Contribution on *Human Rights, Discrimination, and the Regulation of AI* with a special focus on Gender Equality for the Global Digital Compact

## I. Introduction

Considering the Common Agenda<sup>1</sup> which emphasises the importance of gender equality throughout its report and to prepare the Global Digital Compact, the following three highly interconnected and related issues will be discussed in the present submission: human rights in the digital sphere (II.), accountability criteria for discrimination (III.) and promoting the regulation of artificial intelligence (IV.), with a special focus on gender equality.

Despite increased press coverage on gender biases and stereotypes in datasets, reporting on frequent cases of algorithmic gender-based discriminations in all spheres of life<sup>2</sup> and slowly emerging policy discussions<sup>3</sup>, specific legal rules on gender equality addressing the problems and opportunities of AI for women and the concept of algorithmic discrimination are rare.<sup>4</sup>

Ideally, the suggested core principles in relation to the three issues of human rights, accountability for discrimination and regulation of AI described below should be incorporated in *legislative frameworks* to ensure the full respect of human rights. *Hard law* is the best enabler for potential victims of discrimination and human rights violations to enforce their rights via administrations, courts, or human rights mechanisms.

Despite the UN's general efforts and policies (surrounding SDG 5) and more specifically its organizations or bodies, such as UN Women, the Commission in the Status of Women (CSW) or the CEDAW Committee being very active in advancing gender equality and women's rights<sup>5</sup>, female representation of around 22% in the AI industry<sup>6</sup> is very low. Diversity and

https://ec.europa.eu/info/sites/default/files/aid development cooperation fundamental rights/gender equality s

<sup>&</sup>lt;sup>1</sup> UN Our Common Agenda, Report of the Secretary General, <a href="https://www.un.org/en/content/common-agenda-report/assets/pdf/Common Agenda Report English.pdf">https://www.un.org/en/content/common-agenda-report/assets/pdf/Common Agenda Report English.pdf</a>, gender equality and women's rights are frequently mentioned in the report itself, in particular on pages 6 ("Repeal of gender-discriminatory laws" and "Promote gender parity, including through quotas and special measures", 13 ("90% of United Nations Member States have ratified or acceded to the Convention on the Elimination of All Forms of Discrimination against Women"), 16 (progress on gender equality), 30-32 (Beijing Platform and SGD 5), 62-63 ("exacerbation of gender bias and male default thinking when women do not have an equal role in designing digital technologies").

<sup>&</sup>lt;sup>2</sup> For examples see LÜTZ, Fabian. Gender equality and artificial intelligence in Europe. Addressing direct and indirect impacts of algorithms on gender-based discrimination. In: ERA Forum. Springer Berlin Heidelberg, 2022, p. 39 (Open Access).

<sup>&</sup>lt;sup>3</sup> See UNESCO 2020. Artificial Intelligence and Gender Equality: Key Findings of UNESCO'S Global Dialogue. UNESCO Paris, France.; COMMISSION, E. 2020. Opinion on Artificial Intelligence and Gender Equality of the Advisory Committee on Equal Opportunities for Women and Men., that focuses on opportunities and challenges for gender equality, available at: <a href="https://commission.europa.eu/system/files/2020-04/opinion artificial intelligence gender equality 2020 en.pdf">https://commission.europa.eu/system/files/2020-04/opinion artificial intelligence gender equality 2020 en.pdf</a>.

<sup>&</sup>lt;sup>4</sup> New York City has adopted a law adressing disparate impacts of automated decision-making systems in the area of employment (entry into force on 1st January 2023). 2021. Int 1894-2020, A Local Law to amend the administrative code of the city of New York, in relation to automated employment decision tools.; for the gender and discrimination angle of this NYC law, see LÜTZ, Fabian, Le rôle du droit pour contrer la discrimination algorithmique dans le recrutement automatisé, In: Guillaume Florence (eds.) La technologie, l'humain et le droit, Stämpfli Verlag, Bern (forthcoming March 2023).

