

CyberHubs

European Network of Cybersecurity Skills Hubs

Actionable Roadmap for Closing National Cybersecurity Skills Gaps in alignment with the ECSF

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CyberHubs at a glance



*3-year project
(2024 – 2027)*



*Alliance for
Innovation
Funded under
Erasmus+*



*7 CyberHubs
around Europe*



*21 Partners from
industry, academia
& research
3 Associated
Partners*

The project in a nutshell

European Network of Cybersecurity Skills Hubs (CyberHubs)

In each Hub: 1 National Trade Association + 1 University



Objective: *enhance the cybersecurity skills ecosystem in Europe by establishing a network of 7 Cybersecurity Skills Hubs, which will promote the development of professional skills in cybersecurity and leading to a skilled cybersecurity workforce*

TARGETTING THE WIDER ECO-SYSTEM: ECSF EMPOWERING CYBERHUBS IMPACT



ECSF a key enabler across all CyberHubs stages



ECSF as basic ingredient of the CyberHubs
common language and **shared
understanding** within and beyond the
partnership

Used for:

- CS Needs Analysis on roles & skills
- Forecasting model
- National CS skills strategies
- CyberHubs Skills & Jobs Dashboard
- Advanced tools matching cybersecurity skills, roles & jobs

ECSF across the project – our key features for success

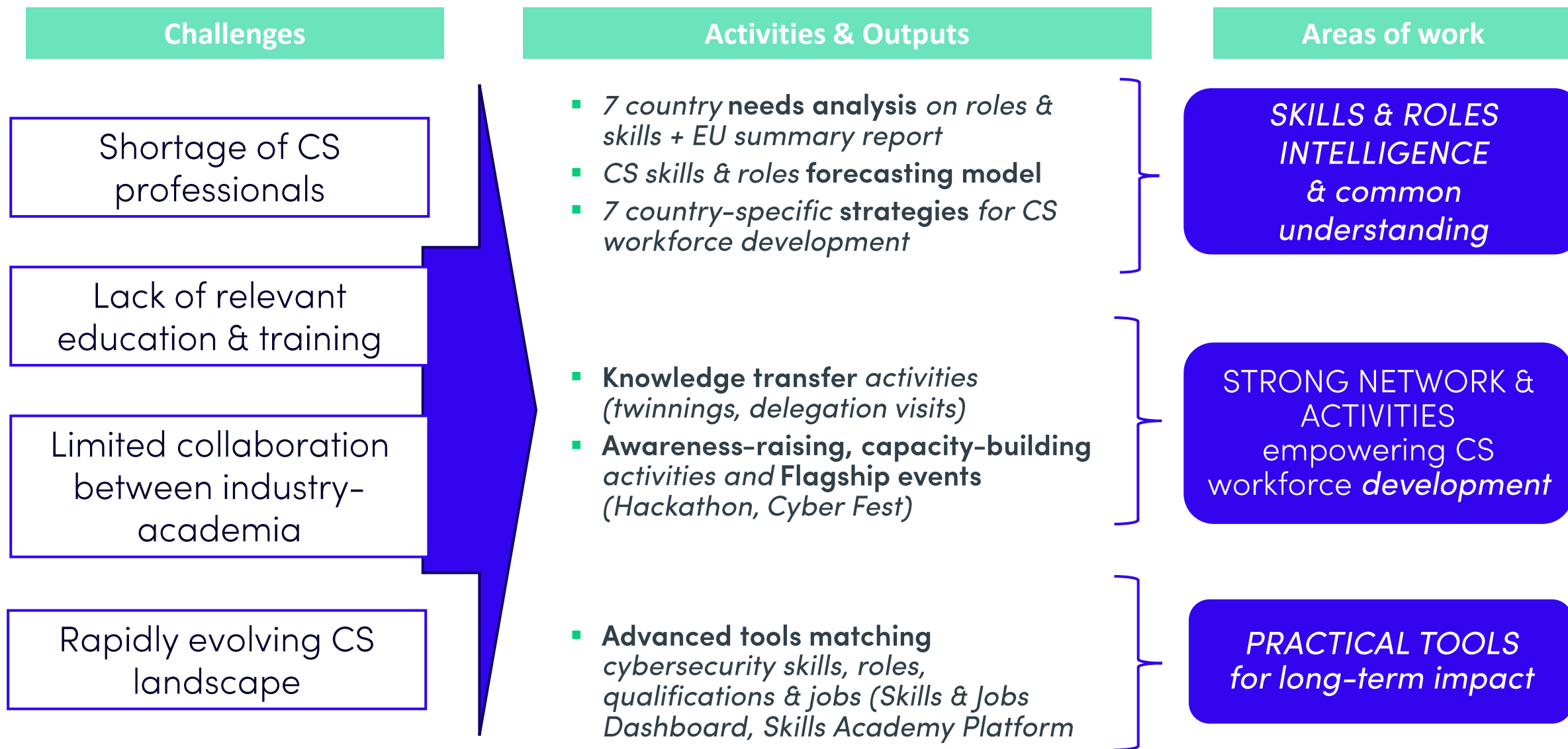
- Getting all on the same page
 - ECSF Introduction Workshop to the consortium
 - ECSF Role Mapping to partners: Understand consortium composition
 - Agreement on a common language: Frameworks + Glossary
- Application of this ECSF enabled common language across activities and outputs for shared understanding
 - Internal and external, within and beyond the partnership
 - Inner-connection, consistency and sustainability of outputs in the short, mid and long-term
- Ongoing incorporation of new coming ECSF related tools & outputs
 - ECSF for NIS2 implementation report (ENISA, 2025)
 - Expected soon: ECSF for secure and trustworthy AI (ENISA, 2026)



