Challenges of Small Navies in Fulfilling Their Maritime Role

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The Role and Significance of Small Navies

Regional Security Contribution

Small navies safeguard maritime borders and ensure stability within their regions.

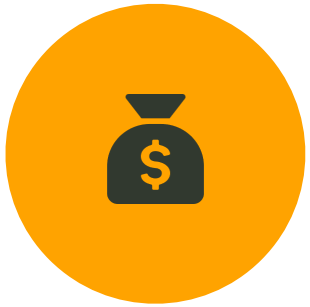
Coastal Defense and Maritime Operations

Despite size limitations, they actively participate in coastal patrols, maritime security, and operational missions.

International Collaborations

Small navies form strategic partnerships with allies, enabling joint exercises, resource-sharing, and knowledge exchange.

Balancing Broad Capability with Limited Means



Resource Constraints and Limited Budgets

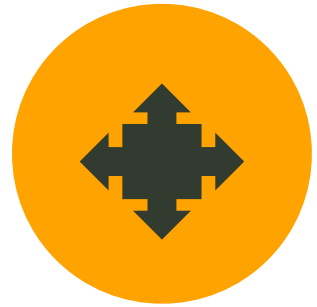
Insufficient budgets hinder acquisition of advanced systems and technology upgrades.

Personnel Constraints

Smaller navies face challenges in recruiting and retaining skilled personnel for specialized roles.

Maintenance Challenges

Aging fleets strain resources for repairs and overhauls, compromising operational readiness.



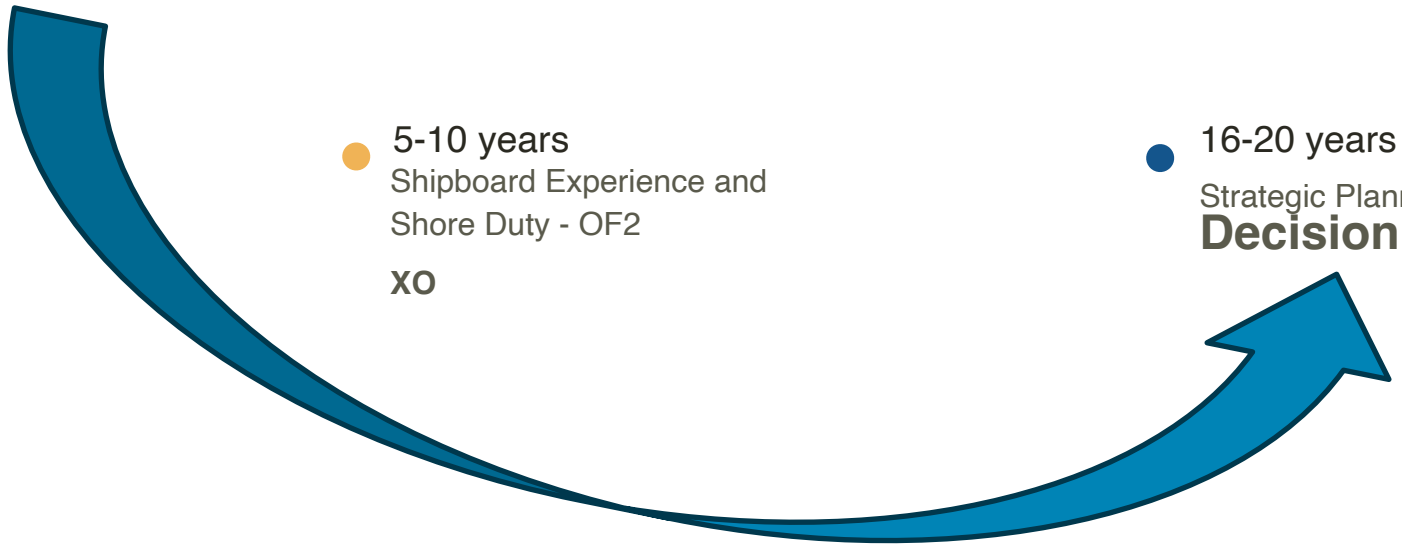
Multi-Role Requirements

Limited assets must be versatile to address diverse maritime threats and missions.

