



THE EU CYBERSECURITY AGENCY

# Cyber Threats and Cybersecurity - ENISA's advice and support for waterborne transport

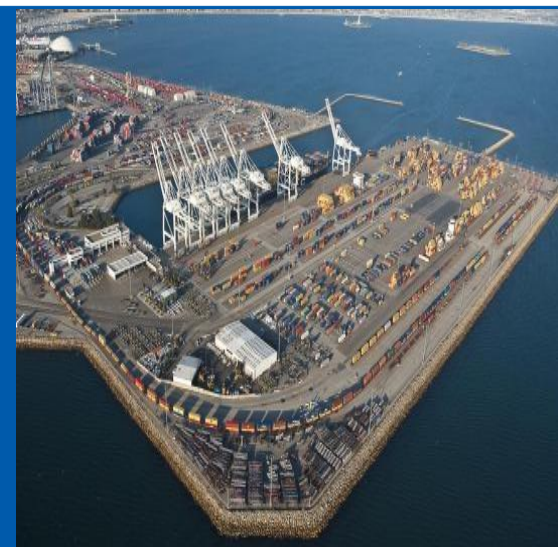
Dr. Athanasios Drougkas

Expert in Network and Information Security

ENISA – The EU Agency for Cybersecurity

Workshop on Cybersecurity in Inland Navigation

05 | 09 | 2019



# POSITIONING ENISA'S ACTIVITIES



# THE MARITIME SECTOR IS UNDER ATTACK!

Hackers took 'full control' of container ship's navigation systems for 10 hours – IHS Fairplay

by Editor | Nov 25, 2017 | Blog |

## Shipping firm warns that hackers may leak confidential information

Global shipbroker says it fell victim to a 'cybersecurity incident' and is contacting those who might have had their information stolen by attackers.



By Danny Palmer | November 29, 2017 -- 16:06 GMT (16:06 GMT) | Topic: Security

## COSCO Shipping Lines Falls Victim to Cyber Attack



COSCO Shipping Lines confirmed that it has been hit by a cyber attack impacting its internet connection within its offices in America.

## Seatrade Maritime News

Building Global

Home News Regions Sectors Live From Jobs Downloads Magazine

Home > News > Europe > 69% of Danish shipping companies hit by cyber crime in 2017

## 69% of Danish shipping companies hit by cyber crime in 2017



A survey by Danish Shipping of its ceo panel showed that 69% of companies had been hit

## Port of Barcelona Suffers Cyberattack

By Ionut Ilascu

September 21, 2018 05:15 PM 0



## ENTERPRISE

TECH | MOBILE | SOCIAL MEDIA | ENTERPRISE | CYBERSECURITY | TECH GUIDE

## Shipping company Maersk says June cyberattack could cost it up to \$300 million

## Police warning after drug traffickers' cyber-attack

By Tom Bateman  
Reporter, Today programme

© 16 October 2013



The head of Europe's crime fighting agency has warned of the growing risk of organised crime groups using cyber-attacks to allow them to traffic drugs.

The director of Europol, Rob Wainwright, says the internet is being used to facilitate the international drug trafficking business.

His comments follow a cyber-attack on the Belgian port of Antwerp.

Drug traffickers recruited hackers to breach IT systems that controlled the



Earlier this year drug traffickers hacked into the computer controlling shipping containers at the port of Antwerp

# ...AND VULNERABLE

## Backdoor Account Found in Popular Ship Satellite Communications System

By [Catalin Cimpanu](#)

October 26, 2017 08:00 AM 0

## Naval Dome exposes vessel vulnerabilities to cyber attack



More onboard cyber vulnerability has been revealed, with maritime cyber defence firm Naval Dome demonstrating yet more ways hackers can compromise ship safety.