CyberHubs view on our workshop today

- A key facilitator to creating together and across projects a **European value chain**
 - CyberHubs Sustainability KPI: connections with other EU projects
- ECSF and further related components (e-CF, EQF, ESCO, common terms and definitions) providing the **needed common language** for creating synergies, meeting challenges, optimising processes and outputs together
 - internally and externally
 - in the short, mid and long-term
- Joining forces on a new level across the cybersecurity professional skills ecosystem for a **digitally safe and technology sovereign** European Union

CyberHubs project structure



Consortium

Partners

DIGITALEUROPE



.AGORIA



ivsz



TAL
TECH

infobalt
LITHUANIA



eum



unir LA UNIVERSIDAD
EN INTERNET



Associated Partners

AAVIT

Digital
Technology
Skills



Needs Analysis – overview 1/4

7 country reports + 1 EU summary report available at cyberhubs.eu

- CS roles in demand now and in the future
- Most needed skills for CS professionals
- Needs for education & training



Data collection (2024) in numbers⁽¹⁾

- 193 papers selected for detailed analysis
- 2 612 job posts analysed
- 616 respondents to questionnaire
- 147 learning programmes analysed
- 120 expert meeting participants

Results of the needs analysis 2/4

Most needed roles⁽²⁾

- Chief Information Security Officer (CISO)
- Cybersecurity Implementer
- Cyber Incident Responder

Need for more technical roles/professionals to combat the more sophisticated threats & increase of need for professionals to help with compliance with regulations (e.g., NIS2).



Chief Information
Security Officer (CISO)