<sup>&</sup>lt;sup>5</sup> The 67th CSW priority theme is entitled 'Innovation and technological change, and education in the digital age achieving gender equality and the empowerment of all women https://www.unwomen.org/en/csw/csw67-2023. CEDAW is currently preparing for recommendation on the equal inclusive representation of women decision-making systems, https://www.ohchr.org/en/events/events/2023/half-day-general-discussion-equal-and-inclusive-representationwomen-decision.

<sup>&</sup>lt;sup>6</sup> Despite differing numbers, the trend of an existing gender gap in AI is clear. See for the same numbers, European Commission, Striving for a Union of Equality, the Gender Equality Strategy 2020-2025 (2020), available at:

representation are only one, albeit important, issue for AI and women's rights that needs to be addressed. The problem with omnipresent use of AI and algorithms is mainly the occurrence of biases, stereotypes, and gender discrimination. Here, regarding legal instruments, notably Articles 2 and 5 of CEDAW are relevant entry doors to discuss the phenomenon of algorithmic discrimination.<sup>7</sup>

In essence, biased and discriminatory decisions are caused not only by the mindset of the AI developer but to a large extend by the data(sets) used for training and feeding the algorithm. The potential unrepresentative and non-diverse datasets, impacted by the gender data gap, are mirroring past and current inequalities, biases, and stereotypes of society. They form part of the decision-making basis of algorithms which can lead to gender-based discriminations. Considering that data mirrors stereotypes and discriminatory behaviours of the real world, addressing in general gender discrimination and striving for women's rights partly addresses the problem that is perpetuated in the online world and leads to algorithmic discrimination.<sup>8</sup>

## II. Human Rights in the Digital Sphere

As a preliminary remark it needs to be observed that legislative frameworks of a binding nature are preferable to mere voluntary guidelines or principles when it comes to the effective enforcement and guarantee of human rights. Women's rights, the principle of gender equality and non-discrimination are fundamental principles and human rights enshrined in the International Bill of Rights (Universal Declaration of Human Rights and the International Covenants 10), the UN Charta and national constitutions around the world. The UN 2030 Agenda and its Sustainable Development Goals, notably SDG 5 are politically supporting and advancing those human rights and especially gender equality. 11

More specifically, the human rights instrument Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) of 1979 is drafted in an open and forward-looking way, does not only address discrimination 'in all its forms' but also calls upon states parties to address discrimination 'by all appropriate means' which notably includes 'appropriate legislation' (Art. 2).

Both positive and negative impacts of AI and algorithms on gender equality and women's rights should guide the way for a future legal and political framework to ensure that the core principles of human rights instruments are equally respected in the algorithmic age.

<sup>&</sup>lt;u>trategy\_factsheet\_en.pdf</u>; The World Economic Forum, Global Gender Gap Report 2020, p. 37 puts the number for women in Data and AI at 26%, available at: <a href="https://www3.weforum.org/docs/WEF\_GGGR\_2020.pdf">https://www3.weforum.org/docs/WEF\_GGGR\_2020.pdf</a>.

<sup>&</sup>lt;sup>7</sup> <u>LÜTZ</u>, <u>Fabian</u>. <u>Discrimination by correlation</u>. <u>Towards eliminating algorithmic biases and achieving gender equality</u>. In: (Dis) Obedience in <u>Digital Societies</u>. <u>transcript Verlag</u>, 2022. <u>S. 250-293</u> (Open Access).

<sup>&</sup>lt;sup>8</sup> <u>LÜTZ</u>, <u>Fabian</u>. Gender equality and artificial intelligence in Europe. Addressing direct and indirect impacts of algorithms on gender-based discrimination. In: ERA Forum. Springer Berlin Heidelberg, 2022. S. 1-20 (Open Access).

