Towards a trustworthy and resilient digital Europe

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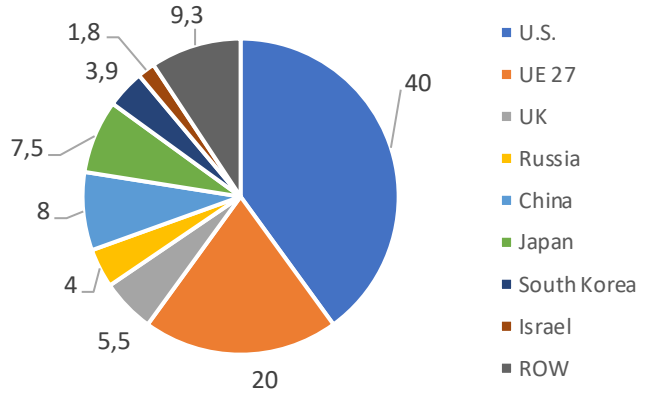
Cyberwatching Webinar: Effective protection of Critical Infrastructures against cyber threats

– Online, 29 October 2020 –

Market and geopolitical environment

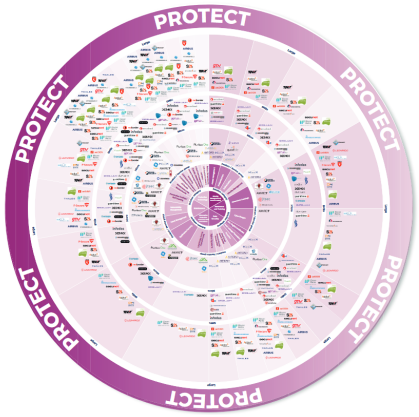
- **Global cybersecurity market** (estimation: ECSO 2018 market analysis): 115 bln € / Market growth rate + 13% by 2022.
- Market dominated by **global suppliers** from North America and Asia: most of the IT hardware and software products are built outside the European Union (often by EU companies).
- **EU market** about 25 bln € composed by about 12K supplier companies (74% of them are Micro and SMEs).
- **EU public procurement** still leveraging upon non-EU solutions, even for sensitive issues.
- Growing "**sovereignty**" issue (in particular after the COVID)

2018 Cybersecurity market by Country--Market %



Sources: Momentum Partners, Visiogain 2018-2028 Market Report

There is innovation in Europe, but still fragmented markets



What is at stake?

- Citizens privacy
- Society
- European values
- Democracy
- Awareness
- National security and sovereignty
- Economic recovery
- Digital autonomy
- Competitiveness
- Increasing Crime
- Increasing market

Timeline of the European approach to cybersecurity

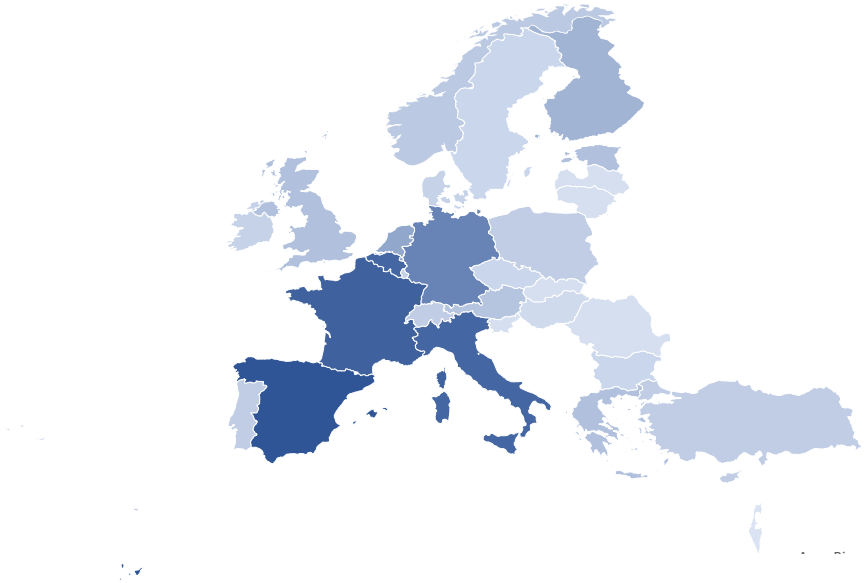
- 2009: EU stakeholders started to advocate for a specific “ICT security” approach on EU R&D
- 2011: Started the discussion with the EC about a possible Public Private cooperation
- 2013: First EU cybersecurity strategy (“building blocks”)
- **2016: Signature of the cPPP between the EC and ECSO**
- 2017: Update of the EU cybersecurity strategy
- 2018: Adoption GDPR and NIS Directive
- 2019: Adoption of Cybersecurity Act (new ENISA mandate, EU certification)