Balancing capability and resource constraints requires strategic prioritization, innovation, and international cooperation.

The Journey of Creating an Officer vs Innovations

- 0-4 years
  Naval Academy Graduate - OF1
  Junior Officer
- 5-10 years
  Shipboard Experience and Shore Duty - OF2
  XO
- 11-15 years
  Command Tour as Commanding Officer – OF3
  CO
- 16-20 years
  Strategic Planning and **Decision Making** - OF3/4
- 20+ years
  Senior Leadership and Advisory Roles



Fostering a culture of continuous learning and innovation

The Future Sailor

Until 1850s

Sail-powered wooden ships, limited technology, emphasis on seafaring skills

Early 1900s

Transition to steam and steel ships, need for mechanical knowledge

1940s

Advent of radar and sonar, demand for technical expertise

1980s

Introduction of computers and digital systems, requirement for IT skills

2010s

Unmanned systems and cyber warfare, need for advanced digital literacy

2030s

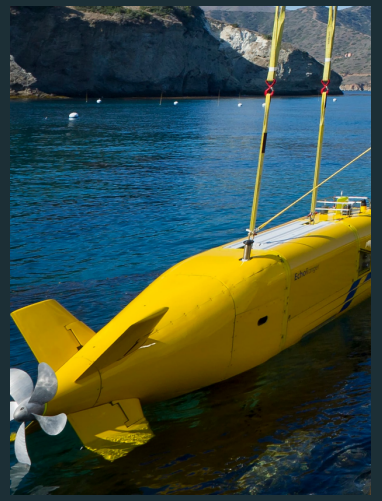
Autonomous ships and AI integration, adaptability to rapid technological changes

How we hope and think Procurement Strategies for Technological Advancements works

Identify Strategic Needs → Research and Evaluation → Cost-Benefit Analysis → Procurement Planning → Stakeholder Engagement → Implementation and Training → Continuous Evaluation and Adaptation

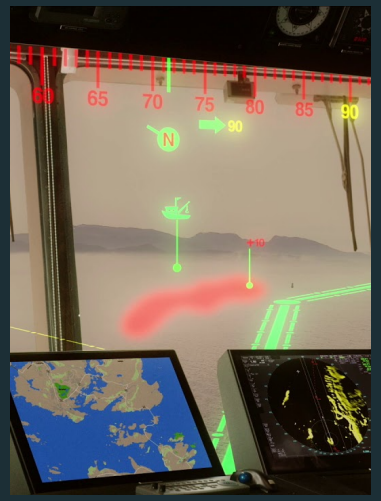
My neighbor has better..

Tomorrow? Why not today?



Autonomous Underwater Vehicles (AUVs)

Unmanned, self-propelled vehicles capable of conducting underwater surveys and surveillance missions.



Maritime Augmented Reality (AR) Systems

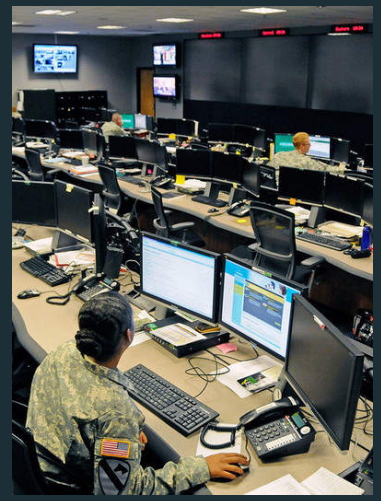
Head-mounted displays overlaying real-time data and navigation aids for enhanced situational awareness.

Unmanned Surface Vessels (USVs)

Remotely controlled or autonomous surface vessels for maritime security, oceanographic research, and other operations

Shipboard 3D Printing

On-demand manufacturing of spare parts and tools using additive manufacturing technology on naval vessels.



Maritime Cybersecurity Solutions

Advanced cybersecurity measures to protect naval systems and networks from cyber threats and attacks.