<sup>&</sup>lt;sup>9</sup> The literature is slowly growing on Human Rights and Artificial Intelligence. For the gender angle see LÜTZ, F., Artificial Intelligence and Gender-Based Discrimination, in: Jeroen Temperman/Alberto Quintavilla, Human Rights and Artificial Intelligence, Oxford University Press (forthcoming April 2023); For Human Rights and AI more generally, see MATHIAS, R. 2019. Human rights and artificial intelligence: An urgently needed agenda. *Human rights quarterly*, 41, 1-16.; 2021. Human Rights and Artificial Intelligence. *In:* LIDDICOAT, J. (ed.) *Human Rights and the Internet.* Intersentia..

<sup>&</sup>lt;sup>10</sup> International Covenant on Economics Social and Cultural Rights (ICESCR) and International Covenant on Civil and Political Rights (ICCPR).

<sup>&</sup>lt;sup>11</sup> See LÜTZ, F., Gender Equality and Artificial Intelligence: SDG 5 and the role of the UN in fighting stereotypes, biases and gender discrimination, In: Cristani Federica, Fornalé Elisa (eds.) Women's Empowerment and its Limits, Palgrave (forthcoming march 2023).

# Regulation of AI as 'conditio sine qua non' to mitigate human rights impacts and discrimination for women and girls

International and regional organizations and States are increasingly reflecting on the regulation of AI and its human rights impacts<sup>12</sup> notably in relation to the classical issues<sup>13</sup> such as transparency<sup>14</sup>, explainability<sup>15</sup>, accountability<sup>16</sup> and the *human-in-the-loop*.<sup>17</sup> While there are different types and intensities of regulation possible, both businesses and states have their responsibilities to ensure that AI does not cause any human rights violations such as gender-based discriminations.<sup>18</sup>

For the protection of equality between women and men, all UN actors dealing with gender equality could be a platform for incorporating AI and algorithms into their policy work. For governments, the UN framework could be an ideal starting point to adopt human rights frameworks that address the impacts of AI on women and girls. In that sense, CEDAW, notably Article 1, Article 2(b),(e) and Article 3, could be seen as an invitation for State parties to adopt legislation and to interpret and embrace the concept of algorithmic discrimination. It can also incentivise the CEDAW Committee to further develop the concept of 'discrimination against women in all its forms' to include algorithmic discrimination and the human rights impacts caused by AI.

## A. Core principles

In essence, gender equality and the principle of non-discrimination needs to be upheld to the same extend in the online and the offline world. The fact that life and work partly move in the digital sphere, by means of using algorithms for predictions and decision-making should not make a difference for the protection of human rights. Ideally core principles are translated into legally binding rules (legislation) which increases the chance of adherence because AI principles or ethical guidelines are only self-binding<sup>19</sup> and in an alleged case of algorithmic discrimination are less helpful for potential victims than enforceable legal rules.

<sup>&</sup>lt;sup>12</sup> See for example, 2020. Recommendation CM/Rec(2020)1 of the Committee of Ministers to member States on the human rights impacts of algorithmic systems.; OECD/LEGAL/0449, Recommendation of the Council on Artificial Intelligence; COMMISSION, E. Commission, "Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL LAYING DOWN HARMONISED RULES ON ARTIFICIAL INTELLIGENCE (ARTIFICIAL INTELLIGENCE ACT) AND AMENDING CERTAIN UNION LEGISLATIVE ACTS, COM(2021) 206 final.".; U.S. White House, Blueprint for an AI Bill of Rights (October 2022), available at: <a href="https://www.whitehouse.gov/ostp/ai-bill-of-rights/">https://www.whitehouse.gov/ostp/ai-bill-of-rights/</a>.

<sup>&</sup>lt;sup>13</sup> Most international soft law instruments (Council of Europe, OECD) or current proposals (European Commission proposal for the Artificial Intelligence Act, U.S. AI Bill of Rights) adress these issues.