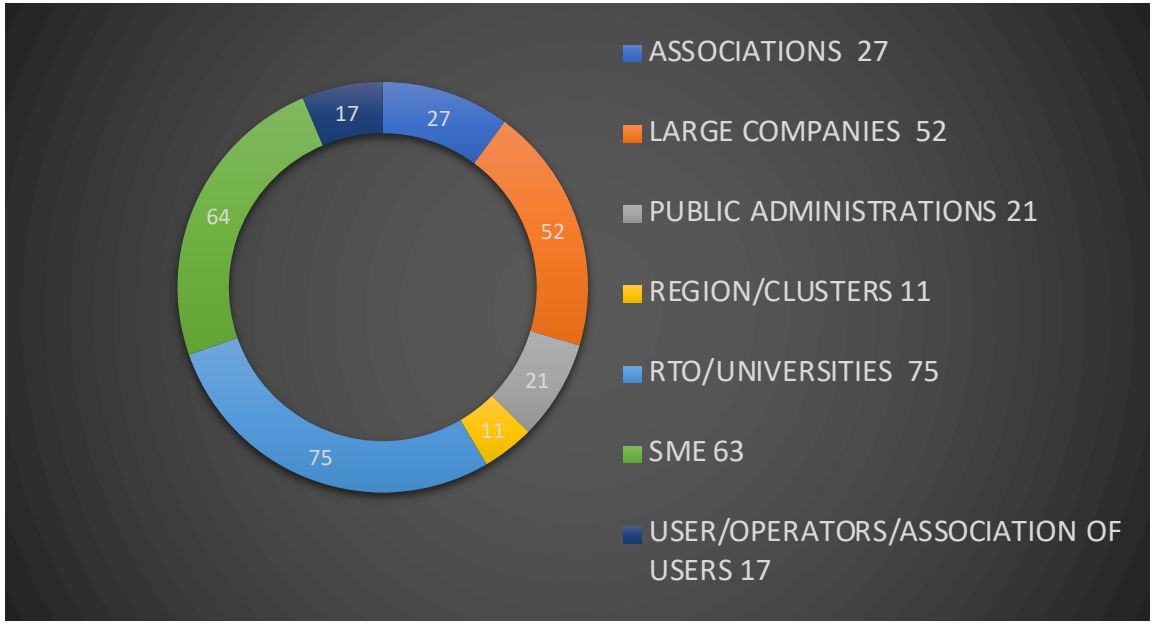
- 2020: Discussion on the next MFF (2021-2027). Recovery plan for the “new normal” after the COVID crisis. New EU Cybersecurity Strategy (December)
- 2021: European Cybersecurity Centre / Creation of national Cybersecurity Centres; Horizon Europe – Digital Europe Programme; Starting discussions on Digital Service Act and European secure ID; …
- **2021: ECSO continues to support the growth of the European Cybersecurity ecosystem & Community**

Introducing ECSO:
European Cyber Security Orgar

We are the European Commission's partner in implementing the contractual Public-Private Partnership (cPPP) on cyber security, established in 2016

