



CYBERSECURITY
HIGHER EDUCATION
DATABASE

CYBERHEAD

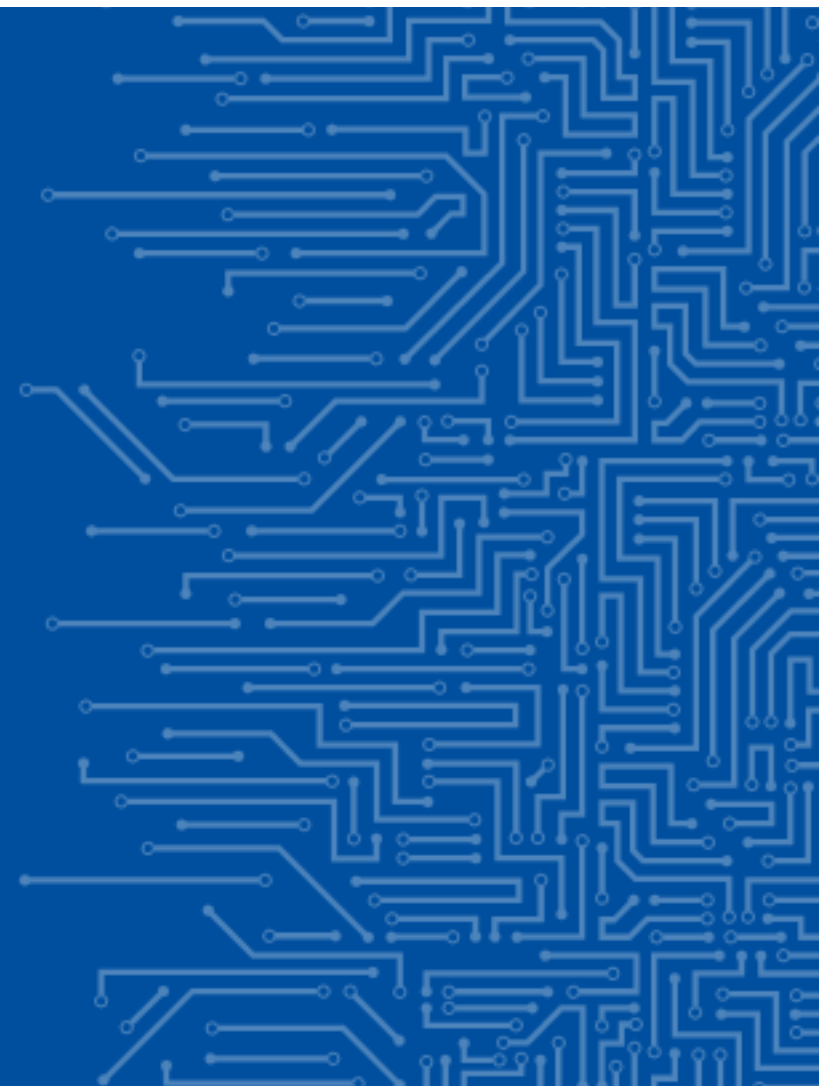
Fabio Di Franco

Konstantinos Adamos


22 | 09 | 2023




EUROPEAN
CYBERSECURITY
SKILLS FRAMEWORK



CYBERSECURITY HIGHER EDUCATION DATABASE

 Crowd-sourced web database:
the largest updated hub for
students seeking to enhance
their cybersecurity skills

 Collaboration with
EU research projects

 140+ cybersecurity programmes

 ECSF mapping



CYBERHEAD - Cybersecurity Higher Education Database

Explore Programmes

+ Add Programme

FAQ

Statistics

Login

1. Programme Name *

2. Institution Name *

3. Type of programme *

Bachelor Degree Master Degree Postgraduate Course

4. Delivery method *

Online Classroom Blended

5. Language *

6. City *

7. Country *

8. Programme Website URL *

9. Programme Description *

Please provide further information that may be of interest to candidate students. This information should preferably not exceed 600 characters and should be written in the programme's language.

Possible career paths as Chief Information Security Officer (CISO) or Cybersecurity Risk Manager, roles defined by the European Cybersecurity Skills Framework (ECSF)

Further evidence such as the study plan or the recognition may be requested

Not all submitted programmes fulfil CyberHEAD's criteria

Thank you for your interest in the Cybersecurity Higher Education Database, powered by ENISA. If you wish to add an entry to the database, please follow the instructions below.

1. Before starting, you need to make sure the programme is relevant to the scope of the Database. A programme is relevant to the purpose of the database if:

- The programme is **recognised or accredited by an EU or EFTA Member State**.
- For a **Bachelor's degree**: at least 25% of the taught modules are in cybersecurity topics.
- For a **Master's degree**: at least 40% of the taught modules are in cybersecurity topics.
- For a **postgraduate specialization programme outside the Bologna-degree structure**: at least 40% of the taught modules are in cybersecurity topics and the programme offers a minimum of 30 ECTS.

Postgraduate specialization and Master's programmes must be mapped with at least one and up to three ECSF role profiles. This information must be entered in question 9 "Programme description" (e.g. Possible career paths as a Chief Information Security Officer (CISO) or Cybersecurity Risk Manager, roles defined by the European Cybersecurity Skills Framework (ECSF)).

A **cybersecurity topic** corresponds to any of the topics that might fall within the remit of the knowledge areas of the *Cybersecurity Curricula 2017* developed by the Joint Task Force on Cybersecurity Education.

Based on the information submitted, ENISA might ask **further evidence** in order to verify the validity of the entries. The submitter will be informed when the validation has been successfully completed and the programme will be listed in the database. The information provided might be used for follow-up analysis regarding cybersecurity education and skills development.

DEPARTMENT OF APPLIED COMPUTER SCIENCES

IT & Mobile Security

Apply now! >

The master degree programme in IT & Mobile

Academic Degree:

Master of Science in Engineering

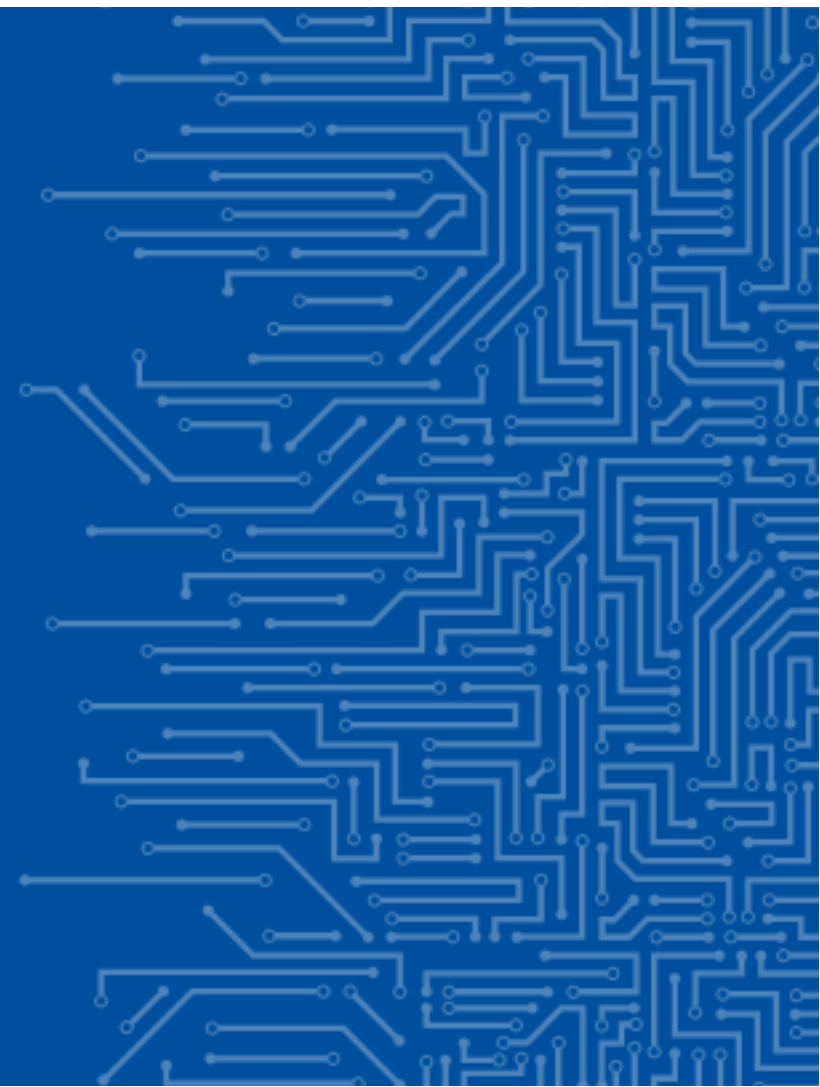


EUROPEAN UNION AGENCY
FOR CYBERSECURITY

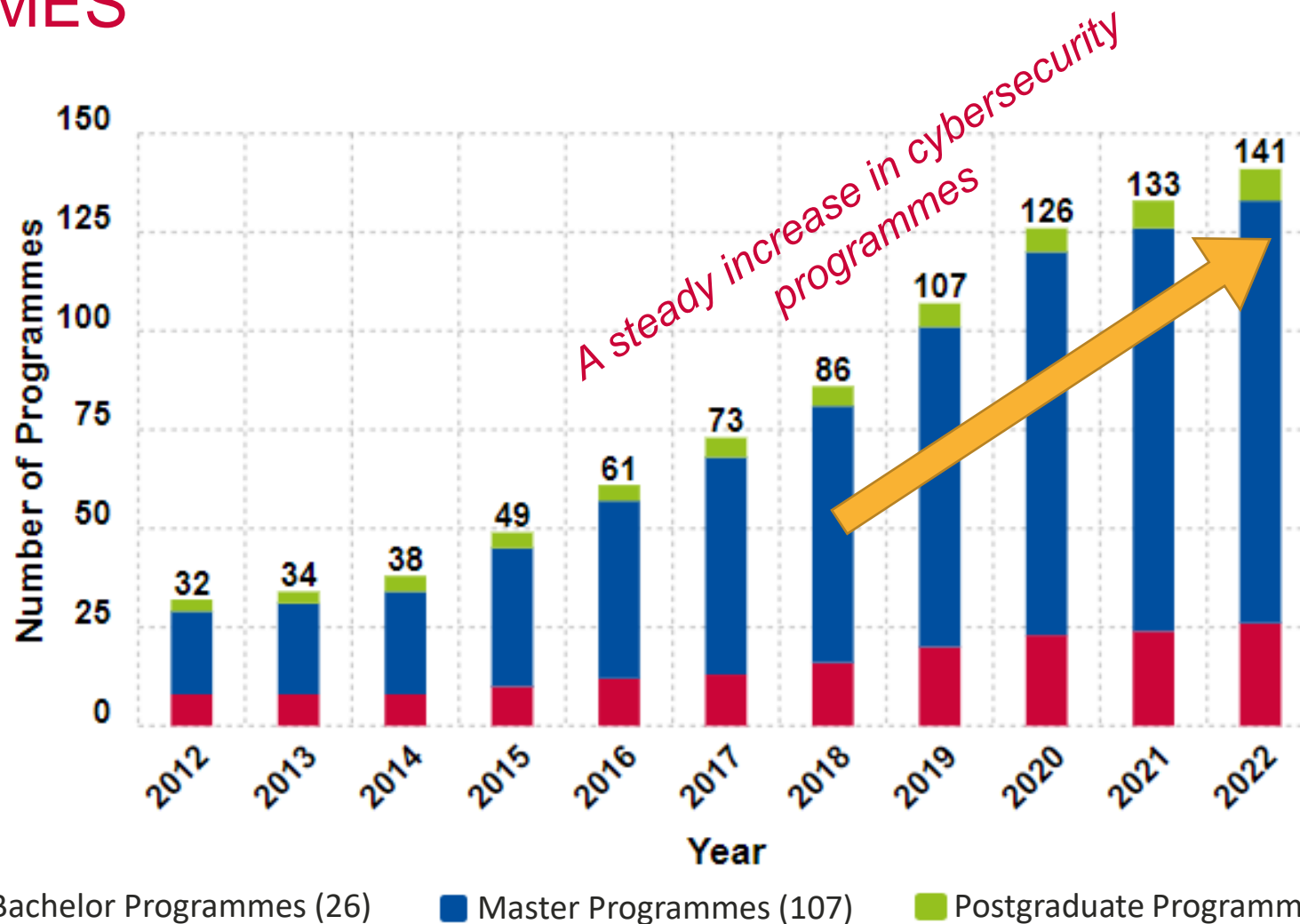


ANALYSING THE PROGRAMMES

Monitoring the cybersecurity state in Europe

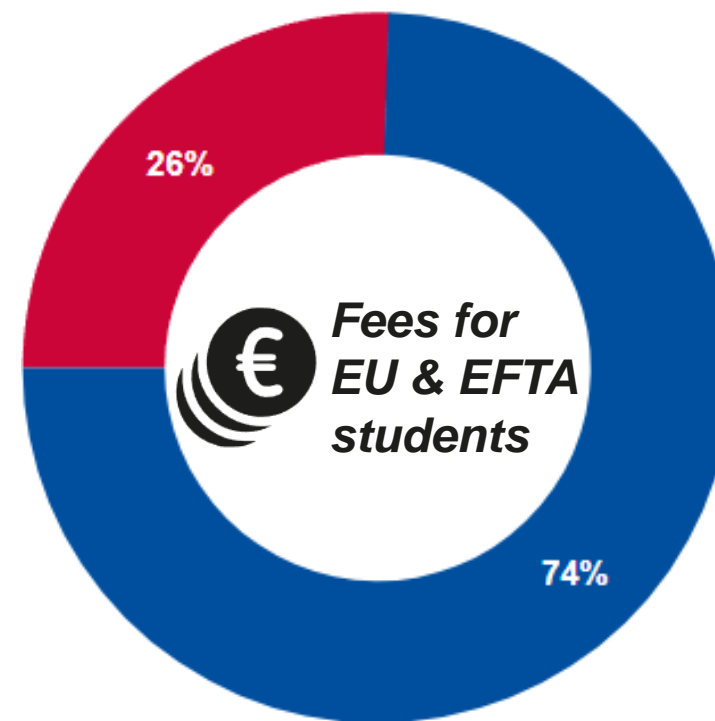
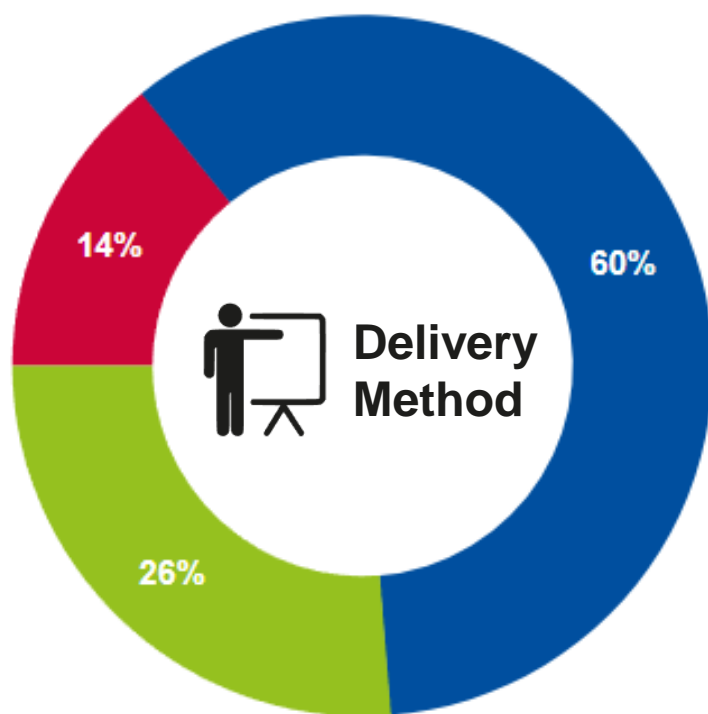


