Looking for a better future
AGENDA

Challenges
- Political
- Economical
- Climate changes

What next?

Solutions

Questions
WORLD CHALLENGES WILL BOOST INSTABILITY AND NECESSITY TO MOVE TO A NEW ERA OF PEACE

WORLD INSTABILITY
INCUMBENT vs NEWCOMER
LACK OF RESOURCES

ILLEGAL ACTIVITIES AT SEA

CLIMATE CHANGES
MASS MIGRATION
+ 50% World population before 2050

2010  2020  2030  2040  2050  2060
SECURITY AS MAIN FACTOR FOR DEVELOPMENT AND STABILITY

SECURITY > STABILITY > PROSPERITY > PEACE
Maritime arena

- Uncontrolled and illegal migrations may affect economies
- Progressive lack of resources will increase dependency by others
- Climate unpredictability

Hurricanes Katrina and Rita shut down 27% of U.S. oil production.

Floodings will destroy local economies
Challenges will cause:

Uncontrolled and illegal migrations

- Mass migrations are not going to be reduced because of the increasing rate of poverty and scarcity of basic survival goods.
- Military asset availability is scarce or inadequate and military and civilian resources are still not tailored for purposes.

Solution:

- Maintain a compatible flow of migrants by smart containment policies (-) and/or support local governments and economies (+).
- Contrast illegal activities by revamped constabulary assets adapted to the new roles.
Challenges will cause:

Lack of resources

- Resources are not eternal and the World population is growing fast.
- Growing need of energy - water – food to maintain a Minimum Level of Survivability (MLS).

Solution:

- Clear understanding of the MLS for all.
- Better mutual support by smart sharing of resources for our species survival.
- Bringing down common mis-understandings, based on prejudices, and have full respect of cultural and religious differences.
Climate unpredictability
The Planet Climate is changing and heavy changes are expected in the next 50 years.

Solution
- Reduce pollution and build up new economies more environment friendly.
- Create joint and combined structures able to provide smart common support.
- Improve technology to be more effective on decision making.
How to improve maritime surveillance

- Identify political common priorities
- Improve drone and manned assets coordination
- Improve Speed of Intervention (i.e. faster ship or to be determined action solutions)
- Improve Decision making cell management (DOTPMLFI – Doctrine Organization Training Personnel Material Logistic Facility Interoperability)
- Define Controlled Area of Operation (smart routing)
What next?

- Necessity of agile decision making systems
- Smart sharing of operational manned and unmanned systems
- Common Information sharing
- Legal definition: less bureaucracy more clarity
Agile decision making systems

- Increasing complexity require agile and flexible systems of systems
- Technology fit for purposes or multi-use?
- Common Training and Understanding of the maritime picture (WIS ≠ WYS)
Comparaison operational assets

Manned systems :
- Not quantitatively available
- Too much personnel involved
- Expensive to be maintained for long periods
- Not always sharable for political constraints

Unmanned systems :
- More easy to be procured (market in exponential development)
- Need less personnel – better coverage rate
- Less expensive for long periods
- More sharable because less invasive ... but ...
Cost Analysis

Military vessels

Pro: capability to positive intervention and detention – local coordination

Con: High cost – big crew – limited area control - logistic support (replenishment at sea, continuous maintenance) – local logistic coordination – speed of intervention

Unmanned systems

Pro: lower cost – limited manning – vast area control – minor logistic requirements

Con: “limited direct intervention” (recon or attack)
Unmanned systems

- Easily available in the market
- 3D (air – surface- underwater)
- Fast Technology progress
- Can be integrated on existing maritime surveillance systems
- Modularity
- Employability from coastal to blue water
- Endurance – greater coverage rate than a surface unit
- Future possibility to work on swarm
Unmanned Surface Vehicles (USV)

- **Characteristics**
  Autonomous boat-like surface vessels mostly for coastal use but ... (Glider)
  Modular – could be weaponized – good ISR capable

- **Future Concept of operation**
  Work in harbour linked to terrestrial C4ISR systems as networking elements
  Covert Recon in blue water to monitor maritime vessel traffic
Unmanned Air Systems (UAS)

- **Characteristics**
  - Different size and endurance
  - May be used in recon/ISR tasks in blue waters as well in VSW in close support to the Fleet or civilian authorities
  - Can be easily launched by ship or craft of opportunity for tactical use

- **Future Concept of operation**
  - A number of UAS operating in swarm with different tasks providing real time data to the Fleet
Underwater Unmanned vehicles (UUV)

- Characteristics
  Small and modular from VSW to Deep water

- Future Concept of operation
  Harbour and anchorages – strategic routes for ISR and mine warfare tasks - working in swarm linked to tactical or strategic Coordination Cells
  Multi-UUV tasking i.e. different UUVs talking each other acoustically and able to perform different tasks (covert recon, detection, classification, neutralization)
Considerations

Future ops will be performed by a mix of new generation manned and unmanned systems.

Interoperability is still limited but can be solved.

Concept of operations:

Exploit, adapt and apply solutions.

Flexibility is not an option but a must as well Modularity.
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