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REPORT

on closing the digital gender gap: women's participation in the digital economy
(2019/2168(INI))

Committee on Women's Rights and Gender Equality

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MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION

on closing the digital gender gap: women's participation in the digital economy (2019/2168(INI))

The European Parliament,

- having regard to Articles 2 and 3(3), second subparagraph, of the Treaty on European Union (TEU) and Article 8 of the Treaty on the Functioning of the European Union (TFEU),
- having regard to Article 23 of the Charter of Fundamental Rights of the European Union,
- having regard to the Beijing Declaration and Platform for Action, adopted at the Fourth World Conference on Women in 1995, and, in particular, the area of concern ‘Women and the Media’,
- having regard to the International Labour Organization (ILO) Violence and Harassment Convention (No 190) and to the ILO Violence and Harassment Recommendation (No 206), both of 2019,
- having regard to the outcome document of 16 December 2015 of the high-level meeting of the UN General Assembly on the overall review of the implementation of the outcomes of the World Summit on the Information Society,
- having regard to the Commission communication of 6 May 2015 entitled ‘A Digital Single Market Strategy for Europe’ (COM(2015)0192), and the mid-term review of 10 May 2017 on its implementation entitled ‘A Connected Digital Single Market for All’ (COM(2017)0228),
- having regard to the European Pillar of Social Rights and, in particular, its principles 1, 2, 3 and 20,
- having regard to Pillars II (‘Creating the right conditions for digital networks and services to flourish’) and III (‘Maximising the growth potential of our European economy’) of the Commission’s digital single market strategy,
- having regard to the strategic framework for European cooperation in education and training (ET 2020),
- having regard to the Commission studies entitled ‘ICT for work: Digital skills in the workplace’ and ‘Women in the Digital Age’,
- having regard to the Commission communication of 5 March 2020 entitled ‘A Union of Equality: Gender Equality Strategy 2020-2025’ (COM(2020)0152),
- having regard to the Commission communication of 1 July 2020 entitled ‘European Skills Agenda for sustainable competitiveness, social fairness and resilience’

(COM(2020)0274),

- having regard to the Commission report of 1 October 2013 entitled ‘Women active in the ICT sector’,
- having regard to the European Institute for Gender Equality (EIGE) study of 26 January 2017 entitled ‘Gender and digital agenda’,
- having regard to the Council conclusions of 30 May 2016 on ‘Developing media literacy and critical thinking through education and training’,
- having regard to the Council conclusions of 6 December 2018 on ‘Gender Equality, Youth and Digitalisation’,
- having regard to the Council conclusions of 10 December 2019 on ‘Gender-Equal Economies in the EU: The Way Forward’,
- having regard to the opinion of the Advisory Committee on Equal Opportunities for Women and Men of 19 December 2018 entitled ‘The future of gender equality strategy after 2019: the battles that we win never stay won’,
- having regard to the Declaration of Commitment on Women in Digital (WID), signed in 2019 by 27 EU ministers and Member States’ representatives plus Norway,
- having regard to its resolution of 24 May 2012 with recommendations to the Commission on application of the principle of equal pay for male and female workers for equal work or work of equal value¹,
- having regard to its resolution of 12 March 2013 on eliminating gender stereotypes in the EU²,
- having regard to its resolution of 12 September 2013 on the Digital Agenda for Growth, Mobility and Employment: time to move up a gear³, and, in particular, the Grand Coalition for Digital Jobs,
- having regard to its resolution of 8 October 2015 on the application of Directive 2006/54/EC of the European Parliament and of the Council of 5 July 2006 on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation⁴,
- having regard to its resolution of 28 April 2016 on gender equality and empowering women in the digital age⁵,
- having regard to the World Summit on the Information Society (WSIS) Forum 2019 on ‘Information and Communication Technologies for achieving the Sustainable

¹ OJ C 264 E, 13.9.2013, p. 75.

² OJ C 36, 29.1.2016, p. 18.

³ OJ C 93, 9.3.2016, p. 120.

⁴ OJ C 349, 17.10.2017, p. 56.

⁵ OJ C 66, 21.2.2018, p. 44.

