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Cybersecurity within the European Union (EU)

Fostering Cybersecurity within the European Union

Safeguarding against Phishing in the age of 4th Industrial Revolution
www.cyberphish.eu
This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

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Learning Goals

Learn about existing EU policies and organisations aimed at promoting the cybersecurity awareness

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Student Workload

Lecture	1 h
Audio and video material	0.5 h
Case studies	0.5 h
Further reading	1 h
Preparation for exam	1 h

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EU Policies and Initiatives Aimed at Promoting the Concept of Cybersecurity

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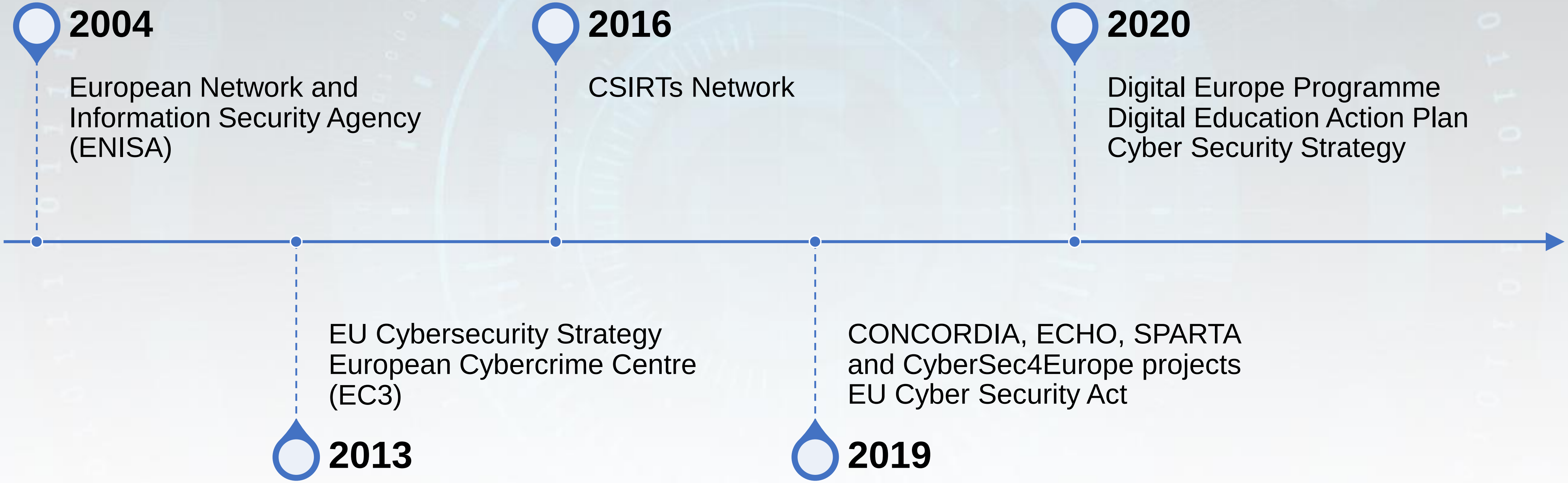
Timeline of Key Events, Policies and Publications



2004

European Network and Information Security Agency (ENISA)

2013

EU Cybersecurity Strategy
European Cybercrime Centre (EC3)

2016

CSIRTs Network

2019

CONCORDIA, ECHO, SPARTA and CyberSec4Europe projects
EU Cyber Security Act

2020

Digital Europe Programme
Digital Education Action Plan
Cyber Security Strategy

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ENISA: European Network and Information Security Agency

Source: https://www.enisa.europa.eu/

ENISA – founded in 2004

- provides assistance to member states about cybersecurity
- enforces and assists the business communities to meet the requirements of the present and future EU legislations

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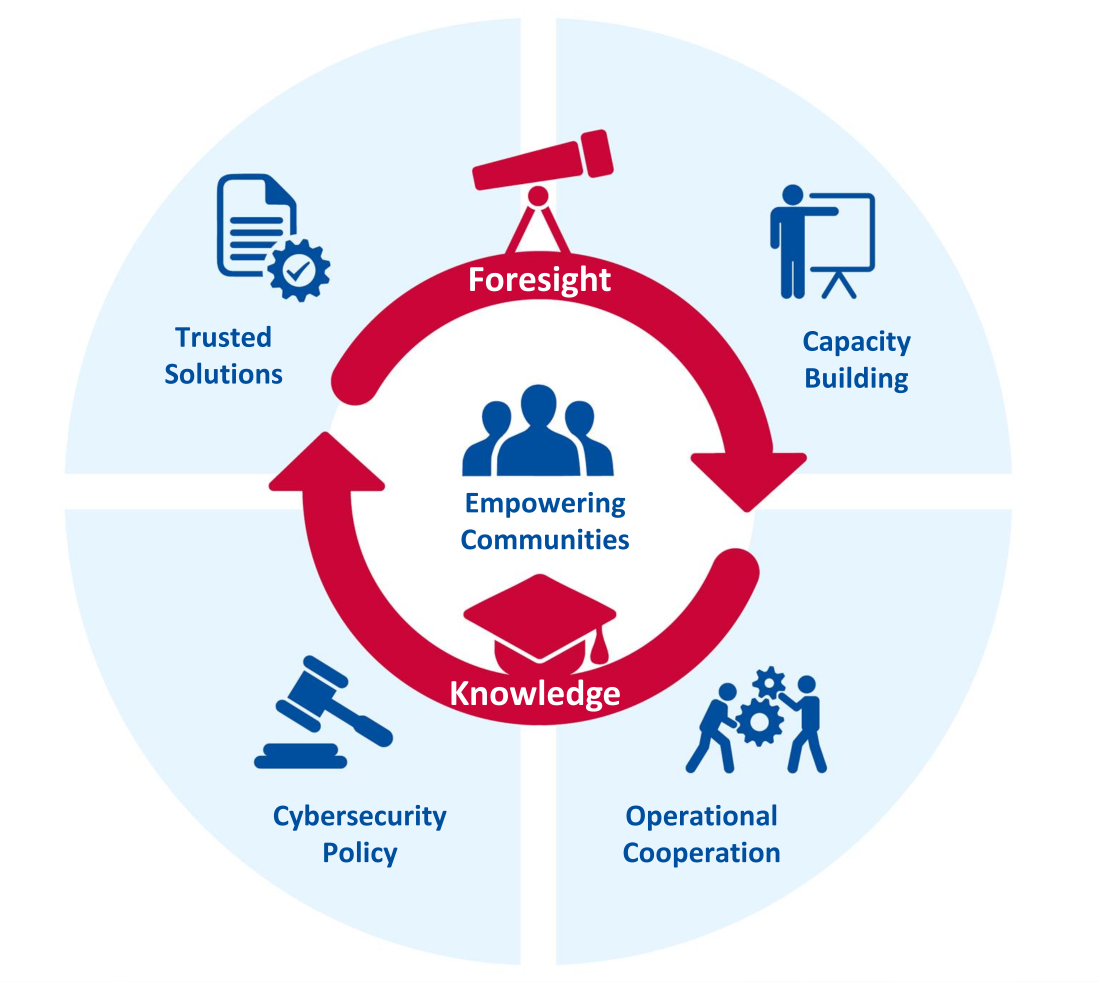
***ENISA**: Roles and Tasks*