Hybrid Maritime Propulsion Systems

Combining conventional and alternative fuel sources for increased energy efficiency and reduced emissions.

Procuring Tomorrow's Innovations Today

Importance of Technological Advancements

Advanced technologies can enhance maritime capabilities, improve operational efficiency, and provide strategic advantages in various naval operations.

Procurement Challenges for Small Navies

Limited budgets, restricted market access, and high costs of specialized military technologies pose significant obstacles for small navies in acquiring the latest innovations.

Successful Example: Maritime Surveillance Systems

The Lithuanian Navy's integration of advanced maritime surveillance systems has significantly improved situational awareness and the ability to monitor and protect territorial waters.

Leveraging Commercial Off-the-Shelf Technologies

Adopting commercial off-the-shelf (COTS) technologies, often more cost-effective than bespoke military solutions, allows small navies to rapidly integrate the latest advancements.

Research and Development Partnerships

Collaborating with other navies, defense contractors, and academic institutions on research and development projects can lead to the development of new technologies tailored to specific needs.

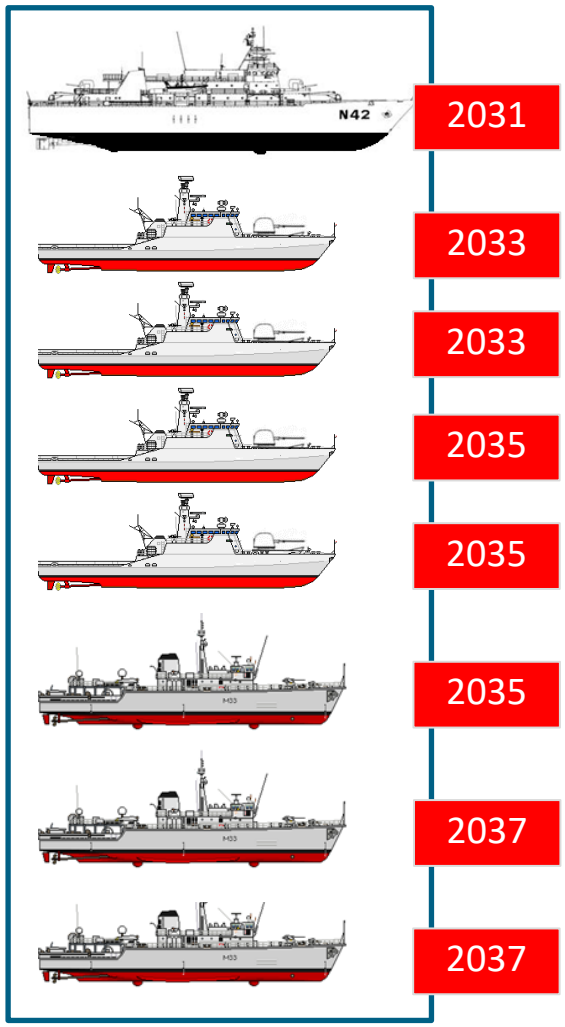
Prioritizing Critical Capability Upgrades

By identifying areas where technological advancements can provide the greatest operational benefits, small navies can strategically invest in upgrades to enhance critical capabilities.

“In the future, the superior naval force will not necessarily be the bigger one but rather the more technologically advanced and flexible force.”

ADMIRAL JAMES STAVRIDIS

The Future of Lithuanian Navy



TRANSFORMATION

Prioritize multi-role platforms for efficient use of limited budgets.