Development Goals’,

- having regard to the WSIS Forum 2020 on ‘Fostering digital transformation and global partnerships: WSIS Action Lines for achieving the Sustainable Development Goals (SDGs)’,
- having regard to the question to the Commission on empowering women and girls through the digital sector (O-000004/2018 – B8-0010/2018),
- having regard to its resolution of 17 April 2018 on empowering women and girls through the digital sector⁶,
- having regard to its interparliamentary committee meeting held on International Women’s Day 2018 on empowering women and girls in the media and ICT,
- having regard to the in-depth analysis entitled ‘Empowering women on the Internet’, published by its Directorate-General for Internal Policies on 30 October 2015⁷,
- having regard to the study entitled ‘The underlying causes of the digital gender gap and possible solutions for enhanced digital inclusion of women and girls’ published by its Directorate-General for Internal Policies on 15 February 2018⁸,
- having regard to the study entitled ‘Cyber violence and hate speech online against women’ published by its Directorate-General for Internal Policies on 16 August 2018⁹,
- having regard to the study entitled ‘Education and employment of women in science, technology and the digital economy, including AI and its influence on gender equality’ published by its Directorate-General for Internal Policies on 15 April 2020¹⁰,
- having regard to the survey by the European Union Agency for Fundamental Rights (FRA) entitled ‘Violence against women: an EU-wide survey’, published in 2014,
- having regard to Directive 2011/36/EU of the European Parliament and of the Council of 5 April 2011 on preventing and combating trafficking in human beings and protecting its victims, and replacing Council Framework Decision 2002/629/JHA¹¹,
- having regard to the Commission communication of 19 June 2012 entitled ‘The EU Strategy towards the Eradication of Trafficking in Human Beings 2012-2016’ (COM(2012)0286) and the mid-term report of 17 October 2014 on the implementation

⁶ OJ C 390, 18.11.2019, p. 28.

⁷ In-depth analysis – ‘Empowering women on the Internet’, European Parliament, Directorate-General for Internal Policies, Policy Department C – Citizens’ Rights and Constitutional Affairs, 30 October 2015.

⁸ Study – ‘The underlying causes of the digital gender gap and possible solutions for enhanced digital inclusion of women and girls’, European Parliament, Directorate-General for Internal Policies, Policy Department C – Citizens’ Rights and Constitutional Affairs, 15 February 2018.

⁹ Study – ‘Cyber violence and hate speech online against women’, European Parliament, Directorate-General for Internal Policies, Policy Department C – Citizens’ Rights and Constitutional Affairs, 16 August 2018.

¹⁰ Study – ‘Education and employment of women in science, technology and the digital economy, including AI and its influence on gender equality’, European Parliament, Directorate-General for Internal Policies, Policy Department C – Citizens’ Rights and Constitutional Affairs, 15 April 2020.

¹¹ OJ L 101, 15.4.2011, p 1.

thereof (SWD(2014)0318),

- having regard to the Women in Digital scoreboard¹²,
 - having regard to Rule 54 of its Rules of Procedure,
 - having regard to the report of the Committee on Women’s Rights and Gender Equality (A9-0232/2020),
- A. whereas, according to Article 8 of the TFEU, in all its activities, the Union must aim to eliminate inequalities, and to promote equality, between men and women; whereas in order to achieve gender equality, girls and young women need equal access to technology and digital training, and to be safe online; whereas Sustainable Development Goal (SDG) 5 refers to gender equality and the empowerment of women, and this involves the use of technology and the internet;
- B. whereas digitalisation has fundamentally changed most aspects of our lives in ways that create countless opportunities but also present new challenges; whereas the COVID-19 crisis and its aftermath are likely to result in permanent changes to life in Europe, in which digitalisation will have a major role; whereas the impact of digitalisation on women’s employment prospects and the ramifications of teleworking need to be researched and evaluated; whereas balancing telework, private life and caregiving responsibilities adds additional strain, and women therefore face an increased emotional, mental and social burden; whereas, due to the pandemic, the labour market is facing up to the challenge with a major digital transformation;
- C. whereas gender stereotypes constitute a serious obstacle to equality between women and men, contributing to gender segregation in education and employment, further widening the gender gap in the digital sector and preventing women’s full participation as users, innovators and creators; whereas common stereotypes associate high-level intellectual ability with men more than with women, and these stereotypes are endorsed by, and influence the interests of, children as young as the age of six, specifically girls;
- D. whereas the Gender Equality Index for 2019 reveals persistent gender inequalities in the digital sector;
- E. whereas Eurostat data from 2018 showed that about 1.3 million people were studying Information and Communication Technologies (ICTs) in the European Union and that girls and women were largely in a minority, accounting for only 17 % of all ICT students in the EU;
- F. whereas 73 % of boys aged between 15 and 16 feel comfortable using digital devices that they are less familiar with, compared with 63 % of girls in the same age bracket¹³ who are less confident, despite the fact that they possess the skills to outperform boys in digital literacy;

¹² <https://ec.europa.eu/digital-single-market/en/women-digital-scoreboard>

¹³ EIGE Indicator 6. Source: EIGE factsheet entitled ‘Gender equality and digitalisation in the European Union’, published on 11 October 2018.

