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Women in cyber

in context of the **European Cyber Security Challenge**

The European Commission, in the context of the Women in Digital Program, is committed to raise awareness about the need of female talents in cybersecurity. It emphasises the skillset necessary to work in cybersecurity and suggests concrete actions that will encourage women to consider a career in this field. Overall, only a small percentage (24%) of the workforce in the cybersecurity sector worldwide is female. Despite the growing demand for cybersecurity professionals, women still face a variety of challenges when transitioning into the cyber profession and receiving recognition for their contributions.

The organisers of the European Cyber Security Challenge (ECSC), a pan-European event for young cybersecurity experts, encountered similar challenges when it comes to engaging female participants in the national qualification levels prior to and during the competition. In context of ECSC 2019, which is the fifth edition of the competition, we gathered views and ideas from the organisers on addressing the topic of women in cyber. The goal is to encourage women to join the competition and to be active contributors in advancing the cyber profession.

The European Cyber Security Challenge

The European Cyber Security Challenge is an annual cybersecurity event, which addresses the skills gap in cybersecurity talent across Europe and increases the visibility of cybersecurity in public strategies on a national and European level. In the competition, young cybersecurity experts compete with each other by solving puzzles, which require technical skills such as pen-testing, as well as soft skills in order to deliver a presentation.

The European Union Agency for Cybersecurity (ENISA) supports the organisation of the annual ECSC and its Steering Committee, which is made up of representatives from the national cybersecurity challenges (e.g. national cybersecurity agencies, universities, etc.). Over the years, there has been increased interest in the competition from key European and national cybersecurity stakeholders.

With its mission to address the shortage of cybersecurity talent in Europe, the ECSC is also concerned with gender diversity. As seen in the cybersecurity sector in general, there is also an unbalanced number of male and female participants in the competition. Due to the limited number of women taking part previous competitions, the ECSC Steering Committee has identified the very limited participation of young talented women in the competition as an important matter to be addressed in the 2019 and future editions of the ECSC.

ECSC Community viewpoint

We gathered views and ideas from the members of the ECSC Steering Committee regarding the key challenges and opportunities for young women to join the ECSC and the cybersecurity sector.

The evolution of the cybersecurity sector

Cybersecurity has been perceived as a technical field. Due to the fact that more men than women study technology and computer sciences, the cyber domain risks being perceived as a man's world. Such perception may therefore discourage women from pursuing a career in cybersecurity. Furthermore, since the cyber domain has such strong technological characteristics, there may be an incorrect perception that women would not be capable of performing technically driven activities, conducting studies, research or advanced tasks in computer sciences. This may result in a lack of confidence in developing the necessary skills to pursue a career in cybersecurity. In addition, women may not be interested in a career in cyber because they may end up working in an un-balanced, male dominated environment.

The good news is that cybersecurity is much more than a technological matter. Next to the "hacking and cracking" career opportunities, the cybersecurity sector also requires a broad spectrum of talent, skills and knowledge and provides tangible career opportunities for people with a legal or business background.

Recent studies show that strong non-technical skills, soft skills and knowledge of relevant regulatory policies are important assets for any professional that aims to develop herself/himself in the cybersecurity sector. Multidisciplinary skills are considered a key asset in the cybersecurity domain. This evolution provides an opportunity for women to transition into the cybersecurity sector.

Addressing the gender gap

It is important to ensure that the evolution of career opportunities in the cybersecurity sector changes the general perception people have regarding the cybersecurity domain.

One way to do this is to get involved in cybersecurity very early. Young women should be made aware of the wide variety of career opportunities in the cyber industry. On the one hand, the emergence of STEM (science, technology, engineering and mathematics) studies could encourage young women with an interest in technology to work in the cyber domain. On the other hand, organising conferences for young women which show the versatility of career opportunities in the cybersecurity industry, could also attract women with a totally different background, such as law or business (i.e. not technological), to the cyber domain.

Organisations promoting "women in cyber" should make it their primary objective to change the perception of the cybersecurity domain being a "man's world". By organising targeted initiatives such as conferences and workshops for young women that demonstrate the diversity of the cyber domain, these organisations can foster female representation in the cybersecurity profession.

In line with this, women who are already active in the cybersecurity sector are role models and key influencers in changing the general perception. By sharing their experiences and leading by example, young women can be encouraged to follow in their footsteps and pursue a career in cybersecurity.

The way forward

As a well-established platform for young cybersecurity experts, the European Cyber Security Challenge is a key opportunity to attract women to the cyber profession at an early age. The ECSC community is well positioned to leverage its network and to coordinate its efforts, similarly to other women in cyber initiatives in academia and business contexts. Pursuing this common objective together with other industry initiatives may significantly contribute towards closing the gender gap in cybersecurity and providing access to the major pool of talent represented by women.

For more details:

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