MONITORING THE NUMBER OF CYBERSECURITY PROGRAMMES



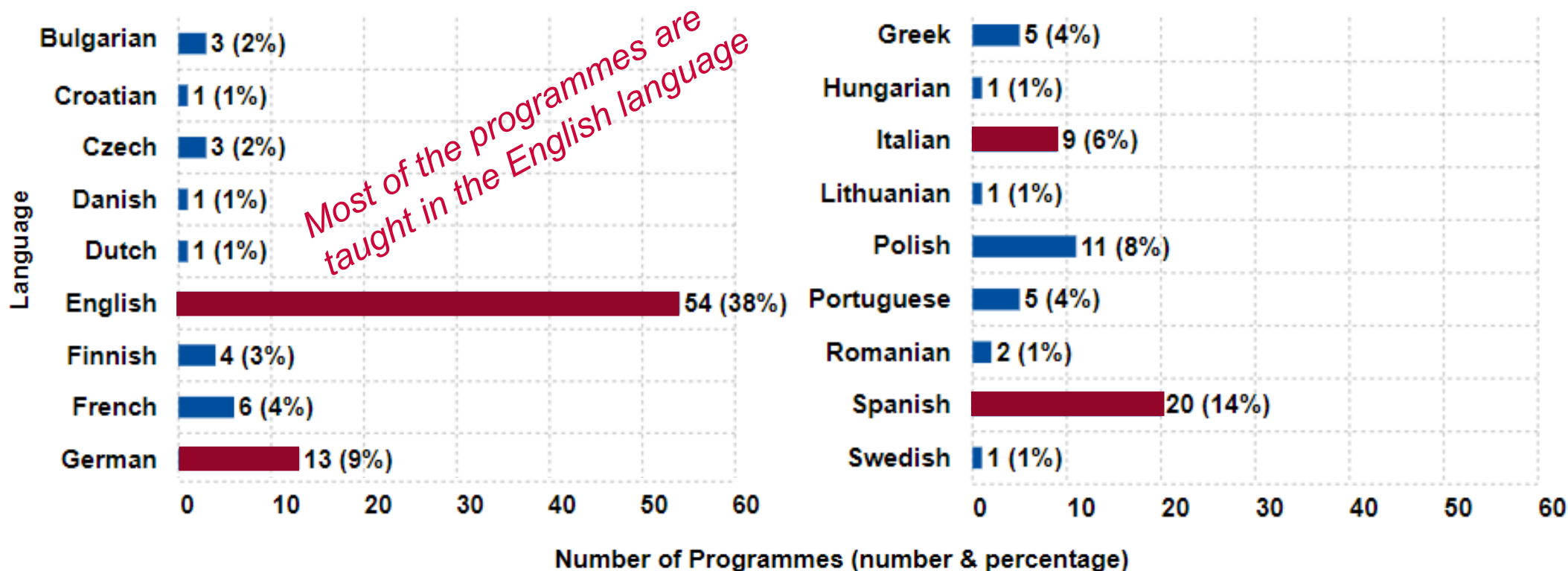
MONITORING THE ACCESSIBILITY OF CYBERSECURITY PROGRAMMES

Most of the programmes prefer physical lectures and apply charges



■ Online (20)
 ■ Classroom (84)
 ■ Blended (37)
 ■ Free (36)
 ■ Charges apply (105)

