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Protection Measures for Merchant Ships

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Written By	Huw Davies (FLIR) Ronald Funk (CMRE) Francesca de Rosa (CMRE) Sergio Funto (EII)	2014-08-30
Checked by	WP leader Sergio Funto (EII)	2014-09-20
Approved by	Patrick Grignan (FLIR) Eric den Breejen (TNO) Huw Davies (FLIR) - Coordinator	2014-09-20 2014-09-20 2014-09-22
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Project partners:

- 1 – FLIR – FLIR Systems LTD - EN
- 2 – CMRE – Nato Science and Technology Organisation - BE
- 3 – WMU – World Maritime University - SE
- 4 – UoA – University of the Aegean-Research Unit - GR
- 5 – SAMI – Security Association for the Maritime Industry Limited - EN
- 6 – UNR – Uniresearch B.V. - NL
- 7 – TNO – Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek - NL
- 8 – EII – Engineering – Ingegneria Informatica Spa - IT
- 9 – Oldendorff – Oldendorff Carriers GMBH & Co KG - DE

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Executive summary

There are a bewildering number of options available to shipping companies to mitigate the risk of piracy and to deter pirates. However there is scant information regarding their operational effectiveness, the cost benefits and the Political, Ethical, Economic, Social, Legal and Environmental (PEESLE) impacts of their use.

This paper reports the development of a Cost-Benefit (C-B) methodology and of metrics which link the PEESLE factors identified in WP2 to the Counter Measures (CM) identified in WP1. The methodology and metrics have then been applied to the scenarios identified in WP1 and the PEESLE and CM weights which underpin the metrics to be refined. The cost function has been created to be flexible to permit the weightings to be updated as events unfold and/or to permit stakeholders to adjust the weightings to reflect their own preferences.

C-B Analysis helps to predict whether the benefits of a policy outweigh its costs, and by how much relative to other alternatives (i.e. one can rank alternate policies in terms of the cost–benefit ratio). It is a flexible tool which can incorporate non-monetary costs and benefits and so is more flexible than Net Present Value calculations. As such it is ideally suited to application to complex multi-faceted problems such as piracy.

The preliminary results of the initial cost benefit analysis are reported in this paper. This cost benefit analysis is not static and will be continuously refined as the PEESLE and CM weightings are adjusted to incorporate feedback from stakeholders.

WP 4 of PROMERC will create dynamic tools by linking the database and cost benefits metrics to real time data feeds and creating logic and algorithms to assist end users in making decisions from planning, through training, procedures and operations.

Acronym List

ARTEMIS	Assessment and Reliability of Transport Emission Models and Inventory Systems Project
AIS	Automatic Identification System
BMP4	Best Management Practices (version 4)
CM	Counter-Measure
CMP	Counter Measure Product
CSO	Company Security Officer
D	Deliverable
DWT	Dead Weight Tonnage
EEI	Essential Elements of Information
GT	Gross Tonnage
HOA	Horn of Africa
HRA	High Risk Area
IMB	International Maritime Bureau
IMO	International Maritime Organization
ISPS	International Ship and Port Facility Security
LD	Layered Defence
ME	Main Engine
NVG	Night Vision Goggle
PEESLE	Political-Economic-Ethical-Social-Legal-Environmental
PROMERC	Protection Measures for Merchant Ships
RPG	Rocket Propelled Grenade
SME	Subject Matter Expert
SOP	Standard Operational Procedure
SSAS	Ship Security Alert System
T	Task
TDA	Tactical Decision Aid
TREAD	Traffic Route Extraction & Anomaly Detection
VLCC	Very Large Crude oil Carrier
UKMTO	UK Maritime Trade Operations
WMU	World Maritime University
WP	Work Package
WS	Work Shop