ADAPTATION OF THE UNMANNED TECHNOLOGIES TO IMPLEMENTATION OF THE LITHUANIAN NAVY VISION 2030+

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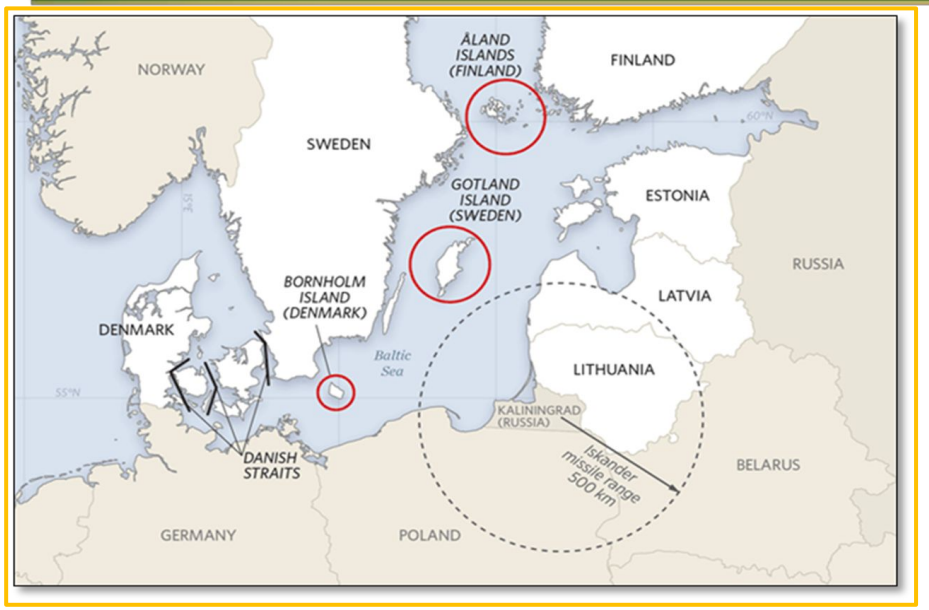
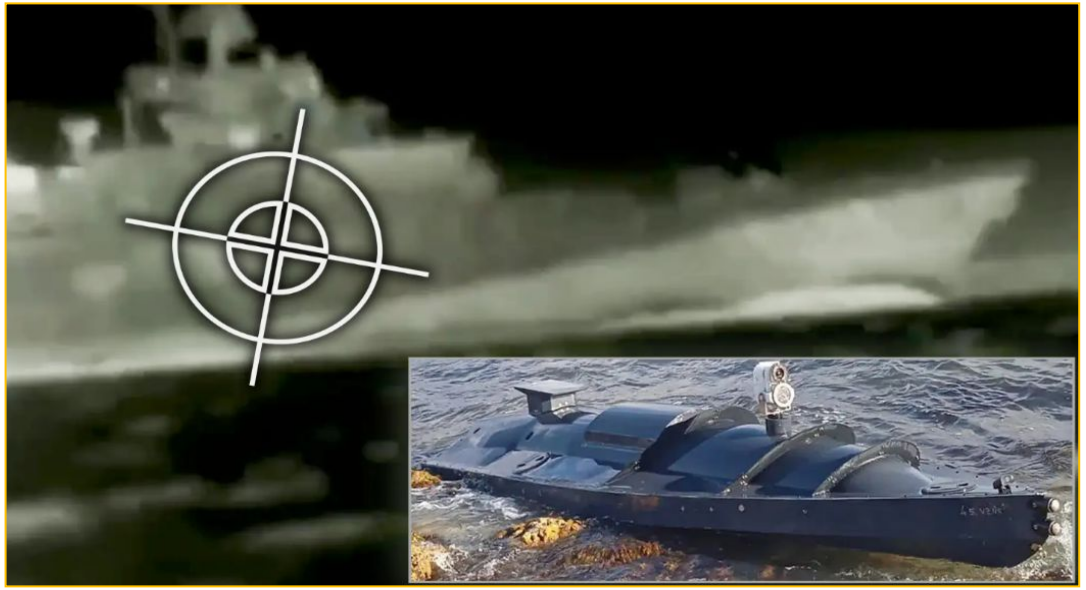
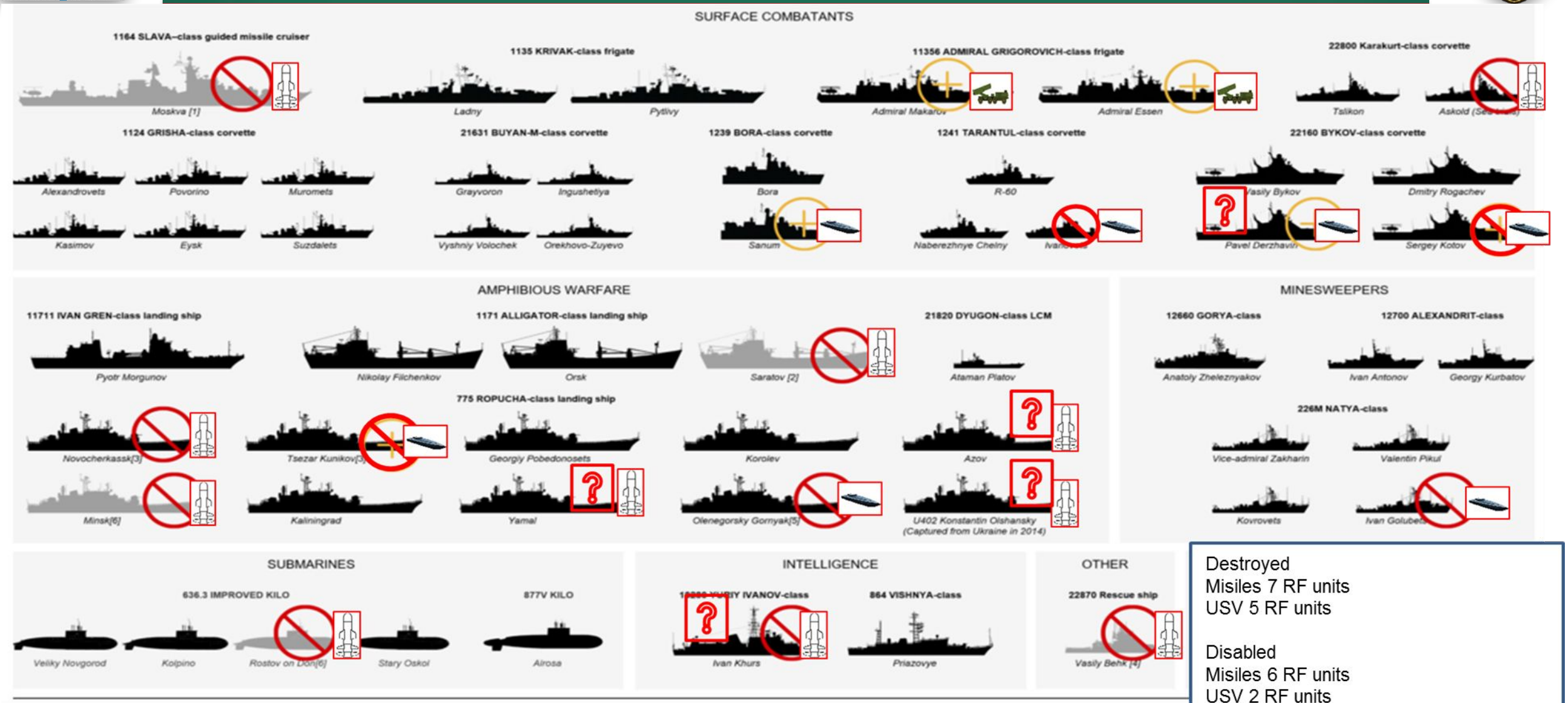
CONTEXT AND STATE OF PLAY