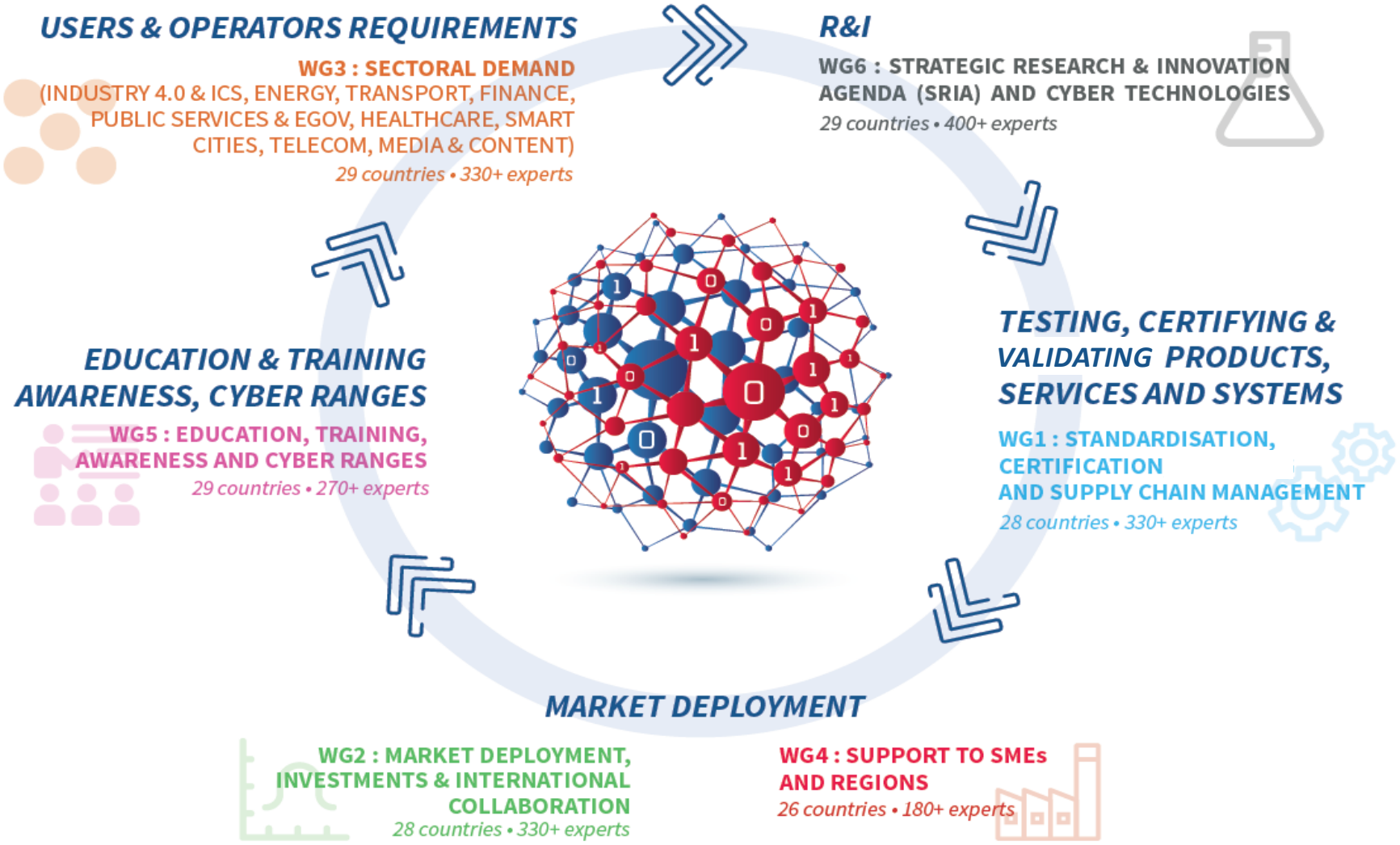
ECSO MEMBERSHIP





Our membership has grown from 132 members in June 2016 to 266 members across 29 countries in October 2020, connecting more than 2000 organisations in Europe

ECSO Working Groups (WG) collaborating with each other: Cybersecurity 360°



End of 2019 the main issues in Europe were the Digital Transformation and the Green Deal