MONITORING THE ACCESSIBILITY OF CYBERSECURITY PROGRAMMES



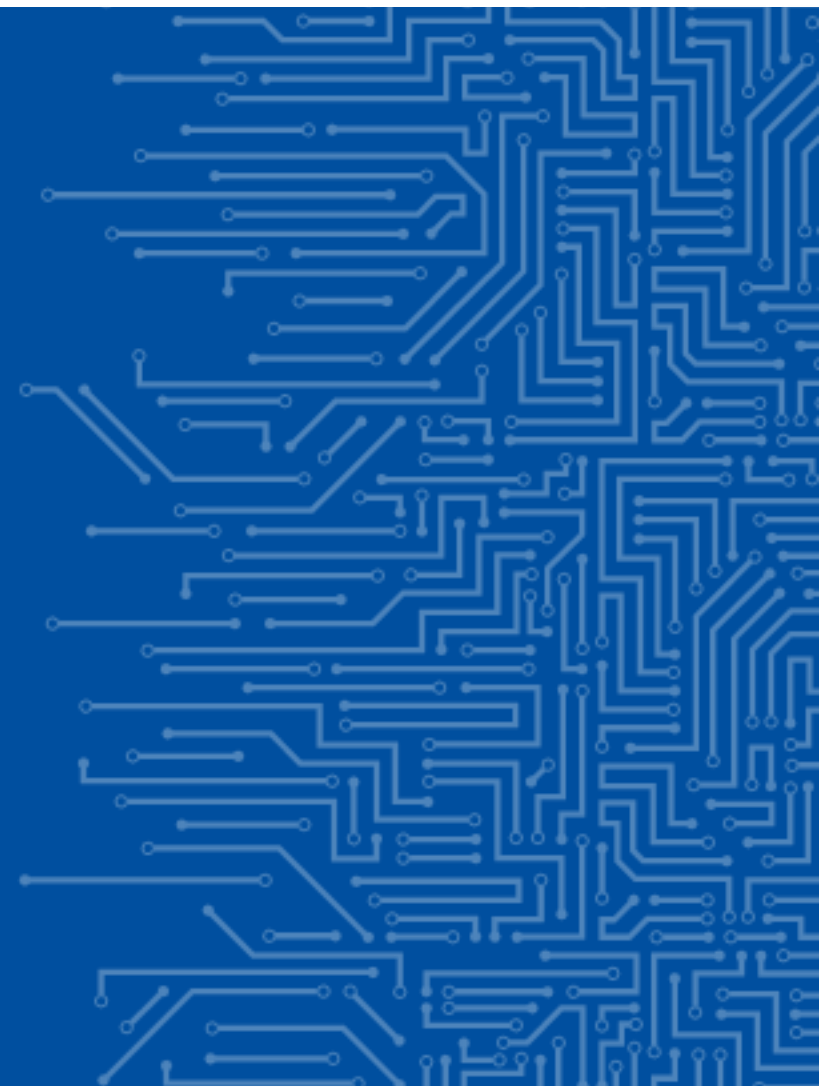


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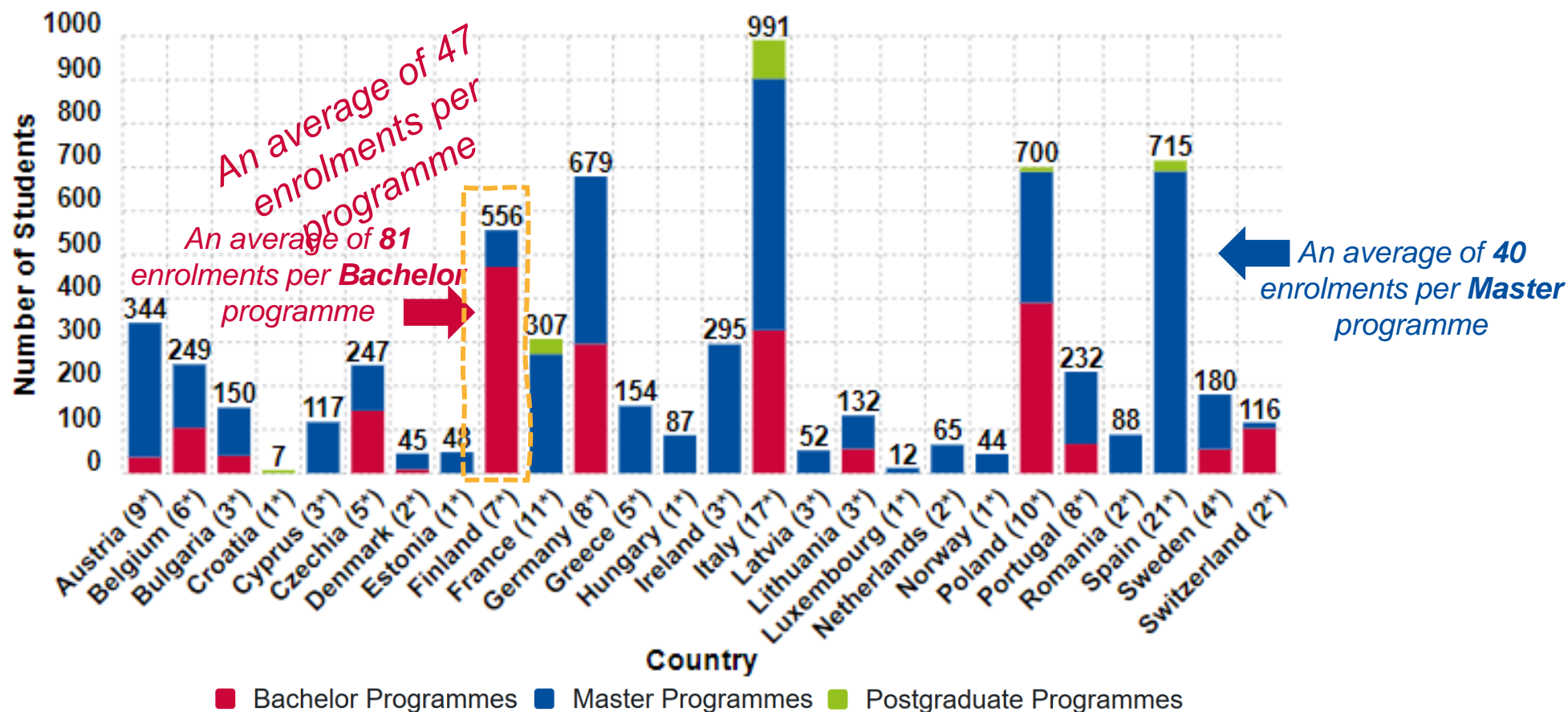
ANALYSING THE PROGRAMMES