<sup>&</sup>lt;sup>14</sup> Transparency plays such an important role, that the European Commission recently created the European Centre for Algorithmic Transparency (ECAT) *which "will contribute to a safer, more predictable and trusted online environment for people and business"*, <a href="https://algorithmic-transparency.ec.europa.eu/index\_en">https://algorithmic-transparency.ec.europa.eu/index\_en</a>.

<sup>&</sup>lt;sup>15</sup> See for example HAMON, R., JUNKLEWITZ, H., SANCHEZ, I., MALGIERI, G. & HERT, P. D. 2022. Bridging the Gap Between AI and Explainability in the GDPR: Towards Trustworthiness-by-Design in Automated Decision-Making. *IEEE Computational Intelligence Magazine*, 17, 72-85.

<sup>&</sup>lt;sup>16</sup> See for example the U.S. H.R.6580 - Algorithmic Accountability Act of 2022, available at: https://www.congress.gov/bill/117th-congress/house-bill/6580.

<sup>&</sup>lt;sup>17</sup> See for example, PASQUALE, F. 2020. *New Laws of Robotics: Defending Human Expertise in the Age of AI*, Belknap Press; Art. 14 of the draft EU AI Act.

<sup>&</sup>lt;sup>18</sup> See n(31), para. 11 ('Business enterprises have a responsibility to respect all internationally recognized human rights.'), paras. 36 (on gender bias) and 49 (disproportionate impacts on women and girls).

<sup>&</sup>lt;sup>19</sup> See on this issue for example, VAN MAANEN, G. 2020. Ethics washing: Een introductie. *Algemeen Nederlands Tijdschrift Voor Wijsbegeerte*, 112, 462-467., p. 462-463.

- 1. A human-rights based approach to algorithmic discrimination needs to be incorporated adequately into legislative frameworks around the world as *conditio sine qua non* to ensure adherence to and compliance with human rights.
- 2. Recall Art. 2 CEDAW as core principle which can be used to address the issue of human rights and discrimination in the algorithmic age.
- 3. In the absence of legally binding frameworks, soft law instruments or (technical) standards could contribute to achieve compliance with human rights and non-discrimination law.

## B. Key commitments, pledges, actions to bring about these specific principles

- 1. *Governments* should commit to incorporate into their legal frameworks the concept of algorithmic discrimination and/or ensure that algorithmic discrimination is sufficiently addressed within existing legal frameworks of human rights and non-discrimination law.
- 2. *Governments* should both address positive and negative impacts of algorithms for human rights, by going beyond mere regulation of algorithms and assessing and studying options to use algorithms for positive action, for example in recruitment procedures.<sup>20</sup>
- 3. AI Companies should commit, to the extent possible, to incorporate human rights standards and the principle of non-discrimination at a technical level into the development of algorithms (by design approach). Ideally, this should be a consequence of legally binding rules, alternatively voluntary approaches or best practices at industry level could improve the design of non-discriminatory algorithms.
- 4. *AI Companies* should explore how to use AI for positive action measures in recruitment procedures to diminish the occurrence of discriminatory outcomes.<sup>21</sup>
- 5. Civil society organizations, researchers and other stakeholders could contribute to independent and third-party reviewing, testing, and improving of algorithms for potential biases, stereotypes and discrimination if given the right tools to do so (open source, publicly available datasets to test algorithms etc.).

# III. Accountability criteria for discrimination

Accountability<sup>22</sup> for discrimination in the algorithmic age comes in different shapes, and concerns *inter alia* from the design of the models and algorithms, the datasets, or the choice of the type of algorithm. All choices impact the possibilities for transparent and explainable AI decisions. In essence, one could understand accountability via the lens of transparency and

<sup>&</sup>lt;sup>20</sup> See for the use of positive action in the AI recruitment context from the perspective of gender equality LÜTZ, F., Algorithmische Entscheidungsfindung aus der Gleichstellungsperspektive – Ein Balanceakt zwischen Gender Data Gap, Gender Bias, Machine Bias und Regulierung, GENDER 1/23, 25-40, p. 31-32 (Open Access); for a more technical description of the *Rooney rule* see CELIS, L. E., HAYS, C., MEHROTRA, A. & VISHNOI, N. K. The Effect of the Rooney Rule on Implicit Bias in the Long Term. Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency, 2021. 678-689..

