

Gender and digital agenda



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1. Relevance of gender in the policy area

The digital agenda is the European Union's strategy that ensures that digital technologies, including the internet, are used to stimulate the EU's economy and help its citizens and businesses to get the most out of these technologies. It is the first of the seven flagship initiatives under the Europe 2020 strategy for smart, sustainable and inclusive growth ⁽¹⁾.

The digital agenda for Europe was established with a view to stimulating economic growth while at the same time addressing social challenges through information and communications technology (ICT). In both cases, gender has particular relevance.

In terms of addressing social challenges, access to modern ICT and the internet enables the exercise of human rights, including freedom of expression, cultural rights and the right to assembly. It can also confer a sense of identity. Internet access also encompasses the right to participate and fully engage in policy- and decision-making processes, thereby making the internet a gateway to new ideas and opportunities and a driving force for innovation ⁽²⁾. The inclusion of women in the digital world, through increased access to internet and increasing opportunities to study ICT subjects, is an empowering process. It gives women a voice and enables them to participate effectively in governance processes and innovate to build and shape the future they want ⁽³⁾.

In terms of economic growth, the so-called knowledge economy, which relies on intellectual resources such as knowledge or expertise, is a key economic factor underpinning national and EU development. The World Bank suggests that every 10 % increase in access to broadband results in a 1.38 % rise in gross domestic product (GDP) in developing countries. The 2015 progress report on the EU digital agenda confirms this correlation: digitalisation accounted for 30 % of growth in GDP in the EU between 2001 and 2011 ⁽⁴⁾.

According to the Broadband Commission report, the presence of women online can boost GDP: bringing an additional 600 million women and girls online around the world will result in a GDP increase of up to USD 18 billion.

The report underlines that, for women, having access to the internet means:

- increased efficiency/productivity in their work and businesses;
- improved access to markets to sell and buy goods;
- improved education;
- wider networks;
- new innovations;
- faster access to relevant information ⁽⁵⁾.

In addition, the European Commission report *Women active in the ICT sector* concludes that including more women in the digital economy could create an annual GDP boost in the EU of EUR 9 billion ⁽⁶⁾.

Furthermore, ICT also enables people to acquire new skills and acts as a catalyst in the delivery of public services such as education, employment, healthcare and financial services. In this light, ensuring equal access to ICT and the internet is not only a matter of human rights (e.g. freedom of expression); it would also improve women's health and the health of their families and communities, support women's access to education and other social services and contribute to women's employment, economic independence and the sustainable development of their livelihoods ⁽⁷⁾.

However, the full potential that women can bring to the digital field — in terms of economically sustainable growth, human rights and social achievement — is still blocked by persistent gender inequalities.

⁽¹⁾ European Commission, 'Digital agenda for Europe', Glossary (<http://ec.europa.eu/digital-agenda/en/glossary#d>).

⁽²⁾ United Nations Broadband Commission, *Doubling digital opportunities: enhancing the inclusion of women and girls in the information society*, 2013 (<http://www.broadbandcommission.org/documents/working-groups/bb-doubling-digital-2013.pdf>).

⁽³⁾ United Nations Broadband Commission, *Doubling digital opportunities: enhancing the inclusion of women and girls in the information society*, 2013 (<http://www.broadbandcommission.org/documents/working-groups/bb-doubling-digital-2013.pdf>).

⁽⁴⁾ European Commission, *Digital agenda targets: progress report*, 2015 (<http://ec.europa.eu/digital-agenda/en/download-scoreboard-reports>).

⁽⁵⁾ United Nations Broadband Commission, *Doubling digital opportunities: enhancing the inclusion of women and girls in the information society*, 2013 (<http://www.broadbandcommission.org/documents/working-groups/bb-doubling-digital-2013.pdf>).

⁽⁶⁾ DG Communications Networks, Content and Technology, *Women active in the ICT sector*, 2013 (http://www.bgwomenict.org/language/bg/uploads/files/documents__0/documents__32b35cbb8f4815da69c1295eb5c29c99.pdf).

⁽⁷⁾ International Telecommunication Union (ITU), *A bright future in ICTs: opportunities for a new generation of women*, 2012 (<http://girlsiniict.org/get-inspired/bright-future-icts-opportunities-new-generation-women>).



First of all, there is a gender divide in internet use among women and men ⁽⁸⁾. This may be related to the lower take-up of digital education among women: for example, the use of ICT and the internet is usually part of scientific education pathways, where women are present in smaller numbers. Women are also under-represented in ICT employment and are generally employed in low-quality digital jobs ⁽⁹⁾, despite research suggesting that gender balance in high-value ICT positions, both in management and operational roles, improves business performance ⁽¹⁰⁾. The most recent programme for international student assessment (PISA) data on the link between ICT education and employment shows that girls are over-represented among students who expect to work in the health and social fields, while boys are over-represented among 15 year olds who expect to work as engineers or computer scientists. On average among Organisation for Economic Cooperation and Development (OECD) countries, fewer than 5 % of girls contemplate pursuing careers in these fields. In fact, there are almost four times as many boys as girls who expect to be employed in engineering and computing in OECD countries ⁽¹¹⁾.

Second, ICT has been increasingly associated with cyber-crime, which is becoming an instrument to harass and harm women, while at the same time reinforcing existing structures of inequality. For example, the history of surveillance technologies reveals that they were developed in a cultural

code rife with inequalities, and thus reflect those same inequities. Moreover, as these computing technologies were developed in a cultural context of the persistent and widespread occurrence of violence against women (VAW), it is expected that these new technologies reflect these old inequalities and have resulted in the intensification of the surveillance and stalking of victims of violence ⁽¹²⁾.

The digital agenda is thus an area that remains influenced by a set of persistent gender inequalities. These are as follows:

- gender gaps and differences in access to and use of digital technologies;
- gender gaps and differences in digital-related education: segregation across fields of study between women and men and girls and boys;
- gender and the digital labour market: women's low participation in the digital labour market and in particular in high-quality jobs and top management positions;
- ICT, cybercrime and gender.

⁽⁸⁾ United Nations Broadband Commission, *Doubling digital opportunities: enhancing the inclusion of women and girls in the information society*, 2013 (<http://www.broadbandcommission.org/documents/working-groups/bb-doubling-digital-2013.pdf>).

⁽⁹⁾ United Nations Broadband Commission, *Doubling digital opportunities: enhancing the inclusion of women and girls in the information society*, 2013 (<http://www.broadbandcommission.org/documents/working-groups/bb-doubling-digital-2013.pdf>); ITU, *A bright future in ICTs: opportunities for a new generation of women*, 2012 (<http://girlsinct.org/get-inspired/bright-future-icts-opportunities-new-generation-women>); DG Communications Networks, Content and Technology, *Women active in the ICT sector*, 2013 (http://www.bgwomeninict.org/language/bg/uploads/files/documents__0/documents__32b35cbb8f4815da69c1295eb5c29c99.pdf).

⁽¹⁰⁾ ITU, *A bright future in ICTs: opportunities for a new generation of women*, 2012 (<http://girlsinct.org/get-inspired/bright-future-icts-opportunities-new-generation-women>).

⁽¹¹⁾ OECD, *The ABC of gender equality in education: aptitude, behaviour, confidence*, PISA, OECD Publishing, 2015 (<http://dx.doi.org/10.1787/9789264229945-en>).

⁽¹²⁾ Mason, C. and Magnet, S., 'Surveillance studies and violence against women', *Surveillance Studies*, Vol. 19, No 2, 2012, pp. 105-118 (<http://library.queensu.ca/ojs/index.php/surveillance-and-society/article/viewFile/vaw/PDF>).

2. Issues of gender inequalities in the policy area

Gender gaps and differences in access to and use of digital technologies

According to 2015 Eurostat data ⁽¹³⁾, 81 % of EU households have access to the internet. This ranges from 96 % in the Netherlands and Luxembourg to 57 % in Bulgaria. Even though these data are not disaggregated by sex, studies ⁽¹⁴⁾ suggest that access to the internet is probably less widespread among women-headed households for various reasons, such as lower income, lower digital skills and less interest in internet technologies.

Eurostat data also show that 54 % of men aged 16-74 use mobile devices to access the internet, compared to 48 % of women in the same age group. In the EU-28, internet use is widespread among both women and men in the 16-74 age group. However, women tend to use computers and the internet less than men (62 % of women compared to 68 % of men). Between 2010 and 2014 the percentage of women aged 16-74 frequently using the internet increased by 13 % (compared with a 9 % increase among men over the same period), considerably narrowing the gender gap. The Broadband Commission's report ⁽¹⁵⁾ finds that gender gaps in internet use tend to increase when it comes to more complex uses of the internet. For instance:

- 18 % of women aged 16-74 use the internet to download software content, compared to 33 % of men in the same age group (2013 data) ⁽¹⁶⁾;
- 35 % of women aged 16-74 use the internet to listen to the radio or watch television programmes online, compared to 41 % of men (2014 data);
- 42 % of women compared to 47 % of men aged 16-74 use internet banking (2014 data);

- 17 % of women aged 16-74 use the internet to sell goods compared to 22 % of men in the same age group;
- 13 % of women aged 16-74 use the internet to buy online compared to 20 % of men in the same age group.