Monitoring enrolments and graduates in Europe



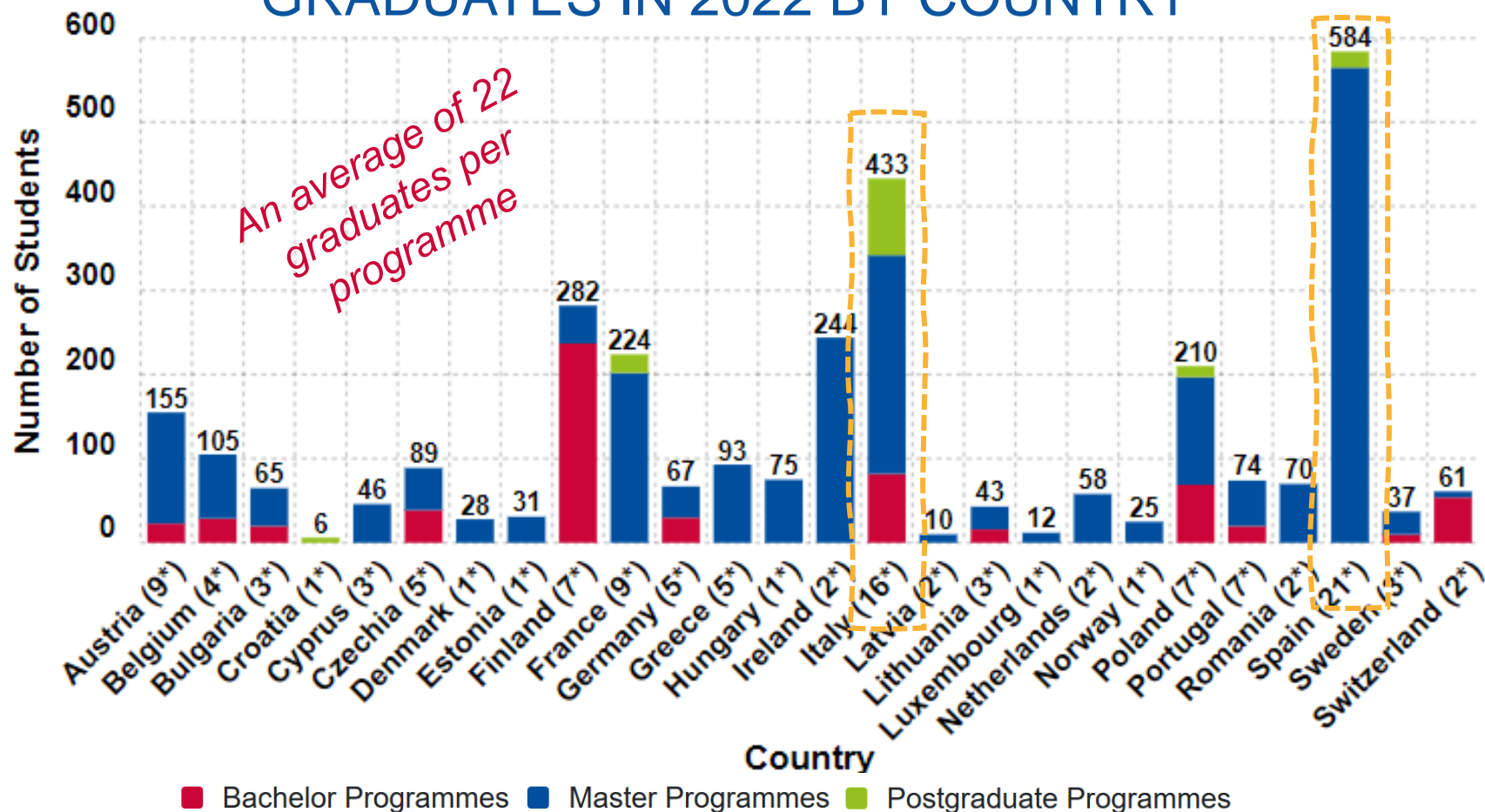
MONITORING ENROLMENTS IN CYBERSECURITY PROGRAMMES

NEW STUDENTS ENROLLED IN 2022 BY COUNTRY



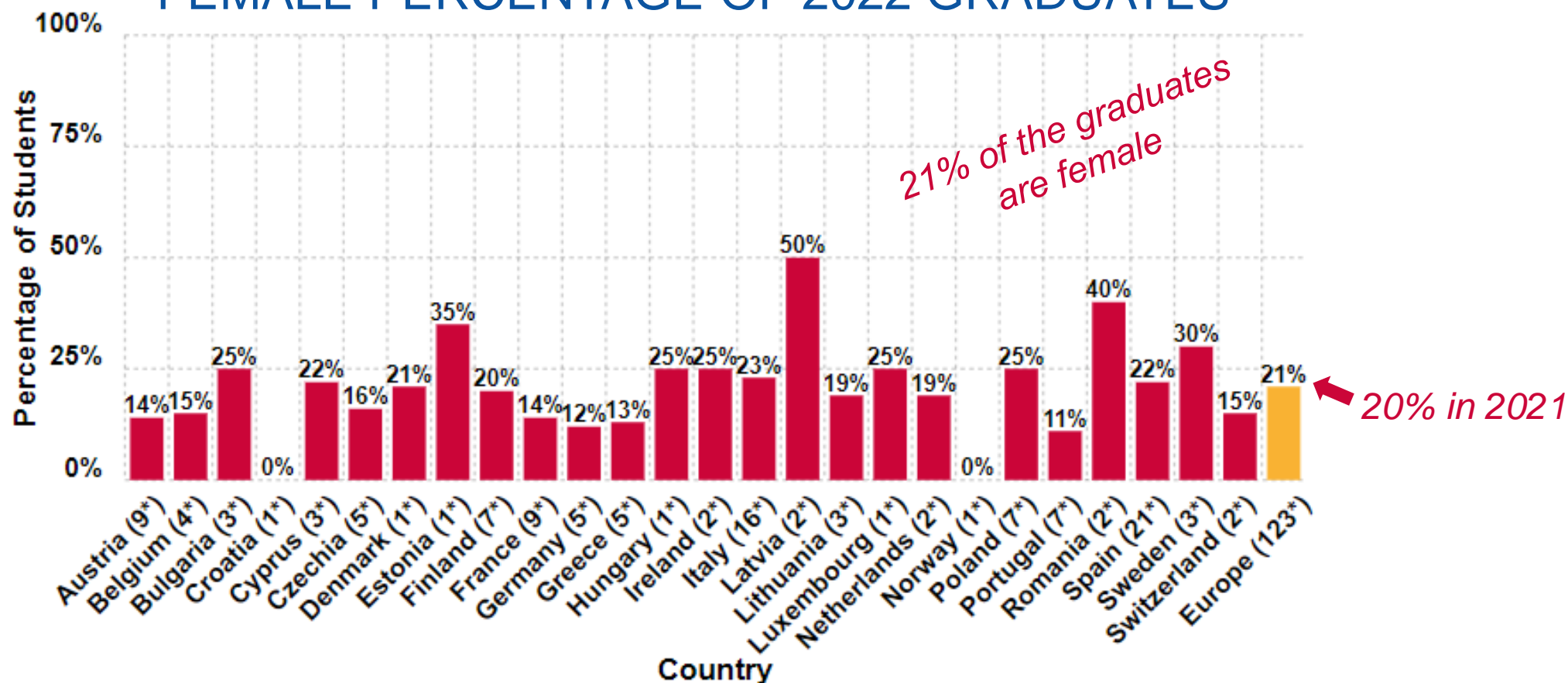
MONITORING GRADUATES IN CYBERSECURITY PROGRAMMES

