



Western Norway
University of
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Maritime Security Law & cyber security

Rules and regulations concerning
maritime **security**



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Safety vs. Security Law

Maritime Safety Law:

- > *The legal framework concerning ship safety*
- > Legal requirements concerning
 - > Safety of operations, people and environment
- > Important legal conventions:
 - > SOLAS
 - > MARPOL
 - > STCW
 - > MLC
 - ↓
 - > ISM-Code: Safety Management System



Maritime Security Law

- > *The legal framework concerning ship and port security*
- > ISPS-code (in XI-2 - i SOLAS in 2002)
 - > *International Ship and Port Facility Security Code (ISPS)*



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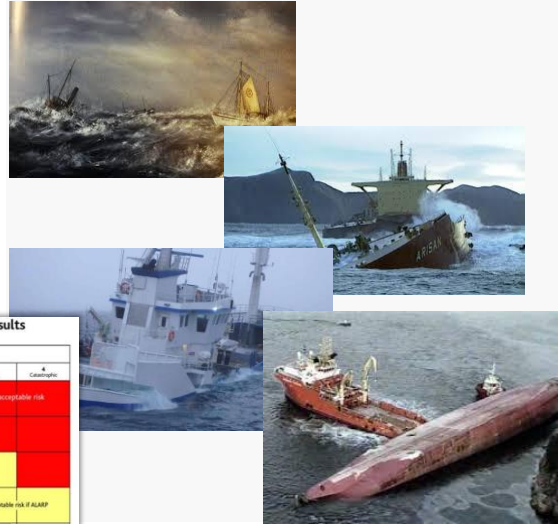
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Maritime operations and risks

- > Technical factors
- > Human factors
- > Weather and external factors
- > Etc.

- > Life and health at risk
- > Environment at risk
- > Property at risk
- > **Cyber risks**

- > Risk management



Maritime Risk Analysis Results

		SEVERITY			
		1 Minor	2 Major	3 Critical	4 Catastrophic
PROBABILITY	A	Unacceptable	Unacceptable	Unacceptable	Unacceptable risk
	B	Unacceptable	Unacceptable	Unacceptable	Unacceptable
	C	Unacceptable	Unacceptable	Unacceptable	Unacceptable
	D			Acceptable risk if ALARP	Acceptable risk if ALARP
	E	Negligible risk		Acceptable risk if ALARP	Acceptable risk if ALARP

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The Objective of Maritime Safety and Security Law

- > The law shall safeguard
 - > Life
 - > Health
 - > Environment &
 - > Property
- > **Ensure an acceptable level of safety and security**
- > Ensure appropriate public supervision of maritime industry
 - > Law is a tool, not a goal in its own
 - > The aim is an acceptable level of safety and security
 - > Including cyber security (emerging)

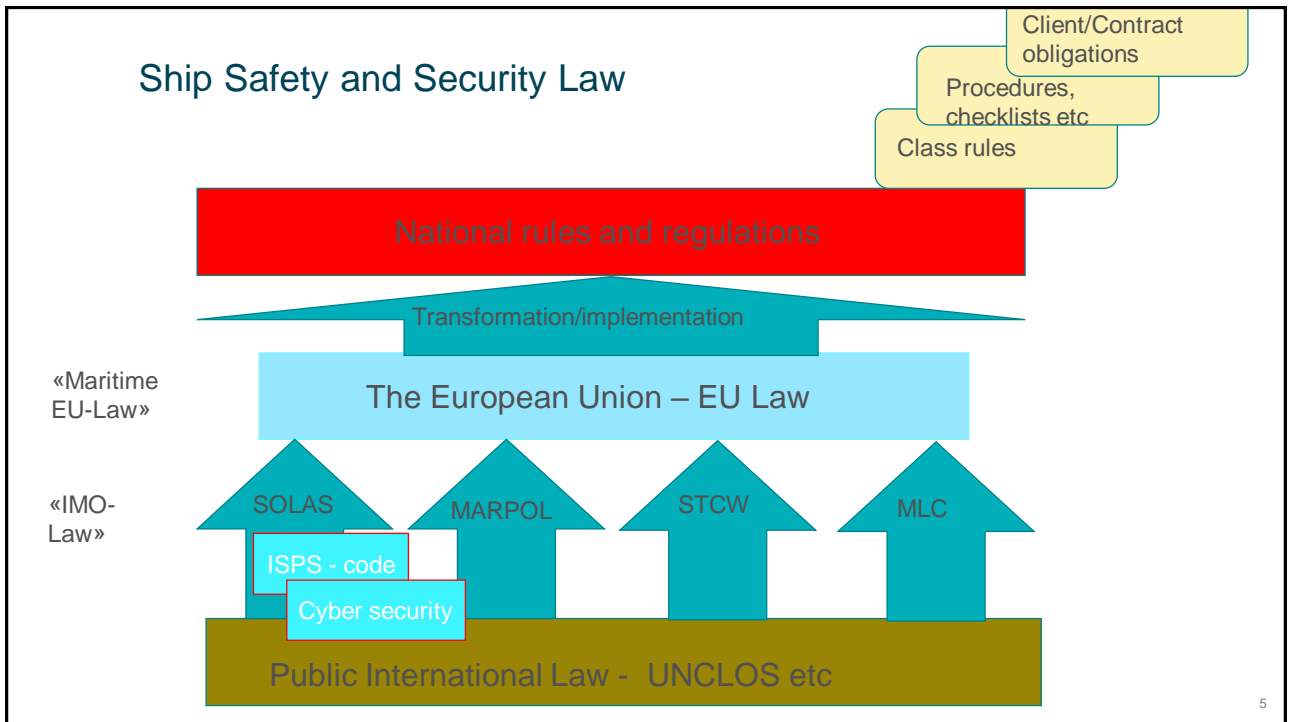
What is an acceptable level of safety and security?

