Enhancing Maritime Cybersecurity ECSF Role Alignment

COLUMBIA SHIPMANAGEMENT

CYBERGUARD
AI-POWERED DEFENSE

Engaging EU Projects using ECSF

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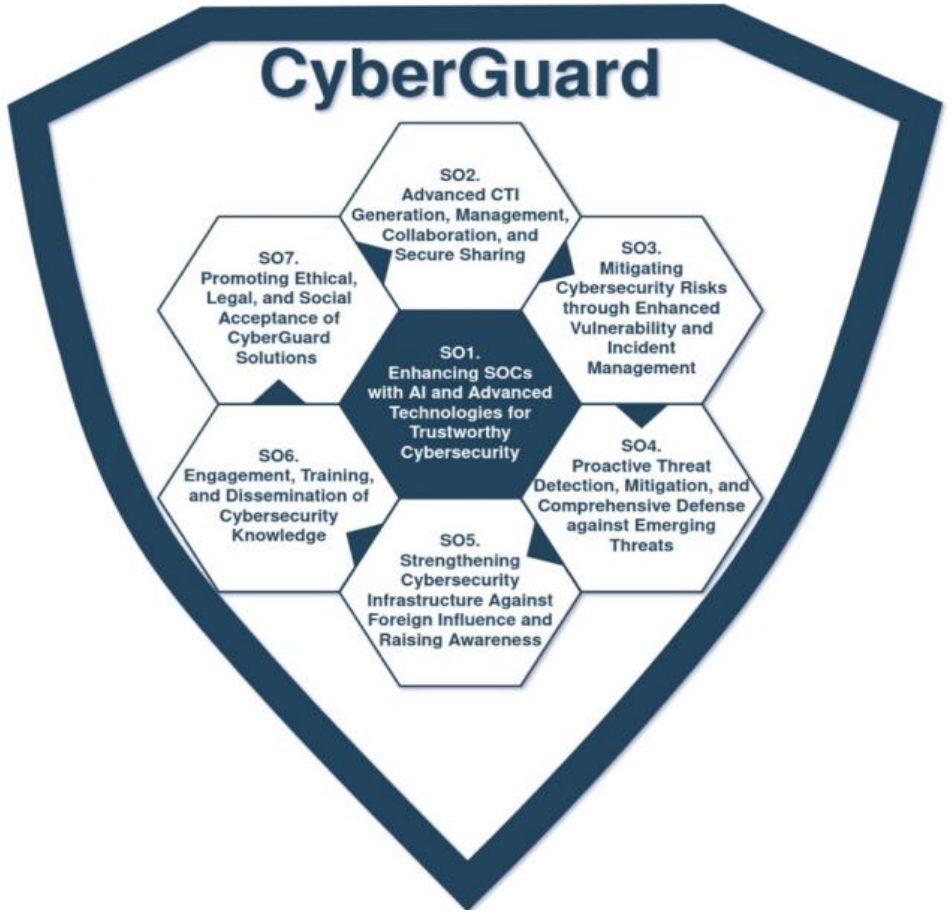
What is CyberGuard?

CYBERGUARD is an EU-funded initiative developing an AI-enhanced SOC platform to strengthen cyber resilience across critical sectors, including maritime. It combines AI, CTI, penetration testing, and incident-response automation to support NIS2-aligned operations.

- **SO1:** Enhance SOCs with AI and advanced cybersecurity technologies
- **SO2:** Enable advanced CTI generation, management, and secure sharing
- **SO3:** Improve vulnerability and incident management capabilities
- **SO4:** Provide proactive threat detection and defense against emerging threats
- **SO5:** Strengthen cybersecurity infrastructure and resilience
- **SO6:** Deliver training, engagement, and knowledge dissemination
- **SO7:** Ensure ethical, legal, and societal acceptance of CYBERGUARD solutions