<sup>&</sup>lt;sup>22</sup> Accountability is defined in geenral as "an obligation or willingness to accept responsibility or to account for one's actions", "Accountability." Merriam-Webster.com Dictionary, Merriam-Webster, <a href="https://www.merriam-webster.com/dictionary/accountability">https://www.merriam-webster.com/dictionary/accountability</a>. Accessed 16 Feb. 2023. However, it can be *inter alia* understood as analysis mechanism for the development of software and AI, in a legal or in a political sense.

distinguish between three varieties: responsibility (moral or legal), inspectability (process or technical<sup>23</sup>) and accessibility.<sup>24</sup>

## A. Core principles

- 1. Rather than focusing (only) on abstract concepts of fairness, more specific concepts such as non-discrimination should be used as objectives/benchmarks in legal frameworks.
- 2. Accountability in a legal sense comes first and foremost in the form of a legislative framework that ensures the respect of specific obligations, such as the principle of non-discrimination and sanctions violations (legal responsibility), violations of regulatory norms<sup>25</sup> or liability rules for AI systems.<sup>26</sup>
- 3. Enabling accountability is a key principle for potential victims of discrimination as it allows inspectability which regroups understanding the technical process of algorithms to understand how an algorithmic discrimination occurred and explainability, which are all important to detect and prove discriminations.

## B. Key commitments, pledges, actions

- 1. *Governments* should commit to incorporate into their legal frameworks various forms of accountability to ensure that algorithmic discrimination can be sufficiently enforced.
- 2. AI Companies should commit to incorporate accountability and transparency mechanisms at a technical level into the development of algorithms, regardless of binding rules as this increases trust of consumers into their AI products. This should include but be not limited to documentation, transparency, accessibility of the functioning of the algorithm, used data- and training sets and explainability of the algorithmic decision-making process.
- 3. *Civil society organizations, researchers and other stakeholders* could contribute to explainability and intelligibility based on available datasets and descriptions of the algorithms by the AI companies.

## IV. Promoting the regulation of artificial intelligence

More attention on the gender perspective of the increased use of AI and automated decision-making is necessary. Potential positive and negative consequences for women's human rights, notably in terms of biases, stereotypes, and discrimination. Four core principles are highlighted regarding the regulation of AI, notably in terms of the design of algorithms (1.), biases and stereotypes in datasets (2.) and equal access to data creation (3.).

<sup>&</sup>lt;sup>23</sup> Technical accountability is subdivided into general and particular which includes explainability, intelligibility and justifiability.

<sup>&</sup>lt;sup>24</sup> For this classification, see ZERILLI, J. 2021. A Citizen's Guide to Artificial Intelligence. The MIT Press., p. 25.

<sup>&</sup>lt;sup>25</sup> For example those contained in the proposed EU AI Act.

<sup>&</sup>lt;sup>26</sup> See for example WAGNER, G. 2023. Liability Rules for the Digital Age-Aiming for the Brussels Effect. *Available at SSRN 4320285*.