- > Optimal safety and security Client?
- > Good safety and security Company?
- > Barely tolerable level of safety and security
- > Negligence of safety/security (reckless) Law
- > Gross negligence of safety/security
- > Willful damage caused

Law provide minimum standards.

The company/class/client may and should voluntarily set higher standards.

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ISPS - Maritime Security Law

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ISM Code (1994) - Objectives

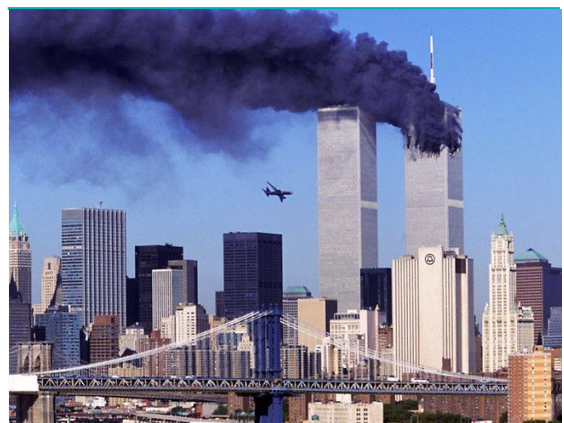
- › Ensure safety at sea
- › “Assess all identified risks to its ships, personnel and the environment and establish appropriate safeguards”
- › The Safety Management System (SMS) *should* ensure:
 - › compliance with mandatory rules and regulations – the law
 - › ISM Code 1.2.



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Maritime Security Law - background

- › Terrorattack on USA 9/11 2001
- › IMO rapidly responds
 - › This may also happens to ships!
- › ISPS-code – adopted 2002 in force 2004
 - › *International Ship and Port Facility Security Code (ISPS)*
 - › A new chapter in SOLAS (XI-2)
 - › EU -> EC 725/2004
 - › National legislation



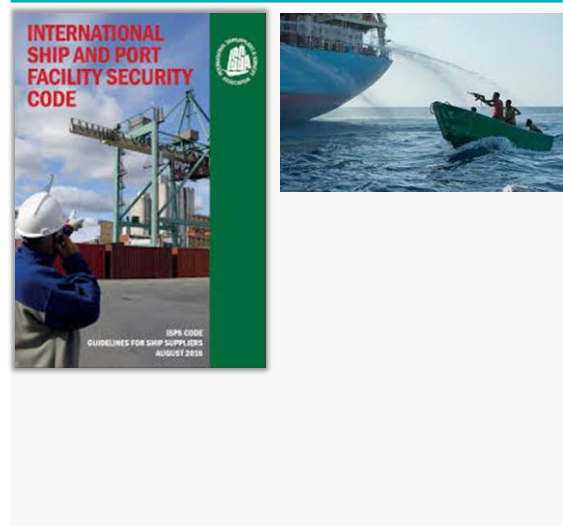
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ISPS and Maritime Security Law

