



**MARITIME SECURITY ALLIANCE**  
SUSTAINABLE SECURITY SOLUTIONS

# Maritime Security Alliance

Non-violent Self-protection

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# MARITIME SECURITY ALLIANCE

SUSTAINABLE SECURITY SOLUTIONS

## Westmark BV

Innovative Trading Company



## Sustainable security solutions

- Research slippery vessel (2005)
- Anti-boarding system P-Trap (2009)



## Awards



# MARITIME SECURITY ALLIANCE

SUSTAINABLE SECURITY SOLUTIONS

## BMP4

Best Management Practices for Protection against Somalia Based Piracy

Produced and supported by:

- SIGTTO
- INTERTANKO
- INTERCARGO
- OCIMF
- IGP&I
- IMB
- IPTA
- BIMCO
- Joint-Hull
- InforManager
- WINEC
- UKMTO
- EU NAVFOR Somalia





# MARITIME SECURITY ALLIANCE

SUSTAINABLE SECURITY SOLUTIONS



## Complex issues:

- Escalation
- Int. law
- Sustainability



# MARITIME SECURITY ALLIANCE

SUSTAINABLE SECURITY SOLUTIONS



*“Dr. Martin Murphy, Senior Fellow at the Atlantic Council at the United States, suggested that ships strengthen their self-protection measures as these are more effective than naval responses.”*

**Reference:** [http://gulfnews.com/news/gulf/uae/crime/successful-piracy-attempts-decline-in-gulf-of-aden-and-arabian-sea-1.1192614?utm\\_content=1.1192614&utm\\_medium=RSS&utm\\_source=Feeds&utm\\_campaign=Successful\\_piracy\\_attempts\\_decline\\_in\\_Gulf\\_of\\_Aden\\_and\\_Arabian\\_Sea&localLinksEnabled=false&utm\\_term=UAE\\_news\\_RSS\\_feed&goback=%2Egde\\_1783225\\_member\\_247003701](http://gulfnews.com/news/gulf/uae/crime/successful-piracy-attempts-decline-in-gulf-of-aden-and-arabian-sea-1.1192614?utm_content=1.1192614&utm_medium=RSS&utm_source=Feeds&utm_campaign=Successful_piracy_attempts_decline_in_Gulf_of_Aden_and_Arabian_Sea&localLinksEnabled=false&utm_term=UAE_news_RSS_feed&goback=%2Egde_1783225_member_247003701)

## What is the MSA?

- Maritime Security Alliance is a platform with risk mitigating tools
- innovation & creative thinking by promoting a long-term self-protection strategy
- platform offers one contact for an integrated solution to protect ships against criminals

## **Advantages of the MS Alliance**

- Reduced risk of getting boarded & hijacked
- Updated through industry expert partner network
- Reduction in costs & combined package installation
- Technical guidance on:
  - Physical: hardening vessel
  - Mental: crew state of mind
  - Training: preparation crew and mitigating impact hijack