- G. whereas gender stereotypes greatly influence subject choices; whereas very few teenage girls in EU Member States (less than 3 %) express an interest in working as an ICT professional at the age of 30¹⁴; whereas teachers and parents can deepen gender stereotypes by discouraging girls from pursuing a career in ICT; whereas eliminating gender-specific expectations about professions and fostering female role models in science, technology, engineering and mathematics (STEM) and ICT can encourage girls to study ICT;
- H. whereas women in the information and communication sector earn 19 % less than men; whereas the gender pay gap directly contributes to the gender pension gap¹⁵; whereas the salary levels of men and women must be consistent with the principle of fairness and equality;
- I. whereas all around the globe, women as a demographic group use the internet less often than men, either to install software or to use online radio and television, online banking or e-commerce services;
- J. whereas in the past couple of years, there has been an increase in the number of women working in cybersecurity, the figures nevertheless remain significantly low, with women representing fewer than 20 % of cybersecurity professionals in Europe;
- K. whereas in the future more than 90 % of jobs are expected to require some degree of e-skills and digital literacy;
- L. whereas women are more likely to struggle to find their place in the ICT job sector as a result of various barriers, such as gender stereotypes and male-dominated workplaces lacking in diversity; whereas there is considerable vertical and horizontal segregation in the ICT sector and women are often overqualified for the positions they occupy; whereas only a small minority of women occupy senior software engineering positions;
- M. whereas software use and creation are becoming key assets for the digital transformation; whereas the gender gap in software developers and engineers is a matter of concern in terms of the involvement of women in the sector, as well as potential conscious and unconscious gender-discriminatory biases in AI applications, videogames and toys, and other applications;
- N. whereas the FRA's survey on violence against women shows that 14 % of women have experienced cyber harassment since the age of 15¹⁶; whereas high incidences of sexual harassment have been reported in STEM education sites, including in schools, universities and workplaces, which further excludes women from the sector; whereas many women have been the victims of new forms of online sexual and psychological harassment during the COVID-19 period, including zoom-bombing, stalking or threats; whereas measures to address these new forms of sexual and psychological harassment are urgently needed; whereas the objectification, hyper-sexualisation and exploitation of

¹⁴ EIGE factsheet entitled 'Gender equality and digitalisation in the European Union', published on 11 October 2018.

¹⁵ <https://ec.europa.eu/digital-single-market/en/women-ict>

¹⁶ FRA survey –

[https://www.europarl.europa.eu/RegData/etudes/STUD/2018/604979/IPOL_STU\(2018\)604979_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2018/604979/IPOL_STU(2018)604979_EN.pdf)

women online, in particular via internet pornography, have a devastating effect on the construction of sexuality and on gender equality more generally;

- O. whereas ICT is a sector with a low proportion of female workers; whereas a great number of women abandon their higher-level education, academic opportunities and careers in the ICT sector (the phenomenon known as the ‘leaky pipeline’), mainly due to a poor work-life balance, organisational constraints and a male-dominated environment; whereas the annual productivity loss for the European economy due to women leaving their digital jobs to become inactive is EUR 16.1billion¹⁷;
- P. whereas the IT sector has witnessed a significant increase in female board members, but is also the sector with the highest percentage of all-male boards;
- Q. whereas digital competence means the capacity to acquire, process and communicate digital information, and is affected by socio-cultural and economic background; whereas women spend more time than men on unpaid care and domestic work; whereas this restricts their leisure time, time in paid work or opportunities to acquire digital competence and skills in internet usage; whereas actions aimed at raising awareness, challenging gender stereotypes and norms, and at achieving a better redistribution of unpaid childcare and housework would enable greater participation by women in (digital) labour markets and training, and allow them to gain better digital competence;
- R. whereas only a marginal percentage of venture capitalists, business angels and investors are women; whereas as girls tend to study fewer ICT and STEM subjects from primary school throughout secondary school to university, this leads to women working in significantly lower numbers within these fields in the job market and as founders and owners of private companies and start-ups; whereas the lower percentage of women participating in technology has a direct effect on all societal developments and creates an innovation bias affecting the kinds of innovations and new technologies that are released to consumers;
- S. whereas trends show a decrease in the numbers of women taking up ICT-related higher education compared to 2011; whereas of the 8 million ICT specialists in the EU, women make up 17 %; whereas, if more women were to enter the digital jobs market, the sector would hugely benefit from an untapped talent pool of skills and variety of perspectives, which could create an annual EUR 16 billion GDP boost for the European economy;
- T. whereas, according to the World Economic Forum’s Global Gender Gap Report of 2018, only 22 % of AI professionals globally are female, compared to 78 % who are male, which accounts for a gender gap of 72 % yet to be closed; whereas in 2019, USD 92 of every USD 100 invested in European tech companies went to founding teams that were all men¹⁸;
- U. whereas digital inclusion means the ability of all individuals and communities to have access to and use of ICT; whereas lack of access, affordability and education, as well as gender-related expectations and socio-cultural norms, lower educational participation in STEM and ICTs, the limited use of digital tools and lower activity on social platforms

