NGI THINK NEXUS

# EMPOWERING WOMEN IN TECH – A TRANSATLANTIC VISION

NEXT GENERATION INTERNET

**INNOVATION + ENTREPRENEURSHIP WEBINAR**

23 JULY 2020

**thinknexus.ngi.eu**

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# SPEAKERS

## EMPOWERING WOMEN IN TECH

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**MONIQUE CALISTI**

DIRECTOR NGI
OUTREACH OFFICE

NGI

**IWA STEFANIK**

COORDINATOR
NGI EXPLORERS

NGI EXPLORERS

**FLORENCE HUDSON**

EXECUTIVE DIRECTOR
NORTHEAST BIG DATA
INNOVATION HUB

NORTHEAST BIG DATA INNOVATION HUB

# MODERATORS

## EMPOWERING WOMEN IN TECH

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**JOSE GONZALEZ**

CHAIR INNOVATION + ENTREPRENEURSHIP GROUP

**DANIELA COUTINHO**

CO-CHAIR INNOVATION + ENTREPRENEURSHIP GROUP

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# AGENDA

## EMPOWERING WOMEN IN TECH

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- **The role of Women in the Next Generation Internet**
  **Monique Calisti** – 10 mins
- **Women in European Technology and Science**
  **Iwa Stefanik** – 15 mins
- **The United States: Women and Minorities in STEM**
  **Florence Hudson** – 15 mins
- **Round table**
  **Daniela Coutinho** – 15 mins

# WHITE PAPER

## EMPOWERING WOMEN IN TECH

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White Paper

Empowering Women in Tech

July 2020

Foreword

"More women can and must have re-warding careers in tech, and European tech needs to benefit from women's skills and competences". Such statement, extracted from the vision of the European Commission in its Digital Strategy for the period 2020-2025[1] – which is one of President von der Leyen's flagship initiatives-, must be seen as a transversal priority across the four streams of action shaping such agenda. Gender inequality represents a clear challenge for the Next Generation Internet, that requires balancing and reinforcing the digital competences and literacy of women to succeed in an increasingly digitalised and fast-changing labour market. To become a trusted digital leader rooted in values of openness, fairness, diversity, democracy and sustainability, Europe must undertake the commitment to **empower women in tech**.

This white paper reviews and compares the state of digital empowerment for women in Europe and the United States, relying on contributions exclusively from female digital leaders in the sector of NGI.

The EU perspective

The initiation of women in technology and computer science can be tracked back to World War Two (WWII), when Grace Hopper, a mathematics professor and navy officer, created a first compiler programme which paved the way for modern coding language. During WWII, hundreds of women were hired by the military to solve complex calculations and improve the accuracy of weapons. Towards the end of WWII, a group of women vets working for a top-secret project, which consisted of the development of an electronic numerical integrator and computer (ENIAC) – modern computer's prototype.

After WWII, the Science, Technology, Engineering and Mathematics (STEM) field experienced a growth phase and in the 1950s and 1960s many women worked on building software (seen as mindless background work), while men were specialised in hardware engineering. In 1967, the Cosmopolitan magazine published an article advertising computer science as an exciting career choice for women, which represented the start to the first big increase of women in tech. Over the 1970s, the number of women majoring in computer science degrees steadily increased and by 1984 it accounted for 37% in the U.S. and Europe (nearly twice of what it is today).
However, in the 1980s, the computer revolution brought the software engineering back to men. The technology field shifted and due to emerging cultural stereotypes and lack of attempts to balance the gender and wage gap, the field became extremely male dominated.

Pop culture portrayed nerds and computer geniuses solely as men while women appeared in media as product models and 'perfect wives'. Men like Bill Gates or Steve Jobs became icons of the expanding industry; while the image of women in tech and computer science was lacking.

Today, the number of female computer science majors holds steadily at around 17%, and only about a quarter of all STEM jobs are occupied by women worldwide. Women are leaving the tech world at twice the rate as men and there is a visible underrepresentation of them in science, technology, and engineering[2].
This insufficient number of women in STEM fields has complex, multi-aspect explanations. Many studies suggest that the reality of discrimination, male favouritism, judgement, salary disadvantages or the need to fight the stereotype and labels is prevalent and hindering the expansion of women in tech. Women often say they are discouraged and feel inadequate or misjudged – told they are not fitting the 'men's world'.

The European Commission (EC) and other European organisations increasingly recognise and highlight the existing gender gap in technology. There are plenty of long established and new regulations, campaigns and policies designed specifically to reduce the imbalance, and to invite, encourage, and support the role of women in technology and science. More and more resources are offered to promote fair employment, increase the interest of girls to pursue STEM careers and to tackle the unfairness and discrimination (European Commission, 2019).

Women in technology and science in the EU

There are over 15 million scientists and engineers in the European Union (EU)[3] . And while nowadays more and more women enter STEM fields and the ICT (Information and Communications Technology) market is booming, men still fill most of the technology-related jobs in the EU. In 2018, the proportion of women in engineering and science in the EU accounted for 41% (Eurostat, 2018).

Eastern European countries such as Lithuania (57%), Latvia (52%) and Bulgaria (52%) are leading countries regarding the number of women employed in STEM, having even more females than males employed in certain sectors (e.g. science and research) (Figure 1). These statistics are noticeable as in comparison with Japan – the country known for its technological advances – where only 13% of all software designers and coders are women, which is less than half of the number of Bulgaria's ICT female workers (52%)2. According to the available datasets, in Finland, Luxembourg, Hungary and Germany only1 in 3 technology and science employees are women. When it comes to the distribution of women who work as specialists in the ICT market in the EU, the statistics are even lower. Women represent only about 167% of the ICT workforce in the EU (EDUNet, 2018).

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# MICRO POLL #1

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**In overall terms... How far do you consider the position of women in the tech sector is not ideal?**

1. High inequality
2. Bad but with some expectations
3. Going in the right direction
4. No need to invest efforts in gender balance

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# MICRO POLL #2

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**Do you believe policy makers should dedicate special attention to reinforce women leadership in their Digital Strategies for the upcoming years?**

1. No, with current measures are enough
2. No, efforts should be invested in all the value chain and not only in leadership
3. Yes, a special focus should be given to decision making roles

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# MICRO POLL #3

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**What's the best way Europe and the USA should join forces in women empowerment in tech?**

1. A joint strategic agreement at policy level
2. Operating more Transatlantic programs exclusive for women
3. Implementing common strategic agendas in STEM
4. Raising more public awareness on the issue and on initiatives currently running

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