# MARITIME SECURITY ALLIANCE

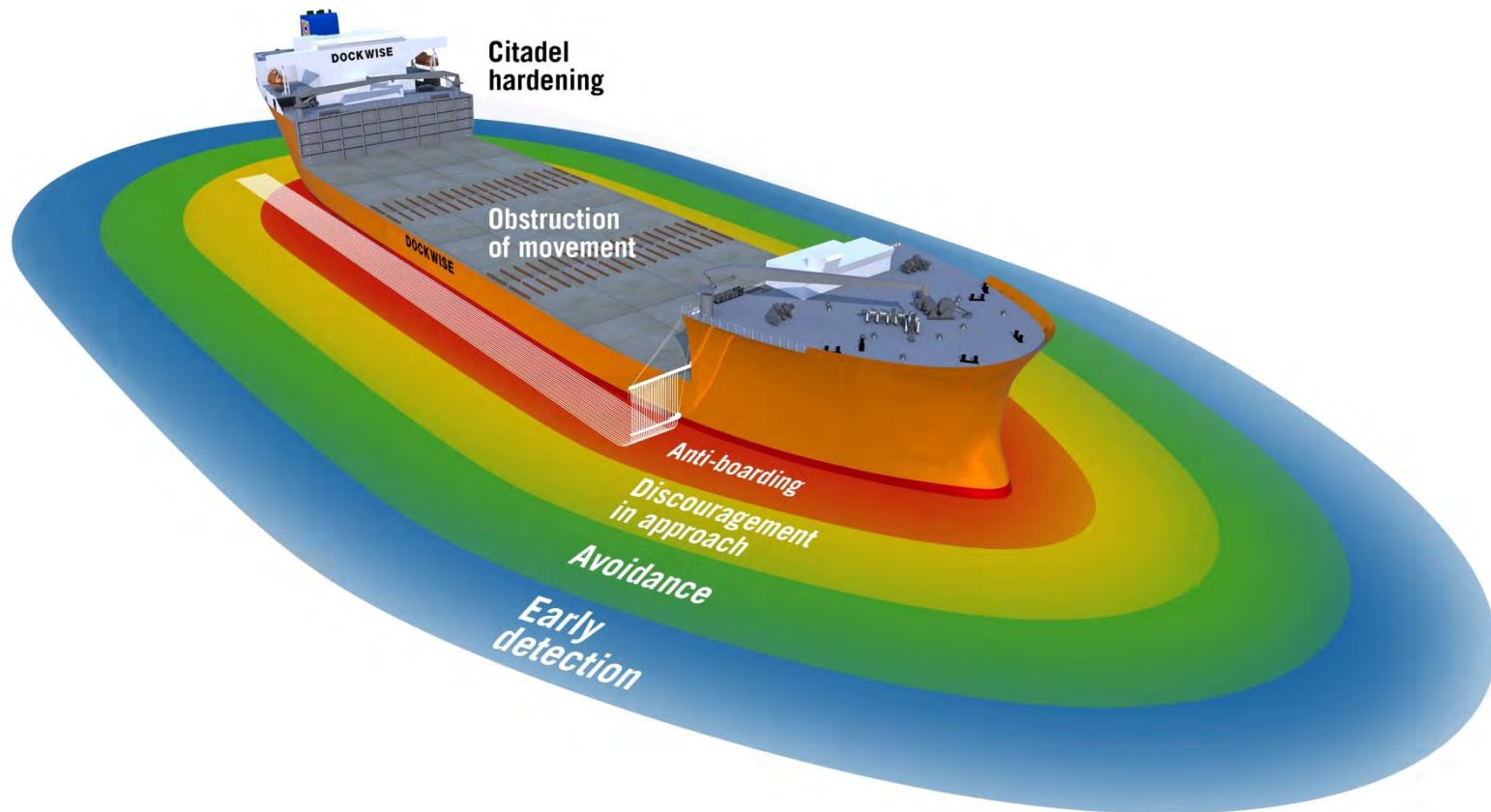
SUSTAINABLE SECURITY SOLUTIONS



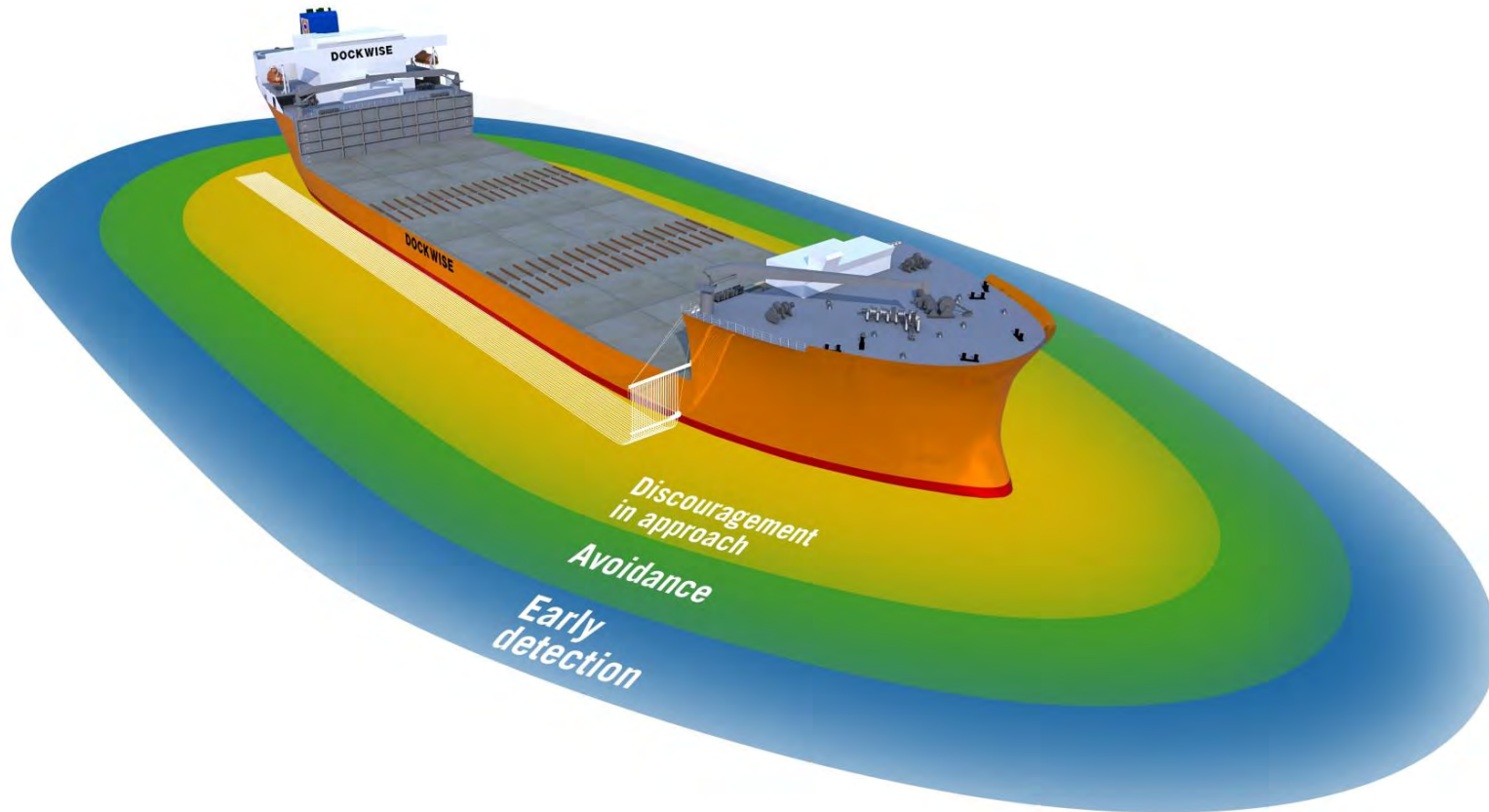
*It's not about fighting sea crimes.....  
...it's about **countering** sea crimes!*