¹⁷ Commission study entitled ‘Women in the Digital Age’ (2018).

¹⁸ <https://2019.stateofeuropeantech.com/chapter/diversity-inclusion/article/state-di-european-tech/>

resulting from cyber violence towards girls and women are all factors which exclude the latter from digital inclusion; whereas the gender digital inclusion dimension has to be part of all EU initiatives and investments related to ICT and digitalisation;

- V. whereas digital financial inclusion means digital access to and use of formal financial services that are suited to needs and delivered responsibly at an affordable cost; whereas laws and norms that can undermine women's right to participate in the labour force, control assets, establish and access funding to grow formal businesses and to make their own economic decisions are the main reasons for women's financial exclusion; whereas approximately one billion women still do not have access to formal financial services, owing to their lack of access to identification documents, mobile phones, digital skills and lack of financial knowledge, as well as a result of inappropriate products; whereas better access to and usage of responsible digital financial services can help build women's economic power and economic independence;
- W. whereas the ability of women to access and use digital technologies is affected by many factors, including investments, regulations and competition; whereas women and girls in rural and hard-to-reach regions face challenges and barriers to access the internet and digital technologies and infrastructure, preventing them from being able to fully embrace the digital potential of modern technology; whereas, especially in developing countries, women and girls in rural areas generally work in agriculture and their work is often unpaid and precarious, which leads to them living in technology-poor environments and to difficulties in the accessibility of digital technologies;

General remarks

1. Calls on the Commission and the Member States to align the measures fostering the digital transition with the Union's goals on gender equality; stresses that the digital transition should not leave anyone behind; welcomes the Commission's commitments to boosting the participation of women in the digital economy and information society included in the Gender Equality Strategy 2020-2025; calls on the Commission to continue to address the serious gender gap within the ICT sector in the digital agenda, the European digital strategy and all other digitalisation skills and education policies and initiatives, with concrete measures aimed specifically at increasing the participation of women and girls in the sector; stresses that increasing women's participation in the digital sector can have an important impact on combating gender inequalities, stereotypes and discrimination, improving access to the labour market for women and their working conditions, as well as addressing the gender pay gap; calls on the Commission and the Member States to provide appropriate funding to programmes aimed at attracting more girls and women to study and work in STEM, to set up entrepreneurship programmes that finance women and girls who start tech projects or new companies, to develop strategies aimed at increasing girls' and women's digital inclusion, and digital financial inclusion, in fields relating to STEM, AI and the research and innovation sector, and to adopt a multi-level approach to address the gender gap at all levels of education and employment in the digital sector;
2. Calls on the Commission to take equal opportunities for women and men and the digital gender gap into due account while negotiating programmes within the next multiannual financial framework (MFF) and funds and loans under the Recovery Plan, and to

increase awareness of these mechanisms among women; stresses that gender mainstreaming and gender budgeting with measurable indicators should be part of the policies supporting ICT development; calls on the Commission to ensure the gender mainstreaming of the Digital Services Act and all upcoming proposals related to the digital realm;

3. Calls on the Commission and the Member States to ensure the full implementation of the Ministerial Declaration of Commitment on ‘Women in Digital’; calls on the Commission to monitor the implementation of Member States’ cross-sectoral national plans on women in digital;