Women generally use other communication technologies, such as social networking sites, email, video calls, instant messaging, texting and phone calls, more often than men ⁽¹⁷⁾. When using social media websites, women and men behave differently — women tend to disclose more than men. There are also gender differences regarding the type of Facebook friends to whom women and men divulge information. Women tend to reveal more to their face-to-face friends and exclusive Facebook friends than men; men have more intimate discussions with their recently added Facebook friends than women ⁽¹⁸⁾.

Gender gaps in digital-related education

According to 2014 Eurostat data, more women (42.3 %) than men (33.6 %) go on to higher education, yet women are present in greater numbers in the humanities than in scientific fields. According to Eurostat data, the number of women graduates in science and technology per 1 000 inhabitants was half that of men in 2012: 11 % of women compared to 22 % of men aged 22-29. The increase in the percentages of third-level graduates in science and technology over the 2010-2012 period is slightly higher for men (+ 2.9 pp) than for women (+ 1.2 pp) ⁽¹⁹⁾.

⁽¹³⁾ Eurostat, 'Households with internet access at home' (<http://data.europa.eu/euodp/en/data/dataset/Df89i37g94ZFdpkPV4wVg>).

⁽¹⁴⁾ United Nations Broadband Commission, *Doubling digital opportunities: enhancing the inclusion of women and girls in the information society*, 2013 (<http://www.broadbandcommission.org/documents/working-groups/bb-doubling-digital-2013.pdf>).

⁽¹⁵⁾ United Nations Broadband Commission, *Doubling digital opportunities: enhancing the inclusion of women and girls in the information society*, 2013 (<http://www.broadbandcommission.org/documents/working-groups/bb-doubling-digital-2013.pdf>).

⁽¹⁶⁾ All data cited in this bullet list are taken from Eurostat, 'Internet use and activities' (http://ec.europa.eu/eurostat/data/database?node_code=isoc_bde15cua).

⁽¹⁷⁾ Kimbrough, A., Guadagno, R., Muscanell, N. and Dill, J., 'Gender differences in mediated communication: women connect more than do men', *Computers in Human Behavior*, Vol. 29, Issue 3, 2013, pp. 896-900.

⁽¹⁸⁾ Sheldon, P., 'Examining gender differences in self-disclosure on Facebook versus face-to-face', *Journal of Social Media in Society*, Vol. 2, No 1, 2013, pp. 90-106.

⁽¹⁹⁾ Calculations based on Eurostat data, 'Science and technology graduates by sex' (<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tps00188&plugin=1>).



Furthermore, the 2013 study *Women active in the ICT sector* notes that only 9.6 % of women students in third-level education study ICT-related degrees, compared to 30.6 % of men ⁽²⁰⁾. This difference leads to a considerable waste of women's talent in maths, science and technology (MST) and ICT. This is an important issue to acknowledge in light of the European Commission's estimations that there will not be enough ICT specialists to cover the number of jobs forecast for the digital sector.

There is a complex set of reasons for this situation, including the perception that some subjects and fields of study and work are 'feminine' or 'masculine'. Indeed, the ICT field is stereotypically depicted as the preserve of 'male geeks' — highly knowledgeable enthusiasts with few social skills.

Another reason relates to the use of ICT in schools and the way ICT is taught. A study ⁽²¹⁾ to benchmark access and attitudes to, and use of, ICT in schools in 31 countries (including the EU-27 at the time of the study) revealed positive (albeit minor) correlations between students' attitudes towards computers and the number of years they had been using ICT. The longer students used computers at school, the more positive their attitude was towards them. The study also concluded that, at grade 11, boys had a slightly more positive attitude towards computers than girls. This might indicate a lower use of computers at school by girls or the influence of gender stereotypes and the way ICT is taught.

Gender gaps in the digital labour market

Women's low participation in the digital labour market is a key challenge.

Girls tend to avoid ICT-related studies and are even less likely to choose careers in ICT. According to the European Commission study *Women active in the ICT sector* ⁽²²⁾, in 2012 only 2 % of all women in the labour market worked in the

ICT sector, compared to 3.6 % of men. Only around 32 % of employees in the ICT sector are women.

This trend remained stable in 2014, with only 2 % of all women in the labour market employed in technical, professional and scientific jobs, compared to 5 % of men ⁽²³⁾. Attracting more women to the digital labour market is only part of the problem: retaining them in the sector is also a challenge. Women's participation in the digital labour market decreases with age: women under 30 with a degree in ICT make up 20 % of the ICT sector, compared to 15.4 % of women aged between 31 and 45 and 9 % of women over 45. This phenomenon is known as the 'leaky pipeline' and refers to the gradual exit of women along their way to the top of the career ladder in academic and research institutions, resulting in an overwhelmingly male-dominated environment at the highest hierarchical levels ⁽²⁴⁾ ⁽²⁵⁾. It particularly affects mid-career women — in this case in ICT jobs — abandoning the field due to a lack of progression to senior leadership roles. As suggested by the European Parliament ⁽²⁶⁾, the following factors contribute to the leaky pipeline in the career steps: a poor work-life balance, organisational constraints, a male-dominated environment and a lack of women role models. These are similar to the problems identified for women entering the ICT sector.

Segregation in low-paid positions

When they are employed in the ICT sector, women more often hold low-status positions: in 2010, 96 % of chief executive officers in the ICT and telecom sectors were men ⁽²⁷⁾. While the low presence of women in top management positions is a problem in many service industries, the gap is particularly large in the ICT sector: women represent only 19.2 % of managers in the ICT sector, compared to 42.5 % in the non-ICT service sector.

⁽²⁰⁾ DG Communications Networks, Content and Technology, *Women active in the ICT sector*, 2013 (http://www.bgwomeninict.org/language/bg/uploads/files/documents___0/documents___32b35cbb8f4815da69c1295eb5c29c99.pdf).

⁽²¹⁾ DG Communications Networks, Content and Technology, *Survey of schools: ICT in education — Benchmarking access, use and attitudes to technology in Europe's schools*, 2013 (<https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/KK-31-13-401-EN-N.pdf>).

⁽²²⁾ DG Communications Networks, Content and Technology, *Women active in the ICT sector*, 2013 (http://www.bgwomeninict.org/language/bg/uploads/files/documents___0/documents___32b35cbb8f4815da69c1295eb5c29c99.pdf).

⁽²³⁾ Calculations based on 2014 Eurostat data.

⁽²⁴⁾ European Parliament, DG for Internal Policies, *Women in ICT*, 2012 (<http://www.europarl.europa.eu/document/activities/cont/201208/20120831ATT50302/20120831ATT50302EN.pdf>).

⁽²⁵⁾ The 'leaky pipeline' refers to the gradual exit of women along their way to the top of the career ladder in academic and research institutions, resulting in a usually overwhelmingly male-dominated environment at the highest hierarchical levels. *Source*: European Commission, *Meta-analysis of gender and science research — Synthesis report*, 2012 (https://ec.europa.eu/research/swafs/pdf/pub_gender_equality/meta-analysis-of-gender-and-science-research-synthesis-report.pdf).

⁽²⁶⁾ European Parliament, DG for Internal Policies, *Women in ICT*, 2012 (<http://www.europarl.europa.eu/document/activities/cont/201208/20120831ATT50302/20120831ATT50302EN.pdf>).

⁽²⁷⁾ European Parliament, DG for Internal Policies, *Women in ICT*, 2012 (<http://www.europarl.europa.eu/document/activities/cont/201208/20120831ATT50302/20120831ATT50302EN.pdf>).

Low levels of women's entrepreneurship in ICT

In 2010, women represented only 19.2 % of all entrepreneurs in the ICT sector, compared with 53.9 % in the non-ICT service sectors. Furthermore, out of all self-employed women in the EU in 2010 (31.1 %), only 2 % worked in the ICT sector (compared with 3.5 % of self-employed men) ⁽²⁸⁾.

Women's insufficient access to and participation in the digital sector may be explained by a range of factors, as set out below ⁽²⁹⁾.