Since adaptation of Cyber Security act in 2019, ENISA was granted a permanent mandate, resulting in more resources and new tasks

Tasks involve:

- setting up and maintaining the European cybersecurity certification framework
- increasing operational cooperation at EU level
- supporting the coordination of the EU in case of large-scale cross-border cyberattacks and crises



Source: https://www.enisa.europa.eu/

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***EUCSS**: First EU Cybersecurity Strategy*

The EU Cyber Security Strategy was adopted in February 2013 accompanied by a legislative proposal from the European Commission, consisting of a directive to strengthen the security of information systems in the EU

Strategy development

- Ensuring that member states and private business have an adequate strategy for dealing with cybersecurity threats

Information sharing

- Facilitating information sharing about cybersecurity threats between the public and private sectors and between member states.

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EC3: *European Cybercrime Centre*

European Cybercrime Centre (from 2013)

- the body of the **Police Office** (Europol) of the **European Union** (EU), headquartered in The Hague

The EC3 aims

- strengthen the **law enforcement response** to cybercrime in the EU
- help protect European citizens, businesses and governments from **online crime**

Source: https://www.freepik.com/

CSIRTs Network

CSIRTs Network was established in 2016

- as a part of Directive on security of network and information systems (NIS)

Goals

- contribute to developing confidence and trust between the Member States
- promote swift and effective operational cooperation

Source: https://csirtsnetwork.eu/

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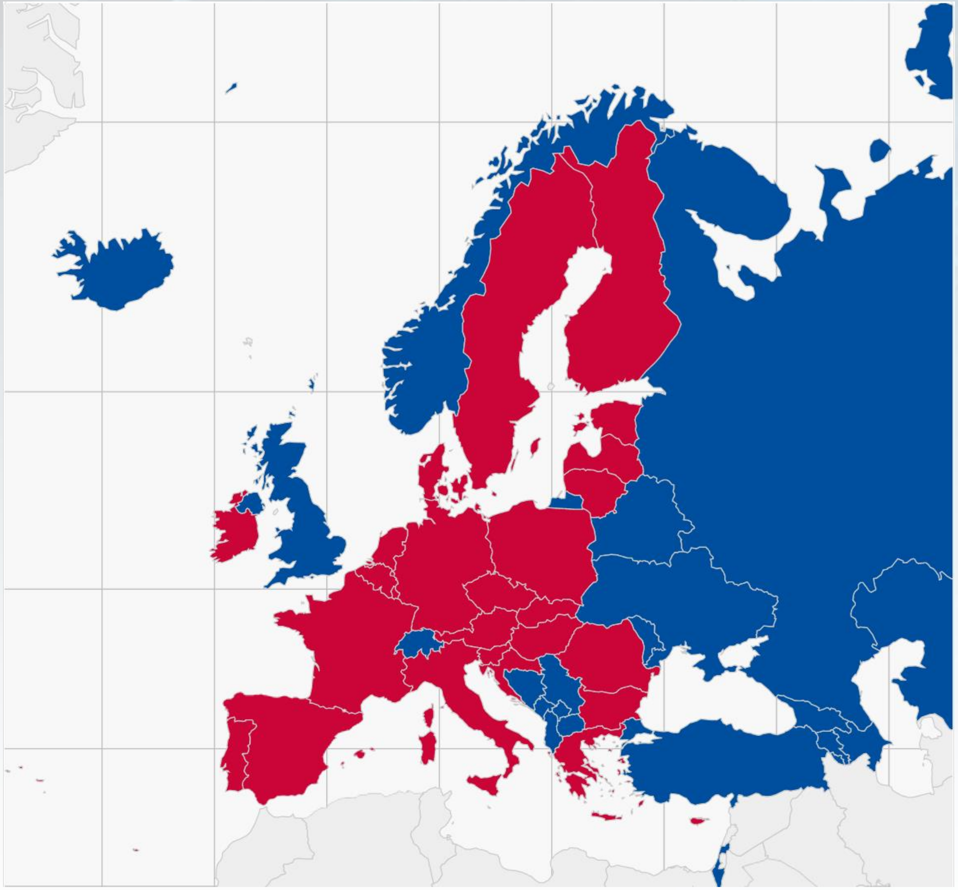
CSIRTs Network: Members



Source: https://www.freepik.com/

The CSIRTs Network is composed of:

1. CSIRTs: EU Member States’ appointed Cyber Security Incident Response Teams
2. CERT-EU: Computer Emergency Response Team

Members are able to improve the handling of cross-border incidents and even discuss how to respond in a coordinated manner to specific incidents

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EU Cyber Security Act

The EU Cybersecurity Act came into force on 27 June 2019 and was applied in full across the EU since 28 June 2021

Main purposes:

- To give ENISA a **permanent mandate**;
- To establish a European **cyber security certification framework for ICT** products, services and processes