- › Prevent and protect **ships** and **ports** against terrorist acts, piracy, stowaways and other illegal acts.
 - › Ships used as means for terror
 - › Ships used as weapons
 - › Piracy/attacks on ships
 - › I.e. physical threats
 - › Now also cyber threats

- › ISPS part A – mandatory provisions
- › ISPS part B – optional provisions at the discretion of national authorities

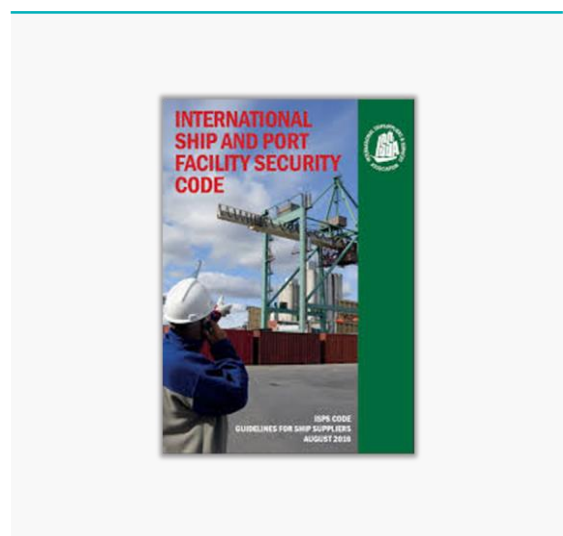


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The objectives of the ISPS code

- › Detect security threats and take preventive measures
- › Establish roles and responsibilities
 - › Governments – international & national level
 - › Government agencies
 - › Shipping industries
 - › Port industries
- › Ensure the exchange of security-related information
- › Provide methodology for security assessment, plans and procedures
- › Ensure confidence in security



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Implementation in national law

Norwegian Ship Safety and Security Act (2007) §§ 39 and 40:

- > *“Measures shall be taken in order to prevent and protect the ship against terrorist acts, piracy, stowaways and other illegal acts.”*
- > *“When necessary in order to prevent and protect against piracy etc, measures may be implemented and **force may be used** on the part of the ship.”*
- > Additional Security Regulations (2004)
- > Norwegian Maritime Authority (ships)
 - > Recognized security organization
- > Norwegian Coastal Administration (ports)



Security levels on ships - ISPS

- > **Level 1:** Minimum appropriate protective security measures.
- > **Level 2:** Additional protective measures for a period of time.
- > **Level 3:** Specific protective measures for a limited period.
 - > Focus on the risk of physical attacks



International ship security certificate (ISSC)

- > Applies to ships engaged in international voyages
 - > Passenger ships
 - > Cargo ships over 500 gross tonnage
 - > Mobile offshore drilling units
- > The certificate document that ISPS is adhered to – document of compliance



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Roles and responsibilities

- > Company Security Officer, CSO
- > Ship security officer, SSO

Three levels of certificate of proficiency:

1. certificate of proficiency for ship security officers (SSO);
2. certificate of proficiency for seafarers with designated security duties;
3. certificate of proficiency in security awareness.

- > Port facility security officer, PFSO
- > Port facility security Plan, PFSP

The Ship Security Officer (SSO)

Click on the button to the right to view the related information.

Associated Duties of the SSO

The duties and responsibilities of the SSO shall include, but are not limited to:

- Regular security inspections of the Ship.
- Maintain and supervise implementation of the ship security plan, including any amendments to the plan.
- Coordinate the security aspects of the handling of cargo and ship's stores with other shipboard personnel and with relevant port facility security officers.
- Propose modifications to the Ship Security Plan.
- Report to the Company Security Officer any deficiencies and non-conformities identified during internal audits, periodic reviews, security inspections and verifications of compliance and implementing corrective actions.
- Enhance security awareness and vigilance on board the Ship.

<https://www.virtual-training-centre.com/online-ss0-course.html>

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Ship security plan, SSP

- > Ship security assessment, SSA
- > Ship security plan, SSP
 - > Security and risk assessment
 - > Identify security concerns.
 - > Including cyber threats and vulnerabilities.
 - > Duties and responsibilities
 - > Protective measures of ship, sensitive information etc.
 - > Restricted areas etc.
 - > Maintenance of security measures
 - > Reporting
 - > Confidential
- > Ship security alert system, SSAS

Possible content of an SSP:

- Security organization of the vessel
- Personnel training
- Drills and exercises
- Records and documentation
- Response to change in MARSEC Level
- Procedures for interfacing with facilities and other vessels
- Declarations of Security (DoS)
- Communications
- Security systems and equipment maintenance, including cyber security
- Security measures for access control, including designated passenger access areas and employee access areas
- Security measures for restricted areas
- Security measures for handling cargo
- Security measures for delivery of vessel stores and bunkers
- Security measures for monitoring
- Security incident procedures
- Audits and Vessel Security Plan (VSP) amendments
- Vessel Security Assessment (VSA) report.