Home › Strategy › Priorities 2019-2024 › A Europe fit for the digital age

PRIORITY

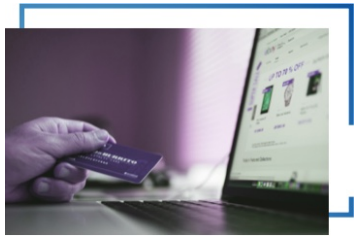
A Europe fit for the digital age

Empowering people with a new generation of technologies

Commission priorities for “A Europe fit for the digital age”

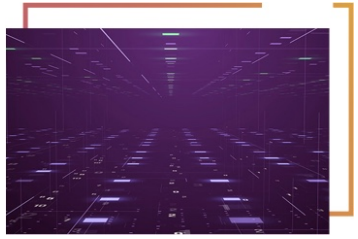
Source: https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age_en

[Artificial Intelligence]



[European data strategy]

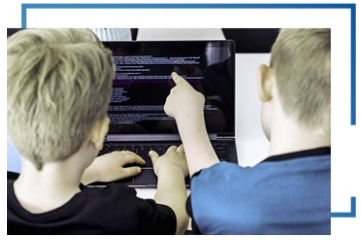
[European industrial strategy]



[High Performing Computing]

[Online platforms]

[Cybersecurity]



[Digital skills]

[Connectivity]


and then the COVID-19 come,
and the digital transformation accelerated

New Challenges and Objectives for Europe (2020)

Digital Transformation

GREEN DEAL

Main ECSO recommendations to the EC and EP for a Cyber Resilient Europe

SUPPORT & PROTECTION OF THE EU DIGITAL TRANSFORMATION ➔

EU VISION FOR A EUROPEAN CYBERSECURITY ECOSYSTEM BASED ON EU VALUES

Comprehensive EU Cybersecurity Strategy and Approach

EU Cybersecurity Industrial Policy

Education, Training / Skills and Awareness

SOVEREIGNTY RECOVERY **SOCIO/ECONOMIC DEVELOPMENT**

INCREASED DIGITAL AUTONOMY

EU Legislations & Regulations

Public and Private Investments in Research, Capability Development and Capacity Building

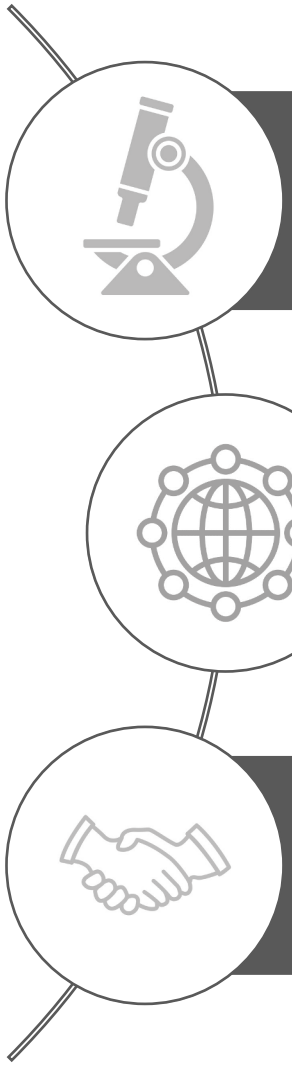
Strategic Alliance & Partnership for Trusted Supply Chains

NEXT GENERATION PUBLIC PRIVATE COOPERATION

WG6

SRIA and Cyber security technologies

Define the cyber security EU R&I roadmap and vision to strengthen and build a resilient EU ecosystem. Analyse the challenges of digitalisation of the society and industrial sectors to sustain EU digital autonomy by developing and fostering trusted technologies.