## A. Core principles

## 1. Better design of algorithms with more equal representation in the world of AI coding

Potential positive and negative consequences for women's human rights due to the use of AI and automated decision-making systems needs to include not only public but also private decision makers as well as civil society.<sup>27</sup> As a result of the omnipresence of AI, the equal and inclusive representation in decision-making systems of women becomes even more urgent. But as decisions are not only taken at political and company level, the approach to equal representation of women needs to include equal representation among AI designers, developers, and AI companies. Decisions affecting value choices and equality are increasingly taken by algorithms, and without women sitting at the design and developing table for AI, there is more risk of creating algorithms with biases and the potential to discriminate.<sup>28</sup>

Existing human rights instruments that address the role of businesses, such as the *UN Guiding Principles on Business and Human Rights* (UNGPs)<sup>29</sup> or the *OECD Guidelines for Multinational Enterprises*<sup>30</sup> are a guide to incentivise more diversity in AI. Equally other UN reports highlight that *'Business enterprises have a responsibility to respect all internationally recognized human rights'*. As highlighted by the recommendations to business in recent UN reports on AI, achieving more inclusiveness and diversity among AI developers requires the involvement of businesses. <sup>32</sup>

## 2. Better and more representative datasets to avoid biases and stereotypes

The problem of the *gender data gap* has been frequently highlighted as one of the causes underlying biases, stereotypes, and potential discriminations.<sup>33</sup> Fighting against stereotypes and biases, in the offline and the online world, are essential steps in addressing gender-based discrimination.

Considering the nature of CEDAW as a 'living instrument and that its provisions are subject to a continuous dynamic and progressive interpretation'<sup>34</sup>, Article 5(a) CEDAW could be used as an instrument to achieve 'transformative equality'<sup>35</sup> regarding algorithmic gender-based discrimination.

<sup>&</sup>lt;sup>27</sup> In that sense researchers can contribute to find new ways towards gender-inclusive AI, see for example HIPOLITO, I., WINKLE, K. & LIE, M. 2023. Enactive Artificial Intelligence: Overcoming Male Gaze in Robot-Human Interaction. *arXiv preprint arXiv:2301.08741*.

<sup>&</sup>lt;sup>28</sup> LÜTZ (n2), p. 48; see also Duduetsang Mokoele, Nomaqhawe Moyo and Lerato Mahlangu, When algorithms meet humanity, In: MAZIBUKO-MAKENA, Z. & KRAEMER-MBULA, E. 2021. *Leap 4.0: African Perspectives on the Fourth Industrial Revolution*, Mapungubwe Institute for Strategic Reflection (MISTRA), p. 120.

<sup>&</sup>lt;sup>29</sup> 2011. A/HRC/17/31, Report of the Special Representative of the Secretary-General on the Issue of Human Rights and Transnational Corporations and Other Business Enterprises, John Ruggie: Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework.

<sup>&</sup>lt;sup>30</sup> OECD Guidelines for Multinational Enterprises, available at: <a href="https://www.oecd.org/daf/inv/mne/48004323.pdf">https://www.oecd.org/daf/inv/mne/48004323.pdf</a>.

<sup>31</sup> A/HRC/48/31, The right to privacy in the digital age, Report of the United Nations High Commissioner for

<sup>&</sup>lt;sup>31</sup> A/HRC/48/31, The right to privacy in the digital age, Report of the United Nations High Commissioner for Human Rights, para. 11.

<sup>&</sup>lt;sup>32</sup> Ibid., para. 61(c): "Take decisive steps in order to ensure the diversity of the workforce responsible for the development of AI".

<sup>&</sup>lt;sup>33</sup> PEREZ, C. C. 2019. *Invisible women: Exposing data bias in a world designed for men*, Random House.; BUVINIC, M. & LEVINE, R. 2016. Closing the gender data gap. *Significance*, 13, 34-37.;

CAITLIN KRAFT- BUCHMAN, R. A. 2021. Artificial Intelligence Recruitment: Digital Dream or Dystopia of Bias? www.womenatthetable.net.

<sup>&</sup>lt;sup>34</sup> Rikki Holtmaat, In: FREEMAN, M. A., CHINKIN, C. & RUDOLF, B. 2012. *The un Convention on the Elimination of All Forms of Discrimination Against Women: A Commentary*, Oxford, Oxford University Press, Incorporated, p. 143.