2022-2025

Partner Nation and design

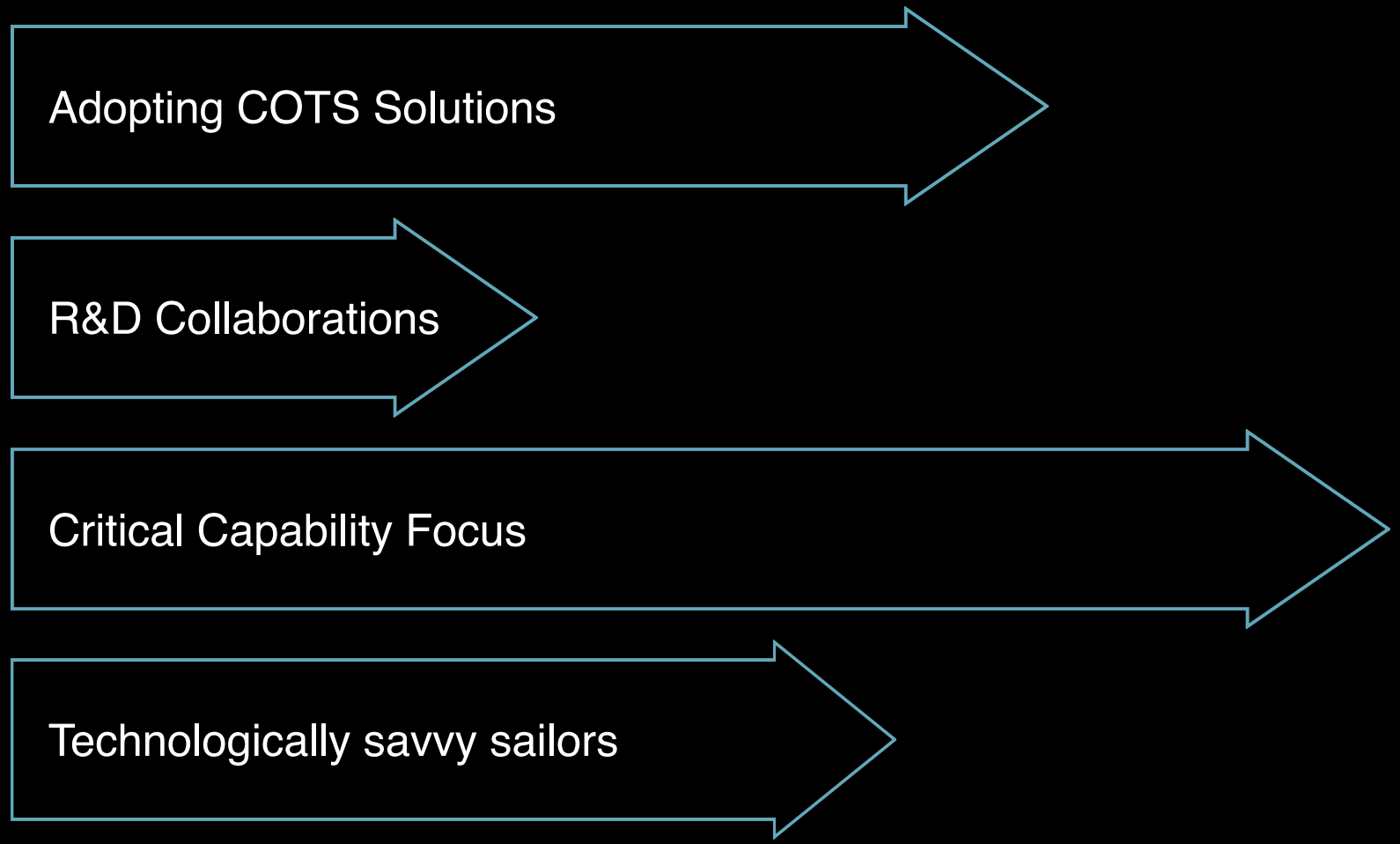
Contract

2018 — 2024 — 2025 — 2026

Implement rigorous maintenance schedules to extend operational lifespan of aging naval assets.

*All illustrations are purely associative

Strategies for Technological Leapfrogging



In an era marked by rapid technological advancements and shifting geopolitical landscapes, small navies must embrace a mindset of adaptability and innovation to effectively fulfill their maritime roles.

These forces confront challenges, ranging from budgetary constraints to evolving operational requirements, yet their enduring relevance hinges upon their capacity to navigate these obstacles with resilience and ingenuity.

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