Education

4. Underlines the importance of ensuring gender mainstreaming in digital education at all levels, including extra-curricular, informal and non-formal education, also for teaching staff; calls for specific strategies for different age ranges;
5. Encourages the Commission and the Member States, as well as developers, businesses and universities, to address the gender gap in the ICT sector and cooperate in finding solutions and sharing best practices on better inclusion of girls in subjects relevant for digital education from an early age onwards; calls for the EU and the Member States to develop, support and implement the actions promoted by the UN and its bodies;
6. Calls on the Commission to thoroughly address the issue of the low numbers of women participating in ICT studies and careers, and ensure a strong gender perspective in the digital Europe programme and updated digital education action plan, including accessibility and affordability of digital equipment; calls on educational entities to include a gender component in all STEM and ICT-related curricula, educational materials and teaching practices from an early age to encourage girls to take up and continue studying mathematics, coding, ICT classes and science subjects in schools; encourages the Commission and the Member States to work with educational institutions and civil society organisations to assess and redesign ICT educational formats;
7. Underlines the importance of women and girls being co-authors of their own future in STEM and ICT becoming an integral part of education in pre-school and primary school, abandoning harmful gender role stereotypes for girls and boys;
8. Calls on the Commission and the Member States to take into account the gender perspective in the development of digital education policies to enable both male and female students to face future challenges; calls on the Commission and the Member States to set up mentoring schemes with female role models in ICT within all levels of education; calls on the Commission and the Member States to promote awareness-raising campaigns directed at both students and their parents to fight gender stereotypes in school projects and jobs; stresses the importance of crediting women for their work so that girls do not see only male names in science books, but also have female role models;
9. Calls on the Commission and the Member States to support lifelong learning in order to facilitate women’s professional transition to ICT-related positions, as well as training

and schemes to boost the e-skills, upskilling and reskilling of girls and women; stresses that the Council's recommendation on vocational education and training and the updated skills agenda for Europe must ensure a gender perspective;

10. Calls on the Commission and Member States to adopt policies and measures to address the leaky pipeline phenomenon;
11. Calls for gender equality to become a consistent and structural part of future EU youth strategy and policies;

Employment and entrepreneurship

12. Urges the Member States to fully transpose and implement the Work-Life Balance Directive and calls on the Commission to monitor it effectively to ensure that both parents can benefit from paternity, parental and carer's leave; encourages the Member States to consider ICT as a means to promote work-life balance and to observe trends in the digitalisation of the world of work, including the digital sector, in order to adapt their existing work-life balance measures, if necessary, and to promote and strengthen their systems aimed at an equal distribution of caregiving responsibilities; in this context, encourages the Commission and Member States to introduce policies to address the situation of the self-employed, particularly women entrepreneurs in the ICT and digital sectors, and their need for access to social protection systems, maternity leave and childcare; points out that teleworking allows women to work from home and has the potential to lead to a better work-life balance; notes, however, that it has to be monitored and properly regulated by the Member States;
13. Stresses that the gender pay gap has a negative impact on social security benefits and the pension gap for women, including in the digital sector; welcomes the Commission's commitment to present binding measures on pay transparency by the end of 2020, while giving due consideration to the unique circumstances of Europe's small and medium-sized enterprises, and the various labour market models that exist in the EU, in order to effectively address the gender pay and pension gaps and old-age poverty;
14. Calls on the Commission and Member States to promote gender equality in companies in the ICT and related sectors and in the digital economy, and to adopt horizontal policies to reduce the gender gap in the digital economy through targeted measures, including European funds to finance female-led projects in the digital sector, the promotion of a minimum number of women researchers participating in ICT projects, training courses for HR departments on 'unconscious gender-discriminatory bias' to promote gender-balanced recruitment, the designing of prizes and incentive schemes for companies and organisations actively implementing gender-neutral policies linked to measurable targets, the promotion of gender mainstreaming in companies' strategies in the production, design and marketing of ICT products, annual reports on diversity and the gender pay gap by ICT companies, public procurement policies and/or guidelines on the purchase of ICT services from providers that apply a gender balance in the composition of their companies and boards, facilitating the distribution of European funds to companies that take into account gender balance criteria and encouraging the implementation of gender equality plans and protocols to improve and monitor companies' performance as regards women's participation, including at management

and leadership levels, as well as mentorship programmes;