GRADUATES IN 2022 BY COUNTRY



MONITORING THE GENDER BALANCE IN CYBERSECURITY PROGRAMMES

FEMALE PERCENTAGE OF 2022 GRADUATES



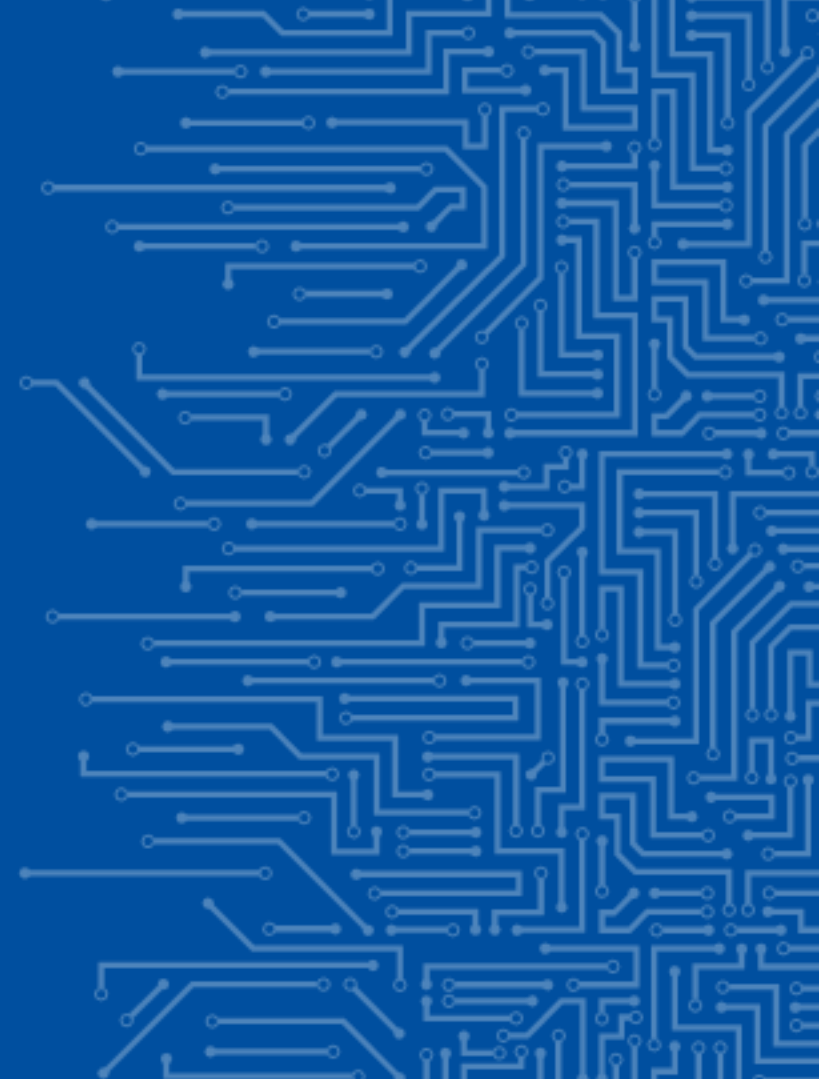


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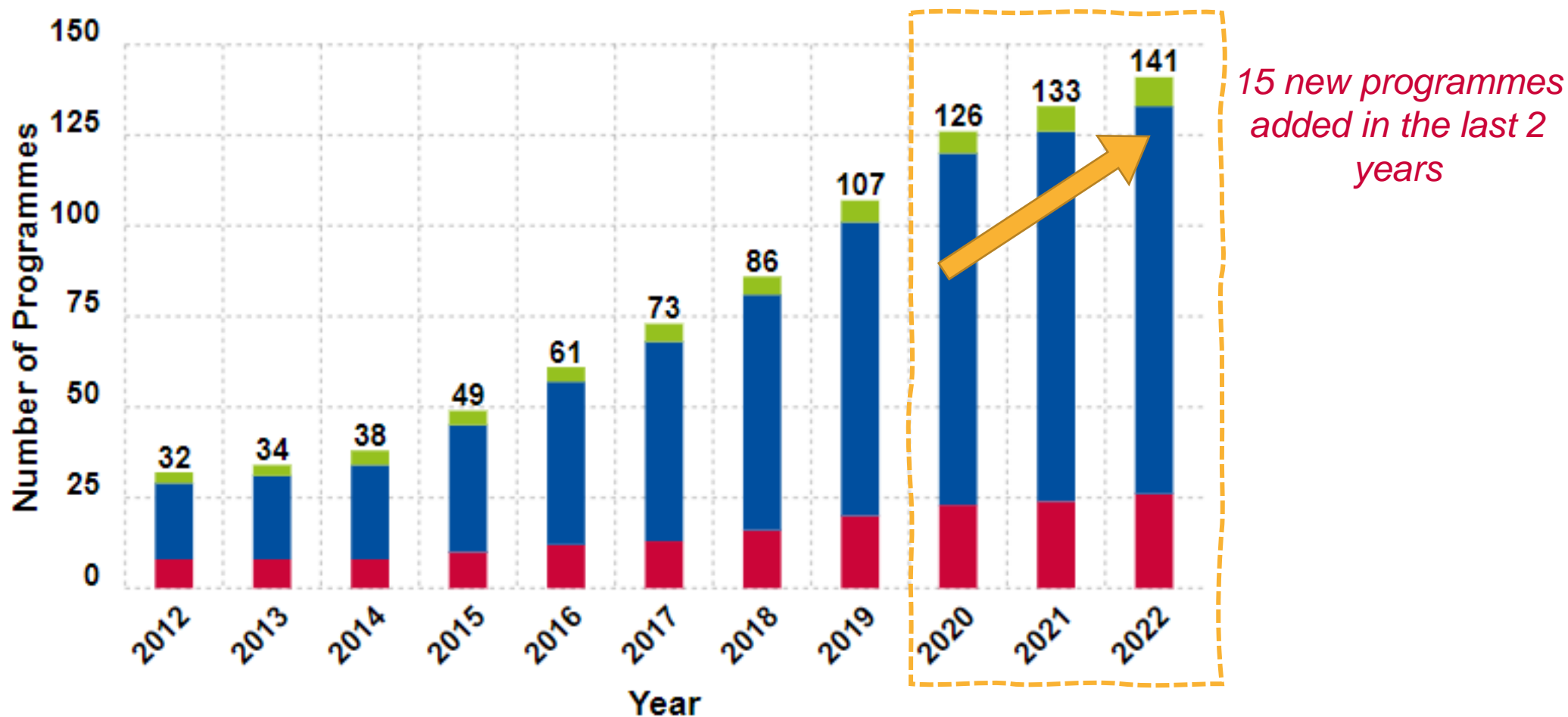


