



# Maritime Cybersecurity for Modern Vessels: Navigating Connectivity, Navigation, and Resilience

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**CHRISTIANA ARISTIDOU**  
*Founder Partner / Director – The  
Hybrid LawTech Firm*



# Christiana Aristidou

Founder & CEO of  
*“the Hybrid LawTech Firm”*  
empowered by  
Christiana Aristidou LLC

Website: [www.christianaaristidou.com](http://www.christianaaristidou.com)

Email: [christiana@christianaaristidou.com](mailto:christiana@christianaaristidou.com)

LinkedIn: <https://www.linkedin.com/in/christiana-aristidou/>



52, Omonoias Street  
Troodos Court, 1<sup>st</sup> Floor, Flat 3  
3052 Limassol, Cyprus  
t. (+357) 25 262699  
e. [contact@christianaaristidou.com](mailto:contact@christianaaristidou.com)

[www.christianaaristidou.com](http://www.christianaaristidou.com)

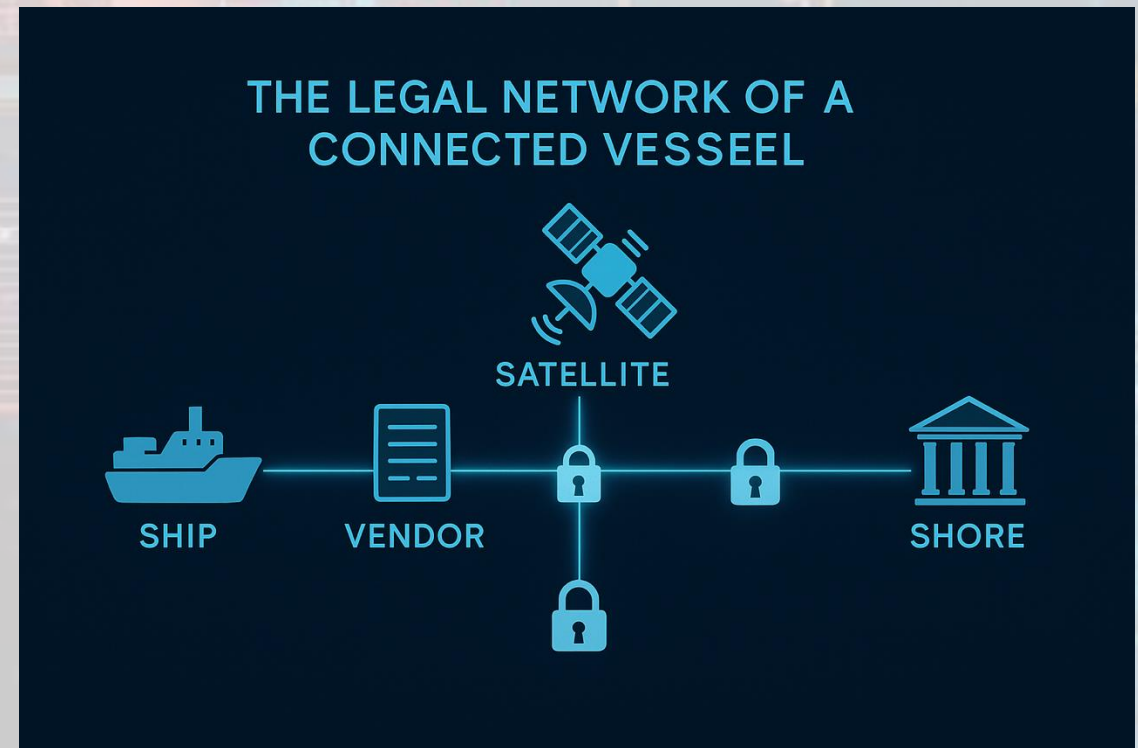
# The Digital Sea: Opportunity and Exposure

- **Digital Transformation in Shipping**
  - AI, Automation, Smart Systems, CCTV, SatCom
- **Opportunities**
  - Greater efficiency and predictive operations
  - Enhanced safety and situational awareness
  - Real-time visibility from bridge to shore
- **Exposures**
  - Increased cyber and data risks
  - Expanded attack surface
  - Higher legal and contractual liability



