pathways.

Key elements include teacher training on integrating IP education into STEM curricula, national mentorship networks like the Superstars of STEM program, and family-friendly workplace policies addressing the "maternal wall" that often hampers women's advancement. The Superstars of STEM program has been very successful, reaching over 60,000 school students and significantly increasing the media profile of women scientists in Australia. In November 2022, the Industry Minister announced a new cohort of 60 Superstars of STEM for 2023-24, bringing the total trained to 210 since the program's inception in 2017 (Department of Industry, 2022).

Australia has also expanded its Women in STEM Cadetships & Advanced Apprenticeships program, which supports employed women to pursue part-time STEM tertiary qualifications while working. In the 2023-24 Budget, the government extended this program by two years to

2026-27, providing grants to universities to cover tuition and incentives for employers to support their female staff in studying STEM (Department of Education, 2023).

However, Australia has recently shifted some of its approach. The Women in STEM Ambassador position (created in 2018) is being wound down in favor of a broader approach. The independent Pathway to Diversity in STEM Review (2023) recommended replacing the single ambassador with a new Diversity in STEM Advisory Council representing a range of underrepresented groups (InnovationAus, 2024).

3. Comprehensive Workforce Development

India's Women Scientists Scheme (WOS-C) exemplifies a targeted approach to increasing women's participation in the IP profession. The program targets women aged 27-45 with backgrounds in engineering, medicine, and allied sciences who are seeking to return to professional careers after family-related breaks.

Participants complete one month of intensive classroom training followed by 11 months of practical internships at patent offices, law firms, and corporate IP departments. The program accommodates caregiving responsibilities by offering daycare during training and seeking internship placements near participants' home communities.

By 2021, nearly 800 women had completed the program, and approximately 40% of India's registered patent and trademark agents were women. Beyond quantitative outcomes, the program has fostered a network of women IP professionals who now mentor subsequent cohorts.

Several IP offices have also implemented financial assistance programs to reduce economic barriers to participation. These take various forms, including pro bono services connecting inventors with volunteer attorneys (like WIPO's Inventor Assistance Program operating in nine countries), grants or vouchers covering application costs (such as the EUIPO's SME Fund), and fee reductions for individual inventors and small entities (implemented by the USPTO, EPO, and Indian Patent Office). While these programs are not exclusively targeted at women, they significantly benefit female inventors who often have less access to investment capital.

4. Best Practices for Internal Equity Initiatives

Several best practices emerge for IP offices and the broader profession:

- **Establish clear diversity targets** and publicly report on progress
- **Expand recruitment pipelines** through targeted educational and professional development initiatives
- **Incorporate flexible workplace policies** that support work-life balance
- **Provide structured mentorship opportunities** to guide career advancement
- **Integrate diversity initiatives into broader organizational strategies**

Investing in internal equity not only strengthens IP institutions but also improves the overall health and inclusivity of innovation systems. By fostering environments where diverse talent can

thrive, IP offices can better fulfill their missions to promote innovation and drive economic growth.

IV. Comparative Analysis

While national contexts differ significantly, comparative analysis reveals several common success factors across jurisdictions, as well as persistent challenges that complicate efforts to increase women's participation in IP systems.

A. Common Success Factors

- **High-level leadership commitment**

Across successful programs, strong leadership commitment emerges as a critical factor. Initiatives such as WIPO's Gender Equality Policy, Brazil's Strategic Committee, and Korea's KWIA-KIPO partnership demonstrate that leadership engagement is essential to institutionalizing gender equity goals. Programs that succeed typically integrate diversity objectives into core operational plans, budgets, and performance evaluations.

- **Cross-sector partnerships**

Collaboration between government agencies, educational institutions, industry, and civil society organizations strengthens outreach and amplifies resources. The Latin American Network on IP and Gender has fostered regional cooperation among numerous countries, while Australia's STEM mentorship initiatives illustrate the power of public-private partnerships. These alliances facilitate knowledge sharing, pool resources, and increase program scalability.

- **Robust data collection and monitoring**

Programs with strong data infrastructures better diagnose problems, measure progress, and refine strategies. WIPO's development of standardized tools has provided a global model, while national offices have advanced voluntary gender data initiatives. Reliable metrics help offices evaluate outcomes and demonstrate accountability.

- **Sustainability and institutionalization**

Durable programs prioritize institutionalization through dedicated resources, formal governance structures, and integration into long-term strategic plans. Brazil's INPI Strategic Committee, WIPO's sector-specific budgeting, and Peru's integration of gender targets into national innovation strategies exemplify sustainable models.

B. Persistent Challenges

- **Funding constraints**

Even promising programs often face resource limitations. While WIPO and regional networks provide important support, many national IP offices—particularly in developing economies—struggle to secure consistent funding. Reliance on external grants or sporadic project-based funding can leave programs vulnerable to political and economic shifts.

- **Evaluation gaps**

Despite improvements in data collection, rigorous evaluation of program outcomes remains weak. Few initiatives systematically assess long-term impacts beyond participation metrics. Most existing evaluations focus on inputs and immediate outputs rather than economic outcomes such as commercialization success, patent grants, or new business formation.

- **Contextual adaptation**

Programs that succeed in one jurisdiction may not transfer easily to another. Differences in legal systems, economic structures, educational pipelines, and cultural norms influence program effectiveness. Approaches built around voluntary gender disclosure may be more feasible in some jurisdictions than others, depending on privacy laws and social attitudes.

C. Lessons for future initiatives

Comparative analysis suggests there is no single "best model." Instead, successful initiatives are characterized by:

- **Alignment with national innovation goals**, ensuring gender equity is framed as an economic imperative
- **Adaptability to local conditions**, with flexibility built into program design
- **Incremental capacity building**, recognizing that systemic change requires sustained effort
- **Feedback loops based on robust data**, allowing programs to evolve based on evidence

Advancing gender equity in IP systems demands both global collaboration and local innovation. Policymakers must learn from successful models while adapting strategies to meet their specific contexts.

V. Conclusion

Closing the gender gap in intellectual property systems represents both an equity imperative and an economic opportunity. Women's underrepresentation in IP ownership limits innovation capacity and suppresses economic growth. Research demonstrates that greater participation of women in innovation ecosystems can significantly increase GDP, expand the inventor pool, and strengthen the global knowledge economy.

This paper has identified key practices that IP offices and policymakers can adopt to address the IP gender gap. Successful initiatives feature strong leadership commitment, robust cross-sector partnerships, and systematic data collection. Programs such as Korea's KWIA partnership, Peru's

outreach campaigns, WIPO's capacity-building efforts, India's Women Scientists Scheme, and Chile's Mujer Ícono program demonstrate how targeted interventions can expand women's participation in IP systems and innovation-driven economic growth.

Yet challenges persist. Funding constraints, evaluation gaps, and contextual adaptation needs complicate progress. Many programs focus on short-term outputs rather than long-term economic outcomes, and rigorous evaluations linking interventions to tangible economic benefits remain scarce.

Looking forward, the opportunity is clear. By embedding gender equity into IP systems, countries can unlock a powerful source of sustainable economic development. Inclusive innovation ecosystems are more dynamic, more resilient, and better equipped to address complex global challenges.

Successful policy interventions require intentional action by several parties. IP offices, governments, industry, and civil society can work together to dismantle barriers, build supportive infrastructures, and cultivate inclusive innovation cultures. The potential economic rewards—higher growth, expanded entrepreneurship, and a richer flow of ideas and technologies—make the case for enduring commitment.

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