BLOG: MARITIME CYBER SECURITY

## Making prawn espressos, or hacking ships by deciphering BAPLIE EDIFACT messaging

### Hackers can easily target container ships by hacking load plans due to its vulnerable messaging system

November 28, 2017 By [Pierluigi Paganini](#)

## Hackers Could Sink a Bulk Carrier Says Pen Test Partners

December 19, 2017

Security

## Crappy IoT on the high seas: Holes punched in hull of maritime security

Researchers: We can nudge ships off course

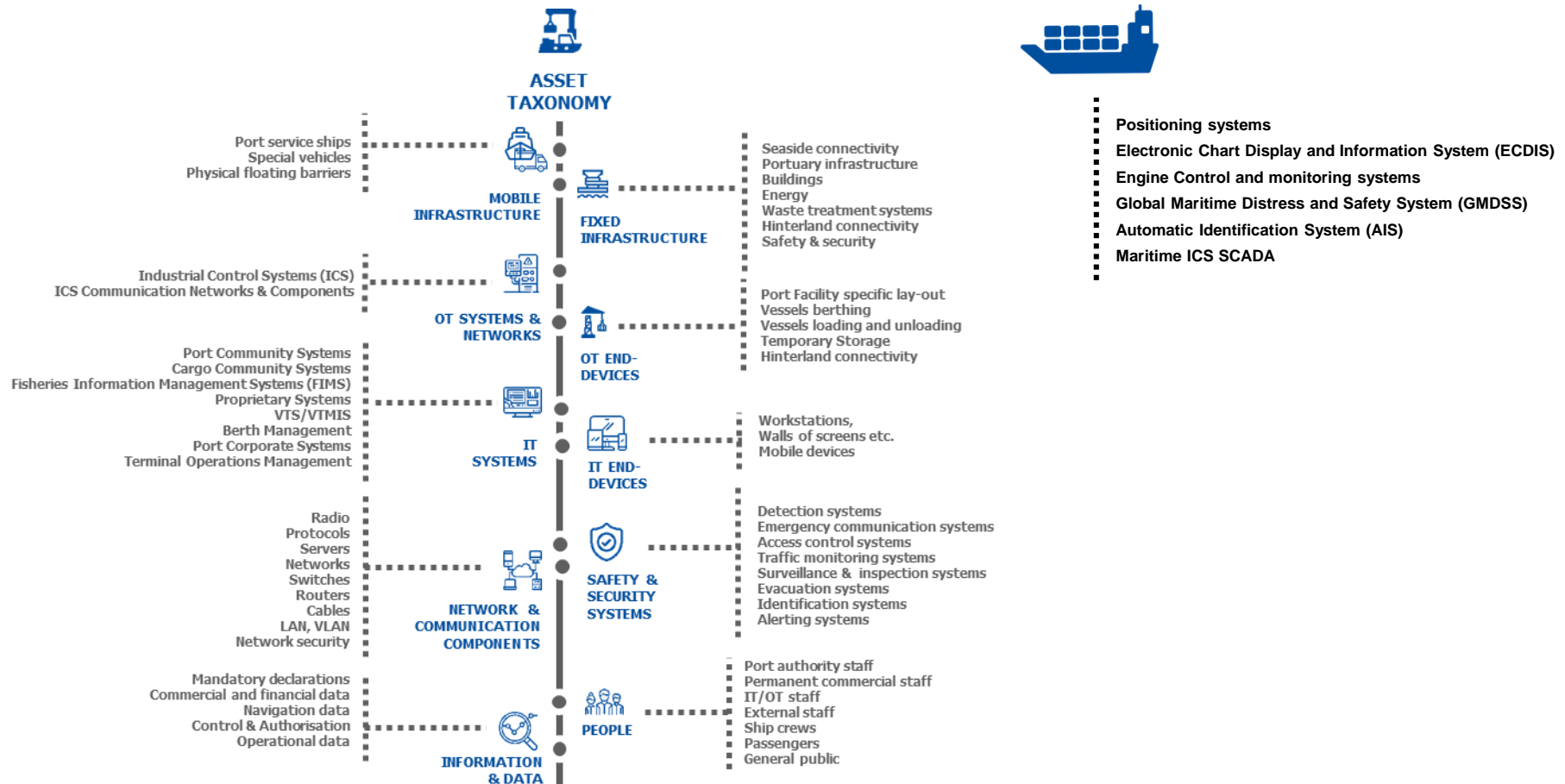
By [John Leyden](#) 6 Jun 2018 at 12:18

32 SHARE ▼

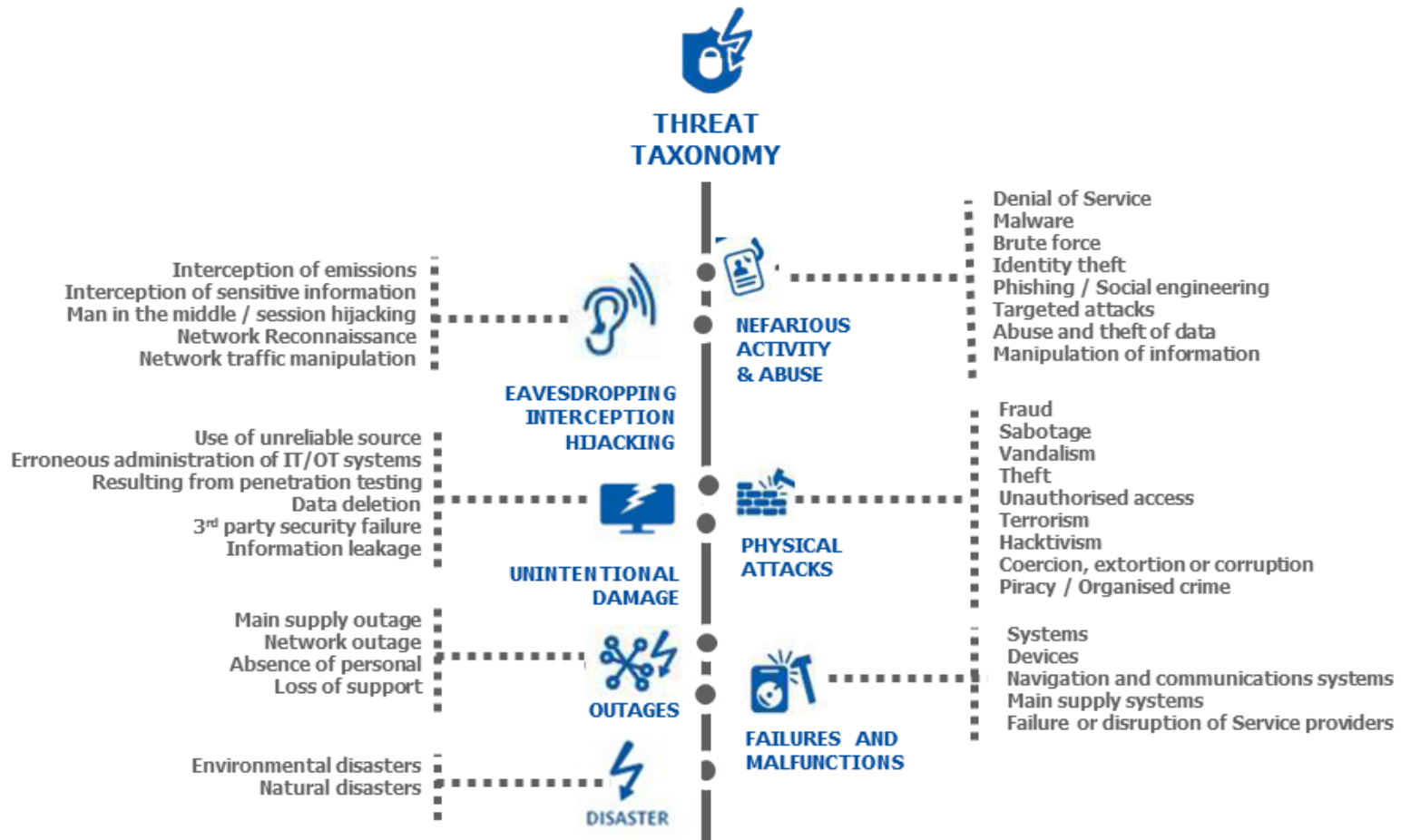
## Why 50,000 ships are so vulnerable to cyberattacks