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Maritime cyber security measures

- > Risk analysis of information technology IT-systems – including vulnerabilities
- > Preventive cyber security measures
- > Internet access security policy
- > Access controls to WiFi, navigation systems (ECDIS) etc
- > Contingency plans etc.
- > Cybersecurity procedures, controls and checklists
- > Training, testing and certification
- > Etc.



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Obtaining International ship security certificate (ISSC)

- > Company: Ship security assessment, SSA
- > Company: Ship security plan, SSP
- > Maritime authorities assess, verifies and issues:
 - > International ship security certificate (ISSC)
- > Maritime Authorities: Control and supervision
 - > Unscheduled ISPS inspection
 - > Expanded ISPS inspection
 - > Vertical and horizontal audit of the classification societies
 - > Verification

The screenshot shows the website of Sjøfartsdirektoratet (Norwegian Maritime Authority). The page title is "ISPS - maritime security". It includes a navigation menu with options like "Shipping", "Recreational craft", "Our services", and "About us". The main content area states: "The Norwegian Maritime Authority is responsible for ISPS on ships in the Norwegian registries (NOR and NIS). This page contains information on security levels for Norwegian ships." There are also links for "Notification and reporting duty for accidents", "Investigation of accidents", and "Accident statistics".

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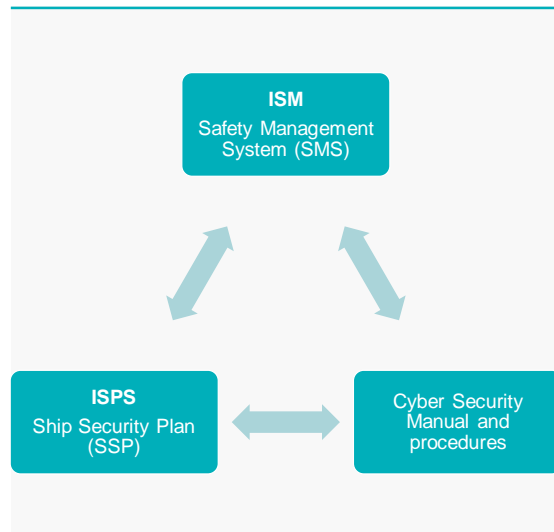
IMO and Maritime Cyber Security

- > New focal area
 - > The maritime domain is not immune to attack.
 - > Today's shipboard systems are highly integrated, yet poorly defended.
- > New regulations are emerging from IMO
- > IMO issued MSC-FAL.1/Circ.3 Guidelines on maritime cyber risk management in 2017.
 - > High-level recommendations on maritime cyber risk management
- > IMO adopted Resolution MSC.428(98) - Maritime Cyber Risk Management in Safety Management Systems.
 - > Encourage administrations to ensure that cyber risks are addressed in existing safety management systems (ISM-code) within 2021
- > **Maritime cyber risk**
 - > a measure of the extent to which a technology asset could be threatened by a potential circumstance or event, which may result in shipping-related operational, safety or security failures as a consequence of information or systems being corrupted, lost or compromised.
- > **Cyber risk management**
 - > the process of identifying, analysing, assessing and communicating a cyber-related risk and accepting, avoiding, transferring or mitigating it to an acceptable level, considering costs and benefits of actions taken to stakeholders
- > The overall goal is to support safe and secure shipping, which is operationally resilient to cyber risks.

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Cyber Security must be integrated into SMS and SSP



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Supervision and control

- > Supervision of flag state ships
- > Port State Control by the coastal state
 - > If requirements provided by statute or regulations are not complied with, the supervisory authorities may order the company or employer to implement necessary measures within a specific time limit.
- > Coercive fines
- > Withdrawal of certificates, i.e. ISSC and/or SMC
- > Prohibit a ship from departing from a port or order it to call at a port
- > Criminal liability



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Summary

- › The law aim to safeguard
 - › Life
 - › Health
 - › Environment &
 - › Property
- › **Facilitate an acceptable level of ship safety and security**
 - › Including cyber security.
 - › Rules and regulations are emerging.



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