# Physical Protection



# Discouragement in Approach Layer



- **High Powered Searchlights 3000 W**
  - Notification, search and warning of detection
  - Physically blinding in approaching
  - Direct, bridge operated and remote controlled





# MARITIME SECURITY ALLIANCE

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3000W Xenon at 600 metres

- **Hand held Searchlights**
  - Notification, search and warning
  - Physically blinding in approaching



- **Lasers & Stroboscopes**

- Radar guided detection and notification
- Automated response laser / stroboscope
- Physically intollerable for multiple vessels
- Digital record (with camera) of entire event



- **Water Cannon**

- Physical warning do not approach
- Floods vessel with water in seconds
- Increase fire fighting capability





- **Sound Cannons & Power Horns**
  - Notification / detection warning
  - Sound barrier unbearable pattern, frequency & intensity noise
  - Passive & active protection

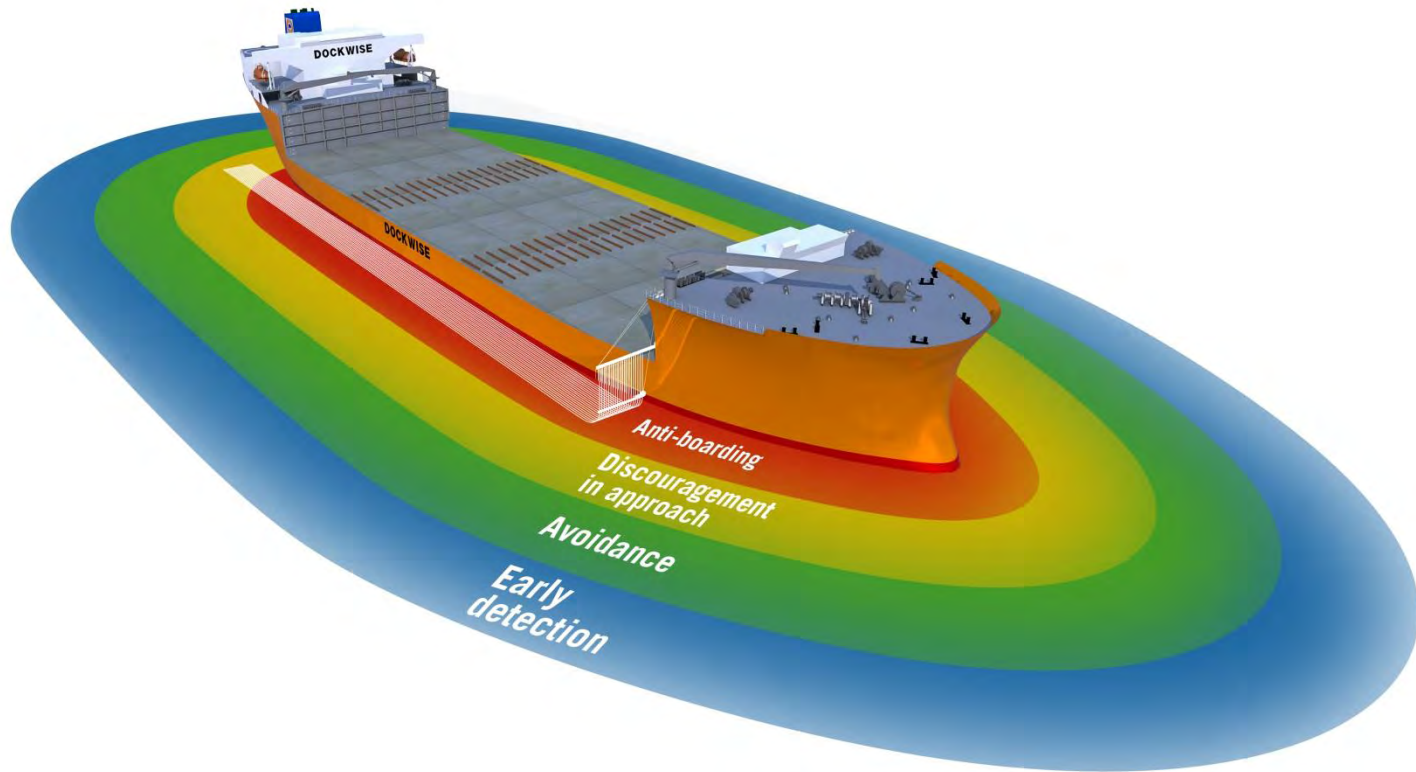


- **Rope Launcher**

- Physical barrier shuts down engine by blocking propeller
- Low pressure (8 bar) rope
- Launch availability in seconds
- Increase emergency rescue capability