Source: https://www.freepik.com/

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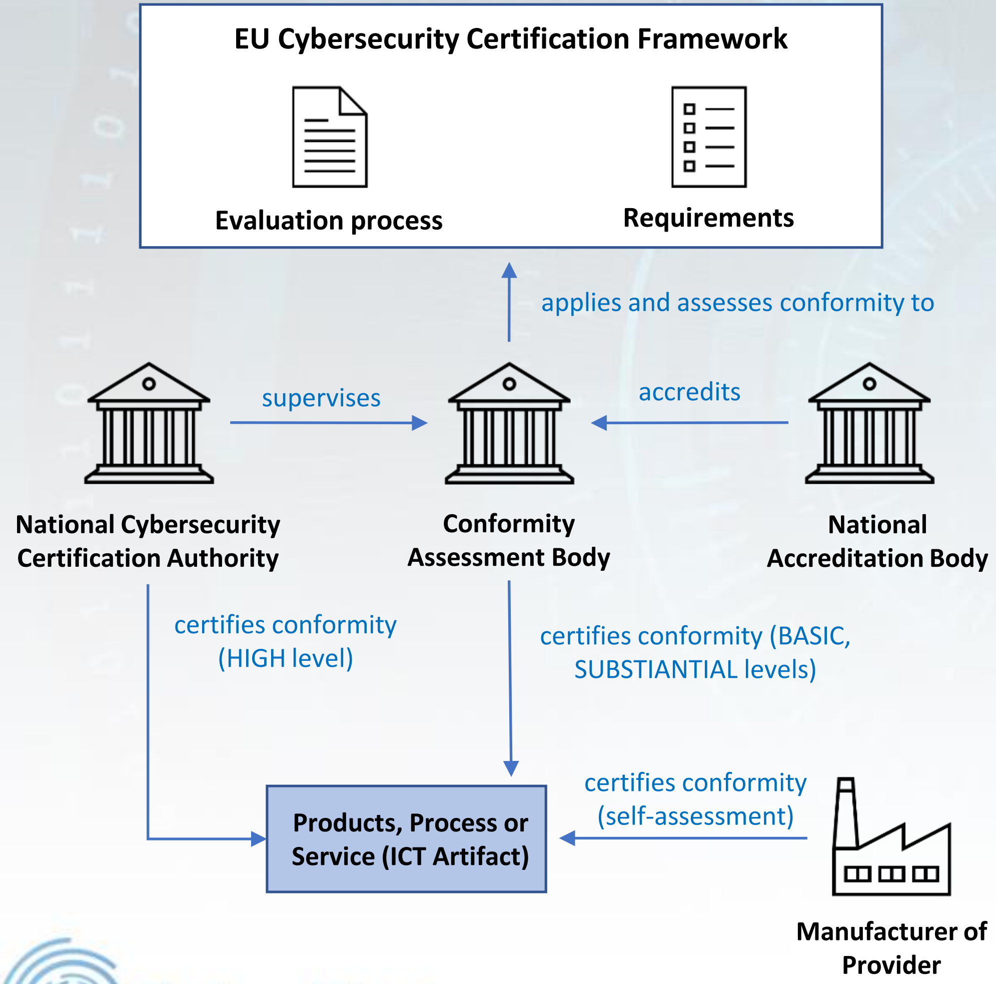
Cyber Security Certification Framework


EU Cybersecurity Certification Framework
Evaluation process
Requirements
applies and assesses conformity to
supervises
accredits
National Cybersecurity Certification Authority
Conformity Assessment Body
National Accreditation Body
certifies conformity (HIGH level)
certifies conformity (BASIC, SUBSTIANTIAL levels)
certifies conformity (self-assessment)
Products, Process or Service (ICT Artifact)
Manufacturer of Provider

* Adopted from ENISA

- Certifying ICT products, processes and services and see their certificates recognized across the EU (for EU companies).
- certificates will specify services and processes covered, the purpose, the security standards and the evaluation methods.
- The cybersecurity certification will be voluntary, unless otherwise specified by EU or Member State law.

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Cyber Security Certification Framework

These certificates will be mandated by the European Cybersecurity Certification Group or by ENISA itself which will assess whether mandatory certification is required for certain categories of products and services

Source: https://www.freepik.com/

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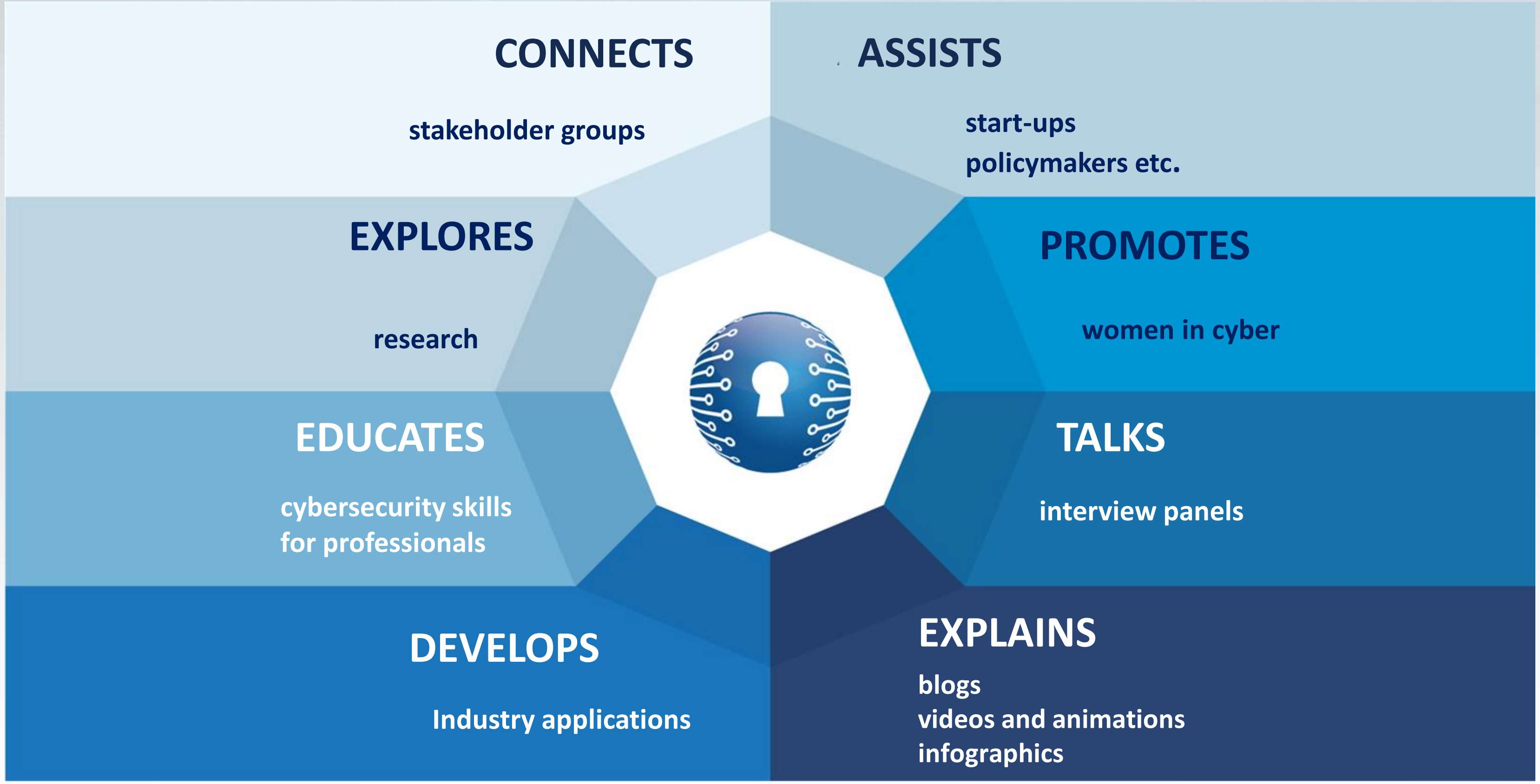
CONCORDIA