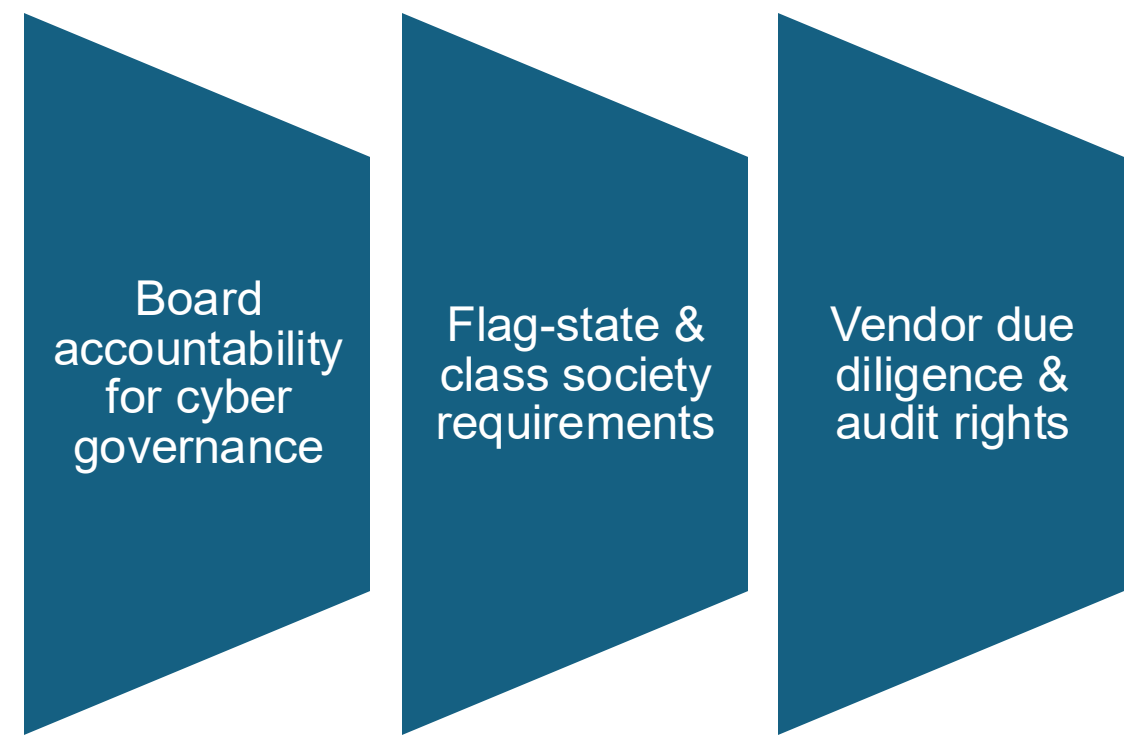
# Theme I: Connectivity - The Legal Architecture of the Connected Vessel

- Every data link = legal link
- Contracts must define:  
access - liability -  
notification
- IMO MSC-FAL.1/Circ.3 →  
Cyber risk = Safety risk
- GDPR & cross-border data  
compliance





# Governance and Compliance at Sea



# Theme II: Navigation → Autonomy, Accountability, Algorithmic Law



- Smart navigation = Shared decision-making
- Who is liable when AI errs?
- Data = evidence, Integrity = liability shield