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Consortium Partners

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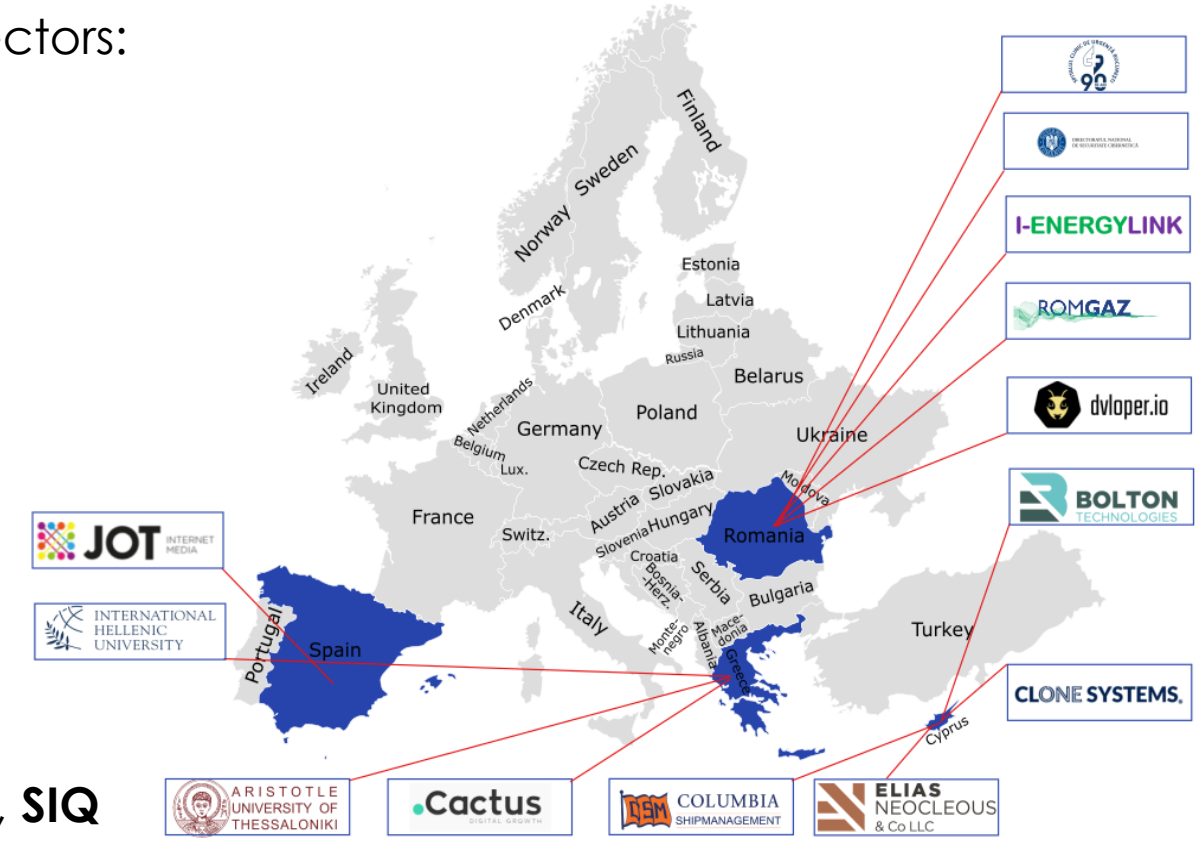
13 Consortium Partners Organizations, from different sectors:

- ✓ 1 Consulting (**I-ENERGYLINK**)
- ✓ 2 Universities (**AUTH**, **IHU**)
- ✓ 1 Governmental (**DNSC**)
- ✓ 1 Healthcare (**SCUB**)
- ✓ 1 Utility (**ROMGAZ**)
- ✓ 1 Shipping (**COLUMBIA**)
- ✓ 1 Legal Service (**ENC**)
- ✓ 1 Media (**JOT**)
- ✓ 4 IT Services & Technology (**BTS**, **CACTUS**, **CLONE**, **SIQ**



