

# Patents and Innovation: Opportunities for Women and Prospects for Technological Development

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Women's relatively small presence in the intellectual property system in general, and in patents in particular, is a widely recognized phenomenon, despite the fact that women account for almost half of the world's population. Data from the World Intellectual Property Organization (WIPO)<sup>1</sup> suggest that at the current rate the gender gap in patent protection in Latin America will only close in 2068.

There are a number of reasons for this under-representation of women, ranging from a lack of incentives to cultural and structural barriers in science, technology, engineering and mathematics (STEM), fields traditionally dominated by men. On the other hand, the growing awareness of the importance of diversity and inclusion has contributed to growing numbers of women leaders in startups and other business initiatives, and a correspondingly greater participation in creative processes.

Studies indicate that diverse teams perform better in aspects such as creativity, problem-solving and the development of innovative solutions. Diversity brings new perspectives and approaches to the invention process that can result in more inclusive products and technologies with a broader social impact.

Research conducted by a major consulting firm<sup>2</sup> revealed that companies with a better gender balance are 25% more likely to achieve higher financial results when compared to less diverse companies. The same logic applies in the field of innovation, revealing opportunities to accelerate technological progress and expand the reach of inventions through greater female participation in the innovation ecosystem.

Some of the steps that can be taken are:

- **Education:** Encourage girls and women to get involved in STEM fields, through mentoring, resources, and support throughout their educational and professional careers.
- **Incentives for innovation:** Implement funding programs and research grants aimed at women.
- **Exposure:** Heighten the visibility of women inventors and their patents by creating prominent spaces for their work at trade and IP events and platforms.

Highlighting women's inventive achievements is not a difficult task. Dr. Katlin

Karikó, a Hungarian scientist, played a crucial role in the development of messenger RNA (mRNA) vaccines against Covid-19. Not only was the development patented, but Dr. Katlin was awarded a Nobel Prize in 2023, spotlighting the impact of women's innovation on the global stage.

Another transformative research project led by women is gene editing. Doctors Jennifer Doudna and Emmanuelle Charpentier, winners of the 2020 Nobel Prize in Chemistry, developed the CRISPR-Cas9 gene editing platform, which has revolutionized biotechnology by enabling the precise modification of DNA. The technology is applied in projects to treat genetic diseases, in agriculture to develop more resistant crops, and in studies on personalized therapies.

In Brazil, despite the particularities of patent legislation for inventions in the field of biotechnology, Doudna's and Charpentier's invention was granted Patent Letter BR112014029441-0 in 2022, and Brazil appears in the 9th position on the list of markets where developers of technologies associated with CRISPR file patent applications.<sup>3</sup>

Encouraging greater participation by women in innovation is a smart strategy for accelerating technological progress and tackling global challenges. The 100% increase in the number of patent applications in Brazil involving the work at least one woman, recorded between 2017 and 2022, points to a more equitable and sustainable future.

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## NOTES

1. The Global Gender Gap in Innovation and Creativity – An International Comparison of the Gender Gap in Global Patenting over Two Decades – WIPO Development Studies 2023.

2. McKinsey & Company. "Diversity Matters: por que empresas que adotam a diversidade são mais saudáveis, felizes e rentáveis". América Latina, June 2020..

3. Radar Tecnológico INPI. "Edição gênica: mapeamento de patentes associadas a tecnologias CRISPR e suas aplicações na agricultura e pecuária", 2024.

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