15. Calls on the Commission and the Member States to fully assess the causes and factors that lead to a high drop-out rate of women from digital careers; calls on the Commission and the Member States to analyse the effect that the lack of work-life balance has on women's ability to participate in the upskilling training needed to keep up the required skill level in the ICT sector; calls on the Commission and Member States to develop mechanisms and programmes to integrate women and girls into education, training and employment initiatives in the digital sector, irrespective of their legal migration status;
16. Calls on the Commission and the Member States to foster women's entrepreneurship and engagement in innovation and to increase financing opportunities for female entrepreneurs and female-led digital start-ups, and to improve the accessibility of existing funds so that they have equal opportunities to compete in the digital single market and encourage a more gender-balanced composition of financing institutions;
17. Encourages the Commission and the Member States to reinforce the funding for research on gender-related issues in ICT;
18. Considers it to be of the utmost relevance to have more women role models and to increase the number of women in leadership positions in the ICT sector; calls on male role models to speak out for gender equality in the digital economy; stresses the need for ICT companies to introduce human resources practices that promote diversity, such as gender balance in middle and senior management positions, and on company boards; welcomes the Commission's stated intention to encourage the adoption of the 2012 proposal for a Directive on gender balance among non-executive directors of companies listed on stock exchanges (the Women on Boards Directive) and urges the Council to unblock and adopt it;

The culture, media and audiovisual sectors

19. Stresses the impact of the cultural, media, advertising and audiovisual sectors in the development and intensification of gender stereotypes and promotion of normative and cultural barriers, replicated through the language and images disseminated;
20. Calls on the audiovisual and media industries to increasingly portray women in STEM and ICT-related professions, and to introduce depictions of diversity and opportunity within STEM and ICT; calls on the media industries to include women on discussion panels, in newspaper articles and in other spaces where public opinion and discourse on technological subjects is shaped;
21. Recalls the importance of eliminating conscious and unconscious gender-discriminatory bias from algorithms, AI applications, videogames and toys that perpetuate harmful gender stereotypes and lead to the reduced participation of women in the digital, AI and ICT fields; stresses the need to address the innovation bias within the ICT sector, whereby the designers and developers of services, software and user applications are mostly men and the users mainly women;

Women's civic, political and economic empowerment

22. Stresses that ICTs can greatly increase women's ability to take part in electoral processes, public consultations, surveys and debates, as well as to organise and advocate women's rights; calls on the Commission and the Member States to take the gender dimension into account when devising e-government initiatives; underlines the effectiveness of using the internet for campaigns, forums and boosting the visibility of female role models;
23. Calls on the Commission and the Member States to engage constructively with and support digital civil society organisations and to encourage such organisations to get involved in internet governance; calls on the Commission and the Member States also to work closely with and involve women and women's civil society organisations in order to better respond to and alleviate the concerns that exist in the everyday life of women and girls when designing and implementing public tech policies, and to promote women's economic and digital inclusion;
24. Encourages the Member States and the Commission to organise awareness-raising, training and gender mainstreaming campaigns to highlight the impact of ICT proficiency on the economic empowerment of women;
25. Considers that women need to be encouraged to play a more critical role in the design, development, construction and maintenance of smart cities or smart villages;

Data collection

26. Welcomes the creation of the Women in Digital scoreboard as an integral part of the Digital Economy and Society Index (DESI), as well as the four new indicators proposed by the EIGE in its 2018 report entitled 'Gender equality and youth: opportunities and risks of digitalisation';
27. Calls on the Commission and the Member States, as well as platforms and businesses, to collect comparable gender- and age-disaggregated data on the use of ICT, as well as to propose initiatives, including research, to understand and address the root causes of the digital gender gap; urges the Commission and the Member States to collect and utilise existing sex-disaggregated data to promote more research into the interaction of the different factors which impede women's and girls' digital inclusion; stresses that harmonised data collection facilitates the comparison and sharing of data and examples of best practices by the Member States;

Combating gender-based violence: Cyber violence

28. Acknowledges with great concern the rise in digital crimes and acts of intimidation, bullying, doxing, harassment and violence against women in the digital world; stresses the importance of digital and media literacy, cyber-hygiene and cyber safety; calls for funds and campaigns to raise awareness and educate women in how to secure their accounts and communications to protect themselves online, and in respectful social communication on the internet to warn women about potential harassers or aggressors, as well as to inform them how to seek help in case of an incident; considers that such campaigns should combat gender-based violence and gender stereotypes, educate men in how to behave towards women online and ensure women's continued freedom of expression and meaningful participation in public discourse; considers, in addition, that

companies and developers should address gender-based online violence and abuse on their infrastructures through effective reporting and suspension mechanisms; calls on the Member States to facilitate reporting channels and to support the development of training tools for the police force, the justice system and the information and communication technology sector to empower law enforcement agencies to effectively investigate and prosecute malicious attackers and support the victims of online harassment and violence;