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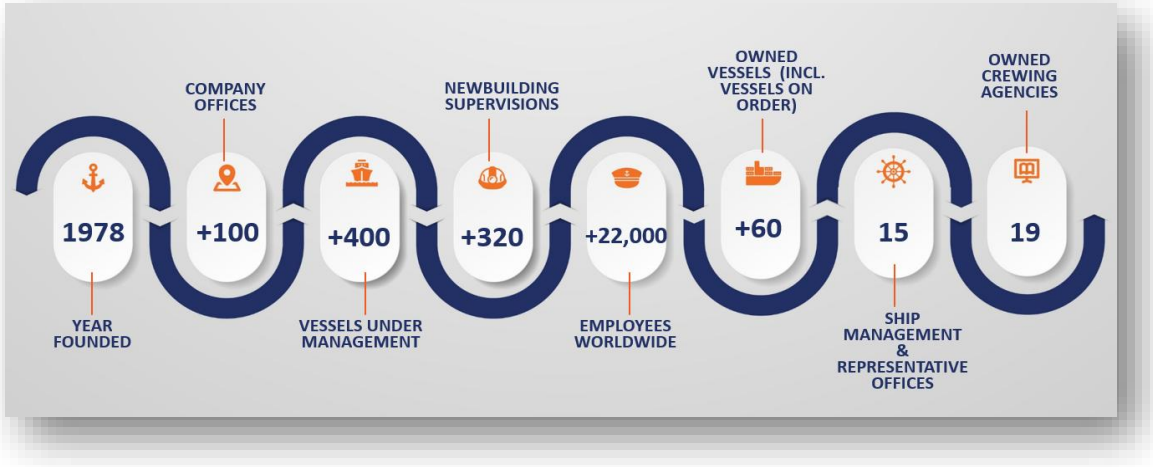
Partner Profile Presentation

Columbia Shipmanagement is part of the Columbia Group, a leading global integrated maritime, logistics, leisure and energy platform.



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Columbia's Role in CyberGuard

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- **WP2 - Use Case Definition and Scenario Design**
  - Provide real maritime use case scenarios (fleet operations, SOC workflows, vessel–shore communication)
  - Validate functional & non-functional requirements based one the operational and technical challenges found on ships
  - Contribute regulatory alignment (NIS2, IMO, ISO27001)
- **WP5 - Pilot Testing, Platform Validation & Evaluation**
  - Acts as a key maritime pilot partner, hosting real-world use-case demonstrations
  - Supports the setup, execution, and monitoring of pilot scenarios onboard ships or maritime systems
  - Provides operational feedback on usability, functionality, and performance
  - Assists in showcasing the platform's effectiveness to stakeholders and evaluators
- **WP6 – Dissemination, Communication and Exploitation**
  - Dissemination, high impact communication activities and outreach events
  - Stakeholder and community engagement and training towards CyberGuard solution

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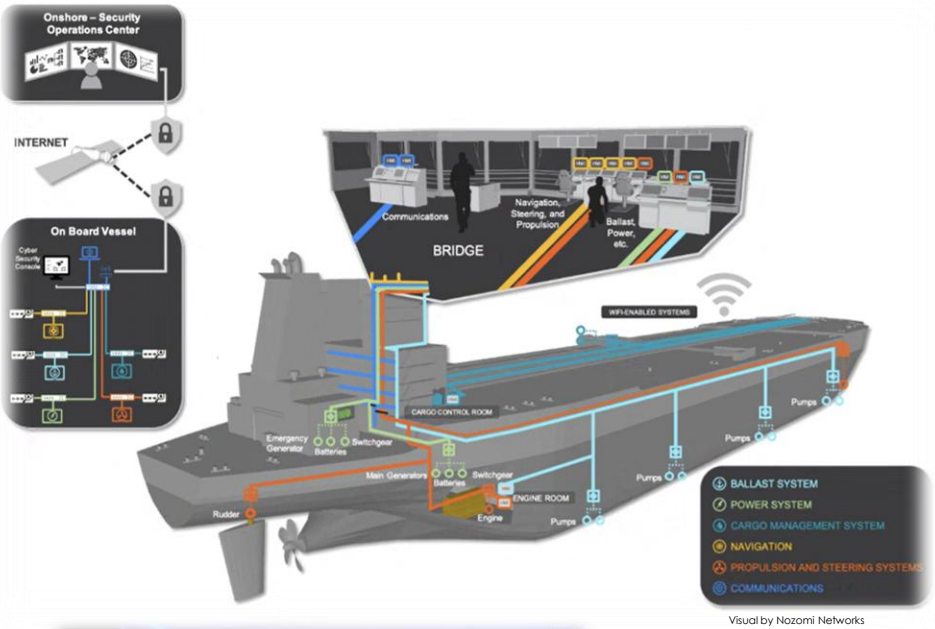
Why Cybersecurity Matters for Maritime

The maritime sector operates within a highly interconnected digital fleet ecosystem, where ships, cloud services, shore-based operations, classification societies, OEM vendors, and global suppliers continuously exchange operational, navigational, and technical data.