June 13, 2018 2:15pm BST

# MARITIME ASSETS – ATTACK SURFACE



# MARITIME CYBER THREAT LANDSCAPE





# CYBER SECURITY IN THE MARITIME SECTOR – SITUATIONAL ANALYSIS

- Cybersecurity gaining more attention but still relatively **low awareness** and focus on maritime cyber security
- **Emerging standards/guidelines** from IMO, industry etc.
- **Complexity** of the maritime ICT environment including SCADA and emerging IoT usage
- Fragmented maritime **governance context**
- No holistic approach to **maritime cyber risks** and **diversity between different actors** in maritime
- Overall **lack of direct economic incentives** to implement good cyber security in maritime sector



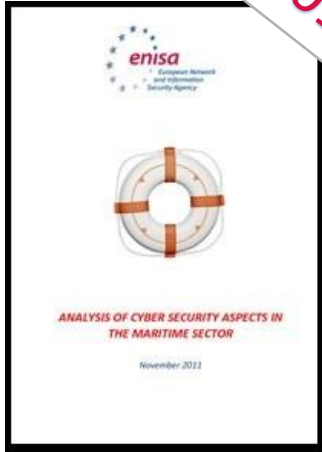
# OTHER MARITIME REGULATIONS, GUIDELINES AND STANDARDS

- Guidelines on maritime cyber risk management (IMO)
- Maritime cyber risk management in safety management systems (IMO)
- The Tanker Management and Self Assessment - TMSA (OCIMF)
- The Guidelines on Cyber Security Onboard Ships (BIMCO, CLIA, ICS, INTERCARGO, INTERTANKO, OCIMF and IUMI)
- The European Union Maritime Security Strategy (EUMSS)
- Cyber Security Awareness (AMMITEC)
- Recommendations on cyber safety for ships (IACS)



# RELEVANT ENISA REPORTS

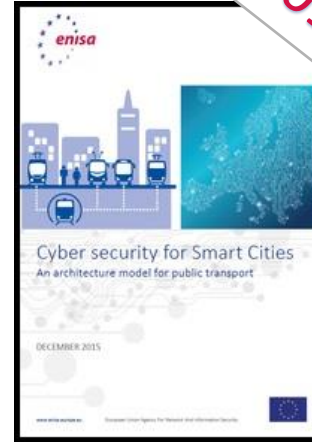
2011



2016



2016



2016



2017



2017



# ENISA'S ON-GOING WORK IN MARITIME

## 2019 Study: Port Cybersecurity

- Port CISOs/CIOs
- Good practices / Recommendations
- Validation workshop – November 26<sup>th</sup>

## NIS Directive Transposition

- National Approaches
- OES identification, Security Measures, Incident Reporting

## Other Activities

- Collaboration with DG MOVE and EMSA
- Stakeholder Engagement (MARSEC, SAGMAS, Associations, Industry etc.)
- Raise awareness via workshops and meetings