CONCORDIA
Cyber security cOmpeteNCe fOr Research anD InnovAtion



CONNECTS
stakeholder groups

ASSISTS
start-ups
policymakers etc.

EXPLORES
research

PROMOTES
women in cyber

EDUCATES
cybersecurity skills for professionals

TALKS
interview panels

DEVELOPS
Industry applications

EXPLAINS
blogs
videos and animations
infographics

Source: https://www.concordia-h2020.eu/

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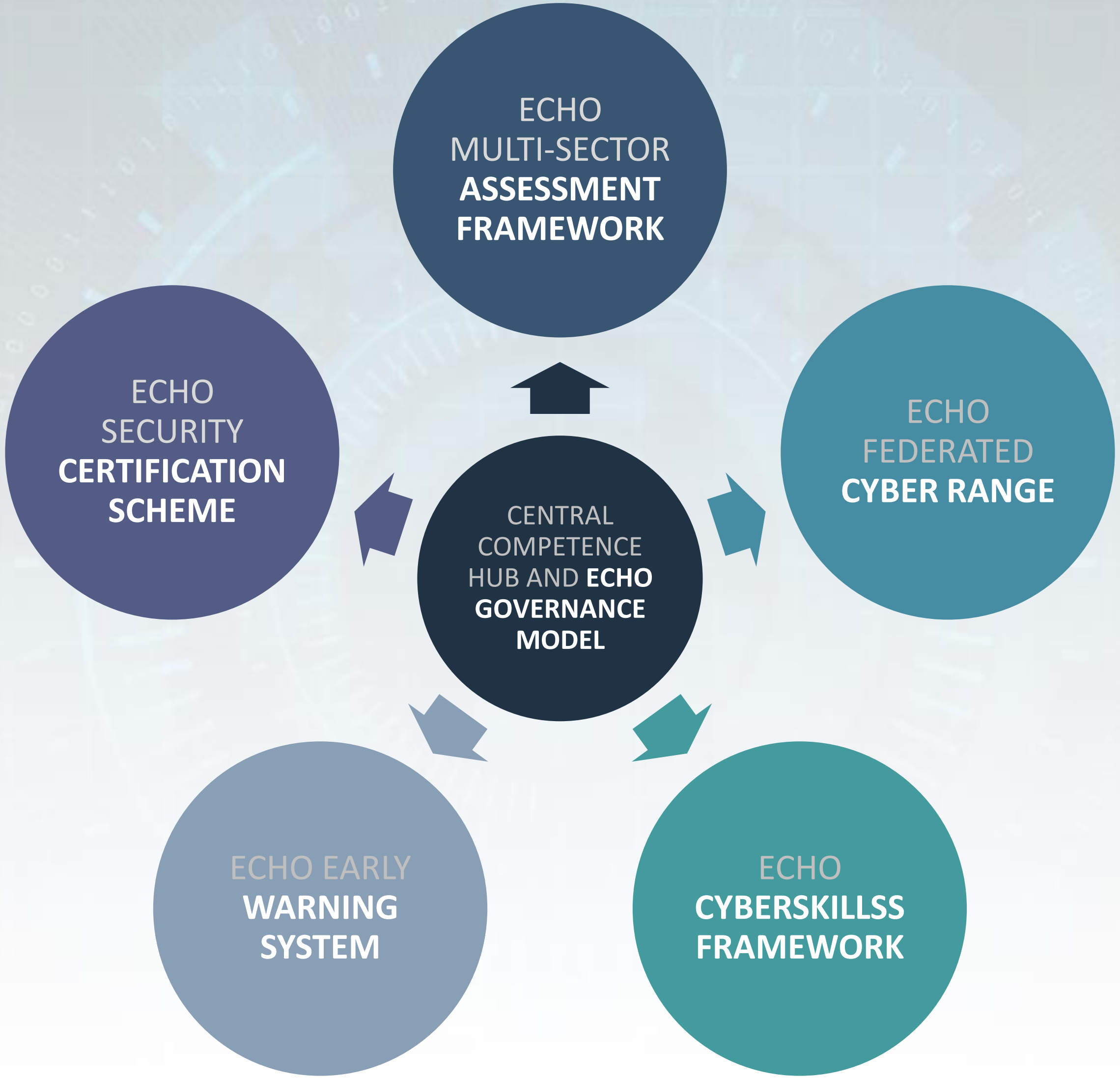
ECHO