ANALYSING THE PROGRAMMES

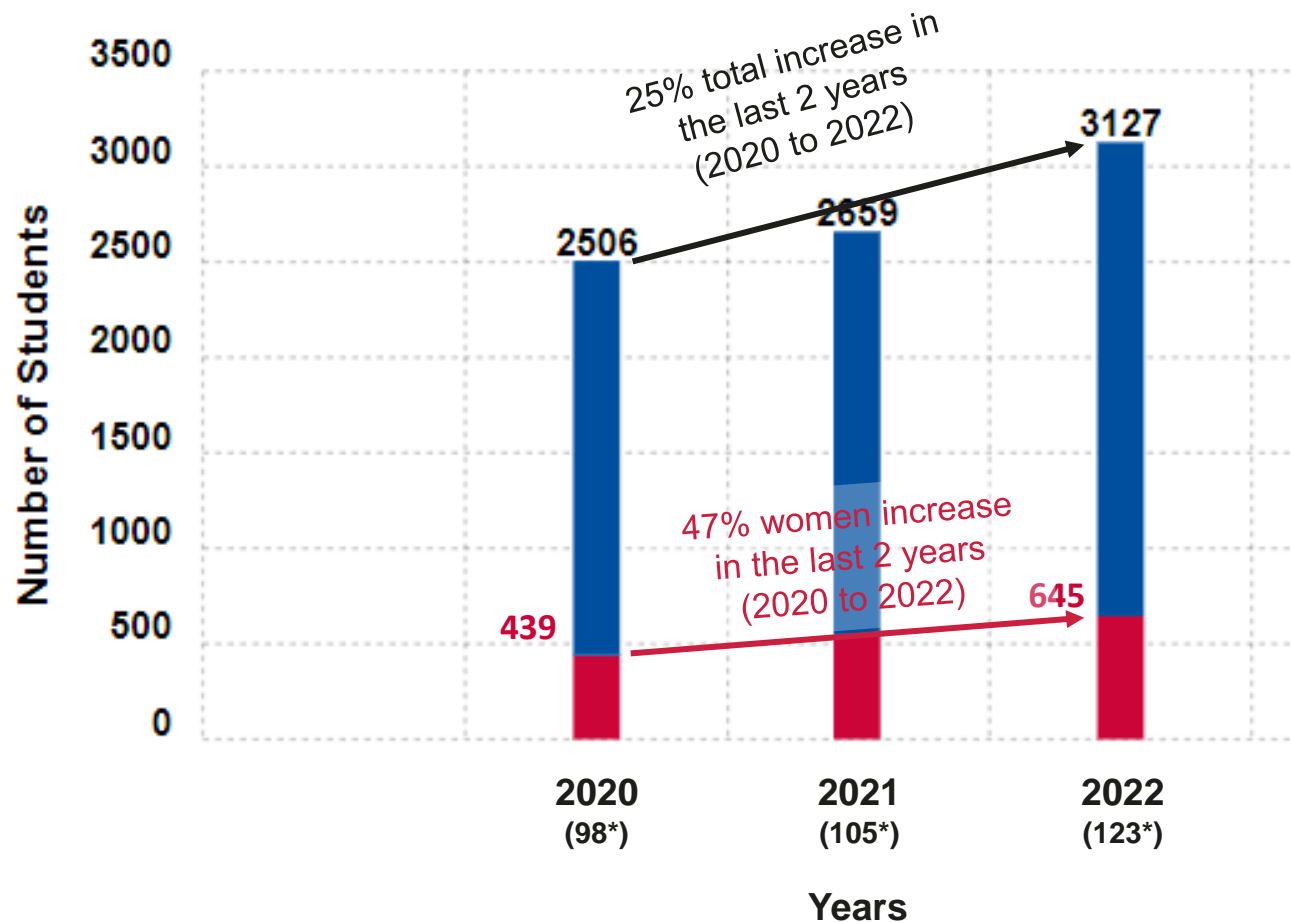
Comparison between 2020, 2021 and 2022
enrolments and graduates and estimating the
number of people joining the workforce



A COMPARISON BETWEEN 2020, 2021 AND 2022 ENROLMENTS



A COMPARISON BETWEEN 2020, 2021 AND 2022 GRADUATES





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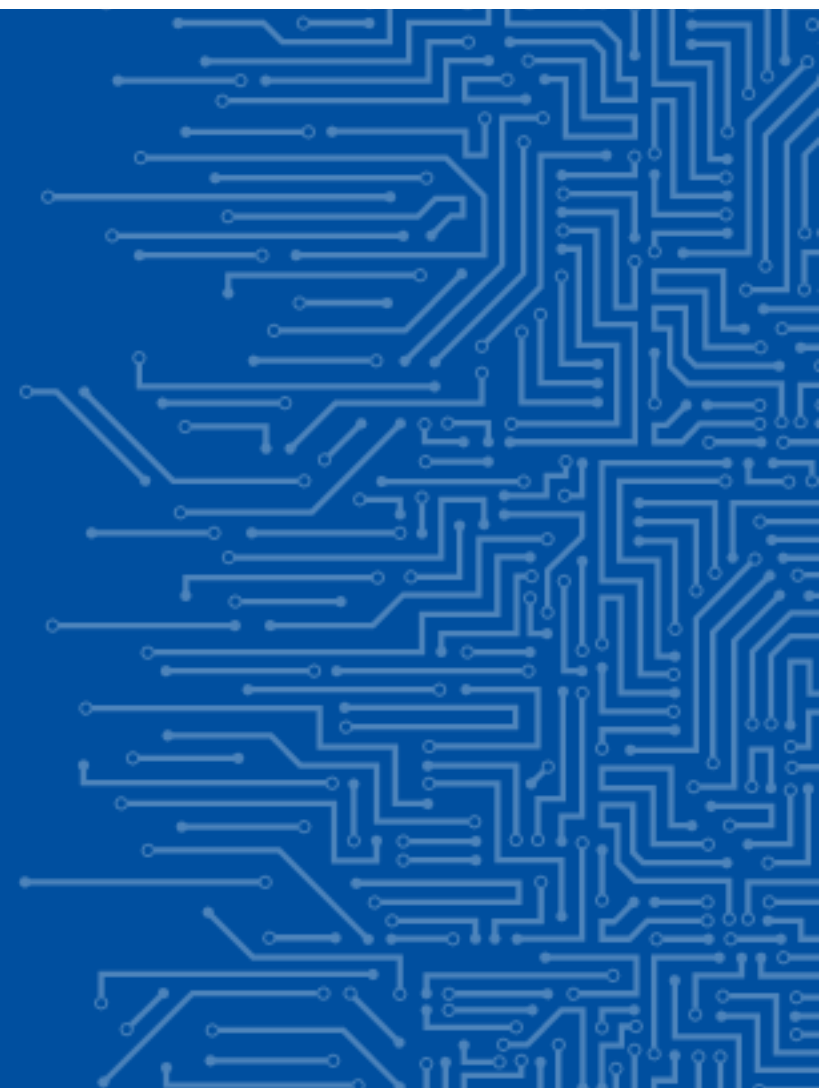
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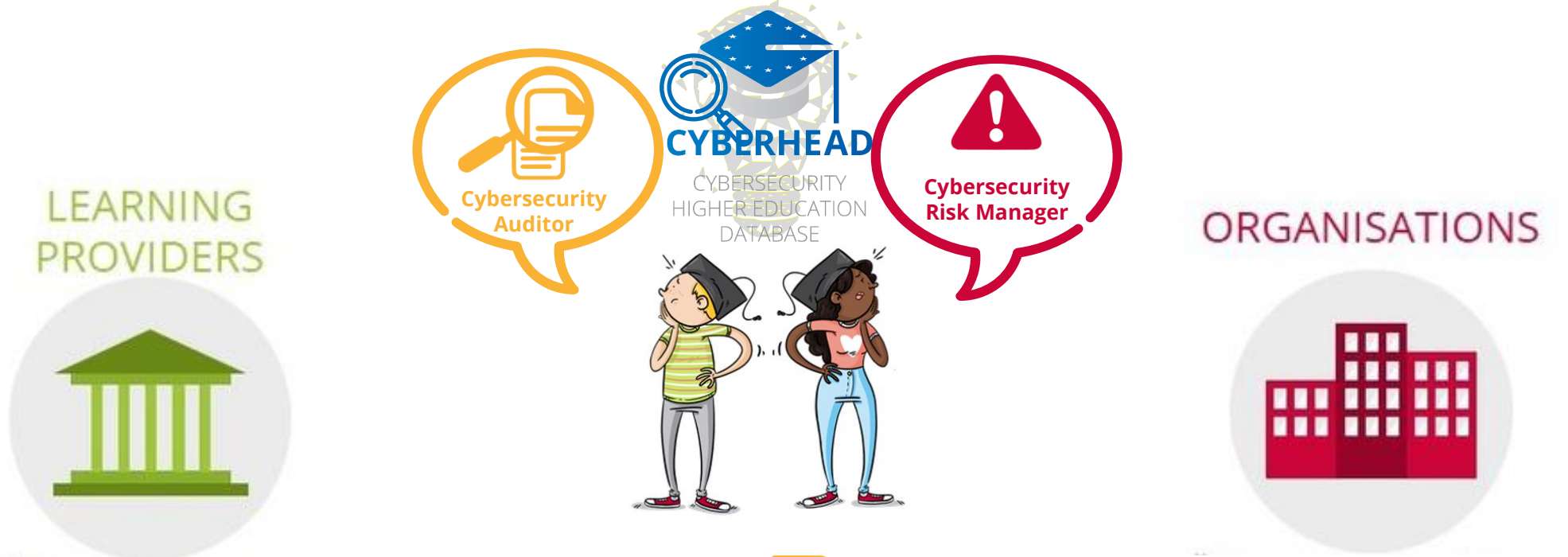
MAPPING WITH THE



