

SUBJECT: AVT-256 Sea Dumped Munitions and Environmental Risk
(NATO UNCLASSIFIED+FIN, SWE and AUS)

TITLE OF PAPER: Research and innovation to address munitions in the sea by JPI Oceans

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Large quantities of conventional and chemical weapons have been dumped in European seas throughout the 20th century, particularly in the aftermath of the first and second world wars as well as of the recent conflicts in the Balkan area. The problem of dumped munitions is understood within the European region, although it is not currently perceived as a high priority at sea and is currently under-rated. Moreover, being a sensitive subject, it is sometimes difficult to coordinate related activities internationally and across scientific disciplines.

Munitions in the sea pose a number of risks to human safety and wellbeing, environmental integrity and economic activity. Research into the effects of conventional and chemical weapons has shown potential negative impacts on marine life, which in turn may have implications for human health. Over the time, the degradation of shell casings and containers leads to instability in dumped munitions; in addition, the intensification in the use of marine space for economic and social activities inevitably increases the likelihood of harm.

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A coordinated transnational response could increase the efficiency and effectiveness of interventions by sharing experience and skills across Europe. The Joint Programming Initiative Healthy and Productive Seas and Oceans (JPI Oceans) is a high-level coordinating and integrating strategic platform, open to all EU Member States and Associated Countries, which was officially launched by the Council of the European Union in December 2011. It covers all European sea basins with 21 participating countries and the European Commission as an observer (www.jpi-oceans.eu).

JPI Oceans provides a long-term approach to marine and maritime research and technology development in Europe. It has endorsed its Strategic Research and Innovation Agenda in 2015 and can adopt many different typologies of joint actions, with a variable geometry approach, to tackle the challenges associated to Seas and Oceans.

In November 2015, JPI Oceans launched the joint action named “Munitions in the Sea”, which is being coordinated by Italy and, at the moment, involves BE, DE, ES, GR, IE, NL, NO, PL, PT, SE, UK. By mainly addressing the aspects of research and innovation, it will provide knowledge based support to operators and policy makers.

The aim of the action is to assess risks and describe case studies, define priorities and suggest intervention options. These outcomes will be used to support decision making related to identification, monitoring and elimination of threats through a more systematic approach.

As a result of discussions between the most relevant stakeholders, it has been decided that the Joint action will conduct activities along three lines:

- **Science Support-** By combining different scientific disciplines, JPI Oceans intends to support the development of a service to characterize changes in the sea state in relation to munitions. Simulating the impact of removal, dispersion and detonation on human health, on the environment, and on economic activities will also be investigated.
- **Technology Transfer-** JPI Oceans will analyse different technologies and procedures for intervention to support decisions to be taken by operators and policy makers. The development demonstration of technologies and procedures can be used to increase safety, improve the efficacy and reduce the environmental impacts of interventions. JPI Oceans will provide support to exchange findings between different disciplines, projects and initiatives.
- **Exchange of Knowledge-** Panels of experts will support transfer of knowledge and experiences of dealing with munitions in the sea.