Cyber Incident
Responder



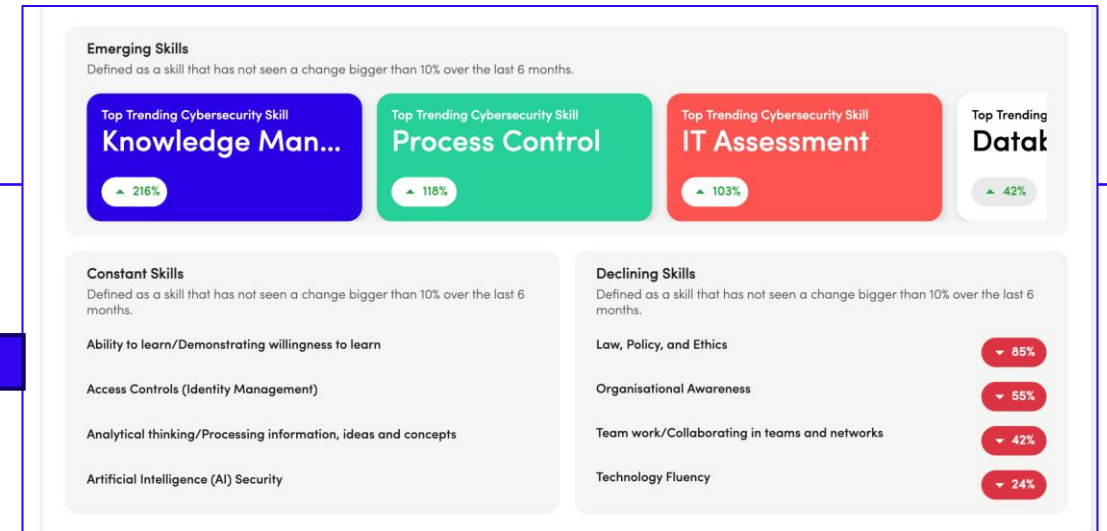
Cybersecurity
Implementer

Results of the needs analysis 3/4

Most needed skills⁽²⁾

 Cybersecurity skills	 IT-related skills	 Organisation-related skills	 Transversal (soft) skills
<ul style="list-style-type: none">• Cloud Security• Information Systems & Network Security/Cyber Resiliency• Data Privacy• Threat Analysis• Incident Management	<ul style="list-style-type: none">• System Administration & Integration• Network Management• Enterprise Architecture & Infrastructure Design• Operating Systems	<ul style="list-style-type: none">• Strategic Planning• Risk Management• Business Continuity• Process Control	<ul style="list-style-type: none">• Problem-solving• Acting Responsibly• Communication• Ethical Behaviour

Dashboard with skills trends
(emerging, constant, declining) per role



Results of the needs analysis 4/4

Need for education & training⁽²⁾

- Programmes do not cover sufficiently non-technical skills such as transversal (soft) skills.
- Many countries lack comprehensive programmes that address both **emerging cybersecurity skills** and the necessary **leadership skills** for roles like CISO that are in high demand.
- In many countries, the education and training capacity of E&T providers cannot cater for the increasing need for CS professionals.



National Cybersecurity Skills Strategies

From analysis to strategy to action



WHO: Key actors & EU/national legislations impacting the CS landscape

WHAT: Strategic goals (based on needs analysis findings from the country)

HOW/WHEN: High-level action plan on how to activate the ecosystem to reach the goals

REPEAT: Monitoring and evaluation methods/tools for impact

Download them at cyberhubs.eu

Knowledge transfer activites

CyberHub Delegation Visits


- Visits to Campus Cyber (France) and Cyber Ireland (Ireland) fostered collaboration and shared best practices across CyberHubs, industry, academia, and government.

CyberHub Twinnings

- The 7 CyberHubs shared best practices and solutions to advance cybersecurity skills development.



European Cybersecurity Hackathon

- Budapest (17–19 Oct 2025)
- **75 participants** from **17 countries** solved real-world cybersecurity challenges
- Targeted roles 
- **11 diverse teams** worked on topics like AI threat detection, crisis communication, and cyber-skills forecasting — guided by 15 international mentors and 14 jury members
- Participants gained valuable experience, mentorship, and cross-European connections



Cybersecurity
Educator



Penetration
Tester



Cybersecurity
Auditor



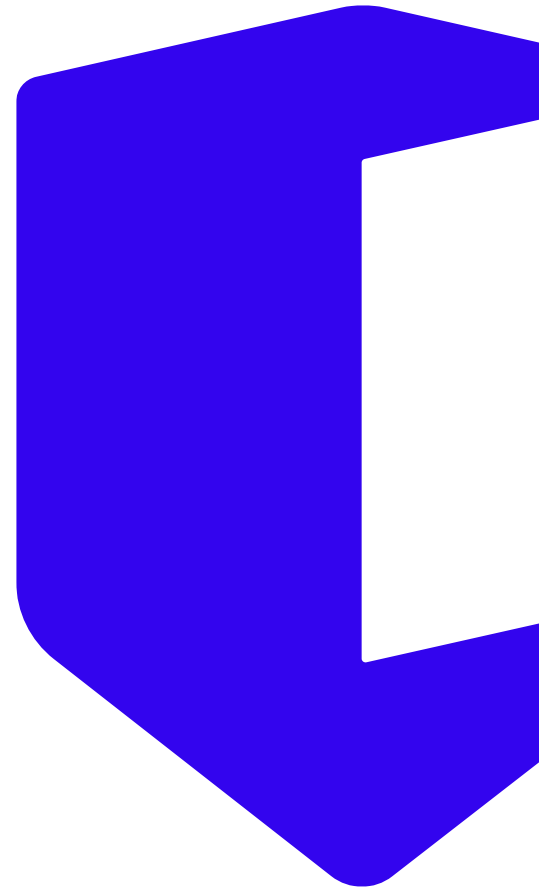
Cybersecurity
Implementer



Cyber Legal, Policy and
Compliance Officer

Looking ahead: what's coming next

- Piloting of an AI-assisted tool to match individuals' skills to job & learning opportunities
- Cyber Fest (November 2026)
- Strengthen the CyberHubs network, develop partnerships



Thank you

Contact us:

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