



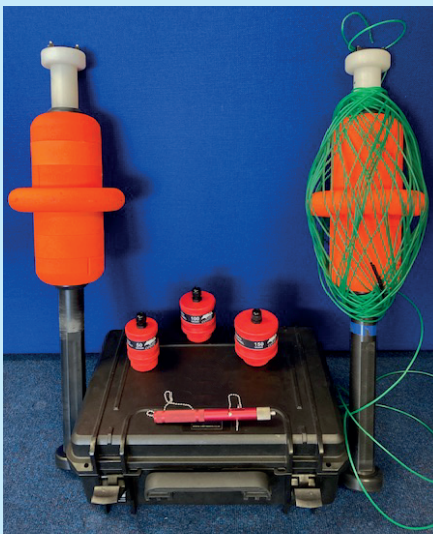
### Disposal Equipment



*UXOcean Transportable Workshop*



*UXOcean Transportable Explosives Stores*



*Shock Tube Release Floats with Explosive Deterrents and HH Initiator*



### Explosive ordnance disposal in the marine sector

#### Introduction

UXOcean possesses a range of options for rendering Unexploded Ordnance (UXO) safe. The choice of the optimal approach generally relies on, among other factors: Permit, Licensing, and Consent (PLC) limitations; preferences of the client and other stakeholders; the type, characteristics, age, and state of the unexploded ordnance, as well as its Net Explosive Quantity (NEQ) and environmental considerations. The significance and priority attributed to such operational limitations are likely to differ not only between jurisdictions, projects, and clients, but also for each individual disposal operation. In general, we offer both low-order/low-noise and high-order disposal methods, along with the capability to remotely relocate UXO. This capability extends to situations where UXO can be moved individually or grouped together, all while adhering to safety requirements.

#### Confirmed UXO

Once a confirmed Unexploded Ordnance (cUXO) item is identified and classified, various factors come into play, primarily including its seabed location and position, proximity to sensitive client or third-party infrastructure, the UXO's size, the type of high explosives, and its Net Explosive Quantity (NEQ). In light of these factors, several generic UXO render-safe techniques are available for consideration in offshore disposal.



# EODM

EXPLOSIVE ORDNANCE DISPOSAL MARINE

## Disposal Equipment



*Explosive Deterrents with HH Initiator*



*TB5 Surface Initiation Float*



*Chemring Breach MC RF Initiator*

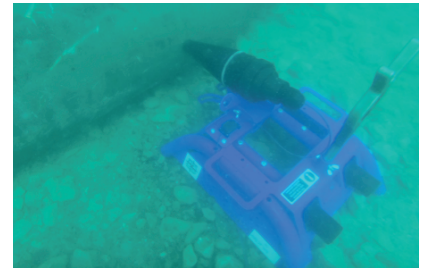
## Methods of Disposal

### HIGH ORDER

High-order (HO) disposal systems are designed to fully detonate the Net Explosive Quantity (NEQ) of UXO.

While this approach offers a high level of certainty, it generates significant shockwaves through water and the subsea bed, potentially causing notable environmental impact.

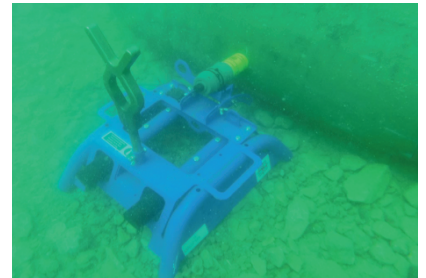
In High-Order disposal, a specifically designed explosive charge (typically under 5 kg in quantity) is strategically placed directly on or very near the Confirmed Unexploded Ordnance (CUXO). The precise placement of the higher-exposure charge depends on the type and condition of the UXO. The primary objective of the high-order disposal charge is to deliberately and sympathetically detonate the high-explosive contents present within the UXO.



### LOW ORDER

Low-Order (LO) techniques involve disposing of a UXO by rupturing its casing and initiating the deflagration process. Deflagration is characterised by the gradual burning of the explosive material at elevated temperatures, as opposed to an instantaneous detonation.

This is accomplished using a malleable metal shaped charge, often enclosed within a small non-ferrous metal cylindrical container. This charge is positioned extremely close to the confirmed Unexploded Ordnance (cUXO) with the explicit purpose of puncturing it and triggering the deflagration process.



### LOW ORDER/LOW NOISE

Low Order/Low Noise is an advanced technique known for its typically enhanced success rate in achieving deflagration. This technique utilises an explosively formed magnesium projectile (EFMP) or a thermite pellet to puncture the casing of the UXO and, in tandem, initiate the controlled combustion of its primary explosive charge. The entry of the high-explosive EFMP case is deemed benign when compared to high-order and other deflagration techniques. This is because the high explosives contained within the UXO are burned with the intention that the gasses are safely released through the entry hole created in the munition's casing.