<sup>&</sup>lt;sup>35</sup> Ibid; for the concept of transformative equality, see notably FREDMAN, S., KUOSMANEN, J. & CAMPBELL, M. 2016. Transformative Equality: Making the Sustainable Development Goals Work for Women. *Ethics & International Affairs*, 30, 177-187.

## 3. Ensure equal access to the world of data creation

While AI developers shape the way algorithms might reproduce biases, stereotypes, and lead to discrimination (choice of models, algorithms, and datasets), everybody with internet access contributes to the datasets used by algorithms. Due to the *digital gender divide*<sup>36</sup>, many women and girls lack access to the world of data because they cannot access the internet and therefore miss the opportunity to contribute to more representative and diverse datasets.<sup>37</sup> Narrowing the *digital gender divide* could contribute to have more balanced, diverse, and representative datasets and at the same time represents the necessary starting conditions for becoming a female AI coder.<sup>38</sup>

#### B. Key commitments, pledges, actions

- 1. Governments should develop work based on existing UN reports and envisage a future legal framework based on CEDAW which sufficiently considers the positive and negative impacts of AI systems for women's rights, and which prevents algorithmic discrimination.
- 2. *Governments* should commit to rely on the CEDAW framework, develop interpretative guidance in the appropriate form for how the current legal framework at international level could address algorithmic discrimination.
- 3. *Governments* should commit to develop awareness raising campaigns and training programs based on Article 5 of CEDAW to address gender biases and stereotypes and to encourage women and girls to contribute to representative and diverse datasets and reduce the digital gender divide.
- 4. *Government and AI Companies* should pledge to develop best practices, training programmes and to attract more women in AI related professions to pave the way for more diversity and inclusion at the design and developing stage for algorithms.
- 5. Civil society organizations, researchers and other stakeholders could contribute to the promotion of regulating AI by offering their expertise throughout legislative drafting, evaluation of established legal frameworks and their potential review, notably regarding auditing, algorithmic impact assessments and monitoring of AI systems.<sup>39</sup>

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<sup>&</sup>lt;sup>36</sup> See for example World Economic Forum, How to close the digital gender divide and empower women, 8 March 2022, available at: <a href="https://www.weforum.org/agenda/2022/03/how-to-close-digital-gender-divide/">https://www.weforum.org/agenda/2022/03/how-to-close-digital-gender-divide/</a>; USAID, The Gender Digital Divide Primer, available at: <a href="https://www.usaid.gov/digital-development/gender-digital-divide-primer">https://www.usaid.gov/digital-development/gender-digital-divide-primer</a>; Worldbank, Closing the Digital Gender Gap: Why Now Should Have Been Yesterday, 9th June 2020, available at: <a href="https://www.worldbank.org/en/news/feature/2020/06/09/closing-the-digital-gender-gap-why-now-should-have-been-yesterday">https://www.worldbank.org/en/news/feature/2020/06/09/closing-the-digital-gender-gap-why-now-should-have-been-yesterday</a>.

<sup>&</sup>lt;sup>37</sup> See also SDG 5, notably indicator 5.b.1: 'Proportion of individuals who own a mobile telephone, by sex'.

<sup>&</sup>lt;sup>38</sup> See LÜTZ, F., Gender Equality and Artificial Intelligence: SDG 5 and the role of the UN in fighting stereotypes, biases and gender discrimination, In: Cristani Federica, Fornalé Elisa (eds.) Women's Empowerment and its Limits, Palgrave (forthcoming march 2023).

<sup>&</sup>lt;sup>39</sup> See for example, CLEMENT, M., CRAIG, P., SCHNEIDER, J.-P., DOLLINGER, J., MERLI, F., LE MÉTAYER, D., WIERZBOWSKI, M., WOJCIECHOWSKA, K. & ZIÓŁKOWSKA, K. 2022. ELI Model Rules on Impact Assessment of Algorithmic Decision-Making Systems Used by Public Administration..