- There are stereotypes about women lacking skills to work in the sector (e.g. lack of leadership skills, weaker aptitudes for science, technology, engineering and mathematics (STEM) studies and careers).
- It is traditionally a strongly male-dominated environment, with discrimination against women based on stereotypes about women's role in society and the workplace, and the 'old-boy network' culture. Women may be unwilling or lack confidence to engage in struggles and competition in this type of environment.
- Complexities in reconciling personal and professional life arise due to long working hours and the paucity or inadequacy of policies to balance work and private life. There are few role models in the sector.

⁽²⁸⁾ European Parliament, DG for Internal Policies, *Women in ICT*, 2012 (<http://www.europarl.europa.eu/document/activities/cont/201208/20120831ATT50302/20120831ATT50302EN.pdf>).

⁽²⁹⁾ European Parliament, DG for Internal Policies, *Women in ICT*, 2012 (<http://www.europarl.europa.eu/document/activities/cont/201208/20120831ATT50302/20120831ATT50302EN.pdf>).

ICT, cybercrime and gender

While ICT has increased opportunities for women to exploit their capabilities and improve their quality of life, it has also exacerbated existing structures of inequality by enabling cybercriminals to access and misuse the technology to abuse, harass and harm women, thereby reinforcing existing structures of inequality ⁽³⁰⁾.

The UN estimates that 95 % of aggressive behaviour, harassment, abusive language and denigrating images in online spaces are aimed at women and come from male partners or former partners ⁽³¹⁾. Perpetrators are also using digital technologies to control and track their victims, such as spyware, wireless technology, logging facilities in instant messaging services and internet browsers, webcams and GPS ⁽³²⁾. Cybercrimes are becoming increasingly common, ranging from threats or false accusations about a person in an online space (e.g. social networks and mobile phone calls), stealing identities or data and spying and monitoring a person's computer and internet use without permission ⁽³³⁾. This can result in devastating psychological effects on women, particularly young women, who may turn to self-harm or even suicide.

At the same time, digital tools and technologies are playing an important role in supporting and empowering victims of violence (e.g. web campaigns, information and support websites and apps) and in helping combat gender-based violence ⁽³⁴⁾.

⁽³⁰⁾ Cabrera-Balleza, M., *Finding a difficult balance: human rights, law enforcement and cyber violence against women*, 2008 (<http://www.genderit.org/content/finding-difficult-balance-human-rights-law-enforcement-and-cyber-violence-against-women>).

⁽³¹⁾ Association for Progressive Communications, *How technology is being used to perpetrate violence against women — and to fight it* (<http://www.apc.org/en/pubs/research/how-technology-being-used-perpetrate-violence-again>).

⁽³²⁾ Mason, C. and Magnet, S., 'Surveillance studies and violence against women', *Surveillance Studies*, Vol. 19, No 2, 2012, pp. 105-118 (<http://library.queensu.ca/ojs/index.php/surveillance-and-society/article/viewFile/vaw/PDF>).

⁽³³⁾ Association for Progressive Communications, *How technology is being used to perpetrate violence against women — and to fight it* (<http://www.apc.org/en/pubs/research/how-technology-being-used-perpetrate-violence-again>).

⁽³⁴⁾ Association for Progressive Communications, *How technology is being used to perpetrate violence against women — and to fight it* (<http://www.apc.org/en/pubs/research/how-technology-being-used-perpetrate-violence-again>).



3. Gender equality policy objectives at EU and international levels

The digital sector falls under the responsibility of both the European Commission and EU Member States. While the Member States are in charge of creating favourable conditions for the development of the digital economy, which includes the increased participation of women in the digital economy and society, the remit of the Commission is to create the digital single market. The digital single market is one of 10 political priorities and is defined as a market for the free movement of people, services and capital, where individuals and businesses can seamlessly access and exercise online activities under conditions of fair competition and with a high level of consumer and personal data protection, irrespective of their nationality or place of residence. As one of the pillars of the digital single market strategy consists of maximising the growth potential of the digital economy, the European Commission has been taking action to encourage EU Member States to speed up the development of the digital economy, including initiatives to support Member States in boosting women's participation in this sector.

EU level

European Commission

The European Commission's Digital Agenda for Europe⁽³⁵⁾ was launched in May 2010 as an integral part of the Europe 2020 strategy to stimulate the EU's economy and help its citizens and businesses get the most out of digital technologies. It includes seven pillars and 101 specific actions. Pillar VI is dedicated to enhancing digital literacy, skills and inclusion. It proposes several actions, including action 60, which strives to 'increase [the] participation of women in the ICT workforce'. This action aims to address the current low numbers of women in the ICT sector through web-based training resources, game-based e-learning, social networking, studies and research on women in ICT, data collection and awareness raising on the relevance of women's participation in the digital economy and society.

⁽³⁵⁾ European Commission, 'Digital agenda in the Europe 2020 strategy' (<http://ec.europa.eu/digital-agenda/en/digital-agenda-europe-2020-strategy>).

The 'e-Skills for the 21st Century' strategy⁽³⁶⁾ identifies a need for specific actions to increase the participation of women in ICT and STEM fields. These include exchanging information and good practices on Member State initiatives to promote science, maths and ICT, as well as related job and career profiles and role models. The strategy also includes plans for teacher training in the area of ICT skills while also addressing gender issues in technical and scientific areas and encouraging women to choose ICT careers by further promoting the 'IT girls shadowing exercise' in cooperation with ICT companies.

Encouraging women's participation in higher technical and scientific education is also an objective of the EU agenda for the modernisation of higher education systems⁽³⁷⁾, which acknowledges that tackling stereotypes and dismantling the barriers faced by women in reaching the highest levels of postgraduate education and research — especially in certain disciplines and leadership positions — can liberate untapped talent. Furthermore, the agenda states that one of the key policies to be addressed by Member States is implementing the recommendations of the Helsinki Group on Women in Science⁽³⁸⁾.

Increasing women's participation in the labour market and the digital economy and society is also a target of the EU agenda for new skills and jobs⁽³⁹⁾. It recommends four priorities to the Member States: better-functioning labour markets, a higher-skilled workforce, better job quality and working conditions and stronger policies to promote job creation and demand for labour. The ICT sector has envisaged actions to equip people with the right skills for employment and integrate ICT competences and digital literacy (e-skills) into lifelong learning policies.

⁽³⁶⁾ European Commission, 'E-skills for growth and jobs' (http://ec.europa.eu/growth/sectors/digital-economy/e-skills/index_en.htm).

⁽³⁷⁾ DG Education and Culture, *Supporting growth and jobs: an agenda for the modernisation of Europe's higher education systems*, Publications Office of the European Union, Luxembourg, 2011 (http://ec.europa.eu/education/library/policy/modernisation_en.pdf).

⁽³⁸⁾ European Parliament, FEMM Committee, *Study on evaluation of the strategy for equality between women and men 2010-2015 as a contribution to achieve the goals of the Beijing Platform for Action*, 2014 ([http://www.europarl.europa.eu/RegData/etudes/STUD/2014/509996/IPOL_STU\(2014\)509996_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2014/509996/IPOL_STU(2014)509996_EN.pdf)).

⁽³⁹⁾ European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — An agenda for new skills and jobs: a European contribution towards full employment (COM(2010) 682) (<http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52010DC0682>).

The Social investment package 2020 (SIP) ⁽⁴⁰⁾ is the Directorate-General for Employment, Social Affairs and Inclusion's main contribution to Europe 2020 in the area of social inclusion. It aims to enhance the use of ICT to promote women's participation in the labour market. For instance, it urges EU Member States to address barriers to women's participation in the labour market by encouraging employers to offer suitable workplaces, including e-accessibility, and reconciliation measures (such as childcare services and smart work through ICT-based solutions). It also calls on Member States to ensure that women enjoy equal access to basic services such as the internet.

While not specifically addressing the areas covered by the Digital agenda, the EU strategy for equality between women and men 2010-2015, which was adopted in 2010, includes key recommended actions. These actions involve further promoting opportunities for women to access training, skills and professional experience in the scientific, mathematical and technology fields, as well as promoting women's adult learning and scientific career choices. The recommended actions also focus on improving media literacy (cf. reducing the 'digital gap', as mentioned in the Europe 2020 Digital Agenda).

The European Commission has also promoted initiatives aimed at bringing together different stakeholders to ensure coordination of actions to increase women's participation in the digital economy and society. The Grand Coalition for Digital Jobs and Growth ⁽⁴¹⁾, led by the European Commission, was launched in 2013 and is an EU-wide multi-stakeholder partnership helping to address a shortfall in the number of EU citizens with ICT professional skills and to exploit the employment creation potential of ICT. The partnership has included the European Centre for Women and Technology as a stakeholder, which is in charge of mainstreaming a gender perspective throughout the coalition's actions. At present, three national coalitions have been set up (Greece, France and Lithuania) and a specific pledge on gender and digital jobs has been presented.

