Cultivating the next generation of cybersecurity experts

Christina Skouloudi
Cybersecurity Officer, ENISA

20 | 04 | 2023
AGENDA

- Cybersecurity education in EU
- Cybersecurity competitions (CTFs)
- European Cybersecurity Skills Framework
Password Change Sign Up sheet

If you’d like to change your password please fill out the form below and we will change your password on the system you indicate.

<table>
<thead>
<tr>
<th>Full Name</th>
<th>System (Yardi, email, etc.)</th>
<th>Current password</th>
<th>New password</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kyle Smith</td>
<td>Email</td>
<td>scooter44$</td>
<td>scooter442</td>
</tr>
<tr>
<td>Dr. Jones</td>
<td>PHONE</td>
<td>89621</td>
<td>4281</td>
</tr>
<tr>
<td>Jack H.</td>
<td>Email</td>
<td>Password</td>
<td>Password2</td>
</tr>
<tr>
<td>Big Ed</td>
<td>Facebook</td>
<td>reds@pin</td>
<td>mmmbay</td>
</tr>
<tr>
<td>Sign Adams</td>
<td>Pike Pass</td>
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Let’s change that!
# CYBERSECURITY EDUCATIONAL ROADMAP

<table>
<thead>
<tr>
<th>Workstream</th>
<th>Projects</th>
<th>Priority</th>
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</thead>
</table>
| Collaboration | 1. Create a **community of stakeholders** (MS’ cybersecurity authorities, associations, schools, etc.) involved in cybersecurity education, with forums to discuss and share their visions to promote the topic  
2. Reuse and coordinate existing **web platform for MS** to share and access materials, ideas, good practices, etc. in a co-constructive way  
3. Launch **international campaigns** at the EU level, coordinated by ENISA and implemented in collaboration with the MS  
4. Identify the **maturity level of each MS**, in order to differentiate them and adapt the help provided (guidelines, working groups, etc.)  
5. Provide **guidelines to MS** (through the web platform developed in project 2)  
   - How to **approach the national education authority** to include cybersecurity education in the curriculum  
   - How to **develop cybersecurity education initiatives** at a national level  
   - How to **measure the efficiency of these initiatives** on the cybersecurity level  
6. Develop **ready-to-use educational materials**, and make them accessible to all MS (through the web platform developed in project 2)  
7. Create EU-level **means of appraisal** (cyber badges, diplomas, certifications, etc. for teachers and students) to recognise involvement in the cybersecurity initiatives  
8. Engage into **close collaboration with the European Commission** to promote the inclusion of cybersecurity in education curriculum in MS | 1  
| Guidelines | | 1  
| Tools | | 3  
| Policies | | 1  

<table>
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<tr>
<th>Projects</th>
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<th>Priority</th>
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<tbody>
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<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>1 Year 1</td>
<td>2 Year 2</td>
</tr>
</tbody>
</table>
Create a **community of stakeholders** (MS’ cybersecurity authorities, associations, schools, etc.) involved in cybersecurity education, with forums to discuss and share their visions to promote the topic

Reuse and coordinate existing **web platform for MS** to share and access materials, ideas, good practices, etc. in a co-constructive way

Identify the **maturity level of each MS**, in order to differentiate them and adapt the help provided (guidelines, working groups, etc.)

Provide **guidelines to MS** (through the web platform developed in project 2)

How to **approach the national education authority** to include cybersecurity education in the curriculum

Engage into **close collaboration with the European Commission** to promote the inclusion of cybersecurity in education curriculum in MS
TEAM EUROPE MAIN OBJECTIVES

1. Provide training program to Team Europe & candidates
2. Form a diverse and strong final Team Europe
3. Achieve the best possible results during the ICC finals
TEAM EUROPE BASIC REQUIREMENTS

Age:

• 18-25 years (at the date of the competition)

Team size:

• up to 15 people to form final team (+5 reserves)

Diversity:

• Gender balance
• Balanced country representation
• Complementary skills (technical and soft)
TEAM EUROPE ECOSYSTEM

• ENISA

• ECSC SC & ECSC International subcommittee

• ICC SC

• Team Europe trainers
TEAM EUROPE TRAINERS

ENISA collaborates with 5 external experts to train Team Europe

*Mandate of trainers is up to two years*

Same team of trainers as last year for preparing Team Europe for ICC 2023

Sanne Maasakkers
Mario Polino
Johannes Kadak
Benjamin Kral
Pedro Adão
### TEAM EUROPE STATISTICS

#### Evolution

<table>
<thead>
<tr>
<th></th>
<th>2023</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidates:</td>
<td>51</td>
<td>55</td>
</tr>
<tr>
<td>Countries involved:</td>
<td>27</td>
<td>21</td>
</tr>
<tr>
<td>Gender balance:</td>
<td>61.8% / 39.2%</td>
<td>72.7% / 27.3%</td>
</tr>
</tbody>
</table>
TEAM EUROPE ACTIVITIES

- Bootcamps
- Training platform
- Online trainings
- Online CTFs
- CTF qualifiers
- Side events
- Other engagements
TEAM EUROPE SIDE EVENTS

2021:
• back to back with ECSC2021
  5 participants

2022:
• back to back with the 3rd Team Europe bootcamp
  12 participants
• back to back with ECSC2022 – 2 days event
  23 participants
TEAM EUROPE CTF QUALIFIER

- Event during weekend
- Assessment of technical skills
- Five jeopardy categories for CTF qualifier:
  - Web
  - Pwn
  - Crypto
  - Reversing
  - Forensics

15 challenges in total (5 categories of 3 levels of difficulty)
FINAL SELECTION PARAMETERS

Key parameters:

- Assessment of performance / demonstration of technical skills
- Assessment of soft skills
- Assessment of motivation (participation and commitment)
- Diversity of final team
EUROPEAN CYBERSECURITY SKILLS FRAMEWORK
DIVIDING CYBERSECURITY INTO CATEGORIES
Chief Information Security Officer (CISO)

Manages an organisation’s cybersecurity strategy and its implementation to ensure that digital systems, services and assets are adequately secure and protected.

Cybersecurity Strategy

Cybersecurity Policies
DIVIDING CYBERSECURITY INTO CATEGORIES
BENEFITS IN USING ECSF

We are looking for a Risk Manager!

We are training Risk Managers!

I want to became a Risk Manager!

Organisations

Which skills our candidates should have?

Training providers

What should be included in our curriculum?

Individuals

Which skills and knowledge do I need?
THANK YOU FOR YOUR ATTENTION