ECHO MULTI-SECTOR **ASSESSMENT FRAMEWORK**

ECHO FEDERATED **CYBER RANGE**

ECHO **CYBERSKILLSS FRAMEWORK**

ECHO EARLY **WARNING SYSTEM**

ECHO SECURITY **CERTIFICATION SCHEME**

CENTRAL COMPETENCE HUB AND **ECHO GOVERNANCE MODEL**

Adapted from ECHO website: https://www.concordia-h2020.eu/

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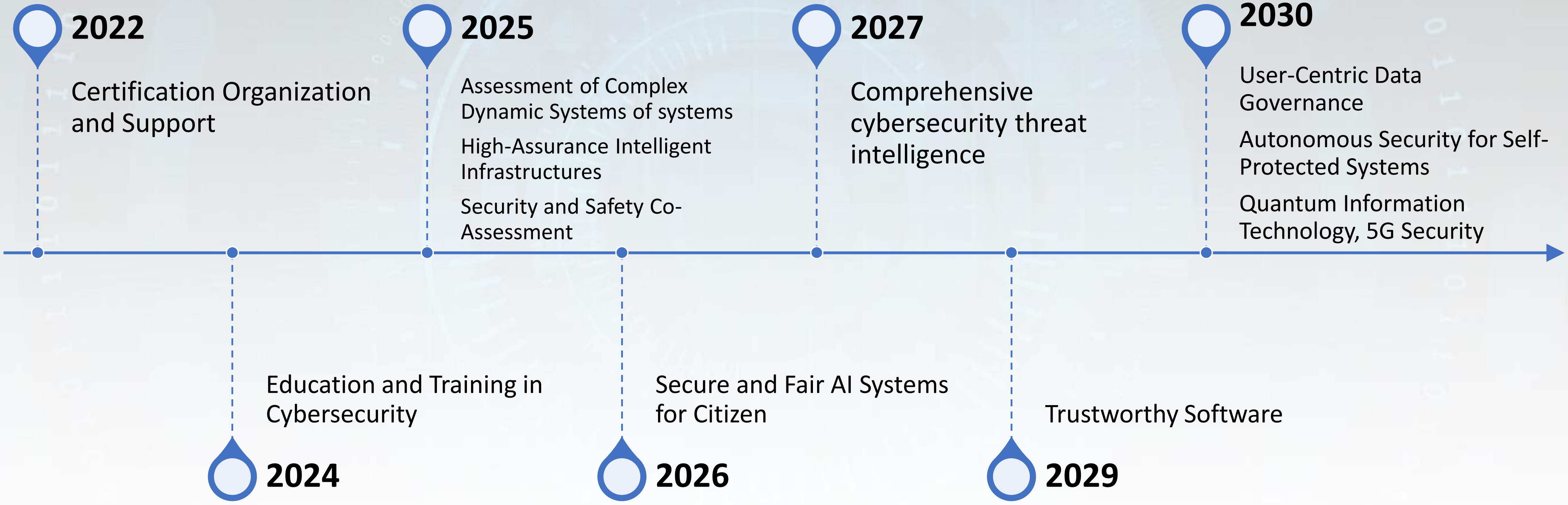
SPARTA



2022

Certification Organization and Support

2024

Education and Training in Cybersecurity

2025

Assessment of Complex Dynamic Systems of systems

High-Assurance Intelligent Infrastructures

Security and Safety Co-Assessment

2026

Secure and Fair AI Systems for Citizen

2027

Comprehensive cybersecurity threat intelligence

2029

Trustworthy Software

2030

User-Centric Data Governance

Autonomous Security for Self-Protected Systems

Quantum Information Technology, 5G Security

Source: https://www.sparta.eu/roadmap/#timeline/

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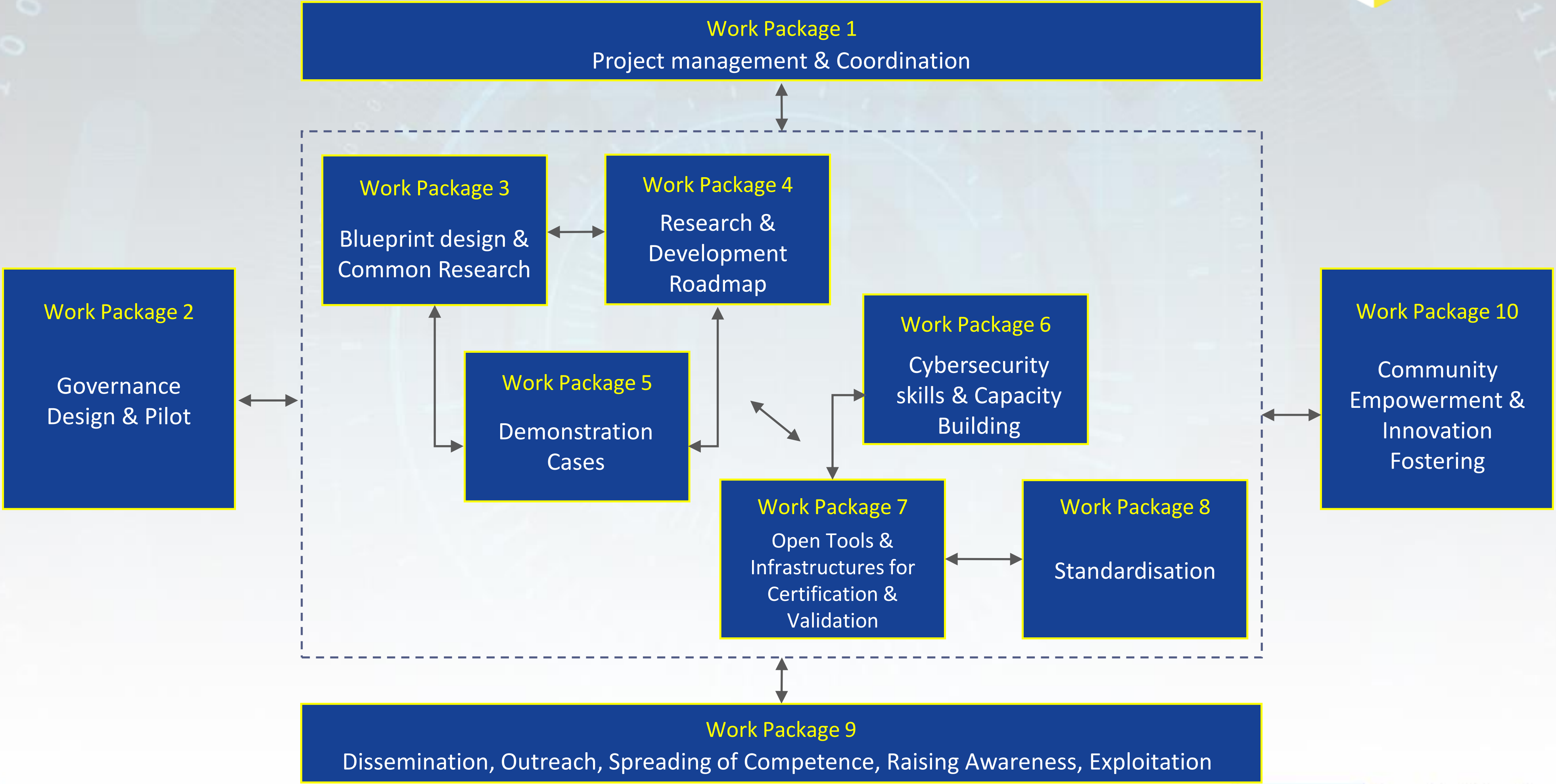
CyberSec4Europe