European Parliament

In 2013, two Members of the European Parliament (MEPs) presented a Motion for a resolution on women and ICT ⁽⁴²⁾.

⁽⁴⁰⁾ European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — Towards social investment for growth and cohesion — Including implementing the European Social Fund 2014-2020 (COM(2013) 83) (<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2013:0083:FIN>).

⁽⁴¹⁾ European Commission, 'Grand Coalition for Digital Jobs' (<http://ec.europa.eu/digital-agenda/en/grand-coalition-digital-jobs-0>).

⁽⁴²⁾ European Parliament, motion for a resolution on women and ICT pursuant to Rule 120 of the Rules of Procedure on women and ICT, 2013 (<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+MOTION+B7-2013-0313+0+DOC+PDF+V0//EN>).

This motion emphasised the opportunity and need to encourage young people (particularly women) to take up ICT-related careers and to attract more women into ICT jobs. The motion called on the European Commission and Member States to make efforts to establish education and training programmes and to encourage girls and women to develop careers in the areas of mathematics, computer science and new technologies. To improve women's employability in these fields, Member States were also called upon to promote vocations and professions requiring scientific, technical, engineering and mathematical skills among women from an early age.

International level

United Nations

One of the main outcomes of the United Nations Conference on Sustainable Development (Rio+20), held in Rio de Janeiro in June 2012, was the agreement by Member States to launch a process to develop a set of sustainable development goals (SDGs) ⁽⁴³⁾. Among the goals developed, the following refer to women's participation in the digital economy and society.

- By 2030, ensure that all men and women, particularly the poor and the vulnerable, have equal rights to economic resources as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services including microfinance.
- By 2030, ensure equal access for all women and men to affordable, quality technical, vocational and third-level education, including university.
- Enhance the use of enabling technologies, in particular ICT, to promote women's empowerment.

The UN aims to support gender equality in the ICT field through the gender equality policy in the digital sector of the International Telecommunication Union (ITU) ⁽⁴⁴⁾, the United Nations specialised agency for ICT. Its main gender equality policy objectives consist of allowing women and men to benefit equally from ICT to help reduce inequalities and to contribute equally to the work of the organisation. Since 1998, the ITU has launched several resolutions to promote gender equality and gender mainstreaming, as follows:

⁽⁴³⁾ United Nations (Open Working Group), *The future we want*, 2014 (http://www.un.org/disabilities/documents/rio20_outcome_document_complete.pdf).

⁽⁴⁴⁾ <http://www.itu.int/en/Pages/default.aspx>

*Resolution 7 (Valletta, 1998) — Gender and telecommunication policy in developing countries*

This resolution ⁽⁴⁵⁾ set out to ensure that the 'benefits of telecommunications and the emerging information society are made available to all women and men in developing countries on a fair and equitable basis'. To facilitate these priorities, it recommended the establishment of a task force on gender issues as well as a commitment from ITU-Development to develop gender-sensitive policies and programmes, to collect and analyse sex-disaggregated data and to develop gender-sensitive indicators.

Resolution 70 (Minneapolis, 1998) — Inclusion of gender perspective in the work of the ITU

This resolution ⁽⁴⁶⁾ recognised that society benefits from the 'equal participation of women and men in policy and decision-making and equal access to communications services for both women and men'. In addition, it supported the need to ensure a gender perspective in policies and programmes.

Resolution 55 (Doha, 2006) — Promoting gender equality towards all-inclusive information societies

This resolution ⁽⁴⁷⁾ endorsed an action plan that included the incorporation of a gender dimension when designing, implementing, monitoring and evaluating projects and programmes in developing countries and countries with economies in transition that are either specifically targeted at women or gender sensitive. It also supports the organisation of capacity training for staff, the mobilisation of resources for gender-sensitive projects and projects specifically targeted to women and the development of partnerships with other United Nations agencies to promote the use of ICT in projects aimed at women.

Resolution 70 (Rev. Guadalajara, 2010) — Gender mainstreaming in ITU and promotion of gender equality and the empowerment of women through ICT

This resolution ⁽⁴⁸⁾ endorsed the previous resolution dating from 2006 on promoting gender equality towards all-inclusive information societies. It does this by continuing the work performed in promoting gender equality in ICT through the recommendation of measures at the international, regional and national levels on policies and programmes that improve socioeconomic conditions for women, particularly in developing countries.

Resolution 55 (Dubai, 2012) — Mainstreaming a gender perspective in ITU Telecommunication (ITU-T) standardisation sector activities

This resolution ⁽⁴⁹⁾ states that ITU-T should continue to encourage the inclusion of a gender perspective, including the use of gender-neutral language, in the work of all ITU-T activities and groups, including the Telecommunication Standardisation Advisory Group and the ITU-T study groups.

More specifically, to achieve this goal the European Commission, in partnership with the European Parliament and the ITU, organised an event ⁽⁵⁰⁾ in support ⁽⁵¹⁾ of the worldwide Girls in ICT Day initiative ⁽⁵²⁾ in 2013. This event aimed to empower and encourage girls and young women to consider careers in the growing ICT sector. Based on the information available ⁽⁵³⁾ on the European Commission's digital agenda website, a study was undertaken to devise a policy toolkit based on the analysis of existing data and replicable best practices including the use of social media for advancing gender equality in ICT. The study was concluded and its report, *Women active in the ICT sector* ⁽⁵⁴⁾, launched in 2013. The toolkit does not exist yet.

The Commission has strongly supported the initiation of the first Digital Woman of the Year Award ⁽⁵⁵⁾. The 2014 edition featured two awards: European Digital Girl of the Year and European Digital Woman of the Year.

⁽⁴⁵⁾ ITU, 'Gender and telecommunication policy in developing countries', 1998 (<http://www.itu.int/en/ITU-D/Digital-Inclusion/Women-and-Girls/Documents/Resolutions/WTDC%20Valletta%20Res-7.pdf>).

⁽⁴⁶⁾ ITU, 'Inclusion of gender perspective in the work of the ITU', 1998 (<http://www.itu.int/en/ITU-D/Digital-Inclusion/Women-and-Girls/Documents/Resolutions/PP-%20Minneapolis%20Res-70E%201998.pdf>).

⁽⁴⁷⁾ ITU, 'Promoting gender equality towards all-inclusive information societies', 2006 (https://www.itu.int/en/ITU-D/Digital-Inclusion/Women-and-Girls/Documents/Resolutions/Resolution_55_2010.pdf).

⁽⁴⁸⁾ ITU, 'Gender mainstreaming in ITU and promotion of gender equality and the empowerment of women through informal action and communication technologies', 2010 (http://www.itu.int/en/ITU-D/Digital-Inclusion/Women-and-Girls/Documents/Resolutions/Resolution_70_2010.pdf).

⁽⁴⁹⁾ ITU, 'Mainstreaming a gender perspective in ITU telecommunication standardization sector activities', 2012 (http://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.55-2012-PDF-E.pdf).

⁽⁵⁰⁾ <http://ec.europa.eu/digital-agenda/en/girls-ict-day>

⁽⁵¹⁾ http://europa.eu/rapid/press-release_MEMO-13-380_en.htm

⁽⁵²⁾ <http://girlsinct.org/girls-in-ict-day-events>

⁽⁵³⁾ <http://ec.europa.eu/digital-agenda/en/pillar-vi-enhancing-digital-literacy-skills-and-inclusion/action-60-increase-participation-women-ict>