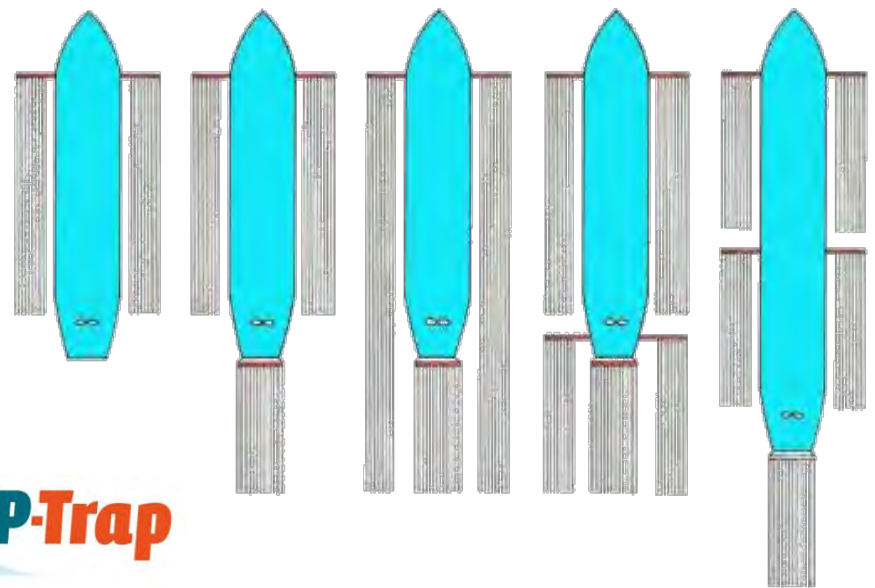


# Anti-Boarding Layer



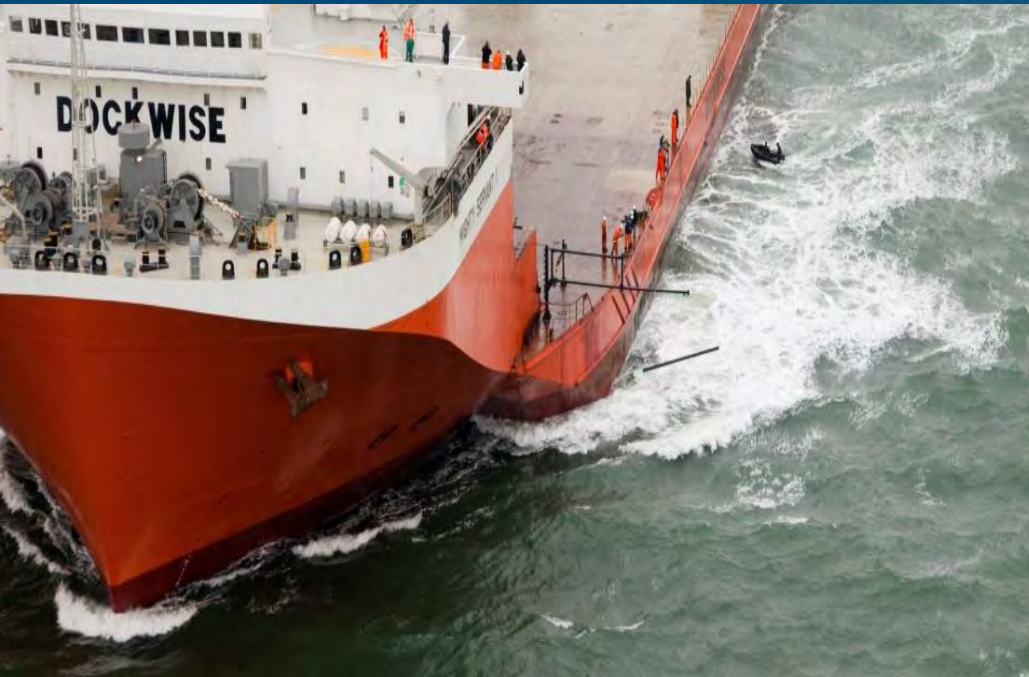
- **P-Trap Propeller Entangler**

- Physical barrier with trailing ropes along the vessel
- Passive continuous protection 24/7
- Line immobilizes engine by entangling propeller
- Weak link releases line