Cyber Security for Europe



Work Package 1
Project management & Coordination
Work Package 2
Governance Design & Pilot
Work Package 3
Blueprint design & Common Research
Work Package 4
Research & Development Roadmap
Work Package 5
Demonstration Cases
Work Package 6
Cybersecurity skills & Capacity Building
Work Package 7
Open Tools & Infrastructures for Certification & Validation
Work Package 8
Standardisation
Work Package 10
Community Empowerment & Innovation Fostering
Work Package 9
Dissemination, Outreach, Spreading of Competence, Raising Awareness, Exploitation

Source: https://cybersec4europe.eu/about/

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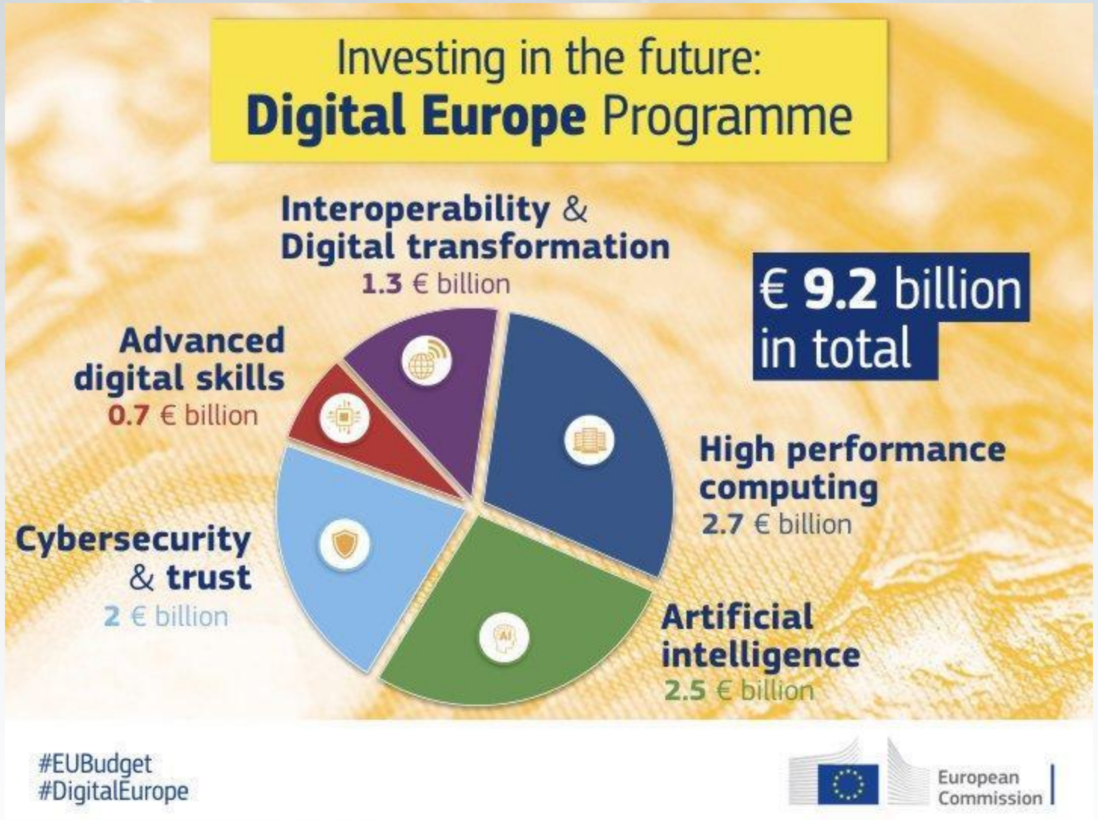
DIGITAL: Digital Europe Programme



Source: https://ec.europa.eu/isa2/news/european-commission-has-announced-investment-%E2%82%AC92-billion-align-next-long-term-eubudget-2021_en/

DIGITAL (2020) is a EU funding programme focused on bringing digital technology to businesses, citizens and public administrations.

DIGITAL will provide strategic funding in the following capacity areas:

- **Supercomputing**
- **Artificial intelligence**
- **Cybersecurity**
- **Advanced digital skills**
- **Ensuring a wide use of digital technologies across the economy and society**

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Key Capacity Area: Cybersecurity and Trust

Source: https://www.freepik.com/

Two billion euros will be invested into safeguarding the EU’s digital economy, society and democracies through

- boosting cyber defence and the EU's cybersecurity industry
- financing state-of-the-art cybersecurity equipment and infrastructure
- supporting the development of the necessary skills and knowledge

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Digital Education Action Plan

Source: https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en

The Digital Education Action Plan (2021-2027)

- renewed European Union policy initiative
- support the sustainable and effective adaptation of the education and training systems of EU Member States to the digital age

Digital Education Action Plan

Source: https://www.freepik.com/

TASKS

- EU awareness campaign on **cyberculture**
- **Promote basic cybersecurity practices** among children, parents and educators
- Introduce a course for educators to equip them with the pedagogical tools for teaching cybersecurity in primary and secondary schools

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***EUCSS**: EU Cybersecurity Strategy*

European Union released its Cybersecurity Strategy (December, 2020)

Aims to build **resilience to cyber threats** and ensure citizens and businesses benefit from **trustworthy digital technologies**

European Commission

THE EU'S CYBERSECURITY STRATEGY FOR THE DIGITAL DECADE

16 December 2020
#DigitalEU #SecurityUnion

Source: https://op.europa.eu/en/publication-detail/-/publication/007c7460-5f84-11eb-b487-01aa75ed71a1?pk_campaign=Newsletter_October2021

