MARITIME HELIKITE OPERATIONS AND CONSULTANCY



Lifting airborne BLOS radar from frigate.

Helikite on landing craft. Helikite lifting oil spill detection cameras. Lifting weather instruments.

Helikites at Sea

Unlike all other aerostats, Helikites work superbly at sea. They have crossed oceans whilst flying thousands of feet high, carrying considerable payloads for scientific enquiry. They are also in considerable demand for commercial and military maritime purposes. We estimate that around half of all Helikites sold are for maritime operations of some sort, so we have much experience in facilitating this.

Maritime Considerations

Maritime operations have specialised factors to consider compared to land operations. Boats and ships are very expensive and space limited and come in many shapes and sizes which inevitably requires customised solutions for Helikite storage, inflation, flight and retrieval. The safe storage of helium cylinders needs to be considered. The Helikite inflation and launch must be as easy and foolproof as possible to ensure safety, and the Helikite needs to be the correct size and type for the vessel and requirement. During flight the Helikite must not endanger the vessel and must allow it to manoeuvre correctly. The flying line must never go into the water and catch in the propellor. The winches need to be suitable for the ships deck and available power supply. The safety of the crew is paramount and so everything possible needs to be done to reduce risks and ease personnel requirements during Helikite operations.

Maritime Helikite Trials and testing

Allsopp Helikites can test out maritime Helikite designs and operating procedures on Helikite launch vessels, thus saving time and money in the long term. This is possible because we have over 30 years experience of Helikite maritime operations and have access to our own maritime test vessel, enabling sea trials of Helikite designs, payload attachment systems launch systems. Also, this provides a great test bed for onboard helium cylinder storage, Helikite inflation and deployment, Helikite storage and onboard maintenance. The ideal Helikite launch vessel has certain features that greatly facilitate capability and safety with the minimum of crew.

Shipborne Oceanic Helikite Operations











Helikite in arctic sea.

Helikites lifting cloud droplet sensors across the Atlantic.

V8 Gasoline Helikite winch on deck

US Navy ELINT Helikite

Generally, it is not possible to greatly modify a ship that is tasked with operating Helikites, so the Helikite equipment and deployment system needs to be modified to fit in with each particular ship design. This can be very successfully achieved after suitable consultation. All Helikite maritime projects have been very successfully delivered on time and on budget. Allsopp Helikites can outline a design project, make and test a prototype and then deliver the finished product to the customer.







Royal Navy 'Pod' Helikite Launch System in store and deployed.

Arctic Ocean Helikite launch system.

View from US Navy ELINT Helikite flying 5,000ft above the Gulf of Mexico

Small Vessel Coastal Helikite Operations

Helikites are used for lifting pollutions sensors, weather sensors, radio communication devices, cameras, and for trolling big game lures. Here it may well be practical and economical to purchase a suitable vessel for the job or modify an existing vessel to suit the Helikite. Consideration of Helikite operations before a vessel is purchased or modified is highly recommended. Helikite consultancy will greatly ease this process and ensure that the most capability is matched with the lowest cost. Allsopp Helikites extensive experience of small boat Helikite operations can greatly improve outcomes.







High speed boat trials

Secure helium cylinder storage + hose. 12V Helikite Winch placement.

Riverine research boat launching Helikite



Testing and modify Fishing Helikites at sea.



Flight-testing low-viz comms Helikite.



Oilspill detection



Publicity Helikite on modified boat

Unmanned Surface Vessels



USV pulling Helikite + airborne camera.



9.5m Pacific RHIB USV with radio link to trailer-launched shore-based Helikite radio relay.

Providing reliable over-the-horizon communications to unmanned boats is a routine requirement for Helikites, at which they excel. Helikites can be operated from shore to lift radio relays to greatly extend the first-person-video comms range of patrolling USVs, or they can be flown from the USVs themselves, or from manned naval ships. This is a specialised activity, that responds well to consultancy, enabling significant time and cost efficiencies in overall USV operations.

GENERAL HELIKITE CONSULTANCY



Are you considering using a Helikite for a project but are unsure exactly which type to use?

This is a common question and normally can be answered by phoning us to talk over the problem so we can make a recommendation. Obviously, we are delighted to hear from you and would never consider charging for this.

However, there may be more complicated situations that require significant consultancy or training, such as long-term projects where the payload and lift requirements need to be altered over time, or where the payload is very unusual and needs to be modified to fit the Helikite and then tested. Sometimes, the Helikite will need to be flown from difficult terrain that may require a re-design of the launch systems, or special lightweight Helikite systems may need to be custom-designed for particular requirements, such as operations from extremely high base altitudes, or for high altitude cloud research. There may be unusual Helikite CONOPS to work out, or overseas site visits.

These more complex situations are best addressed via consultancy because it rapidly allows an accurate upfront assessment of the requirement, the operating environment and the payload, thus significantly reducing overall work and time. Very often a customer may think he needs a larger, more expensive Helikite system than he actually does, so the consultancy not only reduces costs, but it also minimises deployment time and manpower. A consultancy deliverable is a very welcome start to a scientific project as it can shape the project correctly from the beginning to ensure its success.