TAKEAWAYS FROM WAR IN UKRAINE





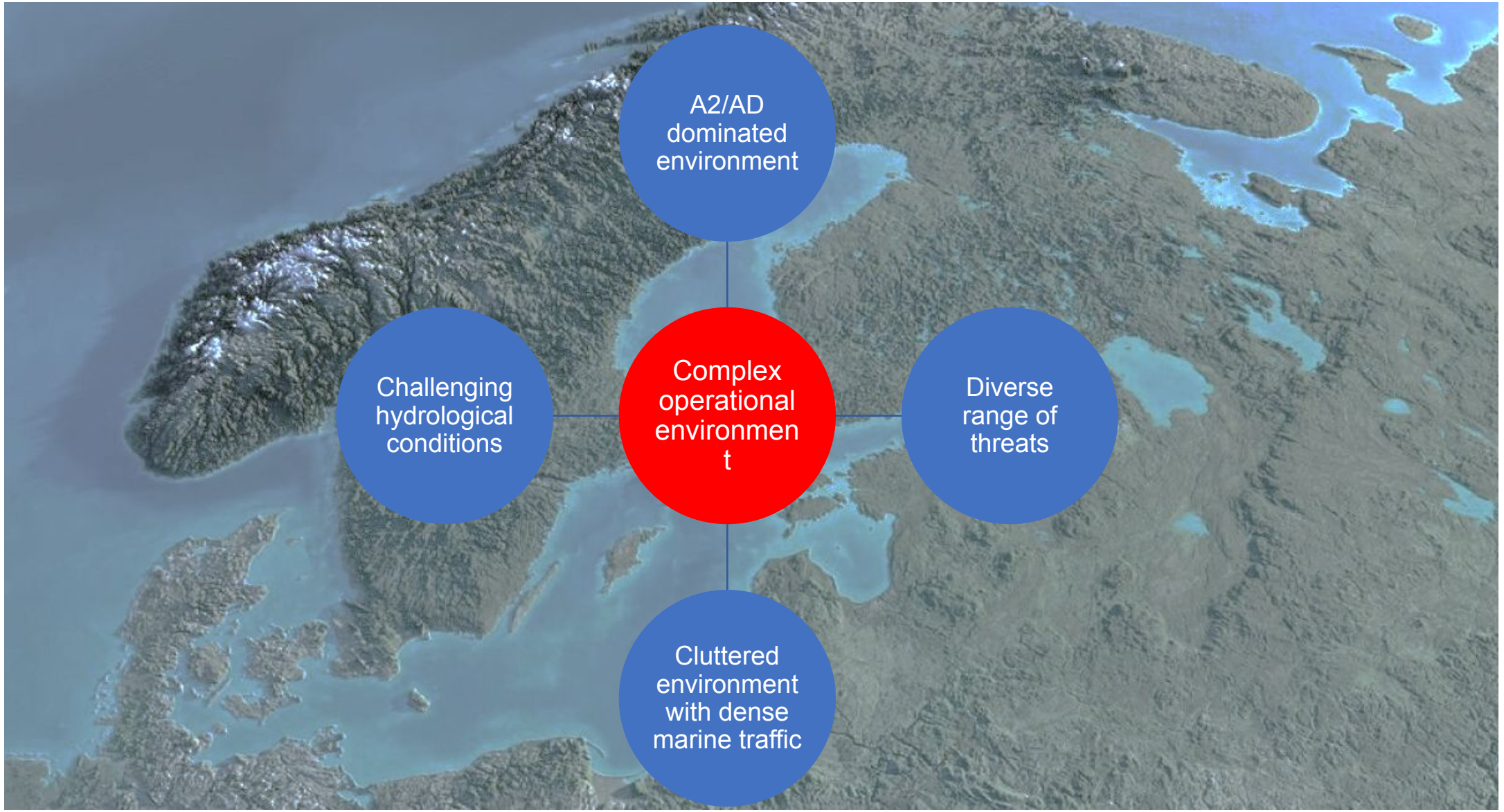
TAKEAWAYS FROM WAR IN UKRAINE



Destroyed
Misiles 7 RF units
USV 5 RF units

Disabled
Misiles 6 RF units
USV 2 RF units

BALTIC SEA OPERATIONAL ENVIRONMENT



KEY ROLES FOR UNMANNED AUTONOMOUS SYSTEMS

MCM OPS	MARITIME SECURITY/MSA	LITTORAL COMBAT OPS	FORCE MULTIPIER
			

Unmanned solutions offer transformative advantages:

Minefield Safety: Unmanned technologies remove capital platforms and crews from hazardous minefields, enhancing safety and precision in countermeasure operations.