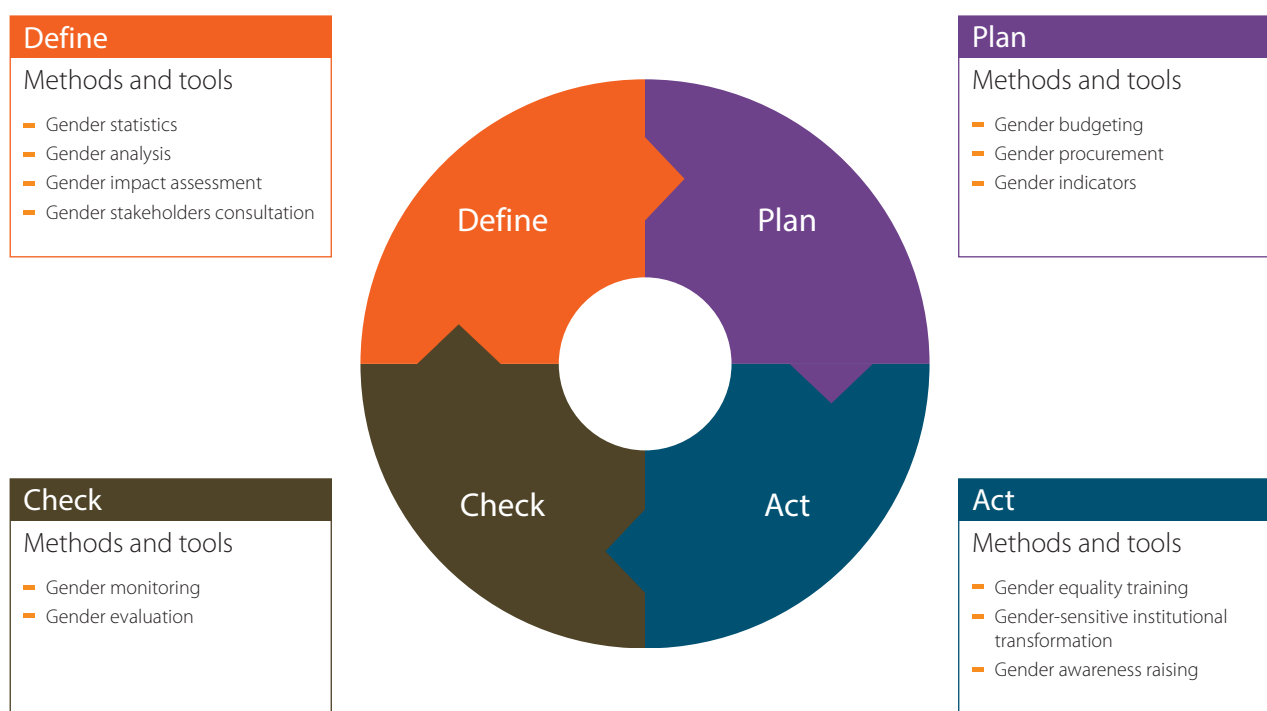
⁽⁵⁴⁾ http://www.bgwomeninict.org/language/bg/uploads/files/documents__0/documents__32b35cbb8f4815da69c1295eb5c29c99.pdf

⁽⁵⁵⁾ <http://digitalwomanaward.com/2014/04/04/2014-european-ada-awards-launch>

4. How and when? The digital agenda and the integration of gender dimension into the policy cycle

The gender dimension can be integrated in all phases of the policy cycle.

Below, you can find useful resources and practical examples for mainstreaming gender into the digital agenda policies. They are organised according to the most relevant phase of the policy cycle they may serve.



Define

DEFINE PLAN ACT CHECK

In this phase, it is recommended that information be gathered on the situation of women and men in a particular area. This means looking for sex-disaggregated data and gender statistics and checking for the existence of studies, programme or project reports and/or evaluations from previous periods.

Examples of gender and digital agenda statistics

The Eurostat information society database provides statistics that track the usage of ICT. More specifically, statistics on the information society monitor three aspects:

- the completion of a single European information space;
- innovation and investment in ICT research;
- achieving an inclusive European information society.

Specific sections include statistics at individual level, in particular broadband and connectivity, and ICT usage in households and by individuals and e-public services. Data given in these domains are collected annually by the national statistical institutes and are based on Eurostat's annual model questionnaires on ICT usage in households and by individuals. A large part of the data collected is used in the context of the Digital agenda scoreboard, the EU's strategy for a flourishing digital economy by 2020.



The characteristics to be provided are drawn from the following list of subjects:

- access to and use of ICTs by individuals and/or in households;
- use of the internet and other electronic networks for different purposes by individuals and/or in households;
- ICT security and trust;
- ICT competence and skills;
- barriers to the use of ICT and the internet;
- perceived effects of ICT usage on individuals and/or on households;
- use of ICT by individuals to exchange information and services with governments and public administrations (e-government);
- access to and use of technologies enabling connection to the internet or other networks from anywhere at any time (ubiquitous connectivity).

Relevant breakdowns relating to individuals are present, in particular sex and age.

<http://ec.europa.eu/eurostat/web/information-society/data/database>

Eurostat: The European Union Labour Force Survey (EU-LFS)

The Eurostat European Union labour force survey (EU-LFS) provides the main aggregated statistics on labour market outcomes in the European Union. The EU-LFS is the main data source for employment and unemployment. Tables on population, employment, working hours, permanency of job, professional status, etc. are included. It provides statistics disaggregated by sex, age group, economic activity, education attainment and field of education, from which it is possible to measure the characteristics of the labour force of women, by age. The numbers of women and men in the labour force by economic activity related to ICT (telecommunications, computer programming, consultancy and related activities and information service activities) are available.

<http://ec.europa.eu/eurostat/web/lfs/data/database>

Eurostat - Education and Training database

The Eurostat education and training database produces and publishes data, indicators and analyses on the operation, evolution and impact of education from early childhood through formal education to learning and training throughout life. Data and indicators disseminated include participation rates at different levels of education, enrolments in public and private institutions, third-level education graduates,

pupil-teacher ratios, foreign-language learning, expenditure on education per student and relative GDP. Data are disaggregated by sex, age and level and field of education. The data collection on education statistics is based on the international standard classification of education (ISCED). For data on educational attainment based on the EU-LFS, the ISCED 2011 is applied as from 2014. The numbers of women and men by education attainment and field related to ICT (e.g. science, mathematics and computing, computing, computer science, computer use, engineering and engineering trades) are available.

<http://ec.europa.eu/eurostat/web/education-and-training/data/database>

The UNECE statistics database

The UNECE statistics database aims to bring together both gender statistics and policies. The focus is on the production, dissemination and use of gender-related data. In addition to statistics, the website outlines some of the main gender issues relevant to the UNECE region and provides examples of policies and other initiatives. It also contains thematic pages on topics consisting of important methodologies and examples of survey instruments. The UNECE gender statistics database helps to monitor the situation of women and men in all UNECE member countries. The 'Science and ICT' section includes data on use of computer and internet by sex.

http://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT__30-GE__09-Science_ICT

UN - gender statistics

The UN global gender statistics programme is mandated by the United Nations Statistical Commission, implemented by the United Nations Statistics Division and coordinated by the Inter-Agency and Expert Group on Gender Statistics (IAEG-GS). The dataset also includes data on ICT disaggregated by sex (proportion of individuals using the internet, proportion of individuals using mobile/cellular telephones by sex, proportion of households with access to mass media (radio, TV, internet) by sex of head of household).

<http://genderstats.un.org>

The International Telecommunication Union (ITU) Statistics

The IITU gathers data on ICT in the world, including on gender and ICT, and in particular the access to and use of the internet by country.

<http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>

The OECD Programme for the International Assessment of Adult Competencies (PIAAC)

The Organisation for Economic Cooperation and Development (OECD) programme for the international assessment of adult competencies (PIAAC) is a household study developed by the OECD in 24 countries and subnational regions. The goal of the PIAAC is to assess and compare the basic skills and the broad range of competencies of adults. The assessment focuses on cognitive and workplace skills. Specifically, the PIAAC measures relationships between individuals' educational background, workplace experiences and skills, occupational attainment, use of ICT and cognitive skills in the areas of literacy, numeracy and problem solving. Data disaggregated by sex are available. Microdata from the PIAAC 2012 are publicly available on the OECD website. <http://www.oecd.org/site/piaac>

Examples of studies, research and reports

European Commission, *She figures 2015*.

She figures 2015 is the fifth publication of a key set of indicators that are essential to understand the situation of women in science and research and includes data on the proportion of females in ICT. The 'She figures' data collection has been undertaken every 3 years since 2003 by the Directorate-General for Research and Innovation of the European Commission, in cooperation with the Helsinki Group and its subgroup of statistical correspondents. https://ec.europa.eu/research/swafs/pdf/pub_gender_equality/she_figures_2015-final.pdf

Eurostat/Eurydice, *Key data on education in Europe 2012*.

The general key data on education report, published jointly with Eurostat, is a unique publication and a flagship product for the Eurydice Network as it combines statistical data and qualitative information to describe the organisation and functioning of education systems in Europe. It also includes data on ICT in education around Europe. <http://ec.europa.eu/eurostat/documents/3217494/5741409/978-92-9201-242-7-EN.PDF/d0dcb0da-5c52-4b33-becb-027f05e1651f>

European Commission, *Segregated statistics relating to gender and ICT in the EU 1998-2007, 2008*.

The specific objective of this study is to investigate statistical evidence relating to the participation of women in ICT. A set of gender indicators for measuring progress in this area is proposed. http://bookshop.europa.eu/is-bin/INTERSHOP.enfinity/WFS/EU-Bookshop-Site/en_GB/-/EUR/ViewPublication-Start?PublicationKey=KK0214645

OECD, *Are boys and girls equally prepared for life?*, 2014.

Introduction to the PISA tests to compare countries' achievements in education provides a 'gender brief' on boys and girls in mathematics.

<http://www.oecd.org/pisa/pisaproducts/PIF-2014-gender-international-version.pdf>

OECD, *Skills outlook 2013: first results from the survey of adult skills*.