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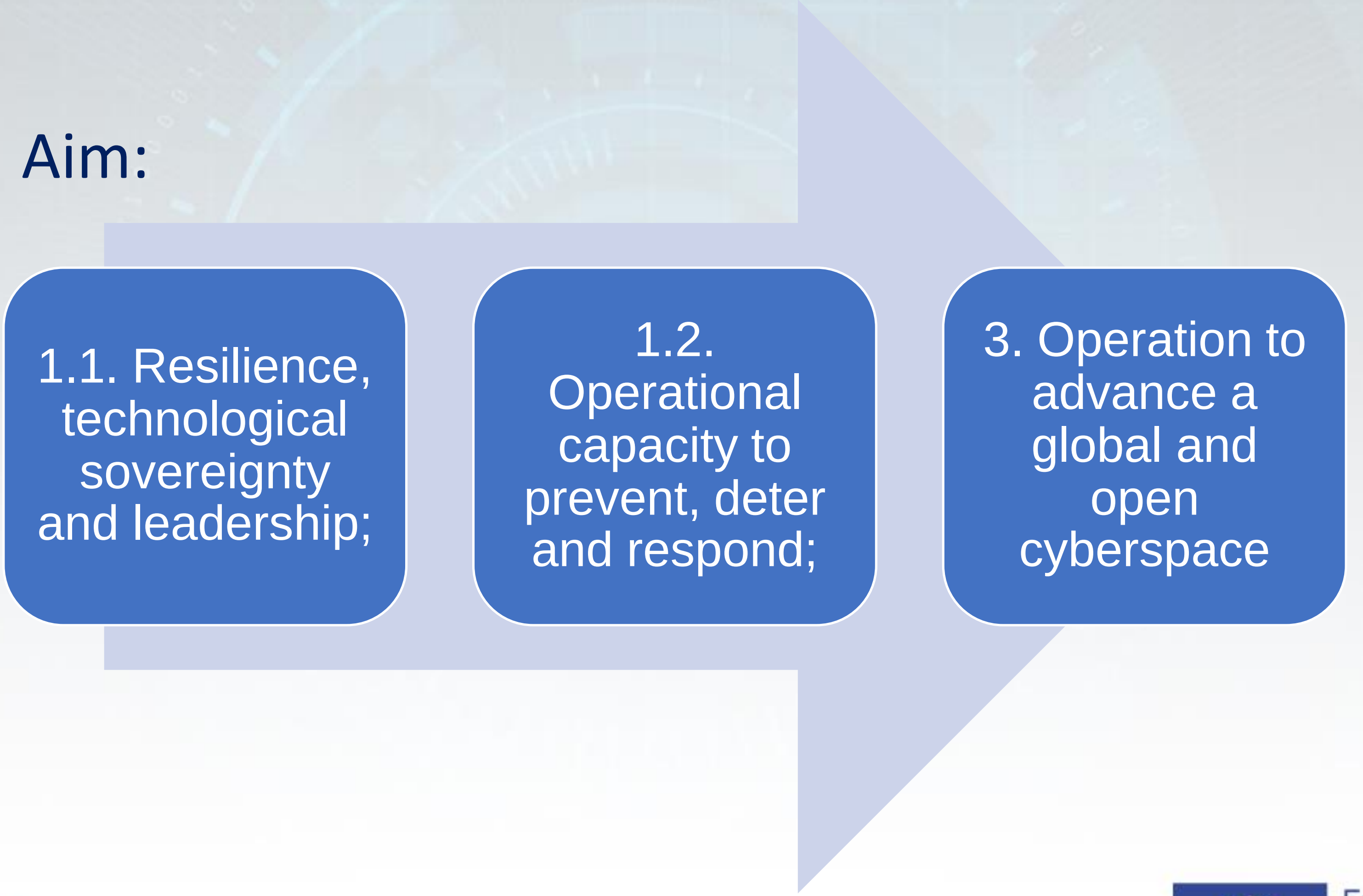
***EUCSS**: EU Cybersecurity Strategy*

Aim:



1.1. Resilience, technological sovereignty and leadership;

1.2. Operational capacity to prevent, deter and respond;

3. Operation to advance a global and open cyberspace

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EU Future Plans

- Strengthen the rules-based global order
- Promote international security and stability in cyberspace
- Protect human rights and fundamental freedoms online
- Advance international norms and standards that reflect EU core values
- Strengthen EU cyber diplomacy toolbox
- Develop an EU external cyber capacity building agenda
- Increase cyber dialogues with third countries, regional and international organisations as well as the multi-stakeholder community

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Rapid Response Cybersecurity Team

Source: https://www.freepik.com/

- The EU is planning to launch new cyber unit to respond to cyberattacks
- The **Joint Cyber Unit** would allow national capitals hit by cyberattacks to ask for help from other countries and the EU, including through rapid response teams that can swoop in and fight off hackers in real time, according to the draft

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Summary

Policies

- Cyber Security Strategy 2013
- Cyber Security Act 2019
- Cyber Security strategy 2020
- Digital Education action plan 2020

Programmes and projects

- Digital Europe Programme
- CONCORDIA, ECHO, SPARTA and CyberSec4Europe

Organisations

• ENISA • CSIRTs Network • European Cybercrime Centre (ECC)

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Assignments

Compare the first (2013) and new Cyber Security strategy (2020). What are the major changes?

What factors do you think influenced new changes?