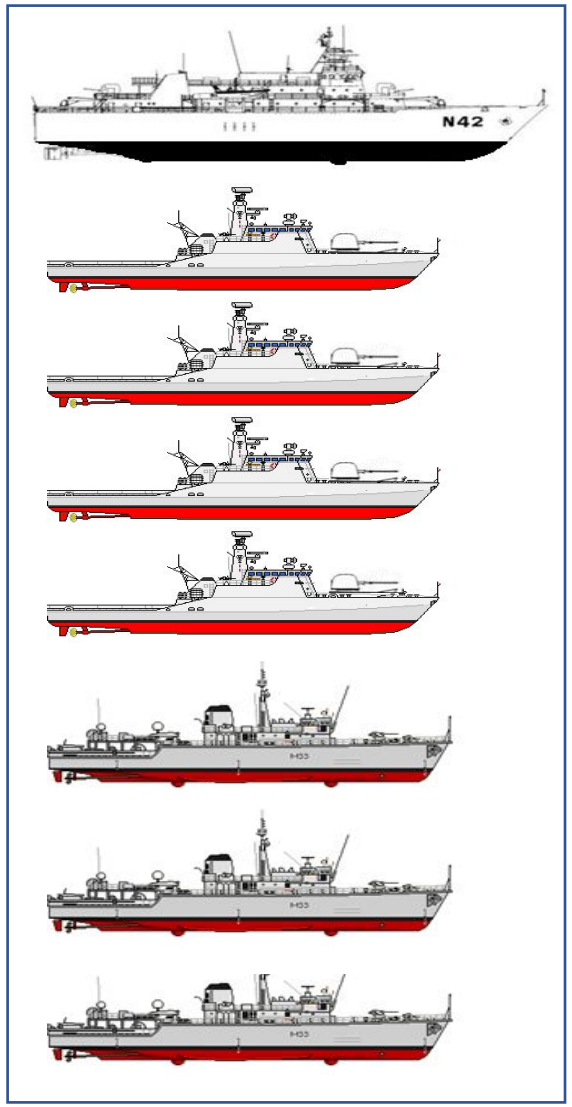
Efficient MSA: Leveraging unmanned solutions allows for extensive Maritime Situational Awareness (MSA) coverage with fewer manned platforms, optimizing resource deployment.

Strategic Positioning: Capital platforms can stay outside contested spaces while Unmanned Vehicles (UxVs) operate within adversary A2/AD systems. This strategic approach maximizes unmanned system capabilities in challenging environments.

Force multiplier. Operating in conjunction with capital platforms enhances the sensor and effector package, present tactical and operational dilemmas.

LITHUANIAN NAVY FLEET DEVELOPMENT CONCEPT

All provided visuals are purely associative



2025 TRANSFORMATION 2040

- SIMPLIFIED LOG SUPPORT AND PERSONNEL TRAINING
- OPERATIONAL FLEXIBILITY
- MORE SUBSTANTIAL CONTRIBUTION TO NATO/EU
- ACTIVE ENGAGEMENT WITH INDUSTRY AND R&D