European R&I priorities

Scenarios and priorities for Horizon Europe and Digital Europe Programme (ECSO 2021-2027 technology vision of the future shaping the society and the industry)

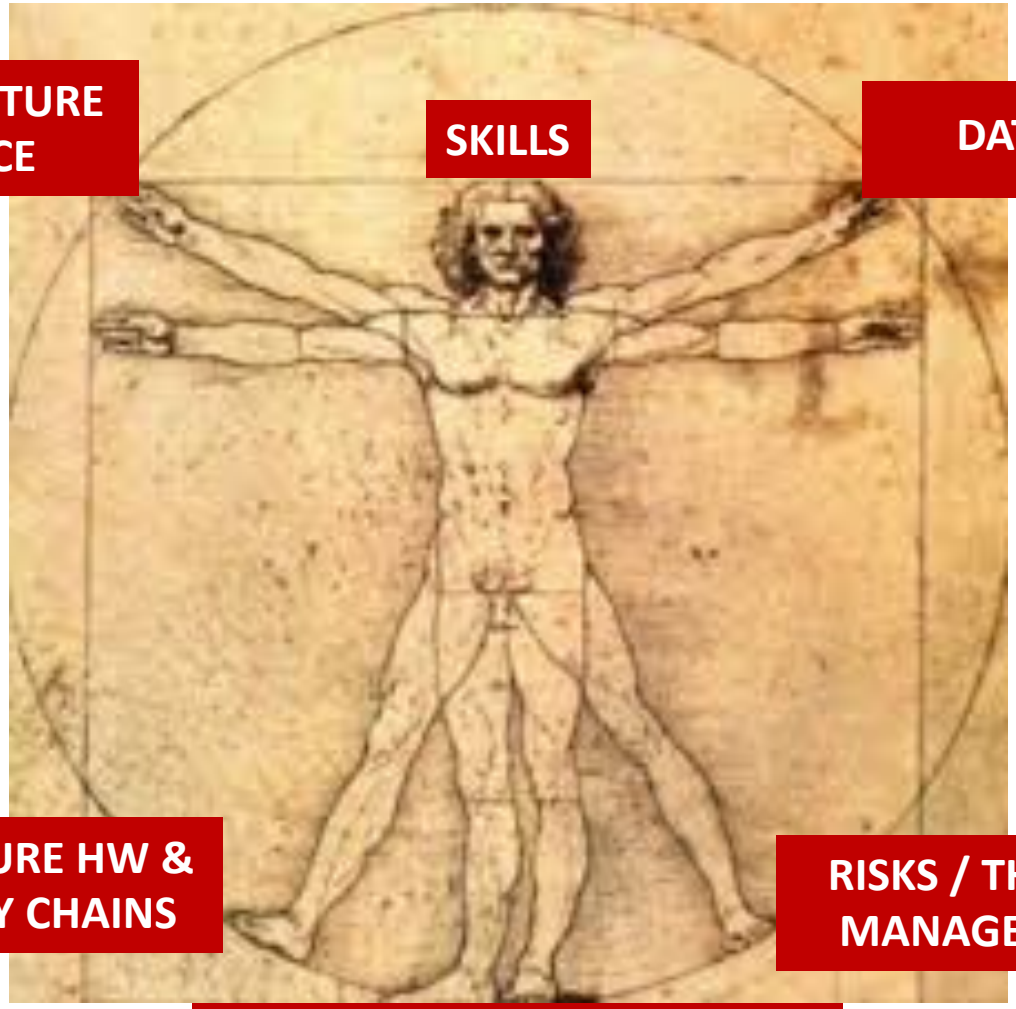
Transcontinuum (link across techno sectors with other PPPs)

Initiative with other cPPPs (ETP4HPC, 5G IA, BDVA, etc…) to identify global challenges and need to address them in a transversal and coordinated way

Collaborations

- Coordination with other PPPs, JUs, Pilots on Competence Centres, EC projects and other initiatives to monitor the evolution of the cybersecurity ecosystem and understand the gaps
- Cooperation with EDA on cybersecurity for dual use technologies

ECSO main (R&D) priorities for a European Cybersecurity (2021 – 2027) wrt main issues



INFRASTRUCTURE RESILIENCE

SKILLS

DATA & AI

CYBER SECURE HW & SW SUPPLY CHAINS

RISKS / THREATS MANAGEMENT

EUROPEAN COMPETITIVENESS

- ECOSYSTEM, SOCIAL GOOD AND CITIZENS
- APPLICATION DOMAINS AND INFRASTRUCTURE
- DATA AND ECONOMY
- BASIC AND DISRUPTIVE TECHNOLOGIES