Modern fleet operations depend on seamless ship-shore-cloud connectivity, enabling remote monitoring, voyage optimization, predictive maintenance, and crew services - but also expanding the cyber-attack surface.

This creates a complex cyber risk landscape driven by several sector-specific factors:

- Hybrid IT/OT environments onboard ships
- Digitized maritime infrastructure based on the vessel type
- Heavy dependence on third-party vendors and international supply chains
- Growing ransomware and targeted cyberattacks
- Regulatory pressure (IMO MSC.428(98),IACS E26/E27, GDPR, NIS2 etc)



Visual by Nozomi Networks

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What CyberGuard intents to cover

CYBERGUARD addresses the operational needs created by different compliance frameworks by providing:

- Intelligent detection & automated threat analysis AI-supported response playbooks
- CTI enrichment mapped to different critical sector risks
- Penetration testing & adversarial simulations
- Incident reporting support – DFIR capabilities
- Compliance assistance

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NIS2 – Compliance Requires Skills

NIS2 introduces obligations that directly depend on workforce capability:

- Article 21: Cybersecurity risk-management measures
- Article 23: Incident reporting (24h / 72h / 1 month)
- Article 20: Management accountability & cybersecurity training
- Article 32: Security audits

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The Gap: What Maritime Needs from NIS2

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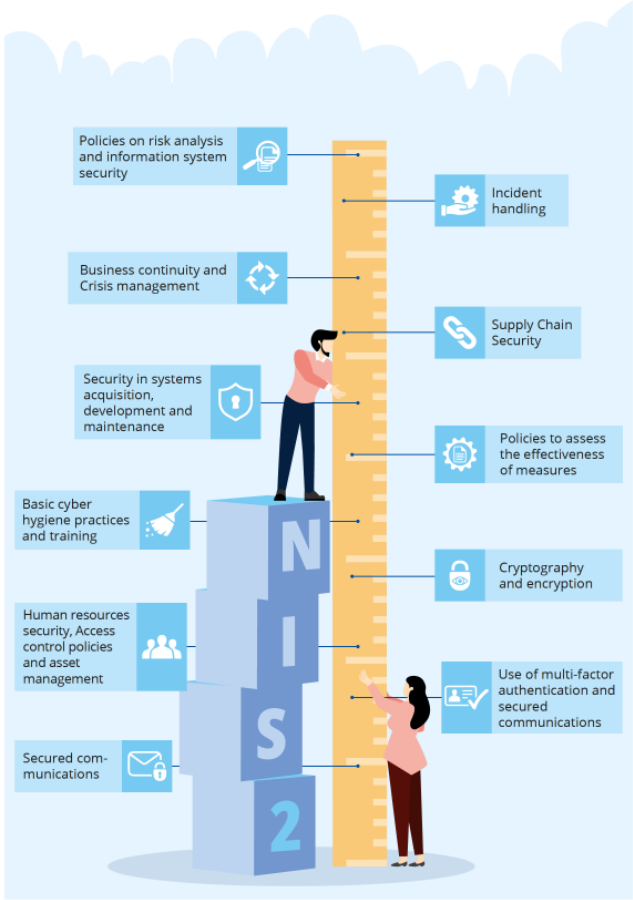
To meet the expectations of NIS2, the maritime sector must develop a set of core cybersecurity capabilities, including:

- Competent cybersecurity functions across ship and shore to handle:
  - Security Monitoring – SOC Oversight
  - Incident Response and Containment
  - Digital Forensics and Evidence preservation
  - CTI interpretation for cross sector threat scenarios
  - Compliance Reporting and Documentation
  - Risk Assessment and Continuous Monitoring