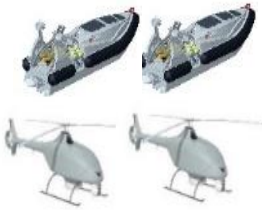
MCM suite

MCM suite

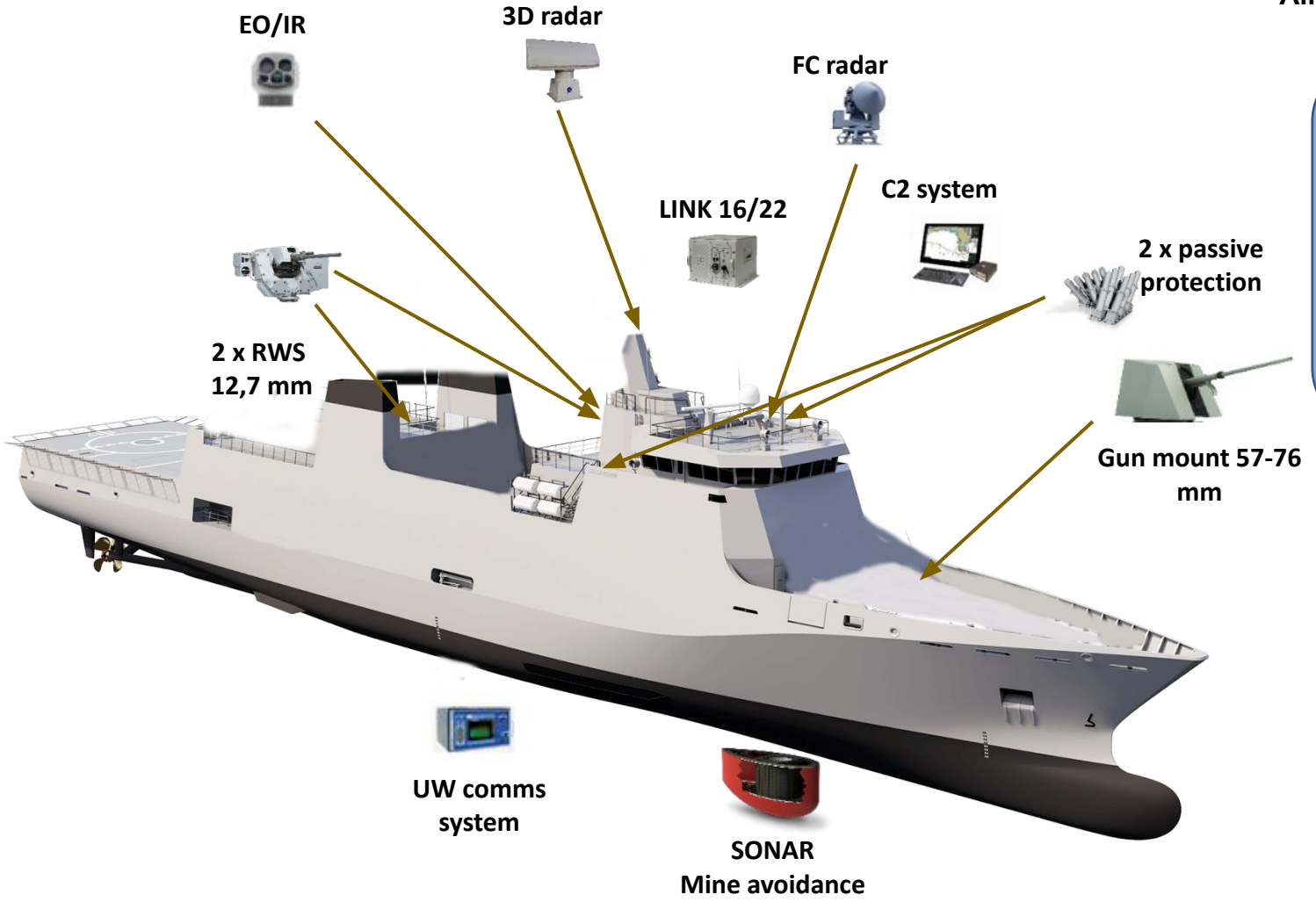
VISUALISATION OF MULTIFUNCTIONAL MODULAR SHIP

All provided visuals are purely associative

MCM suite



8x modules



- Length <=90 m
- Beam <=18 m
- Draught ~5 m
- Speed ~18kts
- Displacement ~ 3000t
- Crew ~40 + 25
- Autonom. ~ 4500 NM/13d.(26d.)