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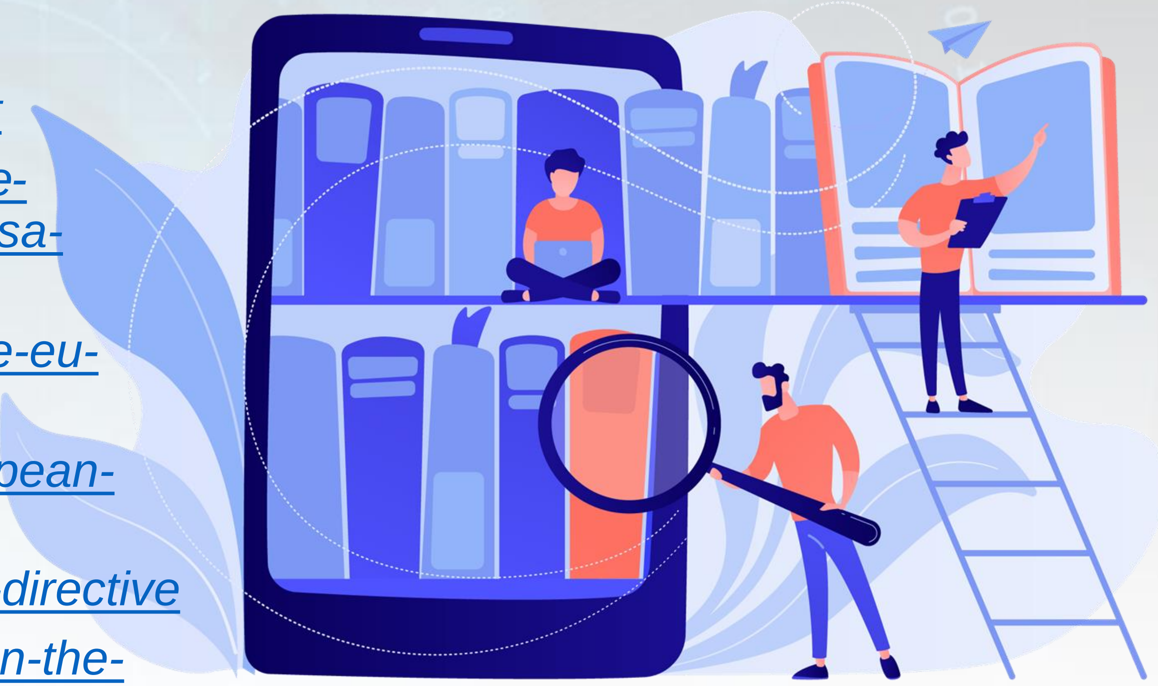
Further Reading

Cyber Security within the Europe Union

Material used in preparation of this lecture

- https://digital-strategy.ec.europa.eu/en/policies/cybersecurity-act
- https://www.enisa.europa.eu/publications/corporate-documents/a-trusted-and-cyber-secure-europe-enisa-strategy
- https://finabel.org/info-flash-the-development-of-the-eu-cyber-security-strategy-and-its-importance/
- https://www.europol.europa.eu/about-europol/european-cybercrime-centre-ec3
- https://digital-strategy.ec.europa.eu/en/policies/nis-directive
- https://www.schoenherr.eu/content/cybersecurity-on-the-rise-the-nis-directive-2-0/



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Further Reading

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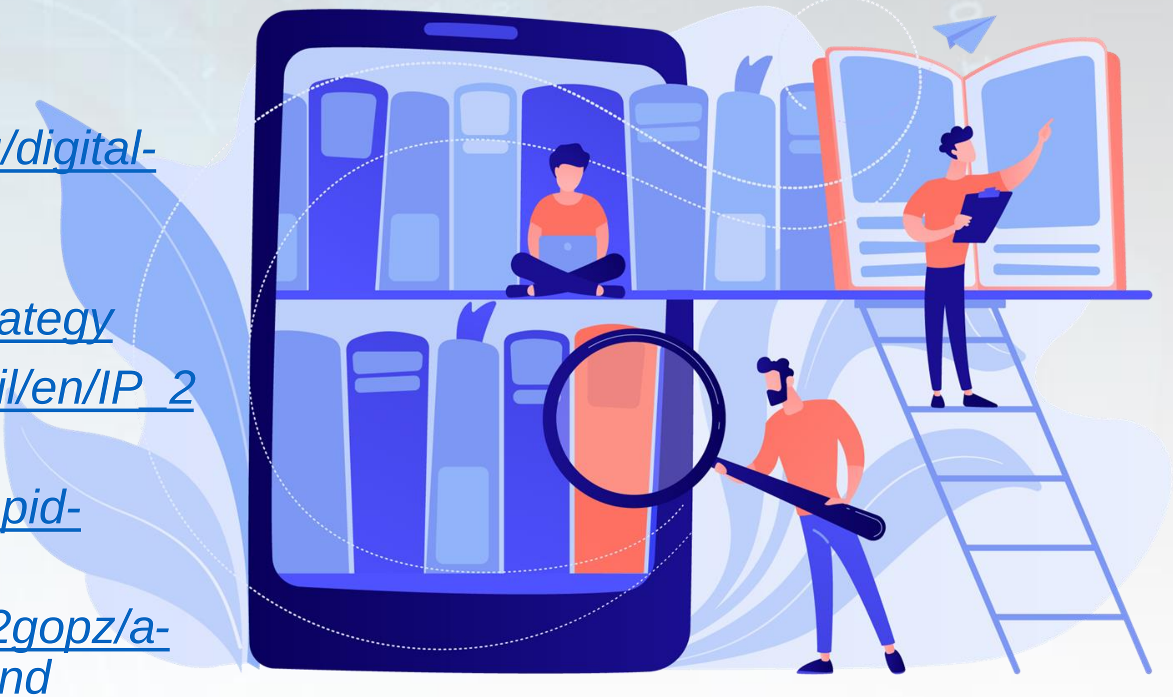
Material used in preparation of this lecture

- https://www.enisa.europa.eu/topics/nis-directive
- https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en
- https://digital-strategy.ec.europa.eu/en/policies/cybersecurity-strategy
- https://ec.europa.eu/commission/presscorner/detail/en/IP_20_2391
- https://www.politico.eu/article/eu-joint-cyber-unit-rapid-response-cyberattacks/
- https://technologyquotient.freshfields.com/post/102gopz/a-new-eu-cyber-security-strategy-for-2021-and-beyond



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Short Videos

- Cyber Security Act
  [***https://youtu.be/JcH4kf2tLQ0***](https://youtu.be/JcH4kf2tLQ0)
- Introducing Digital Europe Programme:
  [***https://youtu.be/_VkzyMgjD4E***](https://youtu.be/_VkzyMgjD4E)
- New Cyber Security Strategy:
  [***https://youtu.be/Lg1vp0_g-4o***](https://youtu.be/Lg1vp0_g-4o)

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Thank you!

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Project Implementation Period
02 11 2020 – 02 11 2022

CyberPhish Project
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