ECSO cybersecurity priorities for Horizon Europe and Digital Europe Programme (expected total EC funding ~2,5 b€ in 2021-2027): suggestion to EC and MS

MAIN PRIORITIES	HORIZON EUROPE PRIORITIES	DIGITAL EUROPE PROGRAMME and other EU funds
Risks / Threat management	• Emerging threats, risk management, resilient systems, security by design • Development of digital forensics mechanisms and analytical support	• Threat management and cross-vertical platforms
Data & AI (including privacy)	• Data security and malicious use of data • End-to-end Privacy • Economic aspects of cybersecurity • Securing and Trustworthy Artificial Intelligences • Artificial Intelligence techniques for better security and malicious use of AI	• Platform for identity and privacy management
Cyber secure HW & SW (including crypto) supply chains	• Approaches, methods, processes to support cybersecurity assessment, evaluation & certification • Software and hardware cybersecure engineering and assurance • Cryptography • Blockchains and Distributed Ledger Technologies • IoT security • Cyber-physical systems security and cyber secure pervasive technology	• Develop tools to support the implementation of EU Cybersecurity Act • Establishing an engineering platform for trustworthy hardware, software. and systems
Infrastructure resilience	• Cyber resilient digital infrastructures • Secure Quantum Computing Infrastructure • Cyber secure future communication systems and networks • Vertical sectors cyber challenges: Industry 4.0 and ICS; Energy (oil, gas, electricity) and smart grids; Transportation (road, rail, air; sea, space); Financial Services, e-payments and insurance; Public services, e-government, digital citizenship; Healthcare; Smart cities and smart buildings (convergence of digital services for citizens) and other utilities; Agrifood	• Deploying resilient digital infrastructures in the field
Skills	• Cyber ranges and simulation environments	• Operational, interoperable and cognitive cyber ranges • Citizens and social good • Jobs and professional skills
Support to European competitiveness		• Governance, policy and legal aspects • Investments in Europe and development of regional ecosystem • Platforms for market support to SMEs • International cooperation and investments

Cyber resilient digital infrastructures

A complex scenario

- High-availability and controlled performances in highly complex / heterogeneous technologies (HW/SW, real/virtual)
- Presence of legacy systems / components and need to ensure security and privacy over mixed legacy and innovative technologies
- Complex digital infrastructures lifecycle management process across all stakeholders (supply chain w/o central authority)
- Heterogeneous regulatory scenario

Some challenges ahead

- Real-time & situational awareness, automating mitigation / detection / response / recover
- Securing the whole digital infrastructure lifecycle, including training, education and safety aspects
- Innovation based on the integration of existing security/privacy components in legacy systems
- Distributed decision making and collaboration solutions, e.g., orchestration services.
- Secure virtualization technologies that are transversal to verticals

Deploying resilient digital infrastructures in the field

A complex scenario

- Complex and cross-platform cyber attacks / Threat management
- Integrity and trustworthiness of communications and services
- Virtualization and softwarisation of networks and network functions and the interconnection of different technologies
- Complex trust models to address M2M interaction and to manage complex 5G infrastructures
- Impact of current cryptographic schemes and migration to quantum safe ones

Some challenges ahead

- Increase trust in information sharing mechanisms through control and formal analysis of data and sensors
- Design and implementation of new security mechanisms and automation of attack response mechanisms
- Realistic, open-source and configurable tools and simulators to evaluate new security solutions

Transversal vertical sectors cyber challenges

Open Source **Secure** and Resilient **Hardware** and **Software**

Cybersecurity / ECSO

SMART CITY

Join us! Being and ECSO member allows you to:

INTERACT with legislators and decision makers at EU and national level

BE PART OF the organisation federating the European cybersecurity community

GROW your business network with other members of the Community

BOOST your market visibility

GAIN ACCESS to investments and funding opportunities at EU and national levels

SHARE information and best practices with your counterparts

TAKE THE LEAD in proposing new initiatives and services to build the European cybersecurity Market

CONTACT US!

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