Navigation equipment

SOLAS A3 equipment

Intercom system

DC/RChB system/equimpent

Additional equipment

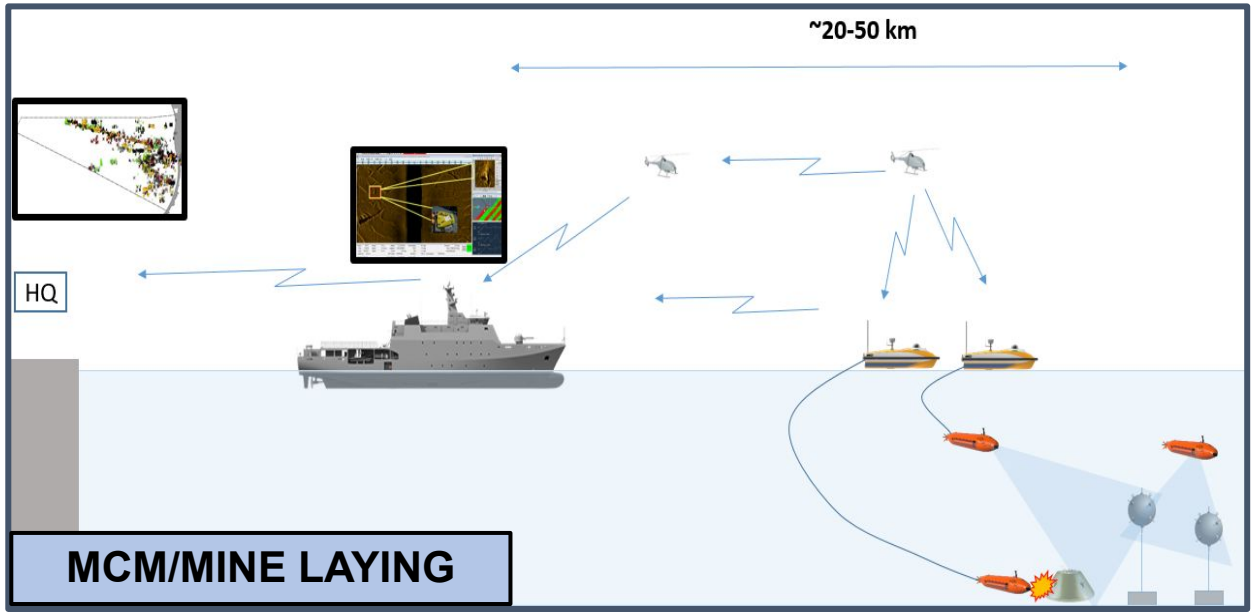
rESM + ELINT

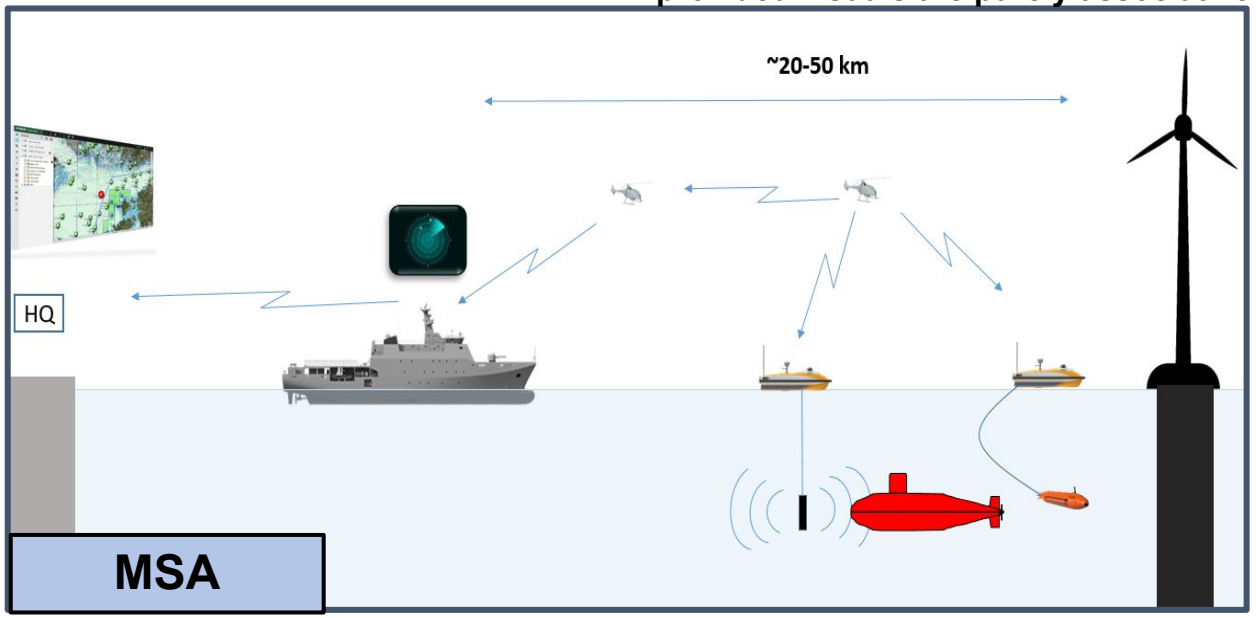
Comms kit

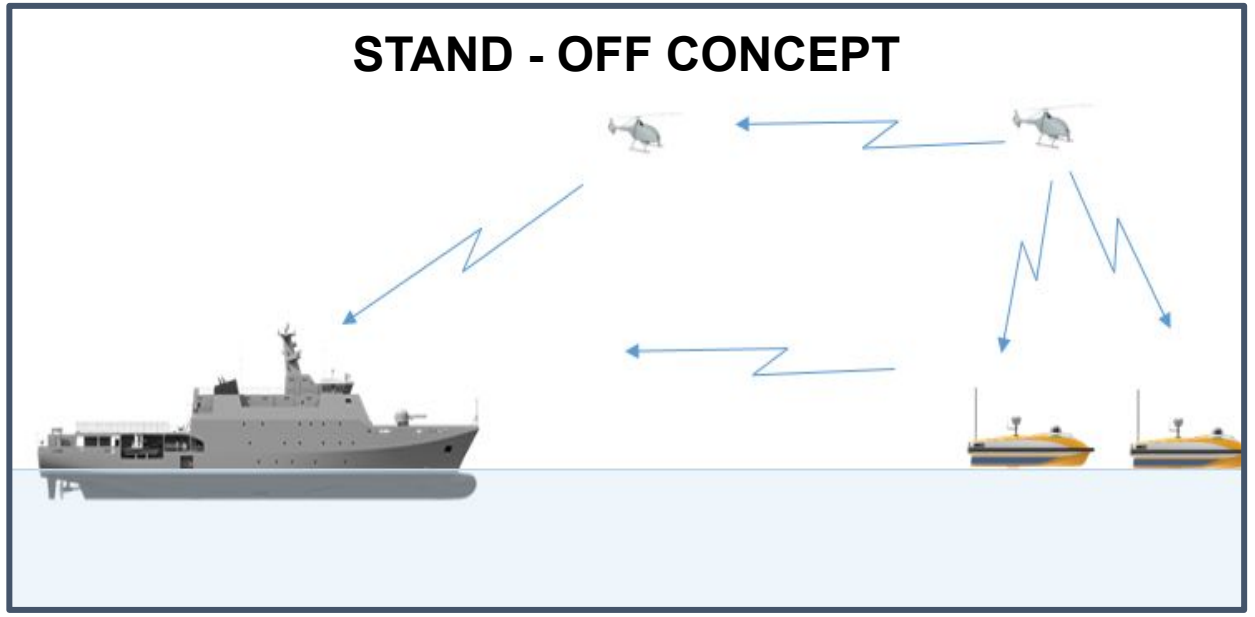
NationalC2
MATIS Navielektro

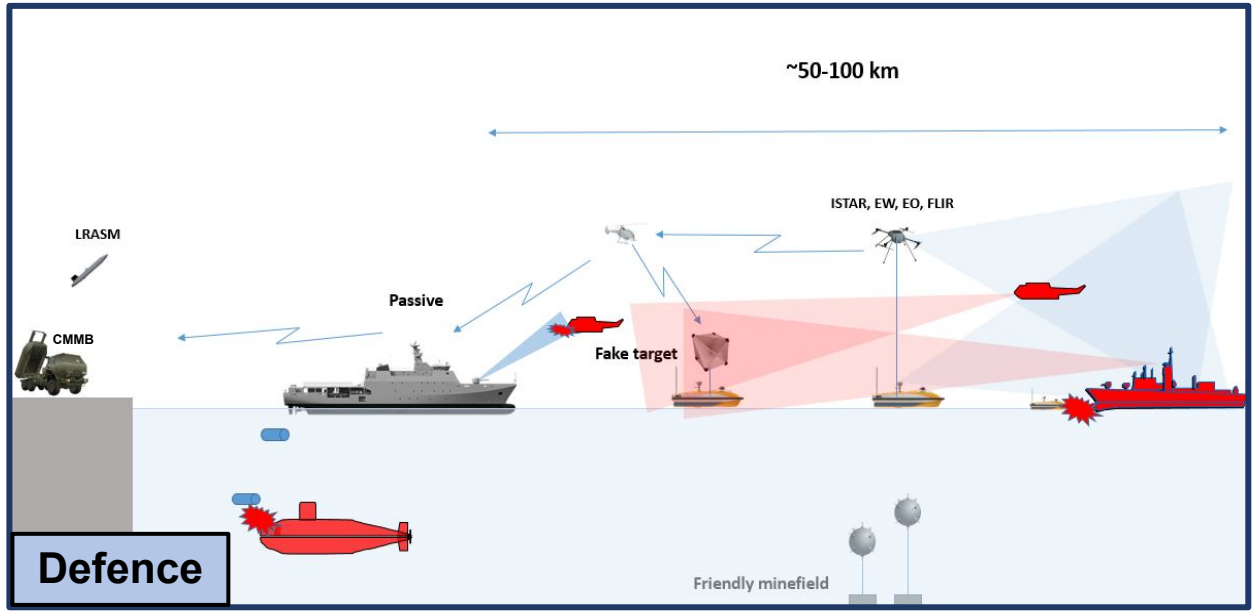
DOCTRINE OF MULTIFUNCTIONAL MODULAR SHIP

All provided visuals are purely associative



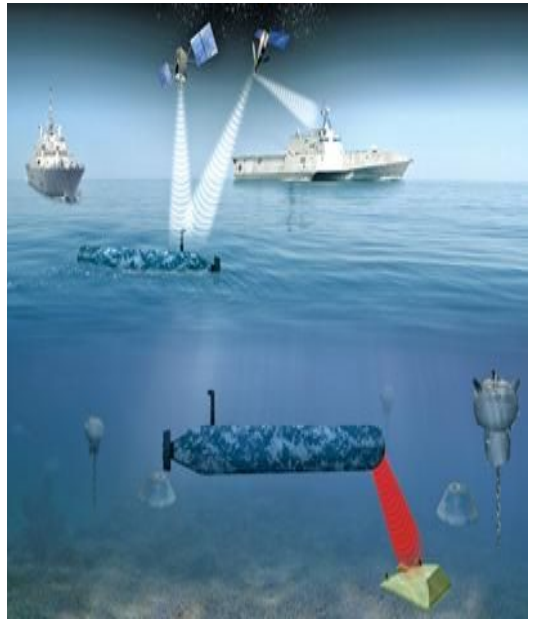






MAIN LINES OF EFFORT

Participation in R&D

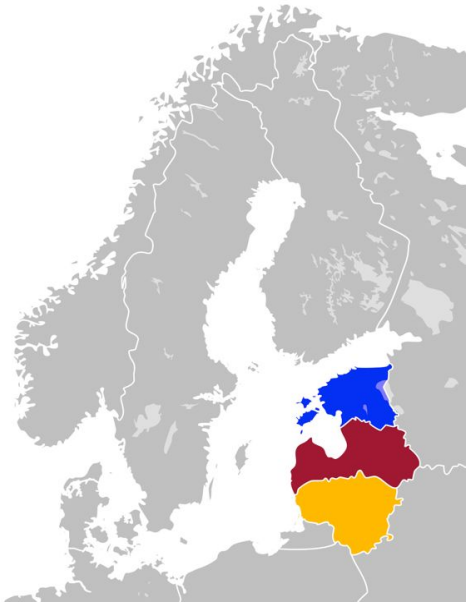


Engagement in NATO-wide OPEX exercises

Cooperation with industry and academia

LITHUANIAN MARITIME CLUSTER

3B naval cooperation framework



KEY CONSIDRATIONS

- **Challenges in Unmanned Technologies:** Rapid growth in unmanned technologies poses challenges like integrating with legacy systems, coping with degraded electromagnetic spectrum, and reimagining crew training.