The OECD survey of adult skills (PIAAC) was designed to provide insights into the availability of some of these key skills in society and how they are used at work and at home. It directly measures proficiency in several information-processing skills — namely literacy, numeracy and problem solving in technology-rich environments. This report presents the findings of the 2013 survey. It also includes data on digital skills of adult women in OECD countries. http://www.oecd-ilibrary.org/education/oecd-skills-outlook-2013_9789264204256-en

One of the first steps to take when defining your policy/project/programme is to gather information and analyse the situation of women and men in the respective policy area. The information and data you collected will allow an understanding of the reality and assist you in designing your policy, programme or project. Specific methods that can be used in this phase are gender analysis and gender impact assessment.

Examples of gender analysis

European Commission, *Women active in the ICT sector, 2013*.

Despite the evidence that proves that women's access to an ICT career is essential for the sector's long-term growth and the sustainability of the European economy, there remains a large gender gap in Europe's ICT sector. This study uses desk research, statistical analysis and economic cases, as well as stakeholder interviews and surveys to analyse the problem and come up with key priorities for action. http://www.bgwomeninict.org/language/bg/uploads/files/documents__0/documents__32b35cbb8f4815da69c1295eb5c29c99.pdf

European Commission, *Best practices for even gender distribution in the 25 Member States in the domain of information society, 2007*.

The objective of this study on best practices for even gender distribution in the EU-25 is to foster the participation of women in the ICT domain and to provide relevant input for further EU policy developments and their implementation in the area. This has been done by identifying, selecting and analysing different best-practice cases in major public and private EU ICT organisations.



<http://bookshop.europa.eu/en/best-practices-for-even-gender-distribution-in-the-25-member-states-in-the-domain-of-information-society-pbKK3008264/?CatalogCategoryID=zQoKABstlL0AAAEjCpEY4e5L>

OECD, *ICTs and gender*, 2006.

This report provides an overview of the gender distribution of ICT and ICT-related employment in OECD countries, and ICT employment patterns are contrasted with overall employment to highlight how different ICT employment patterns are. The document then focuses on participation in ICT-related education and training and differences in ICT access and use by gender.

[http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=DSTI/ICCP/IE\(2006\)9/FINAL](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=DSTI/ICCP/IE(2006)9/FINAL)

ITU, *A bright future in ICTs: Opportunities for a new generation of women*, 2012.

This report surveys the global trends in women's professional development and employment in the ICT sector, and offers a sample of the range of national policies, training programmes and initiatives targeting girls and women as potential students and professionals.

<http://girlsinct.org/get-inspired/bright-future-icts-opportunities-new-generation-women>

Shortt D, and O'Neill K., *ICT and women*, 2009.

This literature review of women in ICT attempts to understand the constraints that underpin stagnant participation rates in the industry.

<http://girlsinct.org/white-papers-and-policy-documents/ict-and-women>

APC, *End violence: internet intermediaries and violence against women online*, 2014.

This study focuses on the policies of three major internet intermediaries — Facebook, YouTube and Twitter — with respect to violence against women online. The study aims to map the corporate policies of these intermediaries that allow identification, reporting and rectification of incidents of harassment or violence against women via the service that the intermediary provides. In addition to providing a detailed summary of the user policies relevant to this issue, the study also compares the impact and effectiveness of those policies against the framework of the UN Guiding Principles on Business and Human Rights. It is designed to provide advocates and activists with detailed information about policies related to violence against women in order that they may utilise, and criticise, such mechanisms and engage with internet intermediaries to improve avenues for redress against technology-related violence.

APC, *Briefings on technology-related violence against women for the 29th Human Rights Council session*, 2015.

APC has developed a brief and a background document on technology-related violence against women to support advocacy efforts at the 29th session of the Human Rights Council (HRC). Special attention is paid to the work with the Special Rapporteur on Violence against Women, the Working Group on Discrimination against Women in Law and the annual HRC resolution on violence against women (VAW), which focuses on domestic violence in this edition.

APC, *Domestic legal remedies for technology-related violence against women: review of related studies and literature*, 2014.

The review presents different perspectives on the interrelatedness and interconnectedness between ICT and VAW. It covers the existing laws, prevailing policy frameworks and mechanisms in cases of technology-related VAW, and identifies gaps and emerging issues in particular from seven countries, namely Bosnia and Herzegovina, Colombia, the Democratic Republic of the Congo, Kenya, Mexico, Pakistan and the Philippines.

<http://www.apc.org/en/pubs/end-violence-internet-intermediaries-and-violence>

<http://www.apc.org/en/pubs/briefs-technology-related-violence-against-women-2>

<https://www.apc.org/en/pubs/domestic-legal-remedies-technology-related-violence>

Examples of stakeholders that can be consulted

UN and UNESCO Broadband Commission for Digital Development (Working Group on Gender Equality in ICT).

<http://www.broadbandcommission.org/about/Pages/default.aspx>

Council of European Professionals Informatics Societies (Women in ICT Task Force)

<http://www.cepis.org>

European Centre for Women and Technology

<http://www.womenandtechnology.eu/>

Women in global science and technology

<http://wisat.org/home/>

Plan

DEFINE PLAN ACT CHECK

In this phase it is appropriate to analyse budgets from a gender perspective. Gender budgeting is used to identify how budget allocations contribute to promoting gender equality. Gender budgeting brings visibility to how much public money is spent for women and men respectively. Thus, gender budgeting ensures that public funds are fairly distributed between women and men. It also contributes to accountability and transparency about how public funds are being spent.

Example of gender budgeting in the Digital Agenda

UNIFEM, Gender responsive budgeting, 2009

Unifem's work on gender responsive budgeting, 2009, describes the gender budgeting methodology and provides recommendations for its use. Even though the report does not specifically target the ICT sector, it could be used to undertake a gender budgeting analysis in this field.
<http://www.unwomen.org/~media/headquarters/media/publications/unifem/unifemworkgrboverview.pdf?v=1&d=20140917T101024>

Examples of indicators for monitoring gender and ICT

Frequency of internet access by sex

Weekly and daily frequency of internet access is available disaggregated by sex. For example, in 2013 59 % of women age 16-74 were using the internet every day compared to 65 % of men, while weekly frequency of access to the internet (including every day) was 69 % for women compared to 74 % of men. The indicator is available from the Eurostat database on information society — ICT usage (online data code: isoc_bde15cua).
http://ec.europa.eu/eurostat/data/database?node_code=isoc_bde15cua

Access to and use of ICTs by sex

Indicators on access to and use of ICTs disaggregated by sex are available, in particular:

- internet access at home;
- internet access at place of work;
- internet access at place of education;

- internet access at other people's houses;
- internet access at other places;
- individuals accessing the internet through mobile devices away from home or work;
- individuals using selected mobile devices to access the internet;
- individuals using a laptop, notebook, netbook or tablet computer to access the internet;
- individuals using a portable computer or a handheld device to access the internet away from home or work;
- individuals using the mobile phone network (e.g. GPRS, UMTS) to connect the handheld device to the internet;
- individuals using a mobile phone (or smartphone) to access the internet;
- individuals using a device other than a mobile phone (or smartphone) or a portable computer (e.g. laptop, tablet) to access the internet.

For example, in 2013 70 % of women aged 16-74 had internet access at home compared to 74 % of men, while at work it was 29 % of women compared to 35 % of men. Women with a laptop, notebook, netbook or tablet computer to access the internet stood at 21 % compared to 27 % of men. Finally, 32 % of women had a mobile phone to access the internet compared to 39 % of men.

The indicator is available from the Eurostat database on information society — broadband and connectivity (online data code: isoc_bde15b_i).
http://ec.europa.eu/eurostat/data/database?node_code=isoc_bde15b_i

Use of the internet and other electronic networks for different purposes by sex

Indicators on use of the internet and other electronic networks for different purposes disaggregated by sex are available, in particular:

- seeking health information;
- sending/receiving emails;
- playing/downloading games, images, films or music;
- finding information about goods and services;
- job searches or sending an application;



- reading/downloading online newspapers/news;
- subscribing to news services or products to receive them regularly (in the last 3 months);
- downloading software;
- making an appointment with a practitioner via a website;
- telephoning or video calls;
- creating websites or blogs;
- listening to web radio and/or watching web TV;
- playing networked games with others (in the last 3 months);
- uploading self-created content to any website to be shared;
- posting messages to social media sites or instant messaging;
- participating in social networks (creating user profile, posting messages or other contributions to Facebook, Twitter, etc.);
- reading and posting opinions on civic or political issues via websites;
- taking part in online consultations or voting to define civic or political issues (e.g. urban planning, signing a petition);
- consulting wikis (to obtain knowledge on any subject);
- participating in professional networks (creating user profile, posting messages or other contributions to LinkedIn, Xing, etc.);
- participating in social or professional networks;
- posting opinions on civic or political issues via websites (e.g. blogs, social networks, etc.);
- listening to web radio.