29. Calls for the EU institutions, agencies and bodies, as well as the Member States and their law enforcement agencies, to cooperate and take concrete steps to coordinate their actions to counter the use of ICT to commit crimes, including online sexual harassment and trafficking in human beings for the purpose of sexual exploitation, and to collect sex-disaggregated data concerning online gender-based violence; welcomes the Commission's announcement of a survey on gender-based violence; urges the Commission and the Member States to provide appropriate funding for the development of AI solutions that prevent and combat cyber violence, online sexual harassment, the exploitation of women and girls, and harassment at the workplace; calls on the Member States to review their criminal law to ensure that new forms of digital violence are defined, acknowledged and criminalised, as well as to ratify the ILO Violence and Harassment Convention of 2019, which applies, inter alia, to work-related communications;
30. Considers it essential for the achievement of gender equality to create comprehensive, age-appropriate sexual and relationship education which includes combating cyber violence and online sexual harassment, as well as combating online objectification and the hyper-sexualisation and sexual exploitation of women; calls on the Commission and the Member States to adopt policies and measures to address the occurrences of sexual harassment at STEM educational sites and schools, as well as within the ICT sector; calls on employers to adapt HR measures to tackle both old and new forms of online harassment, with mandatory training courses and emergency numbers for victims;
31. Calls for further legally binding measures and for a directive to prevent and combat gender-based violence, including cyber violence, which is often directed at women such as public figures, politicians and activists, as well as online hate speech against women; calls on the Commission to ensure that the forthcoming proposal for a Digital Services Act and the new framework for cooperation between internet platforms address online platforms' responsibilities regarding user-disseminated hate speech and other harmful, abusive and sexist content, to protect women's safety online; calls on the Commission to develop harmonised legal definitions of cyber violence and a new Code of Conduct for online platforms on combating online gender-based violence;

Emerging fields

32. Calls on national public administrations and the EU institutions to work with the private sector to create Europe-wide role model campaigns, encouraging women junior professionals to opt for the cybersecurity professions, which would significantly reduce the skills gap, boost the economy, and improve the overall resilience of the cybersecurity industry in Europe;

33. Stresses the need for further regulatory efforts to ensure that AI respects the principles and values of gender equality and non-discrimination as enshrined in Article 21 of the Charter of Fundamental Rights of the European Union;
34. Highlights that a need exists to deepen understanding, through a gender lens, of emerging fields such as algorithmic decision-making, blockchain technology and cryptocurrency and dataveillance, and to set out strategies to address them;

Gender equality in development policies

35. Expresses its concerns about the possibility of an increase in the digital gender gap in developing countries and regions in the current crisis; stresses the importance of promoting women's and girls' digital proficiency, digital accessibility and digital affordability as instruments to obtain gender equality in development strategies; stresses the need to channel development funds into the promotion of the digital education of girls and women, and to support female-led projects in the digital sector, especially those with a social impact;
36. Recalls that persons with disabilities, ethnic and minority groups, women from different socio-economic backgrounds, older women and women in rural areas, as well as refugee and migrant women, may face difficulties in accessing digital services and related infrastructure; stresses the importance of an intersectional approach to all gender mainstreaming initiatives as regards increasing women's access to and use of digital services, and to education and employment in the digital economy and society; calls on the Member States to tackle the digital exclusion of all vulnerable groups in society and to make ICT education accessible to them by adapting teaching methods and timetables to take account of the different factors determining women's access to education;

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37. Instructs its President to forward this resolution to the Council and the Commission.

EXPLANATORY STATEMENT

Digitalisation fundamentally changed our lives, creating new opportunities but also multiple challenges. Equal labour market opportunities and treatment at work, and striving for gender balance in the digital sector, is utmost important not only the EU's economy, expressed for example in terms of GDP growth, but also as a matter of plain justice for all the talented women and girls choosing a STEM (Science, Technology, Engineering, Mathematics) career path.

The present COVID-19 crisis, which revolutionised the way people and companies use ICT and other digital technologies to work and interact, only highlighted the urgency to promote gender balance in this sector.

The inequalities were identified decades ago, and efforts have been made to address them over the years. Nevertheless, as demonstrated by a recent study commissioned by the European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs, at the request of the FEMM Committee, biases and inequalities persist in STEM fields and the digital sector (e.g., digital technologies, Computer Science, Information Technology, Information and Communication Technology, Artificial Intelligence, cybersecurity).