EUROPEAN
CYBERSECURITY
SKILLS FRAMEWORK



CYBERHEAD'S CONNECTION WITH THE ECSF



“We train Cybersecurity Auditors and Risk Managers”

“We are looking for Cybersecurity Auditors and Risk Managers”



HOW TO MAP A PROGRAMME WITH THE ECSF ROLE PROFILES



Cybersecurity Curricula Designer

<https://www.sparta.eu/curricula-designer/>



ECSF Knowledge **ECSF Skills**

ECSF Knowledge	ECSF Skills
6.25 % Auditing standards, methodologies and frameworks	6.25 % Analyse business processes, assess and review software or hardware security, as well as technical and organisational controls
6.25 % Auditing-related certification	6.25 % Apply auditing tools and techniques
6.25 % Conformity assessment standards, methodologies and frameworks	6.25 % Audit with integrity, being impartial and independent
6.25 % Cybersecurity controls and solutions	6.25 % Collect, evaluate, maintain and protect auditing information
6.25 % Cybersecurity standards, methodologies and frameworks	6.25 % Communicate, explain and adapt legal and regulatory requirements and business needs
6.25 % Cybersecurity-related certifications	6.25 % Decompose and analyse systems to identify weaknesses and ineffective controls
6.25 % Legal, regulatory and legislative compliance requirements, recommendations and best practices	6.25 % Follow and practice auditing frameworks, standards and methodologies
6.25 % Monitoring, testing and evaluating cybersecurity controls' effectiveness	6.25 % Organise and work in a systematic and deterministic way based on evidence

NIST NICE Framework

ECSF Framework **Beta 22.9**

Supported ECSF Profiles:

Profile	ECTS
Cybersecurity Auditor	9.29
Cyber Incident Responder	7.94
Digital Forensics Investigator	7.88



QUESTION



What are the top 5 ECSF role profiles in
CyberHEAD programmes?



ECSF ROLE PROFILES IN CYBERHEAD



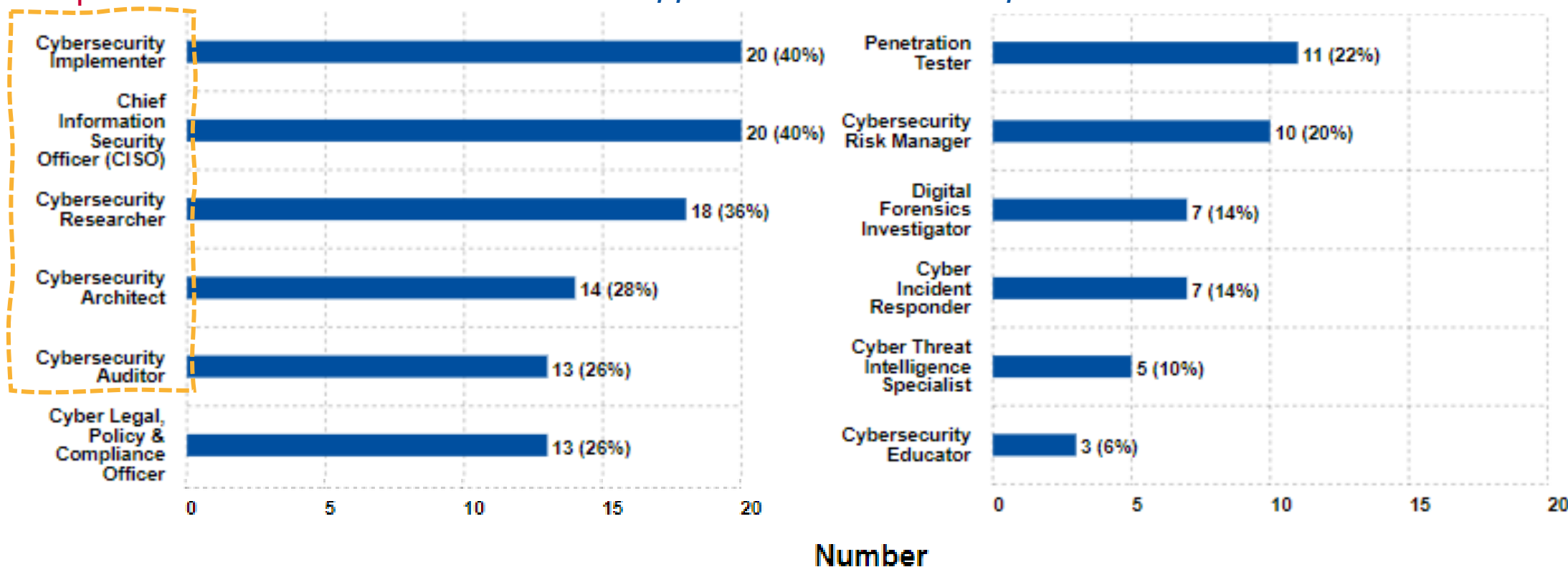
EUROPEAN
**CYBERSECURITY
SKILLS FRAMEWORK**



CYBERHEAD
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*43% of master/postgraduate programmes (50 out of 115)
are mapped to the ECSF role profiles*

Top five



VISIT AND PROMOTE CYBERHEAD



[www.enisa.europa.eu/
cyberhead](http://www.enisa.europa.eu/cyberhead)



THANK YOU FOR YOUR ATTENTION

European Union Agency for Cybersecurity

Ethnikis Antistaseos 72 & Agamemnonos 14, Chalandri,
15231, Attiki, Greece

 +30 281 440 9711

 euskills@enisa.europa.eu