For example, in 2013 the percentage of women aged 16-74 using the internet for finding information about goods and services was 57 % compared to 62 % of men, while for finding information on health it was 48 % of women compared to 40 % of men and for downloading software it was 18 % of women compared to 33 % of men. The indicator is available from the Eurostat database on information society — ICT usage (online data code: isoc_bde15cua).

http://ec.europa.eu/eurostat/data/database?node_code=isoc_bde15cua

When preparing calls for proposals in the framework of funding programmes, or terms of reference in the context of public procurement procedures (notably for contractors to be hired for policy support services), don't forget to formalise gender-related requirements. This will ensure that the projects and services which the European Commission will fund are not gender blind or gender biased.

Act

DEFINE PLAN ACT CHECK

In the implementation phase of a policy or programme, ensure that all who are involved are sufficiently aware about the relevant gender objectives and plans. If not, set up briefings and capacity-building initiatives according to staff needs. Think about researchers, proposal evaluators, monitoring and evaluation experts, scientific officers, programme committee members, etc.

Examples of capacity-building initiatives in the Digital Agenda

The 2009 UN *Gender statistics manual* was prepared following the recommendation of IAEG-GS in 2009 and the request made by the United Nations Statistical Commission at its 42nd session in 2011. The manual aims to foster a gender perspective in national statistics. It provides information needed to accomplish three main goals: (a) to achieve a comprehensive coverage of gender issues in data production activities; (b) to incorporate a gender perspective into the design of surveys or censuses, by taking into account gender issues and avoiding gender biases in measurement; and (c) to improve data analysis and data presentation and to deliver gender statistics in a format that is easy to use by policymakers and planners. The manual includes a specific section dedicated to education in ICT for women.

<http://unstats.un.org/unsd/genderstatmanual/Preface.ashx>

In 2010 the United Nations, the Economic Commission for Europe and the World Bank Institute published the manual *Developing gender statistics: a practical tool*, which aims to guide statistical organisations. The manual explains the importance of producing and analysing statistics on gender differences. It provides guidance on data production and looks in detail at selected topics relevant to gender statistics and the implications for data collection. It also examines methods for improving the use of gender statistics through communication strategies and dissemination platforms such as interactive databases and websites.

Furthermore, it provides guidance on ‘making it happen’ through campaigning for top management support, creating legislation and defining a gender statistics programme. The manual includes a specific section on ICT.

http://www.unece.org/fileadmin/DAM/stats/publications/Developing_Gender_Statistics.pdf

The purpose of the *Engendering ICT toolkit: challenges and opportunities for gender-equitable development*, designed by the World Bank, is to identify opportunities, highlight innovative projects and activities and suggest how the World Bank and other agencies can help realise the potential for gender equality.

The toolkit is divided into 10 sections and it contains checklists, evaluation tools, examples of good practice and resources that can be used to incorporate gender into ICT projects and project components.

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTGENDER/EXTICTTOOLKIT/0,,menuPK:542826~pagePK:64168427~piPK:64168435~theSitePK:542820,00.html>

The 2013 UN and Unesco Broadband Commission *Doubling digital opportunities: enhancing the inclusion of women and girls in the information society* frames the challenges and opportunities we face in achieving gender equality in an era of rapid technological change. It closely examines critical gender issues with respect to new ICTs, including broadband. Most importantly, it shows ways in which we can further advance the sustainable development agenda by promoting the use of new technologies in support of gender equality and women’s empowerment.

<http://www.broadbandcommission.org/documents/working-groups/bb-doubling-digital-2013.pdf>

The Institute of Development Studies developed a toolkit in 2004, *Gender and ICTs*. This provides insights on the gender dimension of ICT and makes recommendations for future policy actions in this area.

<http://www.bridge.ids.ac.uk/ids-document/A52909?lang=en#lang-pane-en>

The 2001 *Gender mainstreaming in science and technology: a reference manual for governments and other stakeholders* provides recommendations on how to mainstream gender at multiple governmental levels and provides guidelines and information on how to develop an action plan.

https://www.google.it/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwjNx5Pn5I7PAhWIA5oKHWFYFAfMQFggaMAA&url=http%3A%2F%2Funidadedamullerenciencia.xunta.gal%2Fsites%2Fdefault%2Ffiles%2Fdocumento%2F2011%2F06%2F154_gender-mainstreaming-science-and-technology-reference-manual-governments-and-other-stakeholders.pdf&usg=AFQjCNERjtRYdMSX2drJWW4Rn-0iLWbXGQ&sig2=Kw0jtIYj65-9wSXYjSdjFw&bvm=bv.132479545,d.bGs&cad=rja

Example of gender language in the digital agenda

The Gendered Innovations website presents a case study for bringing a gender perspective into video gaming.

<http://genderedinnovations.stanford.edu/case-studies/games.html#tabs-2>

Check

DEFINE PLAN ACT CHECK

A policy cycle or programme should be checked both during — monitoring — and at the end — evaluation — of its implementation.

Monitoring the ongoing work allows for the following-up of progress and remedying unforeseen difficulties. This process should take into account the indicators delineated in the planning phase and realign data collection based on those indicators.

At the end of a policy cycle or programme, a gender-sensitive evaluation should take place. Make your evaluation publicly accessible and strategically disseminate its results to promote its learning potential.

Example of monitoring and evaluating gender in the digital agenda

The gender evaluation methodology (GEM) for internet and ICTs was developed by the Association for Progressive Communications ⁽⁶⁶⁾. A manual ⁽⁶⁷⁾ was issued in 2005 and is the result of the collection, evaluation and in-depth analyses of experiences from 32 projects by ICT development practitioners. The methodology was tested in evaluation of ICT and gender in central and eastern Europe, Asia and Latin America.

<http://www.genderevaluation.net/?q=gemworks/lessons-learned-evaluation-findings>
<https://www.apc.org/en/node/2835>

The GEM Practitioners Network is a network of individuals and organisations that apply GEM for internet and ICT and want to learn more about gender and ICT evaluations. The network aims to enhance GEM expertise and build partnerships in order to incorporate a gender perspective in evaluation of ICT initiatives. It also promotes gender accountability in global, regional, national and local ICT policies and initiatives.

⁽⁶⁶⁾ <http://www.apc.org/en>

⁽⁶⁷⁾ http://www.genderevaluation.net/sites/default/files/sites/dev.genderevaluation.net/files/GEMEnglish_0.pdf



The APC's *Gender evaluation for rural ICT for development* is a guide to be used for evaluating ICT for rural development. <http://www.genderevaluation.net/?q=about-gem>
http://www.genderevaluation.net/sites/default/files/GEM_Rural_web_Eng%20Final.pdf

Craig, A., Fisher, J. and Dawson, L., *Women In ICT: guidelines for evaluating intervention programmes*, European Conference on Information Systems, Aalto University School of Economics, Finland, 2011, pp. 1-13.
<http://ro.uow.edu.au/cgi/viewcontent.cgi?article=11060&context=infopapers>

Practical examples of gender mainstreaming in the digital agenda

EU

Gender impact assessment of the specific programmes of framework programme 5 — The user-friendly information society consists of an *ex post* evaluation of the fifth framework programme, which served to help shape the sixth framework programme based on its findings and recommendations. ftp://ftp.cordis.europa.eu/pub/science-society/docs/genfp5_ist.pdf

Lessons on gender in ICT applications: case studies of infoDev projects presents the results of a review that strived to:

- analyse the effect of project activities and outcomes on women's situation;
- identify gender issues that affected the project design, implementation and results;
- identify lessons learned and make recommendations to ensure that InfoDev projects equally benefit women and men.

InfoDev is a global multi-donor programme managed by the World Bank Group that supports growth-oriented entrepreneurs through business incubators and innovation hubs.