This report identifies two major phenomena contributing to this reality. On the one hand, for a number of cultural reasons, girls tend to avoid these areas, because they do not see them as viable career paths. On the other, many of those that actually follow this road end up giving it up somewhere along the way, either as students or as professionals, in what has already been called the 'leaky pipelines' effect. The differences between men and women become evident quite early and are notorious throughout their lives. At ages 15-16, 73% of boys claim to feel comfortable using electronic devices, while only 63% of girls in the same age group say the same. Even more worrisome, only 3% of teenage girls express an interest in pursuing a career as an ICT professional.

The 'leaky pipeline' refers to the situation where, the further a woman advances in her academic studies and profession, the higher the likelihood she will drop out. The leaky pipeline is due to a number of conditions, including non-family friendly work environments, lack of female peers and mentors, and a lack of professional recognition.

Purpose and measures

This INI Report aims to address the root causes of the existing digital gender gap, reflect on the data available and propose concrete measures and actions to promote women's and girl's participation in the digital economy.

The causes of digital gender gap are multiple. The rapporteur structures the report on a trajectory basis from the previous stages of **Education** up to **Employment** level, and also the social and cultural influences, in an attempt to identify positive feedback loops and bottlenecks that prevent the full integration of women and girls in the digital sector.

This report includes a group of recommendations to the commission, the member states and

society in general.

The rapporteur stresses that it is not only up to public authorities and bodies to respond appropriately to combat gender digital gap. Different actors - public figures, private actors or academics – can carry out targeted actions to efficiently enhance the participation and role of women and girls in the digital economy.

It is necessary to encourage women's participation in technical and high-level jobs by overcoming educational barriers from an early stage, as well as professional barriers, while guaranteeing digital lifelong learning for women.

This report also includes several recommendations intended to address the digital gender gap in various areas such as **Media, Culture and Audiovisual Sector, Women's Civic, political and economic** participation.

The importance of Data Collection, Cybersecurity and further research on gender issues in ICT is also addressed.

It is the rapporteur's conviction that eliminating the gender gap will boost prosperity at all levels and ensure social justice through enhanced equality between women and men.

INFORMATION ON ADOPTION IN COMMITTEE RESPONSIBLE

Date adopted	12.11.2020
Result of final vote	+: 28 -: 3 0: 2
Members present for the final vote	Christine Anderson, Simona Baldassarre, Robert Biedroń, Vilija Blinkevičiūtė, Annika Bruna, Margarita de la Pisa Carrión, Rosa Estaràs Ferragut, Frances Fitzgerald, Cindy Franssen, Helène Fritzon, Lina Gálvez Muñoz, Lívia Járóka, Arba Kokalari, Alice Kuhnke, Karen Melchior, Maria Noichl, Sandra Pereira, Pina Picierno, Sirpa Pietikäinen, Samira Rafaela, Evelyn Regner, Diana Riba i Giner, Eugenia Rodríguez Palop, María Soraya Rodríguez Ramos, Sylwia Spurek, Jessica Stegrud, Isabella Tovaglieri, Ernest Urtasun, Hilde Vautmans, Elissavet Vozemberg-Vrionidi, Chrysoula Zacharopoulou
Substitutes present for the final vote	Maria da Graça Carvalho, Jadwiga Wiśniewska

FINAL VOTE BY ROLL CALL IN COMMITTEE RESPONSIBLE

28	+
PPE	Maria da Graça Carvalho, Rosa Estaràs Ferragut, Frances Fitzgerald, Cindy Franssen, Lívia Járóka, Arba Kokalari, Sirpa Pietikäinen, Elissavet Vozemberg-Vrionidi
S&D	Robert Biedroń, Vilija Blinkevičiūtė, Helène Fritzon, Lina Gálvez Muñoz, Maria Noichl, Pina Picierno, Evelyn Regner
Renew	Karen Melchior, Samira Rafaela, María Soraya Rodríguez Ramos, Hilde Vautmans, Chrysoula Zacharopoulou
ID	Simona Baldassarre, Isabella Tovaglieri
Verts/ALE	Alice Kuhnke, Diana Riba i Giner, Sylwia Spurek, Ernest Urtasun
GUE/NGL	Eugenia Rodríguez Palop
ECR	Jadwiga Wiśniewska

3	-
ID	Christine Anderson
ECR	Margarita de la Pisa Carrión, Jessica Stegrud

2	0
ID	Annika Bruna
GUE/NGL	Sandra Pereira

Key to symbols:

+ : in favour

- : against

0 : abstention