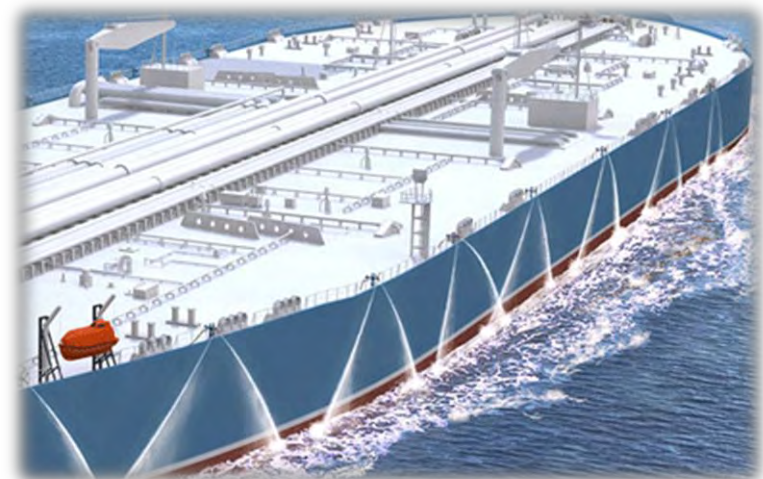


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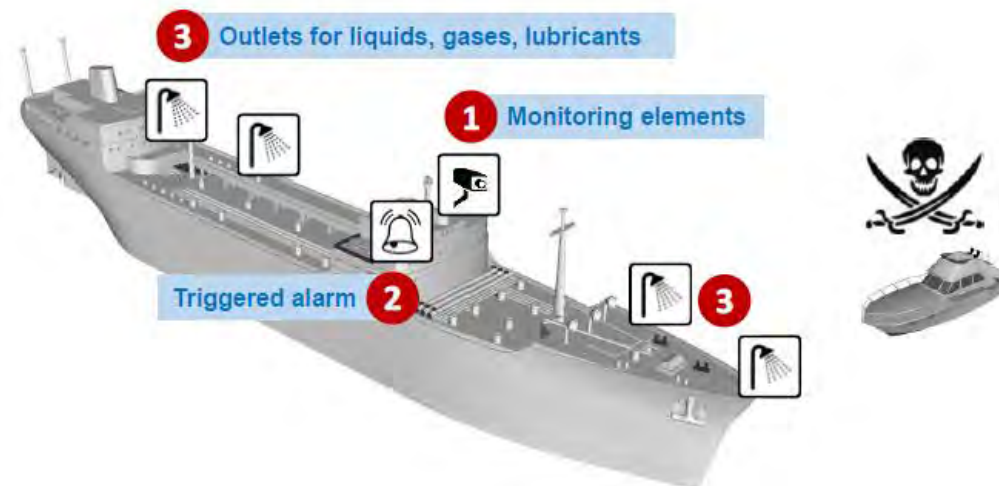


- **Water Cannon – side protection**
  - Physical immobilization by adding water
  - Hindering vessel alongside
  - Passive continuous protection once activated

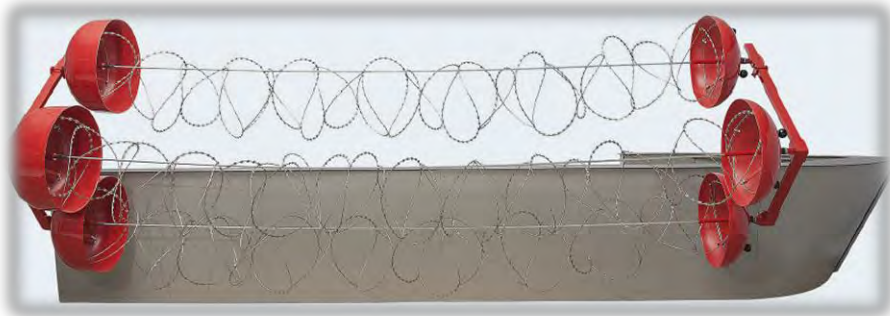
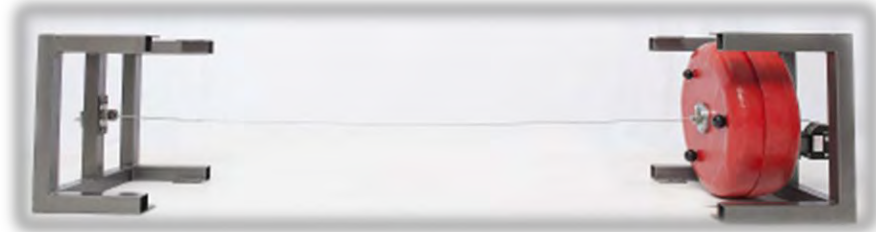


- **Slippery Barriers**

- Slippery paint options
- Automated monitoring, alarming and activation of lubricants



- **Quick removable razor applications**
  - Apply or remove razor wire in seconds
  - No additional storage for the units
  - Lifeboat embarkation, or pilot ladder entry point