# PORT CYBERSECURITY WORKSHOP

ENISA MARITIME CYBERSECURITY WORKSHOP

STRENGTHENING  
THE CYBERSECURITY  
OF EU PORTS

 26 November 2019



<https://www.enisa.europa.eu/events/enisa-maritime-cybersecurity-workshop>

# TRANSSEC – MARITIME WORK STREAM



BUNDESAMT FÜR  
SEESCHIFFFAHRT  
UND  
HYDROGRAPHIE

ENISA TRANSSEC Expert Group



# BUILDING CYBERSECURITY SKILLS



Cyber Exercises



Cybersecurity Training

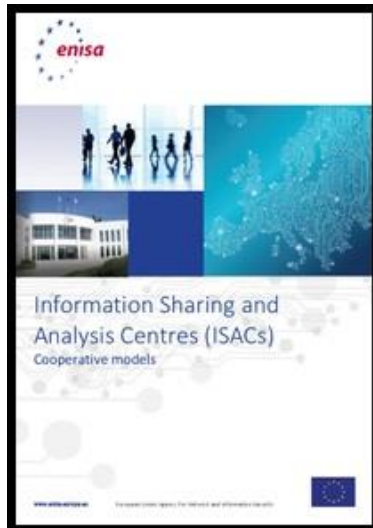


Cyber Security Education



NIS School

# OTHER ENISA REPORTS / ACTIVITIES



- ISACs good practices
- Support for existing sectorial ISACs



- Annual report with horizontal and sectorial threats
- Available as online tool

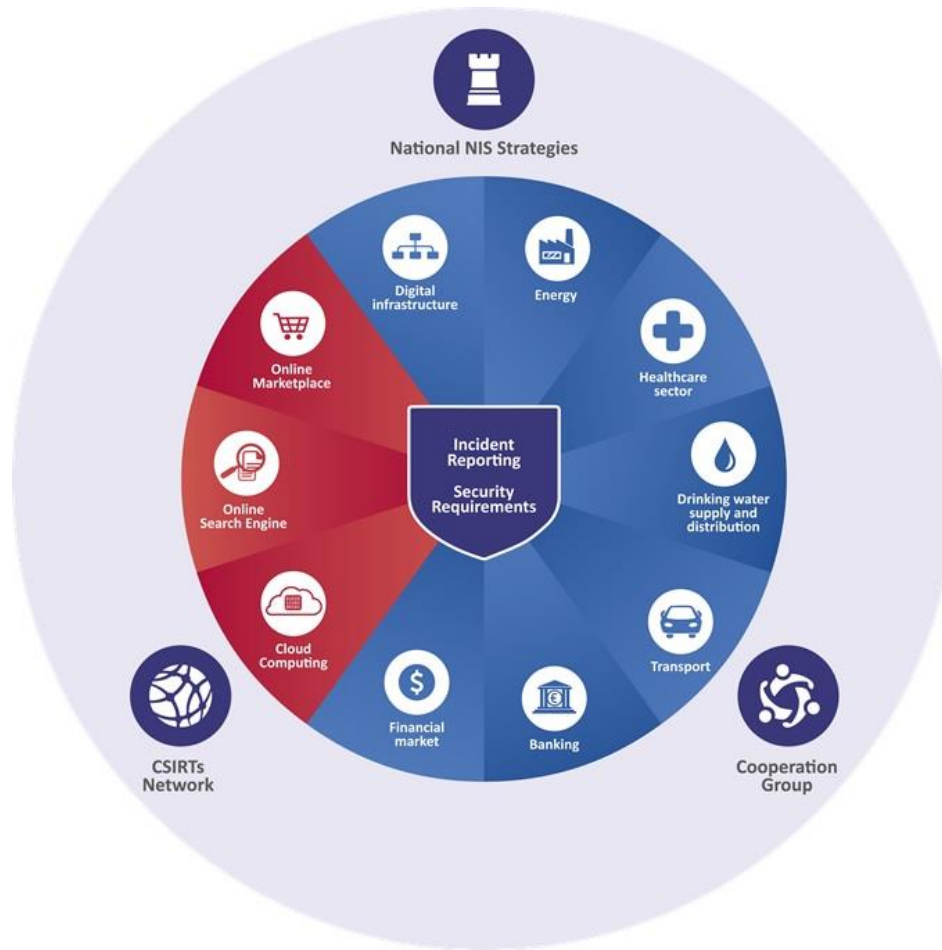
Home > Topics > Threat and Risk Management > Risk Management > Approaches for SMEs