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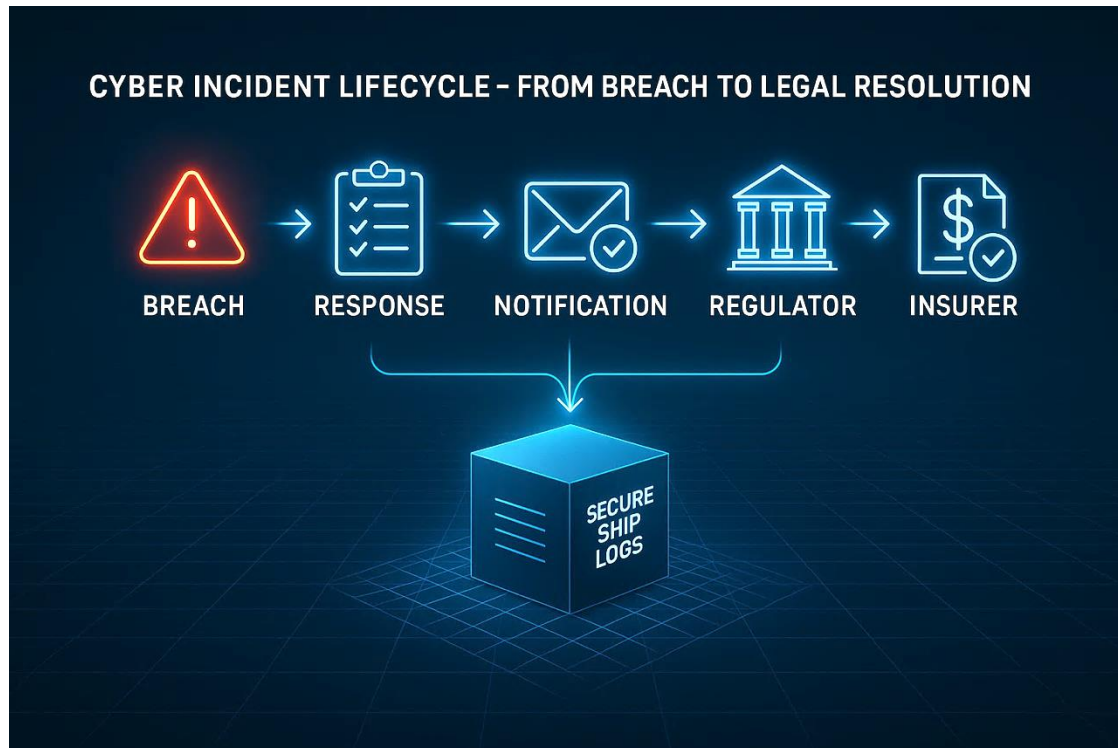
# Data Integrity and Digital Evidence

- Tamper-proof logs & audit trails
- Chain-of-custody for sensor data
- Certified AI & human override



SECURE SHIP LOGS

# Theme III: Resilience - From Cybersecurity to Legal Preparedness



Cyber incident =  
multi-  
jurisdictional legal  
event

Notification,  
Evidence,  
Contracts,  
Insurance

Duty of Cyber Due  
Diligence

# Building Legal Resilience

Integrate legal counsel in design phase

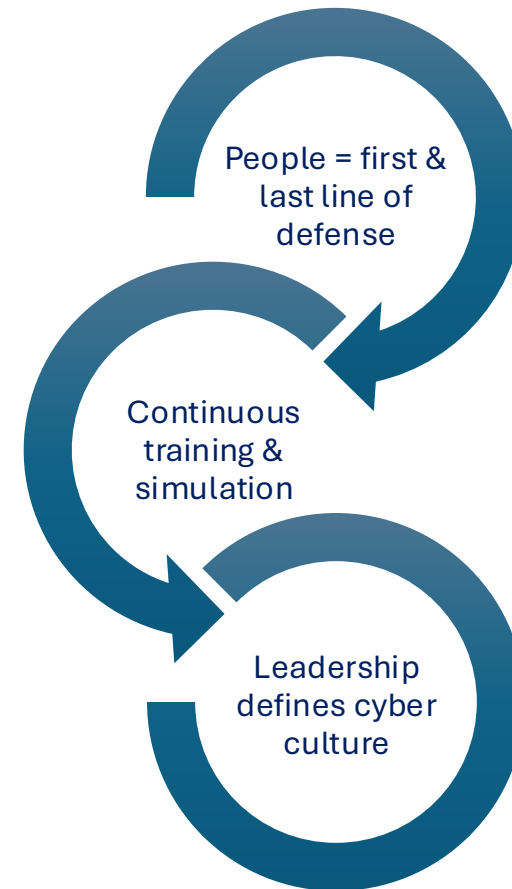
Align shipboard - shore - vendor policies

Document and audit every control





# The Human Element: Culture & Training



# Legal Beacons for the Digital Voyage



Design for Security & Legality



Elevate Governance to the Boardroom



Invest in People & Partnerships



# The Future: Smart - Connected - Accountable

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Connected ships =  
global legal ecosystems

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Accountability drives  
trust

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Law & technology must  
sail together





Let us ensure our ships of future  
are not only connected and intelligent—  
but also compliant, secure, and resilient.



# THANK YOU!

## Christiana Aristidou

Website: [www.christianaaristidou.com](http://www.christianaaristidou.com)

Email: [christiana@christianaaristidou.com](mailto:christiana@christianaaristidou.com)

LinkedIn: <https://www.linkedin.com/in/christiana-aristidou/>



**THE HYBRID**  
LAWTECH FIRM

EMPOWERED BY

CHRISTIANAARISTIDOU<sup>LLC</sup>