

As cargo ships traversing Africa's west coast face an increasingly deadly threat from pirates, **Philippe Minchin** explores the countermeasures available to crews and warns that no one solution is 100 per cent effective

PIRATES BE WA

The threat of piracy has dogged maritime commerce for centuries, reaching new destructive heights in recent years off the coast of East Africa. Piracy's most adept practitioners of the modern age have been Somali Pirates. Their actions have blighted the lives of shipping crews primarily transiting through the Gulf of Aden, costing the world economy tens of billions of dollars each year in the process.

Thanks to a number of factors including armed guards, an increased Nato and EU-led naval presence in the area and enhanced self-protection measures and awareness across the industry, as well as improved local governance, piracy in East Africa has declined dramatically. The bad news is that piracy is now causing havoc off the coast of West Africa. Indeed, according to the International Maritime Bureau, the number of recorded incidents of piracy off the coast of West Africa, particularly in the Gulf of Guinea, has overtaken Somali piracy. The Gulf of Guinea is a major trade route for valuable commodities such as oil, gold, iron ore and bauxite. The coastal waters off Nigeria are the focal point of many attacks. Nigeria's current political situation presents pirates with an ideal opportunity for lucrative robbery: Nigeria is the biggest oil producer in the region and its waters are teeming with tankers exporting crude oil and importing refined petroleum. These are sitting ducks, vulnerable to attacks from small fast boats launched either from "motherships" or the myriad of meandering creeks off the oil-rich Niger Delta.

Compared to Somali Pirates, West African pirates are resorting to far more extreme acts of violence to achieve their objectives. The modus operandi of Somali pirates has been to hold ships and kidnap seafarers for lucrative ransom payouts. Unlike their West African counterparts, the sight of armed personnel deployed on the bridge and/or the crackle of warning shots being fired is usually enough to force them to abort their vessel boarding assaults. Not so with the West African groups. They are willing to exchange fire and persevere with their attacks in the aim of stealing fuel cargo and the crew's possessions which can be sold quickly on the black market in a region riddled with corruption.

Piracy off the coast of West Africa is therefore costing shipping companies billions of dollars in altered trade routes, insurance and extra fuel. But what options are open to shipping companies and crews for protecting their vessels against the scourge of piracy? Besides the tactic of avoiding high-risk transit routes, which has severe cost implications for shipping companies in terms of extra fuel, the defensive measures available to shipping companies fall into three broad categories: passive, non-lethal and armed/lethal.

Passive measures are the first line of defence against

piracy, designed to non-aggressively dissuade groups from attacking a ship. They come in the form of razor wire, water cannons, gates, panic rooms and even a "Dad's Army" approach of decoy mannequins with fake guns. Many of these methods are often referred to as "vessel hardening".

The installation of razor wire around the perimeter of a ship is the most widely used passive measure, but one which has major drawbacks as a deterrent. Pirates can easily nullify it with the use of heavy blankets or grappling hooks to create an access point, for example. Razor wire is also not accepted in many ports, which means the crew must cut it down and dump it at sea before a ship's entry in a port, which makes it impractical and not cost-effective, particularly when a ship is visiting multiple ports in a single trip.

The usage of fire hoses and water cannons is another popular form of passive defence. But these systems very often require human operators who are exposed to extreme risks. The effectiveness of water pressurised devices against groups of men who are armed to the teeth with rocket-propelled grenades, Kalashnikovs and are, more often than not, chewing on the pain numbing drug "khat" popular in the region, is questionable and highly risky. The fitting of grapple-resistant cage systems with protruding spikes is a seemingly more robust passive vessel-hardening measure, and has the advantage of not having to be thrown overboard before entering a port of trade.

Citadels or panic rooms to which members of the crew can retreat have been successful in protecting the crew from physical harm and have helped to thwart a number of attacks. Their major flaw is that the crew needs advance warning of an attack in order to have time to disable the ship's engine, regroup and retreat in these strongholds. Furthermore, it leaves their cargo wide open to robbery, and may result in khat-crazed pirates resorting to higher levels of extreme violence and punishment when they manage to breach the citadels or persuade the crew to surrender.

The use of armed guards has justifiably been credited for the drop in piracy attacks in East Africa. Armed personnel enable a ship to pursue the most cost-effective transit routes and at economical speeds rather than seeking a quick escape from piracy-infested waters. But the use of armed personnel is fraught with difficulties in terms of legality, and runs the risk of militarising the merchant fleet. As more and more shipping companies opt for armed personnel, they are channelling the industry into a single lethal option which carries the risk of an "arms race" between the protagonists. As we are now witnessing in West Africa, this has led to pirates increasingly resorting to lethal force as the norm rather than the exception. There can be no room for

EARNED!



PIRATES BE WARNED!



©BCB Marine

human error when lethal force is used. No one wants a repeat of what happened a few years ago when Italian Marines guarding the oil tanker, The Enrica Lexie, shot dead two Indian fishermen in the Indian Ocean who they mistakenly believed to be pirates.

Being unarmed does not mean that a ship cannot protect itself effectively non-lethally, however. Sound cannons, more commonly known as Long Range Acoustic Devices (LRAD) are among the newest forms of non-lethal self-defence measures on the market. These emit sound beams intolerable to the human ear, and can sometimes cause individuals to vomit in seconds. The disadvantage of LRADs is that they require operators to direct the high-pitched tone at the pirates, which can cause permanent hearing damage; something that responsible shipping companies would not want to risk on innocent local fishermen who might stray into the path of the LRAD's acoustic beam. Furthermore, pirates equipped with good ear protectors may very well be able to tough it out through the pain barrier caused by such devices.

Another technology that is rapidly becoming a hit with crews is that used in air-pressurised launchers like the Buccaneer systems. These enable a ship's captain to remotely deploy, from the safety of the bridge or control room, a variety of non-lethal projectiles such as warning

floating smoke canisters and vessel-disabling buoyant entanglement lines up to a range of 850 metres across the path of a suspicious approaching vessel. In the vastness of an ocean, a warning shot fired at distance by an armed guard can scarcely be heard and can result in avoidable tragedies like the Enrica Lexie incident. Non-lethal launchers systems such as these allow a ship's response to be both incremental and proportional to the threat. Unlike the guns and rifles used by armed guards onboard a ship, which are usually prohibited from most ports, non-lethal launchers that use compressed air can be moved in and out of ports. These systems provide a multi-layered defence and achieve the same results as an armed response for a fraction of the cost. For example, the cost of placing an armed protection team on a ship can run up to \$100,000 per passage. For that price, several of these re-usable air-compressed systems can be deployed on a ship.

In the fight against piracy, there is no magic bullet, however. All the measures outlined in this article need to be considered and included in the mix of self-protection measures used by shipping companies for a proportionate response that is equal to the threats faced by crews. Failure to do so will further embolden the pirates and endanger the lives of the crews, as well as risk the loss of valuable cargo and ships.

Sounds like trouble: the LRAD emits sound waves intolerable to the human ear, in an effort to deter pirates

Philippe Minchin is a researcher for the maritime safety and security company, BCB Marine.