Threat and Risk Management

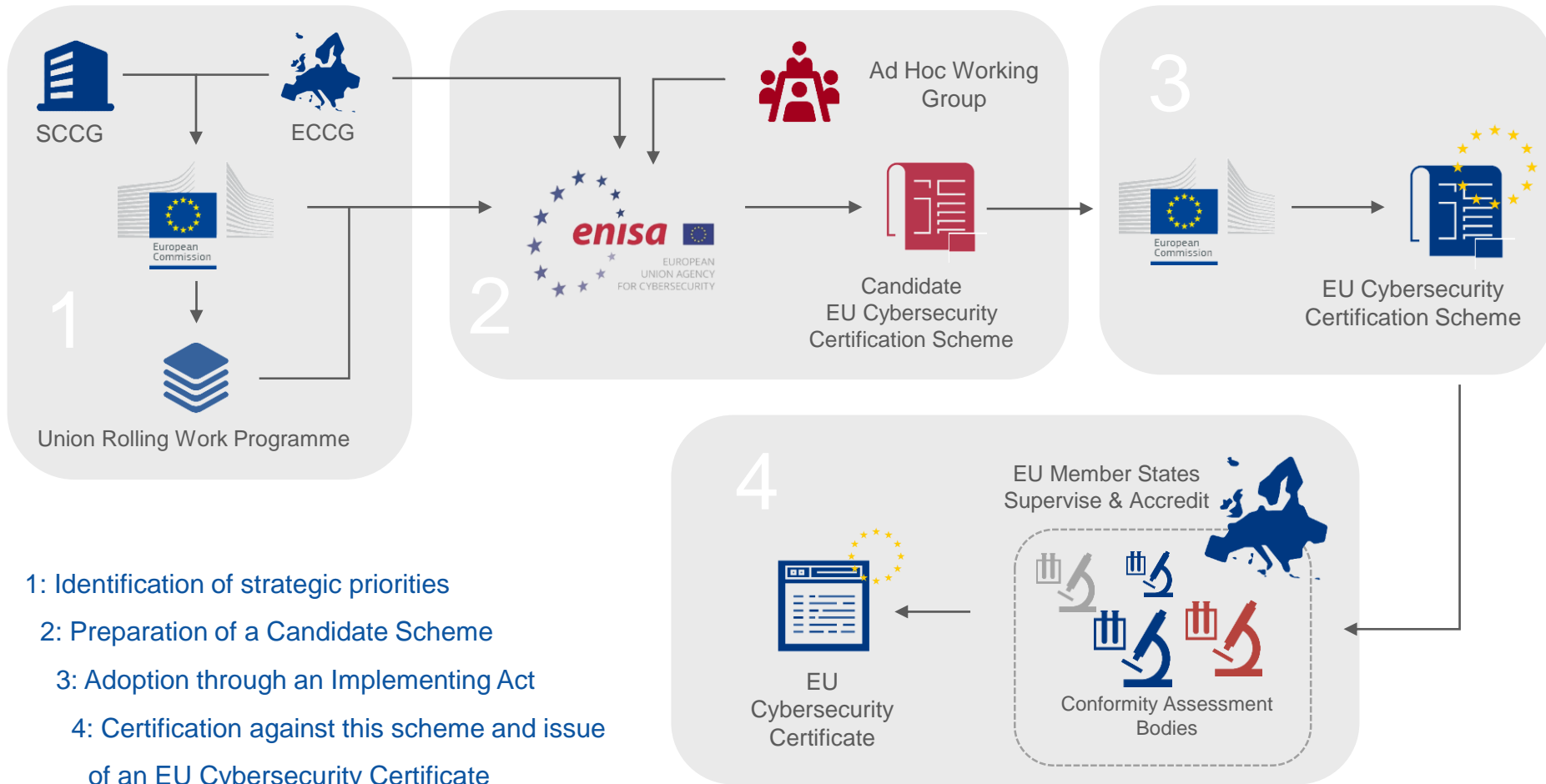
Approaches for SMEs

- Risk Management for SMEs
- Business Continuity for SMEs
- Self Assessed Risk Management (SARM)

# THE NETWORK AND INFORMATION SECURITY DIRECTIVE



# THE EU CYBERSECURITY CERTIFICATION FRAMEWORK





# THANK YOU FOR YOUR ATTENTION

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