



PROMERC & IPATCH Collaboration *The creation of a counter piracy data model*

As known the European Commission encourages the collaboration between research projects funded in the same call.

In this regard, a collaboration between **PROMERC** and **IPATCH** projects has been promoted during the last year.

IPATCH (Intelligent Threat Detection and Avoidance using Countermeasure Heuristics) aims to analyze current non-military measures against maritime piracy, in order to produce a handbook to facilitate the use as well as a further development of measures to contrast the piracy phenomenon, and to develop an automated tool to support decisions on board able to provide the operator a real-time assessment of the risk of piracy attack.

The duration of the two projects is different: IPATCH is a 3 year project whilst PROMERC is a 2 year project. IPATCH's plan is essentially following the same plan as PROMERC in Year 1 and in Year 3; during the Year 2 IPATCH is focused on shipborne trials of equipment fitted to SAGEM's trial ship.

Starting from April 2014, **Engineering Ingegneria Informatica (EII)** team, involved in the design of PROMERC database and **Transcrime** team (Joint Research Centre on Transnational Crime of the Università Cattolica del Sacro Cuore of Milan) in charge for the IPATCH data compilation, have explored any possible solutions to develop a joint standard data schema to be used as core for the development of both PROMERC and IPATCH databases.

As part of ongoing and productive relationship between the two projects, representatives of IPATCH and PROMERC met at EII premises in Rome on 30 Jun 2014 to compare the projects scope and to identify the common core of data elements. The result of the meeting has highlighted that although both projects are in response to the same call their goals are rather different. In fact the set of information managed by each project is not the same, even if some common data sources will be used. This will mean that the two projects will result in very different databases and the production of a joint database is not felt to be viable.

However the adoption of a common data schema would be very sensible, considering that PROMERC has recommended capture of additional parameters and the adoption of a common standard by all Authorities involved in capturing piracy data.

Taking into account the flexibility of the PROMERC data schema, in July 2014 PROMERC consortium has shared PROMERC relational data schema with IPATCH database team that has taken the PROMERC schema as input to its data modelling exercise.

The PROMERC data schema is divided in three main parts: event reports, countermeasure catalogue, and PEESLE factors catalogue. The **event reports** data model includes information on piracy incidents, such as the date, time, region, event description, and outcome. Information on non-lethal anti-piracy measures is stored within the **countermeasure catalogue**, which also contains data on products and vendors. The **PEESLE factors catalogue** provides information on the context in which piracy incidents occur.

Starting from the PROMERC schema a list of attributes has been included in the IPATCH data model, thus identifying a common core of attributes shared by both schemas.

Attributes included in both data models refer to several aspects of maritime piracy. Information on piracy incidents (e.g. date, time, region) is complemented with data on the vessel under attack (e.g. type, speed, gross tonnage), on its journey (e.g. origin and destination), and on the non-lethal countermeasures deployed during the event.

The IPATCH data schema has been further developed in order to align the data modelling exercise with the objectives of the overall project.



The main reason for the divergence of the two models is the difference in focus of each project: IPATCH is focalized on real-time aspects, on-board monitoring and decision support capabilities, whereas PROMERC is targeted on pre-voyage planning giving a greater emphasis on the cost-benefit analysis and on the configuration of the countermeasures for the vessels.

At the end of the two projects, PROMERC and IPATCH counter piracy measure manuals will be combined as a single document/package.

It is PROMERC and IPATCH projects hope that they will lay the groundwork for a future standard counter piracy data model.