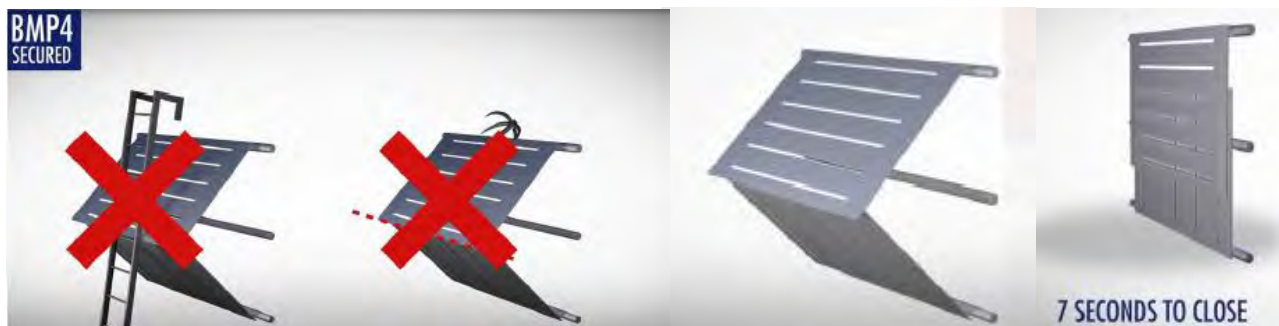




- **Anti-intrusion barrier**
  - Simple design to prevent rope or ladder access
  - Passive continuous protection
  - Easy to install, remove and store



- **Anti-intrusion barrier**
  - Simple design to prevent rope or ladder access
  - Passive continuous protection during heavy weather
  - Easy to install, stored alongside railing
  - No need for storage when not in use
  - High grade of Aluminum

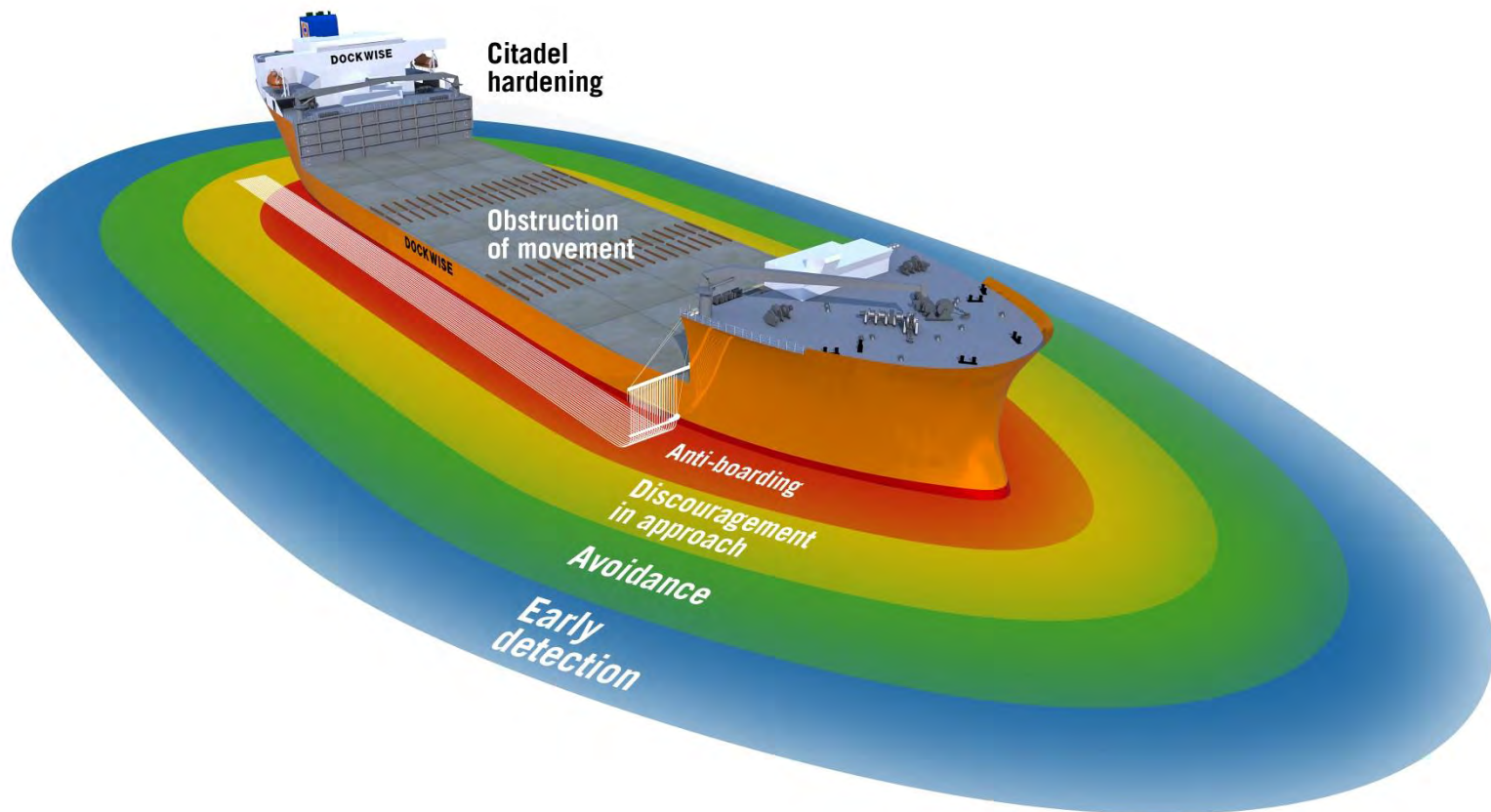


- **Re-usable razor wire elements**

- Extreme high quality razor wire
- Unable to connect to with hook or grapnel
- Installed / removed by vessel crew
- Single units are 1.8 m wide (6 ft)



# Obstruction of movement on deck Layer



- **Ballistic doors**

- Critical accommodation entry points
- Structural composite material made up of two metal plates bonded with a polyurethane elastomer core.



