

SADC Experts Stakeholder Workshop on 4IR

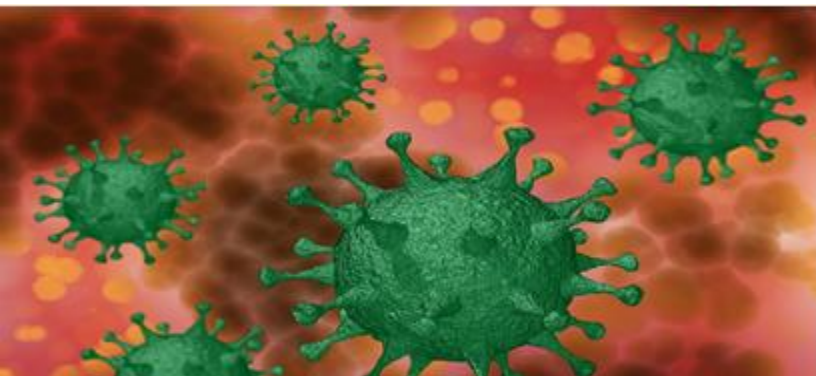
SADC Readiness to take up opportunities of 4IR, 31 March 2021

'To be smart, the digital revolution will need to be inclusive'

UNESCO World Science Report 2020 – Findings on Gender

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Why Inclusivity in the Digital Era

- ❑ The world is undergoing a fundamental transformation (**4th Industrial Revolution**) that is changing the way we live, work and think
- ❑ Systems created need to reflect backgrounds, beliefs, assumptions of community as a whole
- ❑ Having a diverse set of people incl. women working in digital field is more important than ever
- ❑ Women have a stake in participating in the digital economy to ensure that Industry 4.0 does not perpetuate gender bias
- ❑ Higher level of education and skills is becoming increasingly sought after in the job market



Little Diversity in Tech Sector

- ❑ Women underrepresented in fields relevant to Industry 4.0, IT, computing, nanotechnology, physics, mathematics & engineering
- ❑ **22%** of professionals working in AI globally **are female**
- ❑ Gap is visible in **top 20 countries** with highest conc of AI employees

Women in Leadership Roles

- ❑ % of women in technical & leadership roles very low in big tech companies
- ❑ Women are more likely than men to leave the tech field.
- ❑ In Africa, women make up **1 in 4** board members, a ratio higher than the EU (**23%**) or Latin America (**7%**)

Venture Capital More Elusive for Women

- ❑ Women find it harder than men to obtain venture capital for tech-based start-ups
- ❑ 2019 UNESCO survey of women in Africa - access to finance barrier to starting a new business
- ❑ Just **2.3%** of venture capital is being channeled towards start-ups led by women, according to a 2020 global survey of 700 firms

Global Trends in Higher Education and Research

- ❑ Globally, women achieved parity among graduates at both bachelor's (53%) & master's (55%) levels.
- ❑ Women 44% of PhD graduates from 43% in 2013
- ❑ Female graduates still overrepresented in arts & humanities, journalism, social sciences & health
- ❑ Too few women studying Industry 4.0 fields

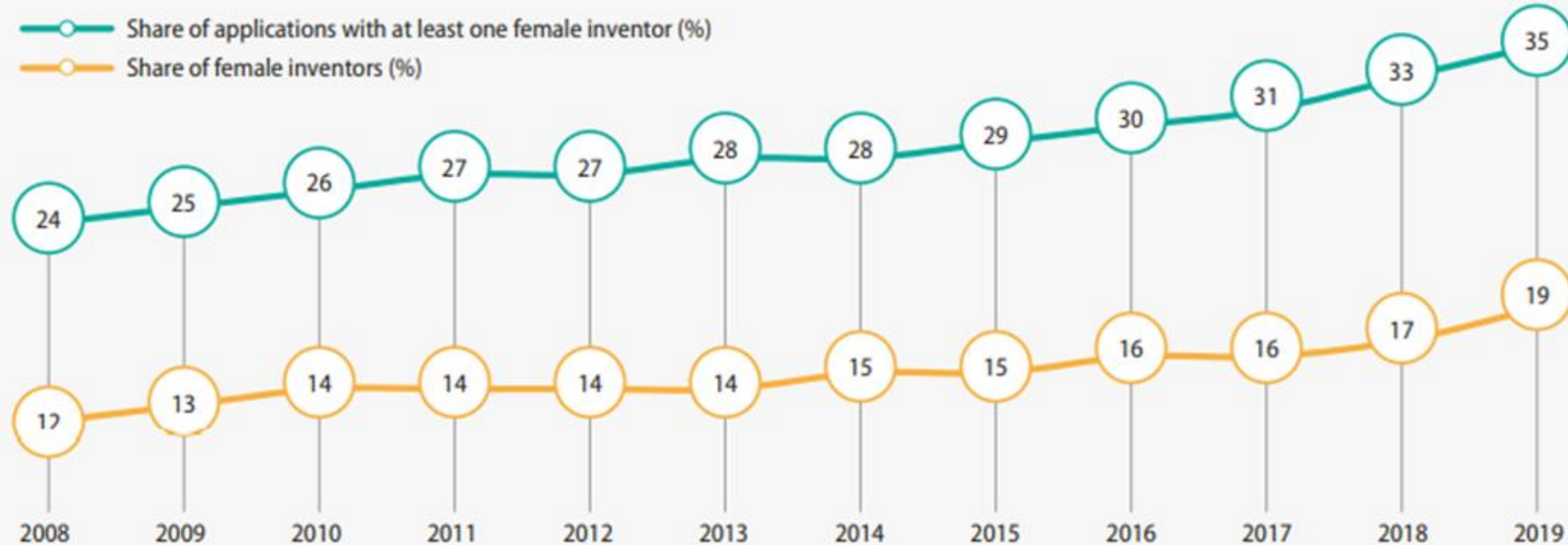
% Share of Female Researchers

- ❑ Globally, women **33.3%** of researchers
- ❑ SE Europe, Latin America, Caribbean & West Asia have achieved gender parity
- ❑ In SSA, South Africa & Mauritius achieved gender parity, women acc **45%** of researchers since 2015