- ECSF aligned workforce development to ensure that fleet and shore IT are properly trained and role based responsibilities are assigned
- Efficient IR workflows capable to support NIS2 strict timelines



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ECSF Roles activated by CyberGuard

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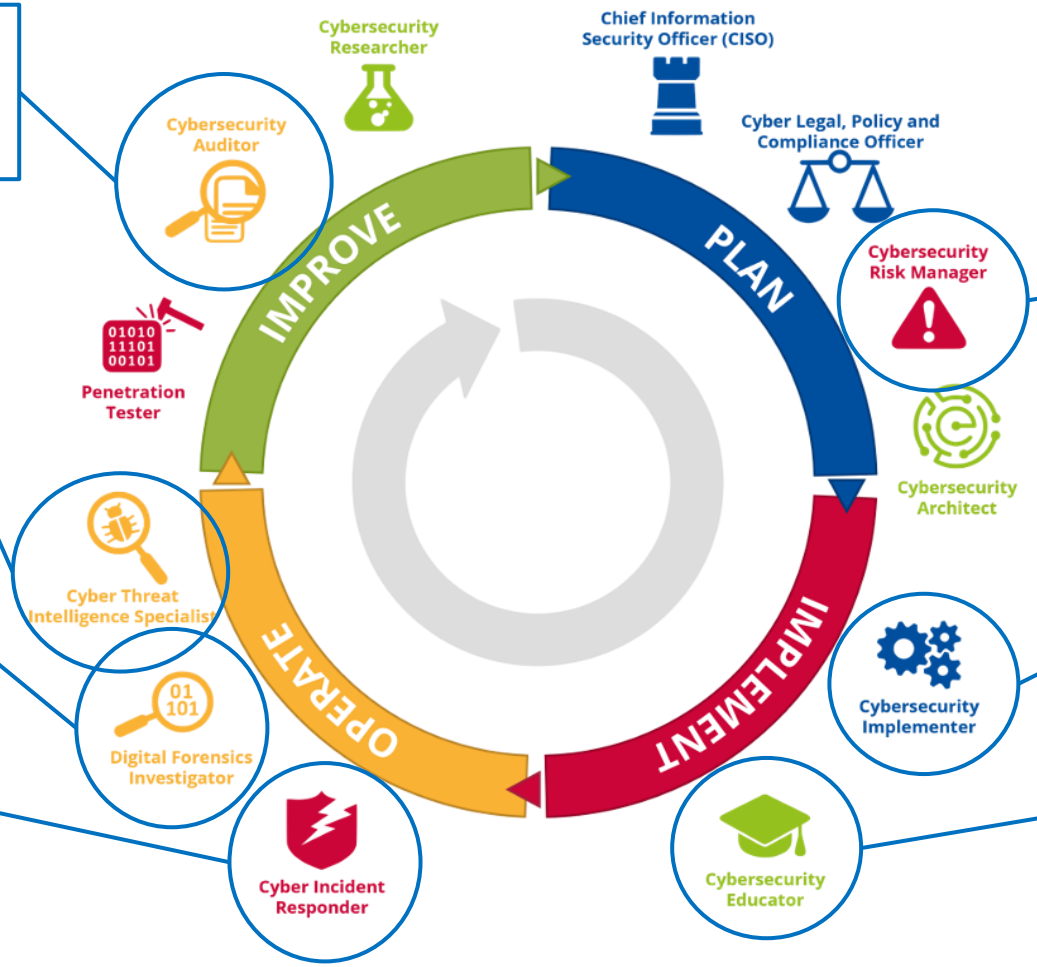
Use tool capabilities to perform checks policy violations Art.32

Cross CTI for critical sectors Art.23/29 (NIS2)

Evidence Collection Support Art.23 (NIS2)

IR Workflows + AI Playbooks Art.23 (NIS2)



Maritime Risk Scenarios Art.21 (NIS2)

Secure Configuration Testing Art.21 (NIS2)

Training in cyber-range sessions Art.20/21 (NIS2)

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Thank You!

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