## Obstruction of movement

- Saferoom, citadel construction
- Ballistic hatches
- Compliant with SOLAS regulation



**Armoured escape hatch**

**Locks can be used  
from the inside only  
to secure access**



- **RPG protection grid**

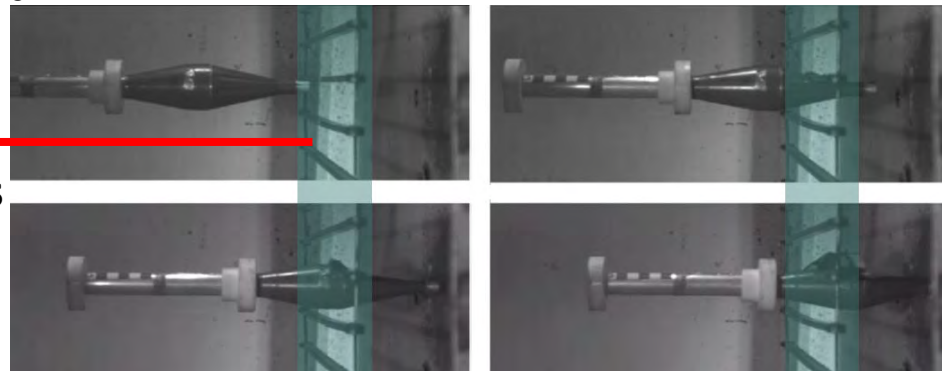
- Simple design mounted at critical areas
- Passive continuous protection against RPG's



**Foam on bulkhead**



**Grid on windows**



- **Sound, smoke and light barriers - inside**
  - sound barrier with stroboscope & smoke generator
  - unbearable pattern, frequency & noise combination
  - passive protection activated automatically





