

# Title Abstract: MASS for aids to navigation needs - The Chilean approach

By: Mr James CRAWFORD | Chilean Navy – DIRECTEMAR

Contact e-mail: [jcrawford@directemar.cl](mailto:jcrawford@directemar.cl)

James Crawford, is a Navy Captain (ret.) with a specialization in Coast Guard and Aids to Navigation matters. During 11 years he held the position of Head of the Chilean Aids to Navigation Service National, and currently serves as IALA advisor for the national maritime administration of Chile.

During his career he has led the most important projects regarding renovation and upgrade of capacities of Chilean aids to navigation network, has participated actively in many IALA workshops and symposiums and assisted as technical advisor for a World Wide Academy mission.



## Abstract:

Over the past few years, the development of autonomous ships has been driven by the evolution of the application of this concept on board airplanes and land vehicles that may have a positive impact on the safety and efficiency of sea shipping.

This scenario has led to private companies in the maritime field to develop and test autonomous and unmanned vessels, mainly in Europe. One of these initiatives took place in 2007, with the creation of a collaborative project known as "MUNIN" (Maritime Unmanned Navigation through Intelligence in Networks), with the aim of developing a feasible concept of unmanned merchant ships. This research included areas as autonomous navigation, propulsion and automated machinery, communications and coastal connectivity, redundancy and efficiency systems, as well as the analysis of the legal framework. Some years later, the project concluded the road to the application of the concept of unmanned ships.

It should also be noted that this concept has begun to be addressed under IMO Maritime Safety Committee sessions, where it has been decided to set up a working group. In the past few months, the Chilean Navy through the Aids to Navigation Service has been exploring the feasibility of developing remote-controlled vessels and others with certain levels of autonomy useful in the development of aids to navigation tasks.

Some of the uses that could have these Maritime Autonomous Surface Ships, are the verification of aids to navigation technical status via AIS or Bluetooth, to hold aids to navigation sensors in areas exposed to high probabilities of being damaged by ships or in places of complex installation.

This presentation will bring up the experiences obtained by the Chilean Aids to Navigation Service and the way it is addressing this concept.