<http://www.infodev.org/articles/lessons-gender-ict-applications-case-studies-infodev-projects>

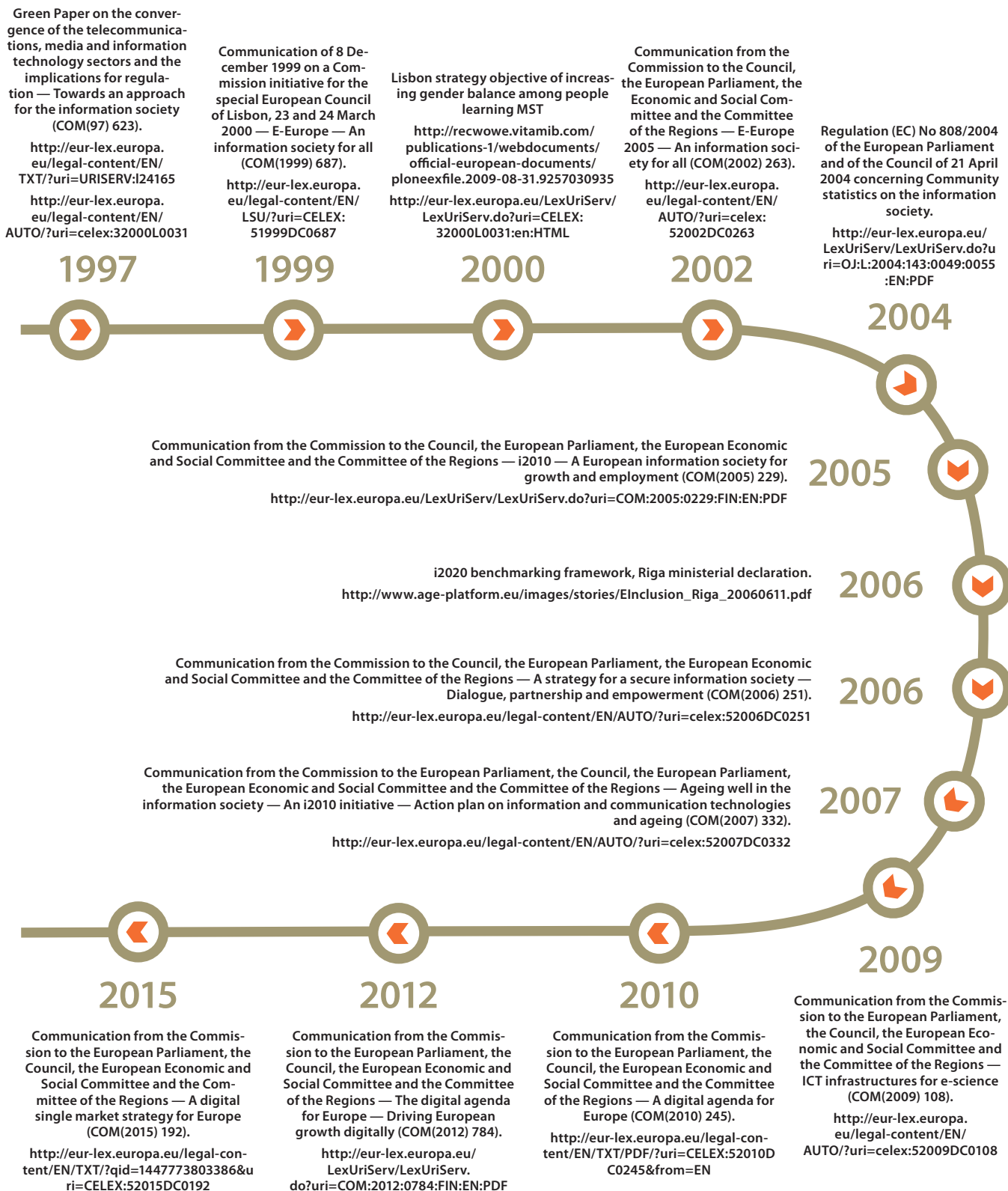
Norway

The goal of Simula's gender action plan 2010-2015 is to increase the percentage of women among their ICT employees. The target is at least 25 % women within the categories of scientific and support staff by December 2015. As Simula is a public entity, this commitment responds to the objectives of the Norwegian government of increasing the participation of women in STEM at all levels.

5. Want to know more?

Timeline

The key milestones of the digital agenda policy are presented below.





6. Current policy priorities at EU level

The overarching policy priorities of the EU's policy for the Digital Agenda are encompassed in the Europe 2020 Flagship initiative 'Digital agenda for Europe'. The main aims of the Digital policy in Europe are:

- increasing access to high-speed internet and digital content;
- ensuring cybersecurity;
- increasing the development and use of electronic government and new health services;
- bridging the digital divide, ensuring inclusion of all EU citizens.

In order to reach these aims, in 2012 the Commission revised the digital agenda adopted in 2010. The new agenda ⁽⁵⁸⁾ includes seven pillars (main objectives) and a subset of 132 actions grouped around the following seven priority areas.

1. Create a new and stable broadband regulatory environment.
2. Create new public digital service infrastructures through the Connecting Europe Facility.
3. Launch the Grand Coalition on Digital Skills and Jobs.
4. Propose an EU cybersecurity strategy and directive.
5. Update the EU's copyright framework.
6. Accelerate cloud computing through public sector buying power.
7. Launch a new electronics industrial strategy.

Full implementation of this updated Digital agenda is expected to increase European GDP by 5 %, or EUR 1 500 per person, over the next 8 years by increasing investment in ICT, improving e-skill levels in the labour force, enabling public sector innovation and reforming the framework conditions for the internet economy.

In terms of jobs, up to 1 million digital jobs risk going unfilled by 2015 without pan-European action, while 1.2 million jobs could be created through infrastructure construction. This is predicted to rise to 3.8 million new jobs throughout the economy in the long term.

The digital agenda policy area intersects with other topics in other policy sectors, notably research and innovation, environment, transport and mobility, and e-health and ageing.

Resources

Selected policy documents relevant to the Digital Agenda

European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — A digital agenda for Europe (COM(2010) 245), Brussels

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0245&from=EN>

Gender equality — Relevant policy documents.

A note on how the concept of 'responsible research and innovation', in which gender is a key dimension, relates to ICT in Horizon 2020.

http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?action=display&doc_id=4160

Selected research on gender issues in the digital agenda

European Commission, DG Communications Networks, Content and Technology, *Women active in the ICT sector*, study and report by Iclaves, 2012

http://www.bgwomeninict.org/language/bg/uploads/files/documents__0/documents__32b35cbb8f4815da69c1295eb5c29c99.pdf

A Global e-Schools and Communities Initiative policy for gender mainstreaming in ICT.

Gender evaluation methodology for internet and ICTs — A learning tool for change and empowerment, GEM, 2005

http://www.genderevaluation.net/sites/default/files/sites/dev.genderevaluation.net/files/GEMEnglish_0.pdf

Facilitators guide for GEM workshops, GEM, 2010

<https://www.apc.org/en/pubs/books/facilitators-guide-gem-workshops>

Gender analysis for ICT localisation initiatives, GEM, 2011

http://www.genderevaluation.net/sites/default/files/GEM_L10n_web_Eng_Final.pdf

⁽⁵⁸⁾ <https://ec.europa.eu/digital-agenda/en/our-goals>

Gender evaluation for telecentres, GEM, 2011
http://www.genderevaluation.net/sites/default/files/GEM_Telecentre_web_Eng_Final.pdf

Gender evaluation for rural ICT for development, GEM, 2011
http://www.genderevaluation.net/sites/default/files/GEM_Rural_web_Eng%20Final.pdf

Global Information Society Watch 2013 — Women's rights, gender and ICTs
http://giswatch.org/sites/default/files/gisw13_chapters.pdf

European Parliament, DG for Internal Policies, *Women in ICT*, 2012
<http://www.europarl.europa.eu/document/activities/cont/201208/20120831ATT50302/20120831ATT50302EN.pdf>

Girls in STEM and ICT careers: the path toward gender equality
<https://www.empowerwomen.org/en/resources/documents/2014/1/girls-in-stem-and-ict-careers-the-path-toward-gender-equality?lang=en>

Hafkin, N. and Huyer, S., 'Women and gender in ICT statistics and indicators for development', *Information Technologies and International Development*, Vol. 4, Issue 2, 2007, pp. 25-41
<http://itidjournal.org/itid/article/viewFile/254/124>

Stocktaking and assessment on measuring ICT and gender, 2013
http://www.itu.int/en/ITU-D/Statistics/Documents/events/wtis2013/001_E_doc.pdf

European Commission, 'Cyber security', *Eurobarometer* No 404, 2013
http://ec.europa.eu/public_opinion/archives/ebs/ebs_404_en.pdf

Other organisations and institutions

European Commission contact person on the digital agenda action 60: Patricia Manson (DG Communications Networks, Content and Technology, DDG2.G.4 — Head of Unit Inclusion, Skills and Youth)

Council of European Professionals Informatics Societies (Women in ICT Task Force)
<http://www.cepis.org/index.jsp?p=827&n=1142>

International Telecommunication Union
<http://www.itu.int/en/Pages/default.aspx>

Association for Progressive Communications
<http://www.apc.org/en>

European Centre for Women and Technology
<http://www.womenandtechnology.eu>

GenderIT.org
<http://www.genderit.org>

ITU and UNESCO Working Group on Broadband and Gender
<http://www.broadbandcommission.org/workinggroups/pages/bbandgender.aspx>



<http://eige.europa.eu>



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