The Changing Nature of Maritime Security
World Seaborne Trade: Routes and Commodities

High Volume, Low Value

Low Volume High Value
Growth of Sea Trade 1850-2015

<table>
<thead>
<tr>
<th>Period</th>
<th>AG %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850-1950</td>
<td>3.2</td>
</tr>
<tr>
<td>1950-2014</td>
<td>3.3</td>
</tr>
<tr>
<td>2015</td>
<td>3.4</td>
</tr>
</tbody>
</table>
Warfare: Continuity & Change
## Security at Sea: Conceptual Issues

<table>
<thead>
<tr>
<th>Typology</th>
<th>Understanding</th>
<th>Proponents</th>
<th>Space</th>
<th>Actors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naval Security</td>
<td>Sea power: naval power projection; combat platforms; Challenge aggressor</td>
<td>Mahan, Corbett, Luttwak</td>
<td>Open Ocean warfare</td>
<td>State</td>
</tr>
<tr>
<td>Maritime Security</td>
<td>Maritime Power - politics, diplomacy, economics, technology and new legal regimes</td>
<td>Gorshkov</td>
<td>Multiple approaches to warfare</td>
<td>State</td>
</tr>
<tr>
<td>Littoral Security</td>
<td>New type of Combatants</td>
<td>US MC</td>
<td>Littorals</td>
<td>State and Non-state</td>
</tr>
</tbody>
</table>
Corporatization of Maritime Security

LIMA '17
LANGKAWI
21-25 MARCH 2017
www.limaexhibition.com

IMDEX ASIA
International Maritime Defence Exhibition & Conference

AMAN 2017
TOGETHER FOR PEACE
A Strong Regional Role

IDEX 2017
## Typologies of Maritime Cooperation

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Against VNSA</th>
<th>Piracy, Terrorism, drug gunrunning, human smuggling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative</td>
<td>Web of relationships among actors who conduct operations to deliver ‘order at sea’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitive</td>
<td>Allies &amp; partners with common political interests come together &amp; bear naval power</td>
<td>Contain rising challenger/sustain balance of power</td>
<td>State vs State NATO; Malabar Joint Sea Exercises</td>
</tr>
<tr>
<td>Convergent</td>
<td>Selective elements of convergence as enablers to develop capacity</td>
<td>Deliver ‘public goods’</td>
<td>Nav and Met Svc; SAR; HADR; Resource Development</td>
</tr>
</tbody>
</table>

VNSA: Violent networks of state actors
**Blue Economy**

is the integration of Water based Economy including Inland Water Body & Ocean Economy development with the principles of social inclusion, environmental sustainability and innovative, dynamic business models.

<table>
<thead>
<tr>
<th>Jobs</th>
<th>Energy</th>
<th>Sustainability</th>
<th>Financial</th>
<th>R&amp;D</th>
<th>Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wealth</td>
<td>Food</td>
<td>Security</td>
<td>Legal</td>
<td>Innovation</td>
<td>Wellbeing</td>
</tr>
</tbody>
</table>
Actual value may be higher because many of the ecosystem services are difficult to quantify.

Oceans asset would dwarf the largest sovereign wealth funds

- Norway: USD 893 bn
- Abu Dhabi: USD 773 bn
- Saudi Arabia: USD 757 bn
- China: USD 653 bn

<table>
<thead>
<tr>
<th>Activities</th>
<th>Value (USD Tr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Output</td>
<td>6.9</td>
</tr>
<tr>
<td>Trade &amp; Tpt</td>
<td>5.2</td>
</tr>
<tr>
<td>Coastline</td>
<td>7.8</td>
</tr>
<tr>
<td>Carbon Absorption</td>
<td>4.3</td>
</tr>
<tr>
<td>Living Resources</td>
<td>Ocean Service</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td></td>
<td>Seafood Marine Biotech</td>
</tr>
<tr>
<td>Non-living Resources</td>
<td>Minerals Energy Fresh Water</td>
</tr>
<tr>
<td>Commerce and Trade</td>
<td>Shipping Port Svc. Ship building /Recycling Tourism</td>
</tr>
<tr>
<td>Ocean health</td>
<td>Monitoring &amp; Surveillance Waste Disposal</td>
</tr>
</tbody>
</table>
Blue Economy Industry

Manufacturers of sensors, instruments, and platforms

Robotics
AI
Big Data
VR/AR

Building, deploying, and operating observing systems

Data infrastructure that manages and communicates ocean data

Data management systems, software tools and models

Environmental safety and compliance technology companies

OTEC & Desalination

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OTEC & Desalination

Manufacturers of sensors, instruments, and platforms
MARITIME COMMUNITY
RESOURCES
STYLE OF GOVERNMENT
GEOGRAPHY

SOURCES

ELEMENTS

MERCHAND SHIPPIING
BASES
FIGHTING INSTRUMENT
INPUT / OUTPUT MODEL OF MARITIME POWER

Coastline
Coast/Land Ratio
Size of EEZ
Size of Seabed
Harbours
Choke Points

Size of Navy
Army & Airforce in Support of Navy
Nuclear Capability
Strategy

Marine Tech
IT Base
Naval Tech
Automation

Type of Government
Purpose of Navy
Maritime Tradition
National Will

Shipbuilding
Ports
Merchant Ships
Seaborne Trade
Fishing Industry
MNC/FDI
Offshore Resources
Population

Geography Military Technology Political Economic

MARITIME POWER
Blue Power is the keel of economic globalisation as it facilitates economic growth through sustainable development.

States will become increasingly dependent on the sea for economic growth and prosperity.

Significant investments expected in the development of Blue Power infrastructure.

Economics and Security: Two sides of the same coin.

Insecurities in the Blue Power are its Achilles heel.