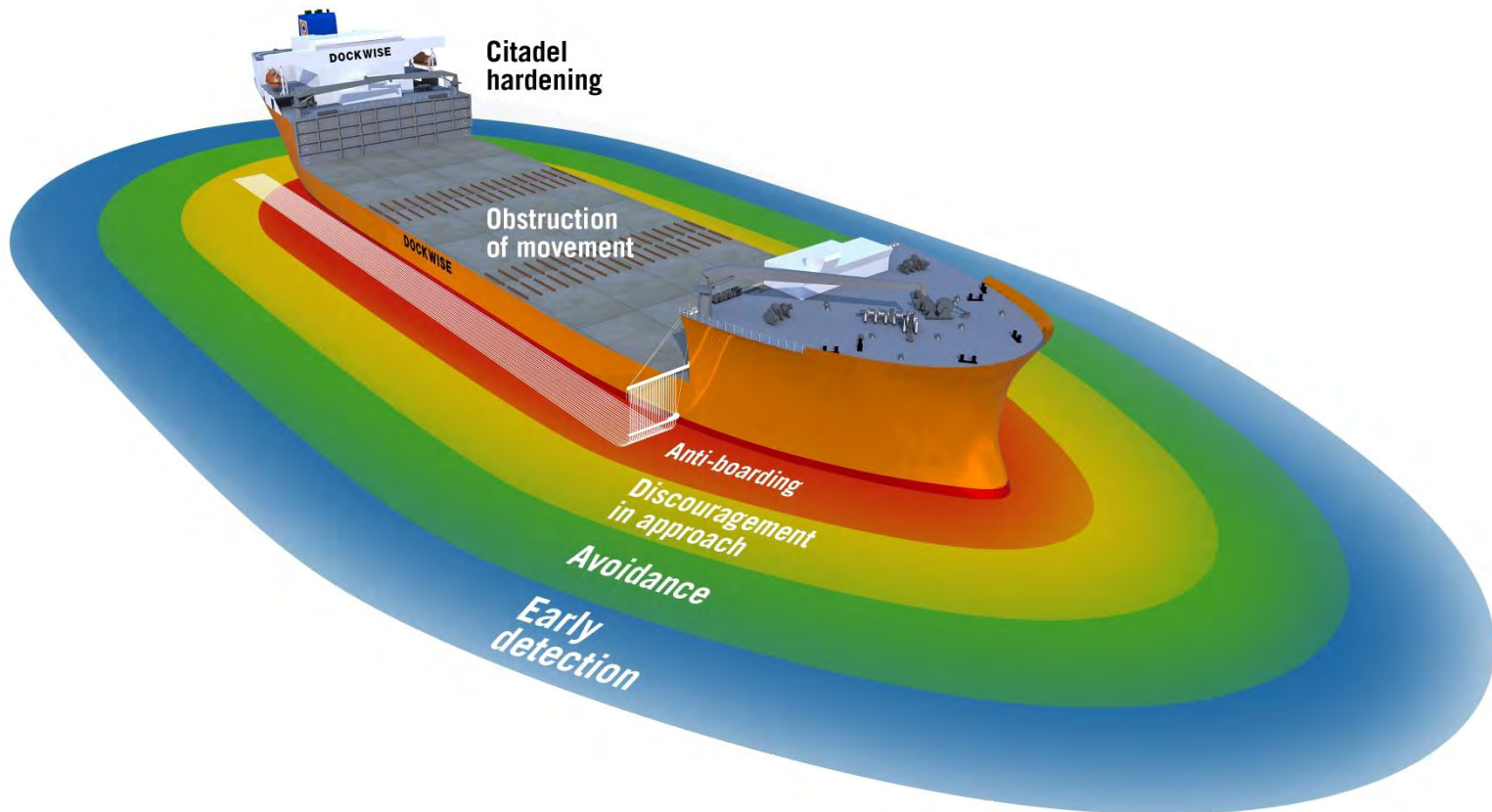
# Hardening outside accommodation

method of ship security assessment:

- technical survey
- ship leadership interview
- crew interview
- drill inspection
- vessel specific recommendations

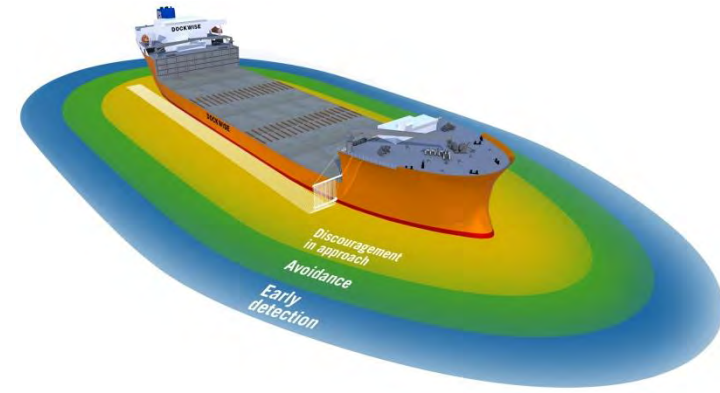


# SUMMARY OF PRODUCTS



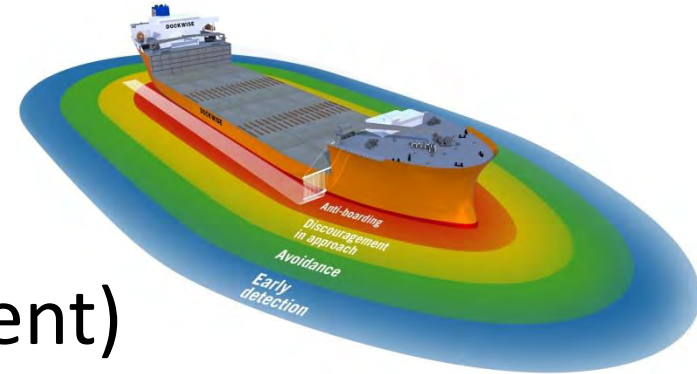
## Discouragement in approach

- High powered searchlights
- Lasers and stroboscope
- Directional sound cannons with light
- Water cannons



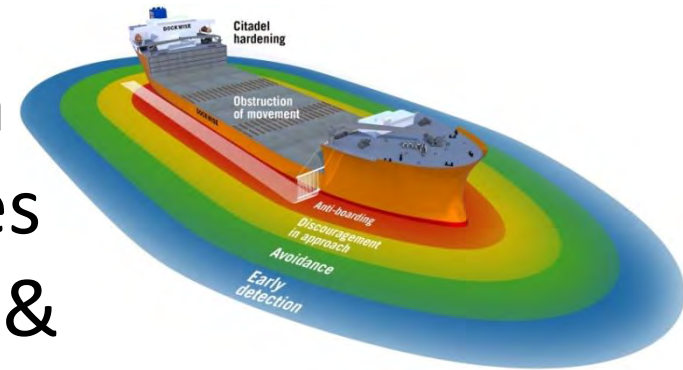
## Anti-boarding layer

- Sound cannon (static)
- P-Trap (propeller entanglement)
- Water cannon (side)
- Re-usable razor wire
- Anti-intrusion barriers
- Quick removable razor wire



## Obstruction of movement

- Saferoom, citadel construction
- Ballistic plates, doors & hatches
- RPG protection grids (window & bulkhead)
- Sound cannons, lights and stroboscope inside accommodation



# Summary

MSA provides:

- *An integrated non-lethal protection solution*
- *Single point of contact*
- *Wide variety of means*
- *Cost effective*
- *Covers all types of vessels*



# MARITIME SECURITY ALLIANCE

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



## Future protection methods...?

- Using nanosecond electrical pulses to paralyze people temporarily by disrupting the nervous system?
- Using millimeter waves to repel people by causing an intense heating sensation of the skin?
- Effect of blunt-impact weapons like rubber bullets, sting balls, bean bag rounds, and more sophisticated non-lethal munitions, and how to increase the range of today's blunt-impact non-lethal weapons?
- Studying advanced non-lethal RF directed-energy weapons and non-lethal laser weapons able to cause temporary blindness, painful heating of the skin, and other kinds of pain?
- Finding new laser sources that will make the fielding of a non-lethal laser weapons system more practical?