Women Inventors

- ❑ Women remain a minority among inventors
- ❑ Increase from 2013 (14%) to 2019 (19%)

Figure 3.6: Share of Patent Cooperation Treaty applications with female innovators, 2008–2019



Source: World Intellectual Property Organization, May 2020, see: <https://www.wipo.int/pct/>

Vertical Segregation in Academia

- Women a minority in nat. SC academies (10% or less of members in 30 countries)
 - ✓ shows perception & status of women scientists in a given country

- Vertical segregation - low % of women in higher & senior academic positions,
 - ✓ **Link to reduced visibility, lower # of papers published by women in high profile journals.**

- Women-authored publications - fewer citations

Taking Action: Reducing Gender Gap

- **STEM and Gender Advancement (SAGA) project-** is a global UNESCO project launched in 2015 to strengthen UNESCO's work in support of gender equality in Science, Technology and Innovation (STI)
 - ✓ The project maps policies affecting gender equality in STEM, and identifies and design relevant indicators.
- **The Organization for Women in Science for the Developing World** –provides research training, career development and networking opportunities for women scientists throughout the developing world at different stages in their careers.
- **L'Oréal-UNESCO *For Women in Science* Programme** highlights scientific excellence and encourages talent through:
 - ✓ The L'Oréal-UNESCO *For Women in Science* International Awards
 - ✓ The L'Oréal-UNESCO *For Women in Science International Rising Talents*
 - ✓ The L'Oréal-UNESCO *For Women in Science* National and Regional Young Talents Programmes



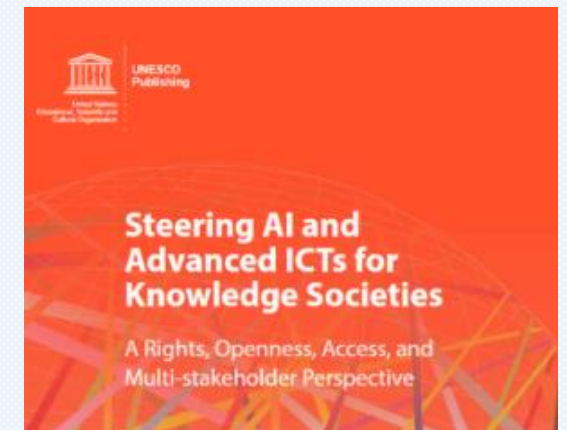
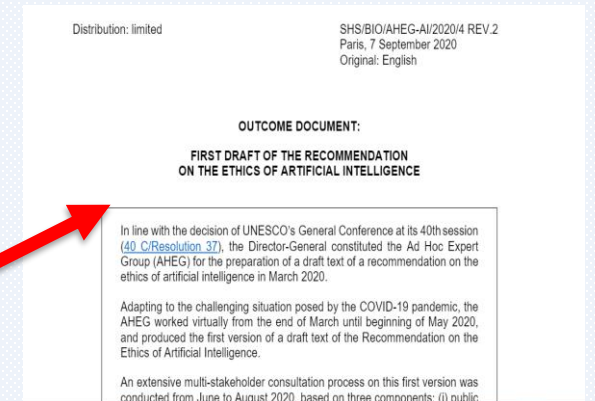
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Taking Action: 4IR

Initiatives

- Capacity building activities on 4IR technologies such as youth bootcamps and online courses (under development)
- Promoting the ethical application of the 4IR technologies for sustainable development (**draft recommendation**)
- Ensuring the ‘future-readiness’ of curricula through promotion of emerging technologies in education
- Establishment of International Research Centre on Artificial Intelligence, a UNESCO Category 2 Centre in Slovenia (2019)
- ✓ **statistics on AI, AI-related applications and associated technological innovations and would work on legal, ethical and social implications of AI**



Taking Action: 4IR

Upcoming Events, Initiatives and Activities

- **Africa Regional Conference on AI (Namibia)** – to deliberate on the state of AI in Africa as well as chart the way forward for the continent
- **World Science Forum (Cape Town, 2021)**
- **Development of Online courses on AI and Robotics**

Take Home Messages

- **Gender policies and programmes need transform gender relations**
- **Mechanisms to ensure female entrepreneurs in tech fields have access to venture capital**
- **The current shortage of skills in digital fields offers women an opportunity to fill this gap, both as employees and as employers**
- **Lack of comprehensive data on gender trends limit the conclusions that can be drawn at national, regional and global levels**
- **Radical changes induced by Covid-19 pandemic need to be converted into policies which ensure that women have time and energy to make their mark on the science and innovation of tomorrow, to tackle the defining challenges of our time**

Thank you!



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