- **Synergy with Manned Platforms:** Acknowledging that unmanned systems won't fully replace manned ones in the near future, emphasis lies on optimizing synergy between the two.

- **Concepts:** Urgent development of Concepts of Operations (CONOPS) frameworks is crucial to reflect the broader use of unmanned technologies and AI.

- **Legal & Policy Frameworks:** Regulations on unmanned operations in territorial waters and EEZ.

KEY CONSIDRATIONS

- **Cybersecurity Measures:** Preventing hacking of unmanned systems and sensor networks.
- **Interoperability:** Standardization of unmanned platforms across national and NATO forces.
- **Role of NATO COEs:** Recognizing NATO Centers of Excellence, such as the CSW COE, is pivotal for leveraging expertise and advancing capabilities in unmanned technologies.
- **Integrated Security Networks:** Centralized monitoring systems that connect stationary and unmanned systems for rapid threat assessment.

KEY CONSIDRATIONS (CUI)

- **Public-Private Partnerships:** Energy companies, telecom providers, and navies can collaborate on shared surveillance infrastructure.
- **AI & Big Data Utilization:** Centralized monitoring hubs using AI to analyze multi-source data in real time.
- **AI-Based Anomaly Detection:** Machine learning can analyze sonar and video feeds in real time to detect threats.
- **Stationary systems:** Stationary protection systems provide continuous, automated, and cost-effective monitoring of critical underwater infrastructure. When integrated with mobile surveillance units (AUVs, USVs) and military/civilian cooperation, they form a comprehensive security framework to counter hybrid threats in regions like the Baltic Sea.

QUESTIONS